

Disaster Preparedness for Natural Hazards Current Status in Bangladesh



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Disaster Preparedness for Natural Hazards: Current Status in Bangladesh



Disaster Preparedness for Natural Hazards Current Status in Bangladesh

A consultancy report by
Khurshid Alam and Masroor-ul Haq Siddiqi

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Front Photo: Boats provide important means of transport in Bangladesh.
— *Mats G. Eriksson*

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Foreword

Inhabitants in the Himalayan region are exposed to many natural hazards. The mountain ranges are young with an unstable geology, steep slopes, and a climate that is difficult to predict. As a result, the region is highly susceptible to natural hazards such as floods and flash floods, landslides, and earthquakes. In populated areas, these can lead to disaster. Vulnerable groups – the poor, women, and children – are often hit hardest.

Since its establishment in 1983, ICIMOD has dedicated much of its work to examining ways to reduce the risk of disasters from natural hazards, thereby working towards the decreased physical vulnerability of people in the Hindu Kush-Himalayas. This work has encompassed training courses, hazard mapping, landslide mitigation and control, mountain risk engineering, watershed management, vulnerability assessment, and much more. ICIMOD has also fostered regional and transboundary dialogue for improved management of both the resources provided and the risks threatened by the big rivers in the Himalayan region; sharing of hydro-meteorological data and information among the countries in the region is of particular importance for mitigating the risk of riverine and flash floods in the major river basins.

This publication is one of a series produced under the project ‘Living with risk – sharing knowledge on disaster preparedness in the Himalayan region’, implemented by ICIMOD during a 15-month period in 2006 and 2007. The project was funded by the European Commission through their Humanitarian Aid department (DG ECHO) as part of the Disaster Preparedness ECHO programme (DIPECHO) in South Asia, and by ICIMOD. Through this project, ICIMOD has endeavoured to encourage knowledge sharing and to strengthen capacity among key practitioners in the field of disaster preparedness and management. This has been done through training courses, workshops, knowledge compilation and dissemination, and the establishment of a website (www.disasterpreparedness.icimod.org).

The publications resulting from this project include baseline assessments of the disaster preparedness status in the four target countries (Bangladesh, India, Nepal, and Pakistan); case studies and a framework on local knowledge for disaster preparedness; and gender and vulnerability aspects in disaster risk reduction. The publications, training sessions, and workshops were undertaken in the context of the ‘Hyogo Framework for Action 2005-2015’ which recommends that regional organisations should promote sharing of information; undertake and publish baseline assessments of disaster risk reduction status; and undertake research, training, education, and capacity building in the field of disaster risk reduction.

The long-term mission to bring the Himalayan region to an acceptable level of disaster risk has only just begun. The countries in the region are among the most disaster prone in the world in terms of number and severity of disasters, casualties, and impact on national economies. Only by strong commitment, hard work, and joint efforts can this situation be improved. It is ICIMOD's hope that our collective endeavours will help improve disaster risk reduction in the mountain region we are committed to serve.

Dr. Andreas Schild
Director General
ICIMOD

This report is one of four status reports on disaster preparedness planning covering four countries; viz., Bangladesh, India, Nepal, and Pakistan. The purpose of these reports is to provide an opportunity for the reader to get a quick overview of the current status on documents in place and the institutions governing the implementation of these documents in the respective countries.

The reports are consultancies undertaken as part of the project 'Living with risk – sharing knowledge on disaster preparedness in the Himalayan region', implemented by ICIMOD. It was funded by the European Commission through its Humanitarian Aid Department (DG ECHO) as part of the Disaster Preparedness ECHO Programme (DIPECHO) in South Asia, and by ICIMOD. The project takes off from the Hyogo Framework for Action 2005-2015 (HFA) which provides guidance on the roles regional organisations, such as ICIMOD, can play in long-term work towards reducing the risks of disaster. One recommendation by HFA is to undertake and publish baseline assessments of the status of disaster risk reduction.

As part of this project, a 'regional workshop on disaster preparedness plans' was held in Kathmandu in August 2006. The main objective of this workshop was to discuss the status of disaster preparedness as reflected in policies, strategies, plans, and other relevant documents available, or being developed, in the four countries. Particular interest was given to identifying gaps and shortcomings in the functioning and implementation of these guiding documents. First drafts of these country status reports were prepared for the workshop and formed the basis for the discussion and gap analysis. The reports have since been updated, improved, and extended. The outcome of the workshop was summarised in 15 concluding points, highlighting the status of disaster preparedness (DP), in particular, and disaster management (DM), in general, in the region. These 15 concluding points follow below.

The complete compilation of all documents at all governance levels, covering all types of disaster and providing full descriptions of all implementing institutions is an immense task, and it is beyond the scope of this project. ICIMOD has a mandate to focus primarily on mountain hazards, and therefore the scope of the consultancy has been to cover earthquakes, landslides, and floods, including flash floods (see Annex 1 for Terms of Reference). Furthermore, the study focused on documents and institutions governing disaster preparedness planning at the central, national level, with more limited coverage given to district and community levels. Hence, the reports are not

exhaustive in terms of covering all natural hazards. Nevertheless, the documents and institutions governing disaster preparedness at the national level do, in many cases, take a multi-hazard approach. In conclusion, the present document will give the reader a good, albeit quick, overview of the status of disaster preparedness planning for natural hazards. As such, it is the hope of ICIMOD that it will prove helpful as a source of information and thereby support the joint efforts undertaken by many government and non-government organisations towards a Himalayan region that is better prepared to mitigate the impacts of disasters.

Dr. Mats G. Eriksson
Water, Hazards and
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Conclusions from the Regional Workshop on Disaster Preparedness Plans for Natural Hazards (Kathmandu, 7-9 August 2006)

General Observations

1. Disaster preparedness (DP) has to be approached **holistically** because it is difficult to isolate preparedness from other components of disaster management (DM) such as reduction, response, and recovery.
2. A **paradigm shift** in DM from a relief-driven approach to a more preparedness-driven approach is occurring.
3. **Local communities** should be at the centre of DM plans. They are the first victims of natural hazards and the first respondents.

Development and Vulnerable Groups

4. DM should be integrated into **national development plans** for improved sustainable livelihoods and poverty reduction.
5. A **multi-hazard approach** is crucial as most communities are exposed to hazards that have interacting and cascading effects.
6. **Vulnerable groups** and marginalised people are insufficiently addressed in DM plans.

Institutions and Policies

7. The **political will** to direct sufficient resources is essential for the efficient implementation of existing DM plans.
8. Planning for DM is an iterative **process** that should be based on the efficient use of already existing resources.
9. **Roles and responsibilities** for DM of all stakeholders at the national, regional, and local levels need to be clarified. DM should be a priority on the national political agenda.

Knowledge and capacities

10. **Local knowledge** should be respected and combined with other knowledge to improve the design and implementation of DM activities.
11. **Learning** from past disaster events through research and documentation is important in order to anticipate and respond to future disasters more effectively than is currently the case.
12. **Education and training** in DM is necessary for awareness and capacity building of all stakeholders.

Communication and Cooperation

13. **Insufficient coordination** prevails among key actor in the field of DM.
14. Functional and **efficient communication** among key actors at local, national, and international levels needs to be improved.
15. **Data and information sharing** at a regional transboundary level needs to be strengthened and requires appropriate capacity and technology.

Acknowledgements

The work for this status report was commenced by Mr. Masroor-ul Haq Siddiqi and was then taken forward and completed by me. In this version, I have added my personal observations and analysis of the way disaster reduction policy and practices have been changing in Bangladesh. Many of my friends and colleagues have generously contributed ideas and support over a long period while the report was in the making. I am especially grateful to my long time friend A.K.M. Mamunur Rashid (Team Leader, Service Delivery of the Comprehensive Disaster Management Programme of Bangladesh) for his support and engagement. He has identified the right documents for me. Even more important, over the last few years, we have been engaged in debating on disaster risk reduction discourse and policies, how they are changing, and what new things may, and should, come up. These discussions have had a strong influence on this report. I am therefore very grateful to Mamun. I would also like to thank Naureen Fatima, my associate, for her great contribution in making the report presentable and useful for potential international and regional users.

The report has been prepared with active technical, financial, and intellectual support from ICMOD. Finally, I am grateful to Dr. Mats Eriksson for providing valuable comments on various drafts, and to the many other colleagues at ICMOD who carried out internal review and editing to make it a friendly report.

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Executive Summary

This report provides key issues (not a comprehensive analysis, which is available in much of the literature) of disaster problems in Bangladesh, the history behind the current status of disaster preparedness plans, and gaps in the plans and shortcomings in their implementation. It also gives an account of disaster management instruments, institutional arrangements, and policies at national and local level. Finally, the authors give their own analysis of the key performance issues of implementation of the various plans.

The analytical framework used in the report has three core components: a) natural hazards are analysed taking into account that Bangladesh is located within the Himalayan or Ganges-Brahmaputra-Meghna (GBM) geophysical region; b) disaster preparedness plans are presented as they existed in February 2007, and c) various national and international commitments such as the Hyogo Declaration and the author's own long-term research into understanding people's vulnerability were the basis to comment on gaps in the plans as well as performance in their implementation. The exercise involved interviewing key people in Bangladesh. Some of the main points are summarised in the following passages.

Whereas Bangladesh has made good progress in human development in recent years, the majority of its population still live in poverty. The frequency and impact of natural hazards are among the key factors behind the great differences in the incidence of poverty at household level and in terms of geographical area. Poverty, disaster, and environment are strongly linked in Bangladesh in terms of impact on daily lives and on how successful the country is in achieving sustainable development and growth.

With the highest disaster mortality rate in the world (UNDP 2004), Bangladesh lost 516,239 men, women, and children from 1970 to 2005 in 171 disasters. The economic costs associated with such disasters continue to grow at national level, while the impact on livelihoods at household level remains unmeasured. The traceable economic cost of the 1991 cyclone alone, which killed 150,000 people, was US\$2 billion. Bangladesh faces at least one major disaster a year and more than one in some years. Twenty-one per cent of the country's land is flooded every year and the country suffered 16 major floods from 1954-2007.

The Government of Bangladesh lists floods, cyclones, earthquakes, tornadoes, river bank erosion, water logging, drought, salinity, storms, landslides, and tsunami as major disasters to which the country is vulnerable. The list also includes various other disaster

trends such as industrial pollution, fire, epidemics, food-related disasters, and political violence. These disasters hit all the country's agro-ecological areas: floodplains and small hilly regions as well as urban centres.

Among the disasters, floods are the most frequent, and bring with them a heavy economic toll on the people and the country's economy compared to the less frequent cyclones, but they have a great impact in terms of casualties and economic activities. The earthquake risk is also high in Bangladesh, as it is located in a region that is an active seismic zone and which has experienced four great earthquakes in the last 100 years. Between 1869 and 1950, seven major earthquakes with magnitudes exceeding seven occurred in the region and had effects in Bangladesh.

The four core factors accounting for the vulnerability of Bangladesh and its population are location, climate change, governance, and people's vulnerability.

There is limited literature about public disaster preparedness (DP) approaches during colonial times. However, the understanding of disaster and its causes has been evolving from a perspective based on hazards to a focus on vulnerability; and this has greatly influenced the DP approach in the post-colonial period. Perspectives now include disaster response, structural mitigation, improving human skills and augmenting resources needed to cope with disasters, institutional efficiency, and, finally, a comprehensive approach.

Institutionally, Bangladesh has undertaken to establish a core foundation for DP. There is a good early warning system for cyclones and flooding. Investment in public health and safety nets has reduced disaster-related mortalities to a remarkable extent. There is a high level of awareness among the people about disaster preparedness because of national public awareness campaigns held by government and non-government organisations (NGOs). But are people safe? Poverty is still a key challenge to people's ability to invest in DP at the household level. Although life-saving measures are in place, livelihood protection is an issue that remains a challenge to the nation.

Although the institutional set up required for effective disaster preparedness and response is adequate at the national level, augmenting capacity and skills and decentralisation of authority are still priorities at local and district levels. The Ministry of Food and Disaster Management (MoFDM) is the main coordinating organ of the government directed by the National Disaster Management Council (NDMC) (headed by the Prime Minister) and Inter-Ministerial Disaster Management Coordination Committee (IMDMCC) to deal with disasters. The Disaster Management Bureau (DMB) is the focal point for disaster preparedness at national level, whereas various disaster management committees are responsible for DP at district, sub-district, and local level.

Two key documents, i.e., Standing Orders on Disaster (SOD) and a comprehensive plan (draft) are the sources of clarity for the roles and responsibilities of the various institutions and personnel involved in disaster preparedness. However, there is no approved national policy on disaster preparedness, although the MoFDM has a corporate plan for comprehensive DM. This is an umbrella plan that outlines a multi-hazard approach, and it is pending approval from the Cabinet. The National Water Management Plan, which has a root in the Flood Action Plan (FAP), is the only hazard specific plan. The DMB has developed an Earthquake Preparedness Plan and the MoFDM a separate National Tsunami Risk Reduction Plan of Action. The Ministry of Public Works has enacted a national building code which includes a preparedness component against earthquake hazards. There is no specific earthquake plan.

Many of the disaster preparedness instruments are still in draft stage: some of them have been developed as part of big international and regional initiatives such as the South Asian Association for Regional Cooperation's (SAARC) Framework of Action and Hyogo Framework of Action (HFA).

Almost all the plans have been developed through techno-bureaucratic exercises with no participation from the many stakeholders. Therefore, linkages between poverty, gender, and the environment are missing. The four critical gaps in the plans and drafts are the fact that: a) they do not legally guarantee entitlements to the people after disasters, b) the accountability mechanism is not clear, in some cases there is no sanction mechanism if something goes wrong, c) there is no clear direction about coordinating other stakeholders in a common national goal, and d) they are not focused on community empowerment.

Six key factors accountable for the limited performance in terms of implementation include: a) vulnerable people and limited participation of non-state actors in planning exercises resulted in limited ownership and lack of a clear focus, b) lack of information at local level about the plans, c) no initiatives to scale up good approaches, d) limited decentralisation and devolution of power and resources to the local government level to implement local plans, e) perspective of (response led), leadership by, and commitment of government officials and politicians concerning disaster reduction, and f) limited capacity and resources at various levels.

Ownership of the plans is limited and has resulted in haphazard implementation by different stakeholders. Many good disaster reduction approaches tested by local organisations have not been integrated into a common national approach. Many of them are spread too thinly and have not been scaled up in all vulnerable areas. For example, the Comprehensive Disaster Management Programme (CDMP) is implementing national and local level plans in seven selected districts.

Vulnerable people's access to information about policies is also limited, hindering implementation of plans at national level. People do not have information about plans developed at national level. There is no effective communication strategy to disseminate them.

Many plans have not been fully implemented and local-level leadership, such as the Union Disaster Management Committees (UDMCs), is not supported with the commensurate authority and resources. The widespread corruption is used as an excuse to not give funds to the Union Parishad (UP).

Limited work has been carried out on urban disasters and, because of the frequent recurrence of floods and cyclones, earthquake preparedness plans are yet to be implemented.

Decision-making is top down; therefore many local disasters get no response. Political considerations sometimes overshadow the vulnerability criteria of resource allocation for the implementing disaster preparedness plans. The risk reduction fund, established in 2004, is given as an example.

There is no formal, common communication platform on DP. However, the Disaster Management Information Centre (DMIC) is a virtual centre for information exchange, and there are forums in which various stakeholders participate.

Although Bangladesh is one of the countries that provided leadership in the formulation of the Hyogo Declaration and Framework of Action, there is yet to be a multi-stakeholder national platform on the implementation of national priorities.

There are many laws and declarations guiding and binding countries on how to address disasters that are transboundary in nature. Floods and earthquakes in the Himalayan region are two disasters that have serious impacts on the lives of people and economies of countries, but until the 13th SAARC Summit there was no effective declaration about how countries in the region could exchange information and solve their joint problems related to disasters. It was primarily because India perceived flooding to be a bilateral problem that a separate treaty was signed between Nepal and India. Post the Asian Tsunami, the 13th SAARC Declaration acknowledged the need for a multilateral framework and agreed on a 'permanent regional response mechanism dedicated to disaster preparedness, emergency relief and rehabilitation to ensure immediate response'.

Acronyms and Abbreviations

ADB	Asian Development Bank
BMD	Bangladesh Meteorological Department
BUET	Bangladesh University of Engineering and Technology
BWDB	Bangladesh Water Development Board
CBO	community based organisation
CCC	climate change cell
CCDMC	City Corporation Disaster Management Committee
CDMP	Comprehensive Disaster Management Programme
CPP	Cyclone Preparedness Programme
CPPIB	Cyclone Preparedness Programme Implementation Board
CRA	community risk assessment
CSDDWS	Committee for Speedy Dissemination of Disaster Related Warning/ Signals
DAE	Department of Agricultural Extension
DC	Deputy Commissioner
DDMC	District Disaster Management Committee
DIRA	Disaster Impact and Risk Assessment
DMB	Disaster Management Bureau
DMC	Disaster Management Committee
DMIC	Disaster Management Information Centre
DoE	Department of Environment
DRR	Directorate of Relief and Rehabilitation
DRRO	District Relief and Rehabilitation Officer
EIA	Environmental Impact Assessment
EOC	Emergency Operation Centre
FFW	Food for Work
FFWC	Flood Forecasting and Warning Centre
FPOCG	Focal Point Operation Coordination Group of Disaster Management
GoB	Government of Bangladesh
HFA	Hyogo Framework for Action
IMDMCC	Inter-Ministerial Disaster Management Coordination Committee
IMF	International Monetary Fund
ICZMP	Integrated Coastal Zone Management Plan
JRC	Joint Rivers' Commission
MoFDM	Ministry of Food and Disaster Management
MoWR	Ministry of Water Resources
NAPA	National Adaptation Programme of Action

NDMAC	National Disaster Management Advisory Committee
NDMC	National Disaster Management Council
NGO	non-government organisation
NGOCC	NGO Coordination Committee on Disaster Management
NWMP	National Water Management Plan
PDMC	Pourashava Disaster Management Committee
SDMC	SAARC Disaster Management Centre
SMRC	SAARC Meteorological Research Centre
SOD	Standing Orders on Disaster
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
UNO	‘Upazilla’ Nirbahi Officer
UZDMC	‘Upazilla’ Disaster Management Committee
WARPO	Water Resource Planning Organisation

Glossary

ansar	military (adj.)
bandh	a small earthenware embankment
Betar	Bangladesh Betar, a broadcasting company effective at relaying information to the grass roots, especially during disasters
haor	large saucer-shaped depression in the landscape
kashful	vetiver grass
khal	a small channel
pourashava	Bengali term for small municipalities
taka	Bangladesh currency unit; there are approximately 66 taka to the US dollar
thana	literally ‘police station’; the lowest level of police administration which contains one police station
union	the lowest seat of local government institutions; several villages make a union
upazilla	the second tier of local government, a sub-district (‘upa’ means sub and ‘zilla’ district); several unions form an ‘upazilla’, most government field-level offices are coordinated by an ‘upazilla nirbahi’ officer
upazilla nirbahi officer	chief executive officer of a sub-district
zamindar	landlord

Some Key Terms

Capacity – A combination of all the strengths and resources available within a community, society, or organisation that can reduce the level of risk, or the effects of a disaster.

Disaster – A serious disruption of the functioning of a community or a society causing widespread human, material, economic, or environmental losses which exceed the ability of the affected community or society to cope using its own resources.

Disaster risk reduction (disaster reduction) – The conceptual framework of elements considered with the possibilities to minimise vulnerabilities and disaster risks throughout a society, to avoid (prevention) or to limit (mitigation and preparedness) the adverse impacts of hazards, within the broad context of sustainable development.

Hazard – A potentially damaging physical event, phenomenon or human activity that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation.

Mitigation – Structural and non-structural measures undertaken to limit the adverse impact of natural hazards, environmental degradation, and technological hazards.

Preparedness – Activities and measures taken in advance to ensure effective response to the impact of hazards, including the issuance of timely and effective early warnings and the temporary evacuation of people and property from threatened locations.

Resilience/resilient – The capacity of a system, community or society potentially exposed to hazards to adapt, by resisting or changing in order to reach and maintain an acceptable level of functioning and structure. It is determined by the degree to which the social system is capable of organising itself to increase its capacity for learning from past disasters for better future protection and to improve risk reduction measures.

Risk – The probability of harmful consequences, or expected losses (deaths, injuries, property, livelihoods, economic activity disrupted, or environmental damage) resulting from interactions between natural or human-induced hazards and vulnerable conditions. Conventionally risk is expressed by the notation $\text{Risk} = \text{Hazards} \times \text{Vulnerability}$. Some disciplines also include the concept of exposure to refer particularly to the physical aspects of vulnerability. A disaster is a function of the risk process. It results from the combination of hazards, conditions of vulnerability and insufficient capacity or measures to reduce the potential negative consequences of risk.

Risk assessment or analysis – A methodology to determine the nature and extent of risk by analysing potential hazards and evaluating existing conditions of vulnerability that could pose a potential threat or harm to people, property, livelihoods and the environment on which they depend.

Vulnerability – The conditions determined by physical, social, economic, and environmental factors or processes which increase the susceptibility of a community to the impact of hazards.

Adapted from UN/ISDR (2004)

Chapter 1

Introduction

Although Bangladesh has made significant progress in human development¹ in recent years, the majority of its population still live in poverty (Box 1). Frequency and impact of natural hazards are among the key factors accountable for wide disparities in the incidence of poverty at household and geographical level. Poverty makes many people vulnerable to disasters, while many remain in poverty because of the adverse impacts of disasters.

Box 1: Key facts about Bangladesh

- **Population** – 143.8 million in 2002 (Source: United Nations Development Programme [UNDP] Human Development Report 2004a)
- **Poverty** – 49.6% of the population living on less than \$1 per day. (Source: Government of Bangladesh/UNDP 2005)
- **Gross domestic product (GDP)** – U.S.\$351 per capita in 2002 (Source: UNDP Human Development Report 2004a)
- **Life expectancy** – 62 years (Source: World Bank Report 2005)
- **Disaster related events from 1970-98** – Total events - 171, which killed a total of 516,239 people and affected 428m (UNDP – Disaster in Least Developed Countries – data sheet)
- **Annual frequency of disaster:** 6.11 since 1970; 8.07 since 1985 (UNDP)

Bangladesh faces many types of disaster – from geophysical and hydrometeorological to industrial to food-related crises. The Comprehensive Disaster Management Programme (CDMP) lists floods, cyclones, earthquakes, tornadoes, river bank erosion, water logging, drought, salinity, storms, landslides, and tsunami as major hazards to which the people and their livelihoods are vulnerable in Bangladesh. The list also includes other hazard trends such as industrial pollution, fire, epidemics, and food-related disasters as well as political violence. These disasters hit the country's agro-ecological areas: flood plains, small hilly regions, and urban centres.

The World Bank's Global Risk Analysis (World Bank 2005) placed Bangladesh in a list of 60 countries which face two or more hazards per year. It states that 32.9% of the total population are exposed to four types of hazard. The UNDP disaster vulnerability

¹ Bangladesh's HDI rank was 137 in 2006, from 145 in 2002 (UNDP 2006 and 2002).

index, published in 2004, places Bangladesh among the most vulnerable to disasters. Weather-related data from NatCatSERVICE of Munich Re was used by Germanwatch to place Bangladesh between two and three in their Climate Risk Index² (CRI) in 2006.

With the highest disaster mortality rate in the world (UNDP 2004), Bangladesh lost 516,239 men, women, and children in 171 disastrous events from 1970-2005. The economic costs to the country associated with such disasters continue to grow, while the impacts on livelihoods at household level are not accounted for during loss estimations of disasters. The traceable economic costs of the 1991 cyclone, which killed 150,000 people, were \$2 billion. Bangladesh faces at least one major disaster a year and more than one in some years. Twenty-one per cent of the country's land surface is flooded every year, and 16 major floods occurred from 1954-2007. As many as 251,384 deaths have occurred because of tropical cyclones worldwide from 1980-2000. Bangladesh accounts for more than 60% of the deaths registered in this period, while the Philippines has the greatest frequency of tropical cyclones in terms of deaths reported (UNDP 2004). A very large proportion of the population of Bangladesh – particularly the heavily populated rural communities along the fertile delta at the confined head of the Bay of Bengal – is exposed to tropical cyclones. The large number of recorded deaths shows that, in this case, high vulnerability accompanies high physical exposure.

Developing a comprehensive (national) vulnerability analysis is a complex issue, since many generalisations that can be made on a national basis have differential relevance to local contexts even though the country is not very diverse ethnically or agro-ecologically. Whatever geophysical and climatic conditions exist, the density of population, poverty, and limited disaster support systems are among the reasons for Bangladesh's vulnerability. The four following key factors are reasons for the national vulnerability to natural hazards.

- **Location** – Bangladesh is located in the Ganges-Brahmaputra-Meghna system, the second largest river system in the world. All three rivers flow through Bangladesh, carrying 1,250 billion cubic metres of water. The terrain is comprised of flood plains, terraces, and hills. This region, known as the Himalayan region, is an active tectonic zone.
- **Climate change** – The nation continues to be at risk from all types of disaster; and the impact of climate change might increase these risks.
- **Governance** – Protection of vulnerable people is yet to become the legal responsibility of the government. Limited resources, poor capacity, limited capability, and lack of regional cooperation are other factors limiting government performance in disaster reduction.

² The Climate Risk Index (CRI) analyses how countries are affected by weather-related losses. In the face of climate change and its expected impacts they have to be seen as indicators of climate risks. Also see the Climate Change Performance Index (CCPI) developed by Germanwatch which includes an index-based analysis of the emission levels, the emission trends, and the climate protection policy. <http://www.germanwatch.org/ccpi.htm>

- **People's vulnerability** – As in many developing countries, rural housing in Bangladesh is more vulnerable to high winds, flooding, and landslides than urban housing and is associated with higher mortality generally.

Vulnerable communities collectively, and their members individually, develop their own ways of dealing with exceptional circumstances (coping mechanisms) caused by disasters (Alam 2006). This is also the case with people in Bangladesh. Thus traditionally, in the absence of government support, farming communities have drawn up and implemented their own preparedness plans according to their abilities and resources.

The Ministry of Food and Disaster Management of the Government of Bangladesh (MoFDM) is the main body responsible for national disaster preparedness as per the Hyogo Declaration adopted at the World Conference on Disaster Reduction (2005) held in Kobe, Japan. Normally, government practice was to carry out relief and rehabilitation activities after a disaster. Disaster preparedness was limited to broadcasting river water levels at critical stations, indicating prospects of flooding, and announcing the formation of depressions over the Bay of Bengal which might turn into cyclonic storms.

However, the perspective on disasters is changing in the following ways.

- a) National and international policies and processes have more influence than before over the vulnerability context.
- b) Dependency on formal institutions rather than traditional social networks and support systems has increased.
- c) The nature and magnitude of disasters are changing because of climate change and growing urbanisation.

Therefore, analysis of national disaster preparedness is important not only for the nation concerned but also for global reduction of disasters. This report discusses key issues related to disasters in Bangladesh, their evolution, current status of disaster preparedness plans, gaps in the plans, and shortcomings in their implementation. (It is not meant to be a comprehensive analysis, as this can be found by consulting the literature.) It also takes into account disaster management instruments, institutional arrangements, and policies at national and local level. Finally, the author offers his own analysis of the key performance issues arising from the implementation of various plans.

The analytical framework used in the report has three core components.

- a) Natural hazards are analysed within the context of Bangladesh's location within the Himalayan or Ganges-Brahmaputra-Meghna (GBM) geophysical region.
- b) Disaster preparedness (DP) plans are presented as they were until February 2007.
- c) Various national and international commitments, such as the Hyogo Framework for

Action (HFA) and the author's own extensive research on people's vulnerability to natural disasters were the basis of the commentaries on gaps in the plans and their implementation. In preparing the report, key people in Bangladesh were interviewed.

Chapter 2

Background to Natural Hazards

The previous section provides an introduction to the problem of natural disasters in Bangladesh, and this chapter presents analyses of three key disasters: floods, earthquakes, and landslides. Floods are the most common and occur annually with low casualty levels but great economic losses. Earthquakes are of great concern, even more so now after a performance evaluation of search and rescue operations following the collapse of two buildings in Dhaka. Landslides are not recognised as hazards by the Government of Bangladesh. In this chapter, before discussing hazards in Bangladesh, an overview is given of the characteristics of floods, earthquakes, and landslides in Bangladesh (Table 1). Other than these hazards, cyclones, tornadoes, and river bank erosion also occur, but these are outside the remit of the current report.

Table 1: Selected natural hazards by key characteristics					
Types of hazard	Scale of impact	Frequency, likelihood, and return period	Impact		
			Casualties/fatalities	Local economy	National economy
Floods	National	<ul style="list-style-type: none"> Annual, sometimes a number of floods per year The intensity and frequency is changing in the context of climate change. Currently, the return period of major floods is likely to change from 10-20 years to six years. Flash floods occur almost annually in the northeast part of Bangladesh. 	Low	Very high	Very high
Earthquakes	National (though there is no scientific prediction about scale and location)	Low, but probability is high and vulnerability is high	Likely to be very high	Likely to be very high	Likely to be very high
Landslides	Local	Low	Low	Low	Low

Floods and flooding

Among all the disasters in Bangladesh, floods are the most frequent and cause the people heavy economic hardship, with negative impacts on the national economy. Floods occur almost every year, with more than one flood event a year at times. Brammer (2004), rightly distinguished between floods and flooding: flooding is normal seasonal submergence of some flood plains, valleys, and terraces and to which people's traditional settlements and livelihoods are well adapted. Farmers in Bangladesh accommodate to seasonal flooding so well that they manage to feed one of the densest populations on earth (James 1998). Floods, on the other hand, represent unwanted and abnormal inundation having a heavy negative impact on people's lives and livelihoods, whereas flooding is good for the flood plains in terms of agriculture and soil fertility (James 1998). Normal annual flooding may inundate about 20% of the country, whereas disastrous floods may cause submergence of over 60% of the area for three to four weeks.

Current trends in floods in Bangladesh

- The frequency of floods continues to increase³; serious floods causing extensive crop damage occur on an average every three to five years. Catastrophic floods, on the scale of those in 1974, 1987, 1988, 1998, and 2004 occur on average every 10-20 years (Brammer 2004).
- Floods have become much more unpredictable than before, in terms of both onset and scale (Alam 2007).
- The sources of vulnerability have changed and are no longer purely related to hydro-meteorology but rather to social, political, cultural, and economic factors such as faulty design, collapse of embankments and drainage congestion due to unplanned structure contribute greatly to vulnerability to natural and man-made hazards.
- Flood-related fatalities have been reduced and the impact on the economy has increased. A pluralistic, institutional environment has developed in which diverse public and private actors engage in preparedness and post-disaster services. Floods stay for longer periods than before and hence flood plains are extended (catchment areas).

Flood problems in Bangladesh should be understood not from a country perspective but from a wider regional perspective, because the country is located in the Ganges, Brahmaputra and Meghna (GBM) basin. Apart from these three major rivers, 54 medium and small cross-boundary rivers enter Bangladesh and drain into the intricate river network, most of which flows into the Bay of Bengal through a single outlet called

³ Author's note: further work should be carried out on how the frequency and return periods of floods are changing. Since floods occur every year, the key problem with trend analysis is the lack of an agreed classification of floods. The oldest flood research was carried out by a Professor Mahalanabis (Report on Rainfall and Floods in North Bengal 1870-1922) and puts the return period as moderate floods once in 2 years and severe floods once in 6-7 years.

the Lower Meghna. The Bangladesh section of the catchment is about seven to eight per cent of the total drainage area, whereas about 93% of the catchment lies beyond its territorial confines. This has deprived Bangladesh of control of the rivers and their huge flows in its terrain. The massive cross-boundary river flows combined with runoff generated by local monsoon (June-September) precipitation do not drain out smoothly due to flatness of the land and tidal factors. Rather, high tides cause backwater effects inland through estuarine creeks. Consequently, rivers overspill the levées, resulting in inundation of large areas caused by drainage congestion. These factors, singly or in combination, cause flooding every year. The extent of flooding depends on the coincidence of hydrometeorological events.

About 80% of Bangladesh is rather flat with tidal and riverine floodplains, about 14% in the southeastern region in four districts (Chittagong, Bandarban, Khagrachhari, and Rangamati) has some hillocks, and about five per cent, in the northeast in Sylhet, Sunamganj, Moulvibazar, and Habiganj districts has smaller hillocks. In these areas the land surface undulates with steeper gradients than the rest of the country. These two regions are termed hilly areas, and they are a continuation of the foothills of the northeastern Indian states of Assam, Meghalaya, and Tripura.

Based on geographical characteristics, floods can be classified into the following four broad categories.

- Riverine floods on plains caused by the gradual rise of river levels during monsoon.
- Tidal floods in coastal areas caused by high tides.
- Flash floods caused by sudden onrushes of water from hilly torrents after heavy rainfall in the Khasia-Jaintia, Garo, and Tripura hills bordering Bangladesh.
- Floods caused by water logging as a result of structural faults. Southwest Bangladesh suffers such floods on a regular basis.

Gently rising riverine floods are still a major concern in Bangladesh. Floods have occurred as long as people can remember and the mitigation measures undertaken by local people were sufficient when the population was small, almost less than half of what it is today. On the contrary, people used to reap the beneficial effects of normal, annual flooding in terms of replenishment of soil moisture, groundwater recharge, flushing, enhanced navigation, and open water fishing. The normal flood becomes a disaster when standing crops are totally damaged, communication is disrupted, and people are forced out of their homes due to submergence by deeper and longer duration of flood waters than previously experienced. With the population boom, human settlements have encroached on flood plains, aggravating drainage congestion. With economic growth, more infrastructure and assets are created and, apart from agriculture which is the mainstay of the economy, more and more people, assets, and infrastructure become vulnerable to floods over time. Thus riverine floods take their toll not only in the

short term but also in the long term, and the uncertainty and threat of floods impact the real development potential.

Tidal floods are limited to coastal areas only. Earlier, they used to damage the standing summer rice in the lowlands with saline inundation, but, since the 1950s, about 130 polders have been built (till date) by installing embankments, closures, and sluices to prevent the entry of sea water during high tide and to drain it during low tide. The total area protected is estimated at 1.4 million hectares.

Flash floods

Flash floods occur mostly in the northeast (Kishoreganj, Netrokona, Sunamgonj, Sylhet, and Moulvibazar districts) and southeast (Chittagong, Bandarban, Khagrachhari, Rangamati districts) regions of Bangladesh and are caused by heavy rainfall in bordering hilly regions of northeast India. Because of the steeper gradients in hilly areas, flash floods have less travel time and are violent and short-lived. The southeastern region is even hillier with fewer plains and enormous runoffs in the form of flash floods which flow down the gorges scarcely affecting agriculture or other economic activities and flatten and slope down towards large saucer-shaped depressions called *haors*. During flash floods the violent inflow from the hills overflows the river banks in flatter reaches, washing away infrastructure and crops on both sides.

The depressed basins receive the flash floods which sometimes occur in late March to April during the early spring rains. With the onset of and during monsoon, the basins are filled completely and each ‘haor’ looks like an inland sea. The depth is such that even deep water floating rice cannot be grown. For seven months (April to October) of the year no agricultural crop is cultivated in these areas, but they host a wide variety of fish species. Agriculture is possible only five months of the year (November to March). Flash floods sometimes occur in the northwestern (parts of greater Rajshahi, Dinajpur, and Rangpur districts) region due to heavy, localised rainfall in an area with steep gradients. Box 2 gives an account of a flash flood occurring in Sunagami in April 2002.

Landslides

Landslides are not a common hazard in Bangladesh. There is no reliable study or record of landslides in Bangladesh. Some news items in local dailies in Chittagong district claim there are local landslides, but these news’ items fail to attract the Government of Bangladesh (GoB); neither are these records observed in the Disaster Management Bureau (DMB) nor in the Directorate of Relief and Rehabilitation (DRR). As stated in Section 2.1, Bangladesh consists, to a great extent, of a flat delta with some undulating topography composed of small hillocks in the northeastern and southeastern regions. Occasional mudflows occur in the southeastern region because of soil erosion of hill slopes. These flow down the gorges and receive scanty media coverage as they

Box 2: Case study of a flash flood in Sunamganj district

Sunamganj region has the highest rainfall in Bangladesh; it lies close to Cherapunja in Assam, the location of the world's heaviest amounts of rainfall. It is famous for numerous water bodies, locally called haor, and is rich in wild fisheries and natural habitats.

The area has a predominantly subsistence economy, and both harvests and income are dependent on floods. Around 48% of land remains under water up to seven months a year. Farmers can only grow a single rice crop, boro, the major source of income for the district. Land distribution is uneven, with 57% of virtually landless inhabitants owning only 0.062% of the land. While 80% of the population are sharecroppers, as much as 48% of people's primary income depends on wages from daily labour. Between 2000 and 2004, farmers in Sunamganj lost harvests three times because of flash floods caused by embankment breaches.

The flash floods occur because a large amount of water flows down from the hills in a short time with limited warning – a common characteristic of the district. As harvest and flooding times overlap, submersible embankments are built by the Bangladesh Water Development Board (BWDB) to divert water away from the fields. The fate of farmers is thus dependent on the embankments' efficiency and quality. However, research carried out by the NGO ActionAid and its partners has clearly shown that these embankments are neither adequately constructed nor maintained.

In April 2002, several embankments collapsed just before the annual harvest. An estimated 1.4 million people were affected, with loss of about 20% of crops as well as damage to infrastructure. The local people blamed the water board officials for the disaster; in fact a group of farmers had marched on the government offices demanding repairs long before the floods. A local leader said, "We took a letter to them in January protesting about the poor management and corruption. We warned them of the risk to our homes and crops if they did not make repairs. We were ignored." In response, the BWDB pointed to "... the recent cuts in public funds for essential repair work and the late arrival of funds as allocated."

hardly affect economic activity. Mudflows are so insignificant that hardly any literature is available. The enormous silt load (1.6-2.4 billion tons per year) carried by the rivers to the Bay of Bengal originates for the most part in upper catchments outside Bangladesh.

Earthquakes

Bangladesh lies in an active tectonic zone which extends throughout the Himalayan, Shillong plateau and Rakan-Yoma region and into parts of the adjoining Indo-Ganges flood plains (Brammer 2004). India, Bangladesh, and Pakistan more or less comprise what geologists call a tectonic plate.

Between 1869 and 1950, seven major earthquakes with magnitudes exceeding seven on the Richter scale occurred in the region and had some impact on Bangladesh (Table 2). The Indian plate is moving northwards at about five centimetres a year, a

Table 2: Major earthquakes in Bangladesh and neighbouring areas (1869-1950)

Date	Name	Magnitude (Richter)	Distance of epicentre from Dhaka (km)
January 10, 1869	Cachhar Earthquake	7.5	250
July 14, 1885	Bengal Earthquake	7.0	170
June 12, 1897	Great Indian Earthquake	8.7	230
July 8, 1918	Srimangal Earthquake	7.6	150
July 2, 1930	Dhubri Earthquake	7.1	250
January 15, 1934	Bihar-Nepal Earthquake	8.3	510
August 15, 1950	Assam Earthquake	8.5	780

(Source: Choudhury 2005)

force that also contributes to the formation of the Himalayas. The movement of the Indian plate also caused the Sumatra-Andaman earthquake earlier this year.

Of the seven events, only two (1885 and 1918) had their epicentres within Bangladesh. According to the records the consequent damage is as presented below.

- 1869 – major damage occurred only in the eastern parts of greater Sylhet district but the tremor was felt all over the country.
- 1885 – it caused considerable damage in the Sirajganj-Bogra areas and perhaps more damage in the Jamalpur-Sherpur-Mymensingh areas.
- 1897 – the damage was very severe in Sylhet, northern Mymensingh, and eastern Rangpur and minor throughout the rest of the country with 545 casualties in Sylhet (see Box 3 also).
- 1918 – a large amount of damage occurred in Srimangal but, due to the shallow focal depth, the intensity rapidly decreased and only minor effects were observed in Dhaka.
- 1930 – major damage occurred in eastern parts of Rangpur district.
- 1934 – minor damage was observed in the northwestern parts of Bangladesh.
- 1950 – the tremor was felt all over the country but no damage was reported.

The great earthquake of 1897 had its epicentre in the Shillong Plateau of India (Megha) and caused widespread damage in adjacent areas of what was then known as Bengal.

In 2005, an earthquake with a magnitude of 7.3 on the Richter scale occurred in the Indian region near Bangladesh. Seismologists at the United States Geological Survey (USGS) have indicated that this earthquake was an aftershock of the 9.0 earthquake that had occurred just a few hours earlier, 305 km (190 miles) away in the Indian Ocean near Sumatra, Indonesia. The Bangladesh Meteorological Department (BMD) issued a statement that the quake had struck Chittagong, a southern port that is the second largest city in Bangladesh.

Although tremors have been felt in different parts of the country during the last six years, four events caused considerable damage, and these are given below (Box 4).

The low incidence of severe earthquakes in the last 100 years has led to a situation in which earthquakes are not perceived as a menacing hazard. The emphasis on recurrent floods and cyclones has often helped overlook the real risk of earthquakes. Though there are several local studies and vulnerability analyses, earthquake risks and vulnerability are well researched in Bangladesh. The earthquake in Gujarat in 2001 was a milestone that changed perspectives among NGO actors, but key donor agencies were still reluctant to fund earthquake projects. The earthquake that occurred in the hilly districts of Rangamati in the Chittagong Hill Tracts (CHT) was the point at which awareness among public officials started to grow and eventually lead to serious 'consideration' after the Indian Ocean earthquake.

The city of Dhaka, which is expected to grow to a population of 21.1 million (Freeman 2003) (4th largest in the world) by 2015, is among the cities most vulnerable to earthquakes. With increasing construction of bridges, buildings, and industrial

Box 3: The great Indian earthquake of 1897 and its impact

"At 5.15 pm on the 12th of June in 1897, a great earthquake hit Bengal, Assam, and Bihar and shocks lasted around 5 minutes. There was a loud rumbling noise from the east. The earthquake caused a great change in the country's river system. The epicentre was located on the Shillong Plateau, Rangpur district, and the northern and Sylhet districts in the northeast were severely damaged. The current district headquarters was located in Mahiganja, which was completely destroyed, including the king's palace in which he died. Sylhet town was completely levelled to the ground, causing 545 deaths." Casualties were not so great because of the limited number of buildings at that time, as rural people used to live in 'katcha' structures.

Box 4: Recent earthquakes in Bangladesh (1997-2003)

- May 8, 1997 Sylhet earthquake – with a magnitude of 5.6 it caused fractures in several buildings in and around Sylhet.
- Nov 21, 1997 Bandarban earthquake – with a magnitude of 6.0 it caused damage to a number of buildings in Chittagong region while a building collapsed in Chittagong city leading to the deaths of about 20 people.
- July 22, 1999 Moheshkhali earthquake – with a magnitude of 5.1 it led to the collapse of a number of mud-walled houses and cracks in some 'pucca' buildings.
- July 27, 2003 Barkal (Rangamati) earthquake – with a magnitude of 5.6 it resulted in cracking in a number of buildings, collapse of about 500 mud-walled houses, deaths of 2, and injuries to about 100 persons. The tremor was also felt in Chittagong city with development of cracks in a number of buildings. The major shock was followed by 14 lasting aftershocks until August 13, 2006.

infrastructure in the last two decades, assessment of seismicity in different regions is receiving considerable attention. The earthquake of July 2003 with a magnitude of 5.6 that affected the hilly district of Rangamati in the southeastern region and was felt in Chittagong city received wide coverage in the national media. The recent, severe earthquake near Sumatra, Indonesia, in December 2004 with a magnitude of 9, and the tsunami generated by it that affected many countries, have resulted in greater awareness in South Asia, South East Asia, and Africa. Earthquakes have now become a subject of grave concern to members of the public, researchers, and planners.

Chapter 3

National Disaster Preparedness

Disaster preparedness is recognised as a crucial management strategy to reduce the loss of lives, livelihoods, and economic activities. Disaster preparedness refers to both structural and non-structural preparedness measures.

Historically, public measures have been limited to early warning and structural mitigation. Over the years there has been a greater shift towards the non-structural measures as well as mainstreaming and multi-sectoral approaches.

The Disaster Management Bureau (DMB) is the lead coordinating agency for disaster preparedness, and it receives support from warning issuance centres (Bangladesh Meteorological Department [BMD], Flood Forecasting Warning Centre [FFWC]); warning dissemination hubs (such as the Disaster Management and Information Centre, Emergency Operation Centre, National Electronic and Print Media, Cyclone Preparedness Programme, and others); and emergency management coordination [Directorate of Relief and Rehabilitation [DRR], Director General of Food, Emergency Operation Centre, Armed Forces' Division, Directorate of Health, Department of Public Health Engineering, and others).

This section provides an analysis of the evolution of disaster preparedness approaches in Bangladesh; instruments that direct, guide, and help in developing preparedness plans; and the institutional arrangements for developing and implementing disaster preparedness plans at different levels.

Evolution of approaches to disaster preparedness

Very limited research was carried out on institutional preparedness for disasters before 1950, but some reports state that disaster response was the key strategy during the British era. In the post-colonial period, major disasters have been the turning point in the search for knowledge and new approaches to mitigate disasters. Although people developed different strategies for coping with disasters, the formal institutional

preparedness that commenced in 1950 has been a milestone. Disaster preparedness in Bangladesh has evolved throughout a number of phases, each triggered by a major disaster. For example, the 1988 flood prompted the formulation of the Flood Action Plan (FAP), whereas an institutional arrangement like the Disaster Management Bureau (DMB) is one of the products of the 1991 cyclone. Each phase has made its own contribution and left gaps, and these are given below.

- In the early phase before the 1950s disaster response was based on social networks rather than on formal institutional arrangements.
- From the 1950s-1980s structural mitigation was led by engineering technology.
- In the post-1990s vulnerability reduction, early warning, and effective response were promoted.
- From 2000 and beyond comprehensive approaches mainstreaming risk were undertaken under the influence of the Hyogo protocol.

Before the 1950s, in earlier times when forecasting was not available, people used to exercise indigenous wisdom in forecasting by observing the behaviour of animals and changes in the natural environment. With the advent of the monsoon rains, people - mostly farmer communities - would start making preparations to minimise losses in the event of flooding. Certain tasks, such as collection of firewood and erection of small earthen embankments ('bandh') around fish ponds to prevent fish from escaping into the flood plains during floods, were routine activities in flood preparedness irrespective of the intensity of flooding. Other activities, such as elevating homestead plinths and tubewell platforms, identifying suitable spots to which to shift cattle and other valuables, and storage of dry food and potable water, were carried out only when a major flood was forecast. All these chores were carried out by members of individual households under the leadership of elected representatives of the people in the lowest tier of local government institution (LGI) called the Union Council/Parishad (UP). Thus, from within living memory, people living in flood-prone areas have practised disaster preparedness measures as a monsoon activity.

People in the coastal areas were one step ahead. Under the leadership of the 'zamindars' (landlords), who owned most of the arable land, local farmers would encircle the paddy fields with small earthen dykes and install wooden sluice gates for drainage in order to save the rice. These steps were undertaken in addition to normal preparedness activities to face the ensuing flood. During high intensity floods, the dykes and sluice boxes would be washed away, only to be built again the next year. In all these activities the government hardly played any role. The budget of the LGI did not cover such activities and the UP Chairman or members who led and coordinated the activities participated mainly out of self interest as potential victims.

The government would appear on the scene only after a disaster and its efforts were concentrated on post-disaster relief, recovery, and rehabilitation. In the case of cyclones, the picture was even bleaker for two reasons. Firstly, floods were more regular phenomena than cyclones, people were more prepared and had a checklist of what to do in the event of floods. Secondly, even if a cyclone was forecast well in advance, there was hardly anything people could do if there were no shelters available for them to take refuge.

From the 1950s-1980s, there were brisk activities in terms of planning and implementation of water development projects, and these activities had both positive and negative impacts. The positive outcomes were that weak mud embankments and flimsy wooden sluices were replaced by well-compacted earthen dykes and concrete structures respectively. The negative outcomes were that the projects were designed by the government without participation at all from stakeholders who had been involved with the disasters, and this led to the creation of facilities that no longer belonged to the people concerned, and it was considered a criminal offence to meddle with them. Suddenly, the people found themselves to be alien in their own homes and the resulting apathy on their part led to the failure of many flood control and drainage (FCD) projects.

Notwithstanding the long spell of planning and implementation of modern water development projects, government policy did not shift from a post-disaster bias to pre-disaster preparedness. The rationale for such a post-disaster policy might have been the notion that disaster is inevitable in a disaster-prone country, and the task of the government should be to restore everything to normalcy as quickly as possible after a disaster. This trend continued until the late 1980s when the country was hit by two consecutive disastrous floods in 1987 and 1988. These two events caused a remarkable response in developed countries where the opinion was that floods that impeded development in poor countries like Bangladesh should be combated in a determined manner.

After the 1990s, and based on deliberations taking place in the late 1980s, the flood action plan (FAP), a five-year study programme (1991-1995), was introduced as the first step in the government's long-term plan to fight floods. The FAP had 26 components (11 main and 15 supporting studies). It introduced innovative ideas and brought about a paradigm shift in issues related to water planning, especially in flood control and drainage projects. For example, earlier plans aimed at eliminating floods from an area were found to be impracticable and not so desirable from an environmental perspective. The FAP introduced the concept of 'controlled flooding and drainage' to exploit the beneficial effects of flooding with least disturbance to the environment. Environmental impact assessment (EIA), social impact assessment (SIA), and people's participation from the planning phase to operation of projects were made mandatory. Multi-criteria

analysis (MCA), instead of only economic and financial analyses, was recommended for project assessment.

From 2000 onwards, the key characteristics became a greater emphasis than previously on vulnerability, a multi-stakeholder approach, and mainstreaming. There has been a lot of progress after 2000. In the National Water Management Plan (NWMP), developed by the Water Resource Planning Organisation (WARPO) in 2003, disaster preparedness with a special emphasis on floods and cyclones was an important part of the plan. In 2005, the Integrated Coastal Zone Management Plan (ICZMP) was developed by the Ministry of Water Resources. The ICZMP included disaster management plans for hazards such as floods, water logging, tsunami, salinity, river bank erosion, and earthquakes. In 2005, in the aftermath to the devastating Asian tsunami which occurred on December 26, 2004, the Ministry of Food and Disaster Management (MoFDM) developed a draft Tsunami Risk Reduction Plan of Action (TRRPA), which is now in the final stages of approval after the incorporation of recommendations and comments from all relevant agencies. The MoFDM has also developed a corporate plan – ‘Framework for Action 2005-2009’ - through the Comprehensive Disaster Management Programme (CDMP) which was established in 2004 under the MoFDM. In 2006, a draft National Disaster Management Plan was developed which incorporated Bangladesh’s commitment to implement the Hyogo Framework of Action (HFA).

Institutional arrangements for disaster management

The Ministry of Food and Disaster Management of the Government of Bangladesh is responsible for coordinating national disaster management efforts throughout all agencies. The Disaster Management Bureau issued a Bengali version of the Standing Orders on Disaster (SOD) in 1997 and an English version in 1999 (Annex 2) to guide and monitor disaster management activities in Bangladesh. A series of inter-related institutions, at both national and sub-national levels, has been established to ensure effective planning and coordination of disaster management and emergency response events (Figure 1).

Organisational structure at national level

- i. National Disaster Management Council (NDMC) – headed by the Prime Minister to formulate and review disaster management policies and issue directives to all concerned
- ii. Inter-Ministerial Disaster Management Coordination Committee (IMDMCC) – headed by the Minister for Food and Disaster Management to implement disaster management policies and the decisions of the NDMC/government.

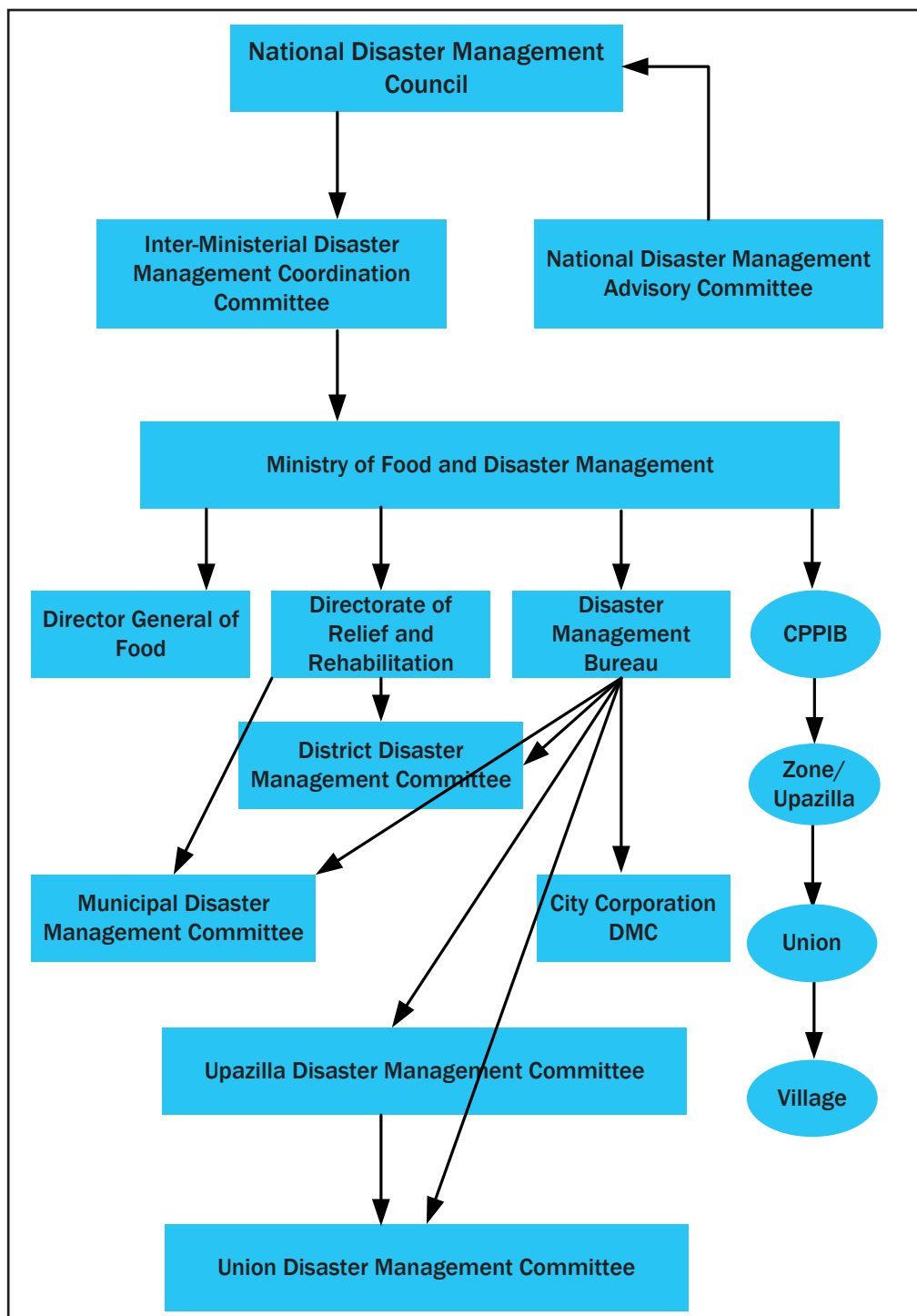


Figure I: Disaster management institutions in Bangladesh

- iii. National Disaster Management Advisory Committee (NDMAC) – headed by an experienced person nominated by the Prime Minister.
- iv. Disaster Management Bureau (DMB) - headed by a Director General it has three wings, each headed by a director: planning and training, monitoring and information management, and administration. The core business of the DMB is to improve the capacities of disaster management stakeholders and coordinate disaster management policy issues in favour of MoFDM.
- v. Directorate of Relief and Rehabilitation (DRR) - headed by a Director General, it has five wings, each headed by a director: food for work; vulnerable group development; relief, monitoring, and evaluation; and administration. The core business of the DRR is to implement disaster management programmes in the field; particularly mitigation, preparedness (evacuation routes, disaster shelters, etc.), and relief and rehabilitation activities.
- vi. Director General of Food (DGoF) – headed by a Director General. The core business of the DGoF is to maintain food availability and distribution at a secure level in normal times and in emergencies. The DGoF also looks after national food policy and planning issues.
- vii. Cyclone Preparedness Programme Implementation Board (CPPIB) – headed by the Secretary, Ministry of Food and Disaster Management, to review preparedness activities in the initial stages of an impending cyclone
- viii. Disaster Management Training and Public Awareness Building Task Force (DMTATF) – headed by the Director General of the Disaster Management Bureau to coordinate the disaster-related training and public awareness activities of the government, NGOs, and other organisations
- ix. Focal Point Operation Coordination Group of Disaster Management (FPOCG) – headed by the Director General of DMB to review and coordinate the activities of various departments or agencies involved in disaster management and to review the contingency plans prepared by relevant departments.
- x. NGO Coordination Committee on Disaster Management (NGOCC) – headed by the Director General of DMB to review and coordinate the activities of NGOs working in the field of disaster management.
- xi. Committee for Speedy Dissemination of Disaster Related Warning and Signals (CSDDWS) – headed by the Director General of DMB to examine, ensure, and find ways and means for rapid dissemination of warnings to the people.

Organisational structure at sub-national level

- i. District Disaster Management Committee (DDMC) – headed by the Deputy Commissioner (DC) to coordinate and review disaster management activities at the district level.
- ii. ‘Upazilla’ Disaster Management Committee (UZDMC) – headed by an ‘Upazilla’ Nirbahi Officer’ (UNO) to coordinate and review disaster management activities at “upazilla” level.
- iii. Union Disaster Management Committee (UDMC) – headed by the Chairman of the Union Parishad to coordinate, review, and implement disaster management activities in its particular union.
- iv. ‘Pourashava’ Disaster Management Committee (PDMC) – headed by the Chairman of the ‘pourashava’ (municipality) to coordinate, review, and implement disaster management activities within its area of jurisdiction.
- v. City Corporation Disaster Management Committee (CCDMC) – headed by the Mayor of the city corporation to coordinate, review, and implement disaster management activities within its area of jurisdiction.

The details of the national-level committees along with brief terms of reference (ToR) for each are presented in Annexes 3 through 5. The SOD provides detailed roles and responsibilities of all disaster management committees, relevant ministries, divisions, departments, and agencies at all levels for normal period risk reduction and during emergency response periods.

The Ministry of Food and Disaster Management (MoDFM) has three implementing agencies under the policy guidance of the ministry: Directorate of Relief and Rehabilitation (DRR), Disaster Management Bureau (DMB), and Director General of Food (DGoF). The DRR and DMB look after the core business of disaster management and the DGoF looks after issues related to availability, distribution, and supply, and regulatory systems. The GoB’s vision for disaster management is highly influenced by the issue of food security and therefore the integration of the DGoF is advanced in this regard. The DMB looks after training and also planning issues arising from various acts and orders related to disaster management. The DRR implements disaster management programmes in Bangladesh. Before 2004, the DRR was mainly a relief agency but, with the influence of the CDMP programme, DRR is shifting to the risk reduction business. At present, the DRR is designing its own programme based on a thorough risk assessment process supported by the CDMP. Already US\$35 million have been disbursed to the extremely vulnerable to reduce the threat to their livelihoods by natural hazards. DRR programmes focus on all areas of disaster management: mitigation, preparedness, response, and recovery; whereas DMB provides technical

support to planning and capacity building. The DRR has field offices at ‘upazilla’ and district levels. The field offices of DRR also provide logistics’ support to the DMB for field-level capacity building, planning, and workshops. The DGoF provides emergency food supplies to the field from local stocks in each ‘upazilla’ and district during disasters caused by natural hazards. The DRR and DGoF have good field-level coordination during disasters and also support rehabilitation work through the food for work (FFW) programme.

Chapter 4

Disaster Preparedness Planning at National Level

Prior to the 1990s, the main activity of the Ministry of Relief was post-disaster relief and rehabilitation, whereas preparedness, a pre-disaster activity, was carried out by affected (potential victim) communities on their own.

Although its largest flood disaster occurred in 1998, Bangladesh had already begun to discuss approaches to flood preparedness as early as 1988, and both structural and non-structural approaches were discussed. The interventions proposed included structural ‘once-and-for-all’, massive engineering solutions, and also non-structural solutions, e.g., ‘living with the floods’. The debate ended by the setting of eleven principles to guide future studies; and directives from senior levels of government to address unresolved issues. As a result, a compromise in the form of a five-year plan emerged from this debate, and it is popularly known as the Flood Action Plan (FAP). The FAP consisted of regional planning studies, project preparation studies, and pilot projects.

One study arising from the Flood Action Plan (FAP) was on disaster preparedness (FAP-11), the first of its kind. The study was carried out by UNDP consultants in association with staff members from the Ministry of Relief. In fact, this was the beginning of an official introduction to ‘disaster preparedness’ as an effective instrument for reducing losses in a disaster. Earlier, the Ministry of Relief had compiled a guidebook entitled ‘Standing Orders on Cyclones, 1985’ that dealt mostly with post-disaster activities in relief and rehabilitation.

The study began in the aftermath of flooding, but a powerful cyclone hit the country in April 1991 and forced the study to expand its scope to incorporate cyclones as well. As the study progressed, significant institutional changes were brought about in 1992 and 1993. The Ministry of Relief was renamed the Ministry of Disaster Management and Relief. Previously, there was one Directorate of Relief and Rehabilitation under the Ministry. In 1992, another institution, the Disaster Management Bureau, was established.

The introduction of the FAP study on disaster preparedness (FAP-11) gave a new lease of life to the hitherto marginalised Ministry of Relief not only in an organisational sense, but also in terms of attitudinal change on the part of the government. At last, policy-makers realised that pre-disaster preparedness was a much more effective instrument in damage mitigation and would also make post-disaster restoration simpler and cheaper than was hitherto the case. The importance accorded by the government to disaster preparedness is manifest in the reorganisation of the ministry and the very constitution and composition of the national council, inter-ministerial committee, and advisory committee. As part of the organisational revamping, Disaster Management Committees (DMCs) were set up at district, 'thana', and union levels.

National disaster preparedness instruments

The Plan for Disaster Preparedness is an outcome of various instruments that provide guidance and directions as well as a legal basis for developing plans. This section discusses the key disaster preparedness instruments and directives crucial to planning for disaster management.

The key national instruments for disaster risk reduction in Bangladesh include the following.

- Policy statement: GoB Vision, Mission and Objectives for Disaster Management
- Poverty Reduction Strategy
- Standing Orders on Disaster
- Draft National Disaster Management Policy
- Draft National Plan for Disaster Management
- Draft Disaster Management Act
- Bangladesh Disaster Management Model
- Corporate Plan: Framework for Action 2005-2009
- National Workshops on Options for Flood Risks and Damage Reduction in Bangladesh
- Mainstreaming the Risk Reduction Framework
- Guidelines and Tools for Disaster Preparedness and Risk Reduction

Some of the instruments are in the draft stage and under consultation and others are already implemented and in operation. Most of the instruments have been developed recently, and it is too early to comment on their operational status, apart from the Standing Orders on Disaster (SOD). The SOD are addressed to the major stakeholders and to government agencies, but are neither followed properly, nor monitored and assessed by implementing agencies. Most of the duty bearers are not aware of their roles in disaster management as outlined by the SOD. The Disaster Management Bureau has not made significant efforts to activate, operationalise, and monitor the performance of different agencies, personnel, and committees as given by the SOD.

Policy statements (vision, mission, and objectives) on disaster management

Vision – The vision of the Government of Bangladesh is to reduce the risk to people, especially the poor and disadvantaged, from the effects of natural, environmental, and human-induced hazards and bring them to a manageable and acceptable humanitarian level by having in place efficient emergency response systems capable of handling large-scale disasters.

Mission – In realising the whole of the GoB's vision for disaster management, the mission of the Ministry of Food and Disaster Management (MoFDM) is to bring about a paradigm shift in disaster management from conventional response and relief to a more comprehensive risk reduction culture and to promote food security as an important factor in ensuring the resilience of communities to hazards.

Objective – The overall objective of the MoFDM is to strengthen the capacity of the national disaster management system to reduce unacceptable risks and improve response and recovery management at all levels and to integrate and manage the food security system effectively.

Poverty reduction strategy

The poverty-disaster interface in Bangladesh is quite perplexing. Disasters have had adverse long-term impacts on the economic and social activities of the poor. Moreover, the costs of coping with disaster are disproportionately higher for the poor than for others.

The Poverty Reduction Strategy Paper (PRSP) is a policy and strategy document prepared by the World Bank and the International Monetary Fund (IMF) member countries in broad consultation with stakeholders and development partners. It is to be updated every three years with annual progress reports. It describes the country's macroeconomic, structural, and social policies and programmes for growth and poverty reduction, as well as associated external financing needs and major sources of financing.

Considering the direct poverty disaster linkages, the PRSP included one separate policy matrix (Number 07) on comprehensive disaster management for poverty reduction and growth.

Policy Matrix 07 envisages the following.

- Mainstreaming disaster management and risk reduction into national policies, institutions, and development processes
- Introducing disaster impact and risk assessment (DIRA)

- Strengthening disaster management and risk reduction capacities
- Ensuring knowledge management (acquiring, storing, sharing, and applying) for disaster risk reduction
- Enhancing community-level capacities for disaster risk reduction (community-level preparedness, response, recovery, and rehabilitation)
- Ensuring social protection of women, children, the elderly, the disabled, and other vulnerable groups against vulnerability and risk

Disaster management is included as a cross-cutting issue in three other policy matrices as follows.

- a. Policy matrix 08: Food security
- b. Policy matrix 12: Promoting use of information and communication technology in disaster management
- c. Policy matrix 15: Ensuring social protection for women against vulnerability and risks

The progress in implementing the Poverty Reduction Strategy is regularly monitored by the government and therefore disaster management plans have a direct relationship to the PRSP to comply with the policy matrix. Policy matrix 07 is the direct responsibility of the Ministry of Food and Disaster Management, and thus the PRSP provides a strong directive for preparing plans for disaster management.

Standing Orders on Disaster (SOD)

The Government of Bangladesh formulated Standing Orders on Disaster in 1997, and they provide one of the main guides for emergency operations in Bangladesh. These orders clearly instruct every relevant agency and responsible person about their roles during normal and emergency periods. The roles and responsibilities of national and local-level disaster management committees are also described in the SOD. The SOD are based on disasters caused by floods and cyclones and predominantly focus on preparedness and response. At present they are being revised and a draft has been developed which includes approaches to all hazards and provides a balance of the aspects of prevention or mitigation, preparedness, response and recovery in disaster management (<http://www.dmb.gov.bd/standingorderpublication.html>).

National Disaster Management Policy (draft)

A National Disaster Management Policy (NDMP) has been drafted to define the national perspective on disaster risk reduction and emergency management and to describe the strategic framework and national principles of disaster management. It is strategic in nature and will describe the broad national objectives and strategies in disaster management. The draft policy was developed by the Disaster Management Bureau (DMB) and is under consultation at present (Annex 6).

Disaster Management Act (draft)

A Disaster Management Act has been drafted by the Ministry of Food and Disaster Management (Annex 7) and is awaiting the endorsement and approval of Parliament. The Act has been formulated with a view to creating a legislative tool under which disaster risk and emergency management will be undertaken in Bangladesh, and the legal basis on which activities and actions will be managed. It will also establish mandatory obligations and responsibilities for ministries, committees, and appointments. The Act is to provide a legal basis for communities to mitigate the potential adverse effects of hazardous events, prepare for managing the effects of disasters, respond effectively to and recover from a disaster or an emergency situation, and adapt to the adverse effects of climate change.

Bangladesh disaster management model

The Government of Bangladesh (Ministry of Food and Disaster Management through its Comprehensive Disaster Management Programme [CDMP]) has developed a working model to guide disaster management approaches (Figure 2). This model emphasises understanding the risk environment and redefining it through new experiences and risk contexts beforehand (climate change impacts, new predictions and trends, lessons from disasters, and other change factors; viz., globalisation, trade policy, and legal changes), developing a management strategy (prevention, mitigation, and preparedness) of the risk environment, and activating the actual response and recovery operations in emergencies.

MoFDM's corporate plan: framework for action 2005-2009

The Corporate Plan (Framework for Action, 2005-2009) was formulated to serve as a key management tool to guide the efforts of the Ministry of Food and Disaster Management in achieving the above commitments (Figure 2). The plan provides directions on the ministry's priorities for the next four years. It aims to develop policies and programmes that recognise the impacts of climate change and also to expand preparedness, response, and mitigation strategies to cover a broad range of hazards by widening the scope to accommodate earthquakes, tsunamis, urban floods, and river bank erosion in addition to floods and cyclones. The corporate plan also provides directives for the Directorate of Relief and Rehabilitation (DRR), Disaster Management Bureau (DMB), and Director General of Food (DGoF) for developing strategic and annual plans for line agencies.

Recommendations for options in flood risk and damage reduction

It was in the aftermath to the devastating flood of 2004 that the Prime Minister directed her office to hold a National Workshop on Floods in order to develop and design context-



Figure 2: Bangladesh disaster management model (CDMP 2006)

based policy recommendations for flood management and evaluate the experiences of flooding and flood management initiatives and lessons learned from different kinds of interventions in the flood plains. The workshop was also used to explore the socio-economic aspects of the problem. The workshop was held in Dhaka from 7-9 September, 2004, and there were over 900 participants. The workshop concluded with a set of recommendations on options for flood risk and damage reduction in Bangladesh. These recommendations were considered during preparation of the corporate plan for the Ministry of Food and Disaster Management. The recommendations for flood preparedness are given under the headings 'General', 'Structural', and 'non-structural' measures in Annex 8, pages 13-14 and 18-20.

The Comprehensive Disaster Management Programme (CDMP) has identified result areas in line with the flood recommendations. The Ministry of Food and Disaster Management also took the recommendations into consideration during preparation of the National Plan for Disaster Management.

Mainstreaming the risk reduction framework

The GoB has developed a bottom up and top-down mainstreaming framework to integrate risk reduction issues into the core business of different government and non-government agencies. This framework has been integrated into the National Plan for Disaster Management (NPDM) also to guide the mainstreaming issues (Figure 3).

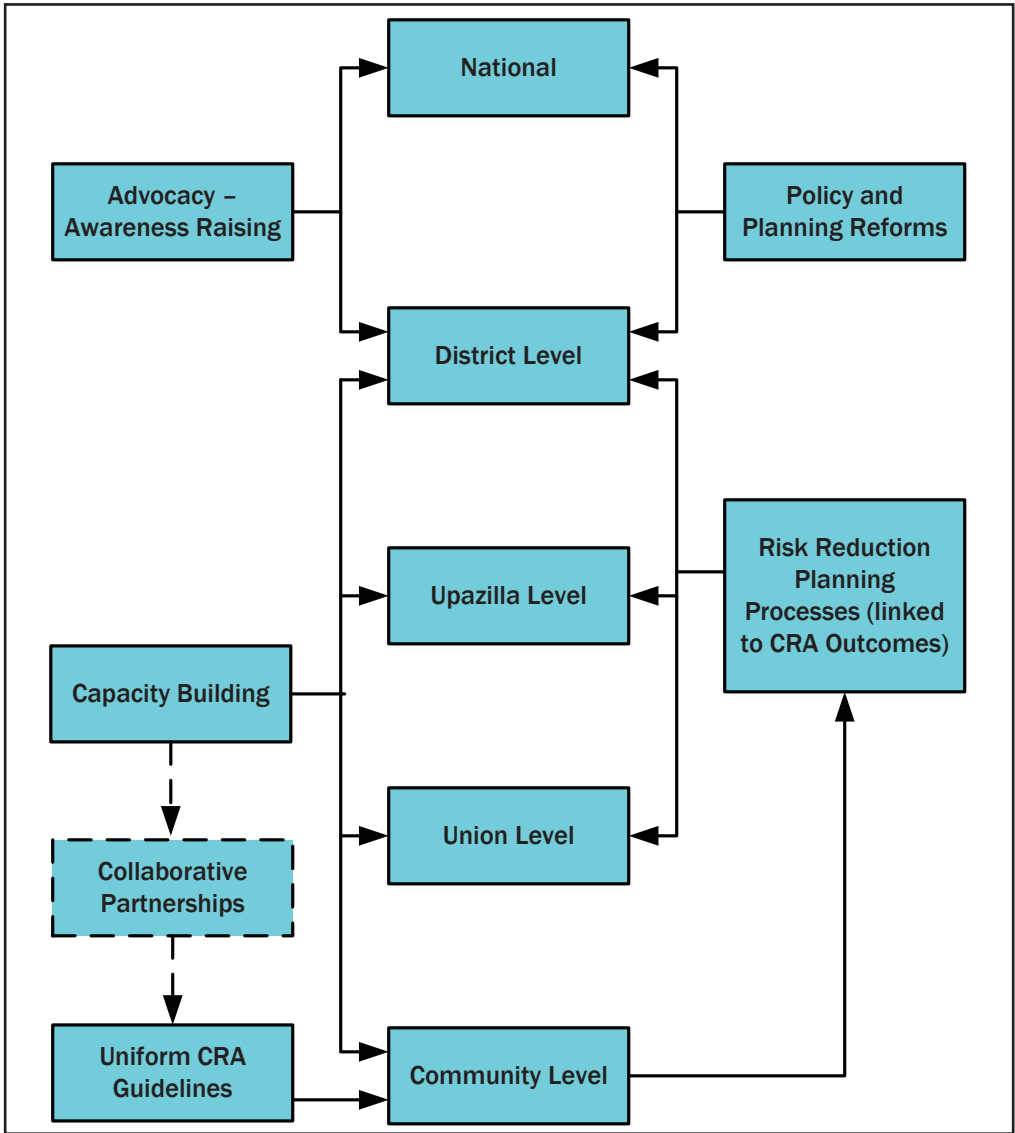


Figure 3: Mainstreaming framework (CDMP 2006)

Guidelines and tools for risk reduction

Guidelines have been formulated to support the development of disaster management plans and mainstream risk reduction. Some are already complete and others are being prepared by the MoFDM. The purpose of the guidelines is to support the government, non-government, and private sectors in risk reduction strategies. The following guidelines have been prepared by the MoFDM to support the disaster management and planning process.

- Disaster Impact and Risk Screening Tools for Development Projects
- Local Disaster Risk Reduction Fund Management Guidelines
- Emergency Fund Management Guidelines
- Guidelines for Community Risk Assessment (CRA) and Development of Risk Reduction Action Plans
- Damage and Needs' Assessment Methodology
- Hazard Specific Risk Assessment Guidelines
- Emergency Response and Information Management Guidelines
- Contingency Planning Template
- Sectoral Disaster Risk Reduction Planning Template
- Monitoring and Evaluation Guidelines for Implementation of the Plan
- Guidelines for International Assistance in Disaster Emergencies

Among guidelines planned, at present only two are complete: (1) Guidelines for Community Risk Assessment and Development of Risk Reduction Action Plans and (2) Local Disaster Risk Reduction Fund Management Guidelines. The community risk assessment guidelines are being implemented in all the unions of seven pilot districts of the CDMP (Satkhira, Coxes Bazaar, Faridpur, Sunamganj, Sirajganj, Rajshahi, and Lalmonirhat). These guidelines facilitate formulation of local-level (union and 'pourashava' level) risk reduction action plans by the DMCs.

Disaster preparedness planning framework

The GoB (Ministry of Food and Disaster Management) has developed a Disaster Management Planning Framework (DMPF) that will provide different planning directives to committees, agencies, and sectors at different levels. The planning framework is shown in the figure below (Figure 4).

The planning framework guides the development of disaster management plans at different levels. This framework guides the development of area-specific, hazard-specific, and sector-specific disaster management plans.

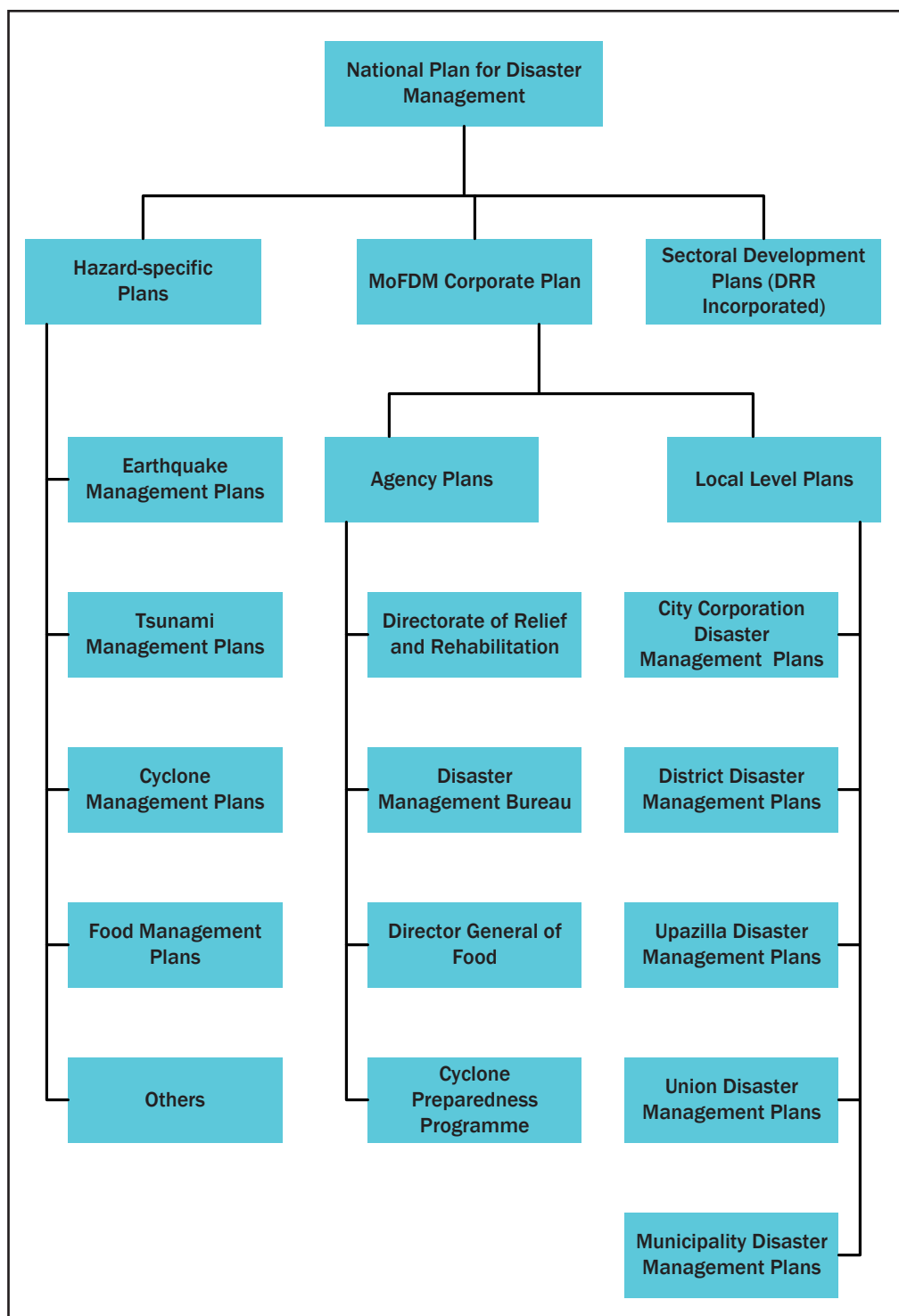


Figure 4: National disaster management planning framework

National disaster management plan

The Bangladesh National Plan for Disaster Management is a strategic document which has been endorsed (MoFDM 2005) by the Inter-Ministerial Disaster Management Coordination Committee (IMDMCC) and is waiting for the approval of the Cabinet. This plan is effective for a certain period of time. It is an umbrella plan that provides overall guidelines for relevant sectors and disaster management committees at all levels to prepare and implement specific plans. The Ministry of Food and Disaster Management (MoFDM), as the focal ministry for disaster risk reduction and emergency management, plays a leading role in disaster risk reduction and emergency management planning. Additionally, there will be a number of management plans specific to hazards such as a flood management, cyclone and storm surge and tsunami management, earthquake management, drought management, and river erosion management plans.

In addition, there will be a detailed disaster management plan for each district, 'upazilla', union, and 'pourashava' and city corporation in the country under its umbrella. A district disaster management plan will consist of a compilation of the plans for 'upazilla' in the districts. Similarly, the disaster management plan for 'upazilla' will consist of a compilation of union disaster management plans prepared by Union District Management Committees (DMCs). DMCs at union and 'pourashava' levels will be responsible mainly for carrying out risk assessments and preparing ground-level plans. Once developed, these will be sent to the DMCs on the next higher level - 'upazilla' DMCs - whose role will be to verify and compile the union plans and identify the resources required for the 'upazilla'.

The matrix of the plan is given on page 63 in Annex 6. This is the first national plan to be developed, although the National Water Management Plan (NWMP) also included disaster preparedness issues.

National adaptation programme of action

The Department of Environment (DoE) under the Ministry of Environment and Forests has developed a National Adaptation Programme of Action (NAPA) in response to the commitment of the United Nations' Framework for Climate Change Convention (UNFCCC). As climate change is highly likely to impact the population of Bangladesh by increasing the frequency and intensity of floods, droughts, salinity, storms, and other climatic hazards, disaster management measures are integrated into the NAPA consultation process. The NAPA identified a set of concrete plans for adaptation to climate change. The Climate Change Cell (CCC), which has a mandate to continue the NAPA process and facilitate implementation of NAPA, suggests carrying out the pilot projects and tests proposed by NAPA and then providing feedback to the relevant implementing agencies and potential donors. The following are the broad areas of investigation proposed.

- Adaptation to coastal crop agriculture and crops prone to flash floods
- Coastal fisheries and fisheries in areas subject to prolonged flooding
- Capacity building of the water management organisations
- Coastal afforestation
- Safe drinking water for coastal communities
- Insurance for hazard-affected areas
- Research on crops with tolerance to droughts, floods, and salt

The NAPA proposes that gender issues be cross-cutting and also emphasises awareness and policy advocacy. Bangladesh, as a signatory to all these national and international declarations, has committed to carry out the proposals. The outcomes of these proposals are related directly to national risk management.

Sectoral development plans incorporating disaster risk reduction

Every ministry/division of the government prepares its own sectoral development plans. As per the new National Plan for Disaster Management, the MoFDM, with the participation of sectoral experts, will prepare general guidelines to incorporate a disaster risk reduction agenda for different sectors. The MoFDM will be responsible also for overall monitoring of and follow-up to the process to ensure that the disaster risk reduction agenda is mainstreamed into sectoral policies, plans, and programmes.

The new sectoral development plans should address the following.

- a) Defining and redefining the risk environment through hazard analysis, vulnerability assessment, risk evaluation, risk treatment options, and risk treatments
- b) Managing the risk environment by developing programmes and strategies that eliminate or reduce the level of risk

(Traditionally mitigation programmes were viewed as engineering solutions to eliminate risk, but it is now accepted that all activities undertaken to eliminate or reduce risk are ‘mitigation’ strategies [e.g., community education and awareness, planning activities, and development of warning systems]. This includes activities described previously as the PPRR model, i.e., prevention, preparedness, response, and recovery.)

- c) Regularly reviewing and updating the plan
- d) Submitting a copy of the plan and any amendment thereto to the appropriate authority, including the MoFDM
- e) Submitting a copy of the sectoral disaster management plan and of any amendment thereto to the authority concerned

The provision for development of sectoral risk reduction plans is a very new proposal by the government body as a whole. However, at present, two sectoral plans address risk reduction elements in their development plans: the agricultural sector developed a plan with the assistance of the Food and Agriculture Organization (FAO) in 2006 and the water sector developed a plan in 2004.

Agricultural sector

The Department of Agricultural Extension (DAE) developed a sectoral risk reduction plan in 2006 with the assistance of FAO. The risk reduction plan for the agricultural sector proposes a number of result areas.

- An institutional set up for disaster risk management (DRM) within the DAE
- Policy frameworks from DRM in agriculture
- Capacity building and raising awareness
- Instruments and methodologies to address DRM in agriculture
- Technical options for DRM in agriculture, livestock, and fisheries at community level
- Collaboration and coordination
- Sustained applications for early warning systems

Water sector

A comprehensive water management plan for the entire country taking into consideration all sources of water, such as groundwater, surface water, rivers, and estuaries, was finalised in 2004. The Water Resources' Planning Organisation under the Ministry of Water Resources (MoWR) prepared this systematic and integrated management plan for water resources. Following the NWMP, a national water policy was prepared and declared. In addition, a draft development strategy was developed. The national water management plan divides the country into eight regions and has 84 programmes. The National Water Management Plan (NWMP) has identified the following disaster management activities and agencies for implementing them (Figure 5).

The Integrated Coastal Zone Management Plan (ICZMP) also integrated disaster management into the integrated plan for coastal zones. Cyclones, tsunami, earthquakes, salinity, and tidal floods are the specific hazards considered during planning. The plans also include adaptation to climate change and risk reduction options for coastal areas.

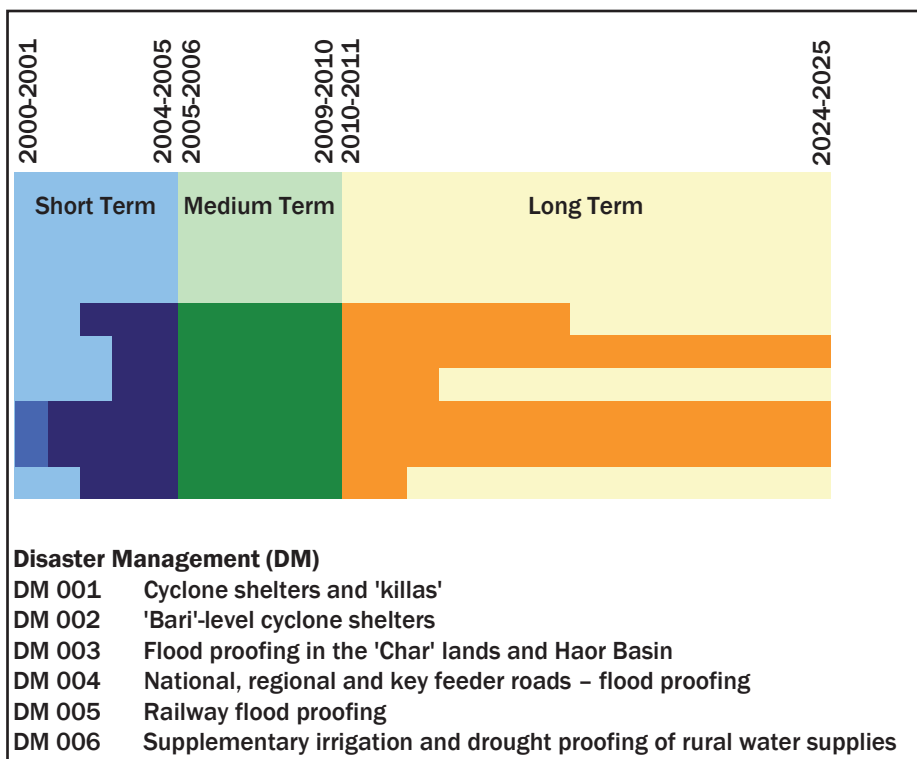


Figure 5: Disaster management activities projected in the NWMP of Bangladesh (GoB 2001)

Hazard-specific, multi-sectoral disaster management plans

In addition to area-specific disaster management plans and sector-specific disaster risk reduction plans, it is envisaged that there will be a number of hazard-specific management plans, e.g., earthquake management plans. This type of plan will be multi-sectoral and will be divided into two components - risk reduction and emergency response - and will address the specifics for dealing with a particular hazard.

The flood action and tsunami risk reduction plans are the only two hazard-specific plans extant. However, the FAP addresses plans across sectors inadequately to some extent, and the tsunami action plan is integrated into the national disaster management plan.

Flood-related plans and recommendations

In Bangladesh, two significant planning efforts are observed for flood preparedness. Under FAP-11, there was a comprehensive set of plans for disaster mitigation and preparedness. The Flood Forecasting Warning Centre (FFWC) is an outcome of the plan

and is presently operating under the Water Development Board. It issues technical information to disaster management stakeholders (district DMC or MoFDM Disaster Management Information Centre [DMIC] or Emergency Operation Centre [EOC]) and after these are interpreted, the information is given to the media for effective dissemination.

Earthquake-related plans and recommendations

The Disaster Management Bureau, with the technical assistance of the CDMP, has developed a draft Earthquake Response Plan which is currently under consultation. In addition, the DMB developed draft Standing Orders for Earthquakes to be incorporated into the existing SOD. However, an Earthquake Risk Reduction Plan will also be developed with the technical assistance of the CDMP. The Government of Bangladesh has developed a new building code that takes earthquake risks into consideration.

Tsunami-related plans and recommendations

The Ministry of Food and Disaster Management, through the Directorate of Relief and Rehabilitation, has developed a Tsunami Risk Reduction Plan of Action (TRRPA). This plan of action is being implemented by the CDMP earthquake and tsunami component with the financial assistance of the European Commission.

A list of the ministries and organisations involved in disaster management can be found in Annex 9, and gives organisations covered in this and the following chapter.

Chapter 5

Planning at District and Community Levels

District disaster management plans

In each district, there is a District Disaster Management Committee (DDMC). The DDMC consists of the Deputy Commissioner (DC) of the district who acts as the chairperson and all district-level department heads, leaders of NGOs, and leaders of civil society are members. The District Relief and Rehabilitation Officer (DRRO) acts as the member secretary of the committee. Members of Parliament act as advisors to the committee. The committee is required to meet bi-monthly during normal periods and as and when necessary during emergencies.

There is a provision in the SOD for the DDMC to develop a District Disaster Management Plan to cover both disaster risk reduction and emergency response. This plan is to be prepared by compiling the 'upazilla' (sub district) and 'pourashava' (city corporation) disaster management plans received from the respective 'upazilla' and 'pourashava'/city corporation DMCs. In 2002, the Disaster Management Bureau developed 29 district disaster action plans from inputs from 64 districts, and these served as material for preparedness plans for the DDMC. The DDMC is developing prototype plans by distilling plans from 64 districts into 29 plans and then finding the common denominators. These are being tested in seven prototypes which will eventually be merged into one comprehensive plan.

'Upazilla' disaster management plans

The 'upazilla' is an important and vital administrative unit in Bangladesh. There is an 'Upazilla' Disaster Management Committee (UZDMC). The UZDMC consists of the 'Upazilla Nirbahi' officer as chairperson and its membership is composed of 'upazilla' department heads, NGO leaders, and representatives from civil society. The project implementation officer (PIO) acts as the member secretary of the committee. Members of Parliament act as advisors, and each committee is required to meet bi-monthly during normal periods and as and when necessary during emergency situations.

The SOD states that each ‘upazilla’ shall develop a plan entitled the ‘Upazilla’ Disaster Management Plan’ covering both disaster risk reduction and emergency response. This is to be prepared by the committee by compiling all the union disaster management plans received by the ‘upazilla’ from the respective union DMCs in its area. The Disaster Management Bureau developed 74 ‘upazilla’ disaster action plans out of 501 ‘upazilla’ with the financial assistance of the UNDP. Other than the DMB, CARE, Concern, World Vision, and Oxfam have developed ‘upazilla’ disaster management plans. However, these plans are neither well circulated among the members of the DMC nor are they kept in the institutional memory of the DMC. At present, the MoFDM, under the CDMP is developing 57 ‘upazilla’ disaster management plans that include risk reduction and emergency response aspects also. These plans will be available in June 2007.

‘Pourashava’ (city corporation) disaster management plans

The ‘pourashava’ is at the bottom of the urban administrative tier. However, there is a Disaster Management Committee at this level. The ‘pourashava’ chairman is the head of the committee. The members of the committee are ‘pourashava’ commissioners as well as representatives from all government departments, NGOs, and community-based organisations (CBOs). The Chief Executive Officer (CEO) of the ‘pourashava’ is the member secretary of the committee. The committee is required to meet monthly during normal periods and as and when necessary during emergencies. Metropolitan cities in Bangladesh have city corporation DMCs with the Mayor as the chairman; and its membership is similar to that of the ‘pourashava’ committees. According to the SOD, there will be a plan for each ‘pourashava’ entitled ‘Pourashava’ and City Corporation Disaster Management Plan prepared by the relevant departments and these plans will have linkages to the National Plan for Disaster Management. In 2002, the DMB developed 24 ‘Pourashava’ Disaster Action Plans out of an original 308, and these are predominantly preparedness plans. At present, the CDMP is developing disaster management plans for 19 ‘pourashava’ and one city. However, to date there is no disaster management plan for a city.

Union disaster management plans

The union parishad is the lowest administrative unit, but there is a disaster management committee at union level, the Union Disaster Management Committee (UDMC). The UDMC is chaired by the elected chairman of the respective union parishad. The UDMC consists of the union parishad chairman as chairperson and its members are government department heads at the union level, members of the union parishad, NGO leaders working in respective unions, and civil society members. The secretary of each union parishad acts as the member secretary of the committee. The committee is required to meet bi-monthly during normal periods and as and when necessary during emergencies.

As per the SOD, there will be a plan for each union entitled the Union Disaster Management Plan covering both disaster risk reduction and emergency response. This is to be prepared by the UDMC with the participation of vulnerable groups and communities following proper community risk assessment procedures to be provided by the MoFDM. In 2002, DMB developed 744 union disaster action plans or union preparedness plans out of 4,489 received, and these remained unused for a long time. Other than the DMB, World Vision, CARE, Oxfam, and Concern developed union-level preparedness plans. However, none of these plans received the necessary funding for their implementation. The CDMP is currently reviewing these plans and carrying out risk assessment in 525 unions in order to develop a more comprehensive disaster management plan, followed by small grants to implement the plan and to facilitate mainstreaming of the plans into the core business of development agencies.

Disaster preparedness plans at community level

There is little evidence of the existence of specific community-level (fishermen, farmers, and so on) preparedness plans. In some areas, Action Aid and Oxfam have developed community-based preparedness plans. South Asian partnerships, such as the Coastal Association for Social Transformation Trust (COAST) and Community Development Centre (CODEC), have some fishermen-specific preparedness programmes. The Cyclone Preparedness Programme (CPP) sometimes assists coastal communities in developing preparedness plans for small communities (for example the Rakhain community in Patuakhali).



Gaps in Existing Plans

Gaps

Many of the plans at national and local level mentioned earlier are still in draft stage and some have been developed as a part of larger international and regional initiatives such as the SAARC Framework of Action and the Hyogo Framework of Action (HFA).

There are currently four important gaps in the disaster management plans and Act.

- They do not legally guarantee relief entitlements to the people after a disaster.
- The accountability mechanism in case of failure to respond to a disaster is not specified.
- In some cases there is not even a sanction mechanism if a disaster should occur and no clear instructions concerning who will declare the disaster.
- There are no clear directions about coordinating disaster and development stakeholders to meet a common national goal, and there is no focus on community empowerment.

These gaps could be the result of the process through which the plans were developed at national level. Almost all the national plans have been developed through technobureaucratic exercises from which multi-stakeholder participation was absent. As a result, disasters at local level receive no attention. For example, there is no specific plan for landslides nor do existing plans address them. Many sectoral policies and plans, such as for education, health, land, and water, are yet to include disaster preparedness as an important element in achieving sectoral objectives as well as national priorities.

Although a disaster-prone country, Bangladesh did not have a formal disaster preparedness plan (National Plan for Disaster Management) for a long time because of the government's lack of involvement in the pre-disaster phase. Many key government officials share the perception that DP is the responsibility of the MoFD. The real breakthrough for government intervention in the pre-disaster stages came through the introduction of a Disaster Preparedness Study (FAP-11) under the FAP in the early 1990s. Subsequently, the standing orders of 1985 were revised and updated in 1997 to cover cyclones and floods. To date, there is no national plan for earthquake preparedness; although recently (end of 2006) the GoB enacted a revised building

code. There has been limited work on urban disasters. Because of the recurrence of floods and cyclones, an earthquake plan is yet to be formulated. The lack of disaster preparedness plans at national and district to community level can be seen at a glance in the following table (Table 3).

Table 3: Gaps in national-level preparedness plans

National plan	Gaps
National Disaster Management Plan	Waiting for cabinet approval
Tsunami Risk Reduction Plan of Action	Waiting for cabinet approval
Earthquake Response Plan	Draft for consultation and not yet endorsed by IMDMCC
Flood Action Plan	Exists, but not implemented
Recommendations on Options for Flood Risk and Damage Reduction	Exists, and implementation has started
National Water Management Plan	Exists and is yet to be implemented
Integrated Coastal Zone Management Plan	Exists and is yet to be implemented

Shortcomings in implementation of plans for disaster preparedness

The Government of Bangladesh has made remarkable progress in terms of preparedness for cyclones by putting in place an early warning system, carrying out a programme on preparedness, and by constructing cyclone shelters throughout the coastal belt. It has also put in place a flood forecasting and early warning system. It has developed good systems and invested in the efficiency of distribution of relief goods. But because of many shortcomings in the implementation of the plan (unfulfilled political commitments) the country is yet to be made as safe as it could be.

Key factors that account for the limited performance in the implementation of plans are given below.

- Limited participation of vulnerable people and non-state actors in the planning exercise, resulting in limited ownership
- Lack of information about the plans at local level
- Lack of initiative in scaling-up good approaches
- Limited decentralisation and devolution of power and resources to the local government level to implement local plans
- Poor perspective (response led), leadership, and commitment of government officials and politicians about disaster reduction
- A blanket approach to disaster mitigation and faulty criteria for fund distribution leading to insufficiency of resources when and where it matters
- Lack of capacity, lack of skills, and limited resources at various levels (arguably

resources are there but not allocated to disaster reduction as a priority). There is no broad-based ownership of the plans, resulting in different stakeholders implementing them in too many different directions. Many good disaster reduction approaches tried by local organisations have not been merged into a common national approach (e.g., school safety and community-based preparedness by NGOs). Many of them are spread too thinly and have not been scaled-up in all vulnerable areas. For example, the CDMP is implementing national- and local-level plans in seven, selected districts but these are yet to be scaled up to national level.

The limited access of vulnerable people to information about policies is also a factor that hinders implementation of the plan at national level. Two previous studies by this author (Alam 2006 and 2006a) confirmed that people do not have information about many of the plans developed at national level. There is no effective communication strategy to disseminate the plans at various levels⁴ (see Box 5 also).

Many of the plans have not been fully implemented because of the limited capacity, equipment, and resources available for officials. Ironically, local-level leadership, such as union disaster management committees, are not supported with the requisite authority and resources. The widespread corruption is given as an excuse not to fund

Box 5: Implementation of the risk reduction programme

“The Ministry of Food and Disaster Management developed a programme entitled the ‘Natural Disaster Risk Reduction Programme’ after the 2004 flood. The programme targets people at high risk who have experienced loss of income sources in past hazards and who are at risk of losing their income generating sources in future hazards. The programme helps by providing them assistance of from Taka 5,000 (ca US\$76) to Taka 20,000 (ca US\$303) based on their income-generating enterprise. Twenty to 25% of it is given as a risk mitigation grant and the remaining 75 to 80% is a loan to be paid back at an interest rate of two per cent over two years. The people are given six months to reactivate their income sources. This programme was funded by the GoB’s national revenue budget of 125 million Taka (ca US\$ 1.89 million) in 2003-2004, 350 million Taka (ca US\$5.30 million) in 2004-2005, 700 million in 2005-2006, (ca US\$10.6million), and 100 million in 2006-2007 (expenditure decreased due to conflict preventing disbursement). The ‘Risk Reduction Programme’ is a very practical idea, but the study team doubts whether the implementing agencies at lower level are clear about the purpose of this programme.

The programme could not offer people guidelines about how they could use their money most appropriately. For example, the fund distributed was used for purchasing cows in Kurigram district, and this resulted in the exclusion of the most vulnerable people according to Union Parishad (UP) officials. The guidelines are perceived as ‘general loan guidelines’. Although such a practice may reduce long-term vulnerabilities, the study concludes that it may not reduce the immediate causes of vulnerability to the flood of 2006. Collecting evidence from 425 men, women, and children in Jamalpur, Sirajganj, Gaibandha, and Kurigram districts the study confirmed that people were not aware about these funds, nor were local government officials properly briefed about the purpose of the fund.”

Source: Alam 2006

⁴ For example, people do not know where to get a copy of the recent building code.

the UP. Therefore, much of the leadership potential at local level remains inactive.

Decision-making about disaster response follows a top-down approach (James 1998); therefore many localised disasters receive no response at all. Political considerations sometimes overshadow the vulnerability criteria for resource allocation in the implementation of plans. The allocation of risk reduction funds is one example that used the criterion of flat allocation by electoral constituency.

The DP plan is essentially a list of activities, many of which used to be carried out by households in a vulnerable community previously and, in some cases, along with NGO and CBO personnel. With the recent decision of the government to become involved in disaster management right from the preparatory stages, additional activities have been added to the list and most of these are to be carried out by government departments and agencies. These jobs are not altogether new either, they are mostly routine activities to be accomplished within a financial year; but now they are being included in the DP plan these activities have to be completed ahead of routine schedule and within the disaster preparedness phase. Examples are the repairs to infrastructure such as dykes, roads, bridges, power transmission lines, tubewells, sanitary latrines, and so forth.

Thus, some readjustment in the list of activities can be seen with clear directions on who does what and when as determined by the DMC; and no confusion is foreseen. There is no dearth of human resources and expertise for such activities in DP as they have been known to vulnerable communities for centuries. The only constraint to be encountered, as foreseen now, is lack of unhindered cash flow to agencies to enable them to accomplish their tasks on time.

Strategies are not mainstreamed among the disaster management committees to integrate preparedness measures into the core business of relevant ministries. Linkages between the preparedness plans developed at local level and projects undertaken by the Food for Work, Cash for Work, Vulnerable Group Development Programme, Test Relief, Seasonal Unemployment Reduction Programme, Natural Disaster Risk Reduction Programme, Disaster Shelter Programme, and other programmes of the Directorate of Relief and Rehabilitation and the ministry are very poor. Gaps in local-

Table 4: Gaps in local-level preparedness plans

District to community- level plans	Total unit	Status (existence of plans)	Status (gaps in existence of plans)	Remarks
District disaster management plans	64	29	35	7 plans are ongoing under the CDMP
City corporation disaster management plans	6	0	6	
'Upazilla' disaster management plans	501	74	427	57 plans are ongoing under the CDMP
'Pourashava' disaster management plans	308	24	284	19 plans are ongoing under the CDMP
Union disaster management plans	4,489	744	3745	525 plans are ongoing under the CDMP

Chapter 7

Communicating and Sharing Knowledge

With the decision of the government to become involved in the preparatory stages of all disaster management planning and the consequent revamping of the organisational structure of the Ministry of Relief, establishment of a new body like the DMB, and realignment of job specifications of all agencies under the ministry, a radical change has occurred in the whole gamut of disaster management.

National level

Efficient communication is the most essential key to successful implementation of national-level directives at the field level, more so in the case of emergencies. Here, the DMB is the main arm of the Ministry of Food and Disaster Management – the central authority. The DRR has officials deputed at district and at ‘upazilla’ levels who also support the activities of DMB at field level. Since disaster management, including preparedness, involves the active participation of various departments and agencies of the government, the Deputy Commissioner (DC) has been designated as the superior executive, or the kingpin in the district to oversee and coordinate disaster management activities, commencing with the formation of the Disaster Management Committee (DMC). All staff and personnel of various agencies, NGOs, and CBOs engaged in disaster management activities are responsible to and report to the DC.

While the DMB remains the communication platform at central level, the office of the DC (in most cases called the Control Room) remains the communication platform at district level. UNO and UP chairmen assume their respective roles down the line; thus, the communication network has been very convenient for all concerned and it has been aided by the expansion of the use of mobile telephones.

The DMC is to remind everybody about their duties and responsibilities, so that prompt action can be expected from all in the case of emergencies.

Sharing of communication and information is needed at four levels.

- a) Communication within the donor community is essential to avoid duplication and earn trust in others’ plans during funding decisions.

- b) Implementing agencies and large-scale projects (MoFDM, DMB, DRR, CARE, ActionAid, Oxfam, World Vision, CDMP, Char Livelihood Project, and others) need to be well informed about each other's activities.
- c) Sharing of information among disaster management stakeholders at the district level is necessary in order to improve understanding about who is doing what.
- d) 'Upazilla' and union-level communications among the GO-NGOs-CBOs and volunteers are necessary to coordinate and monitor the implementation of preparedness activities in the field.

A multi-stakeholder platform is essential to improve communications. The disaster management information centre can play a lead role on behalf of the ministry to increase the sharing of communications and knowledge among national stakeholders.

Regional level

Disasters do not respect political boundaries, as for example in the GBM region where one flood or earthquake hit India, Nepal, and Bangladesh simultaneously. Sixty years after the end of colonial rule, politicians in the South Asian Association of Regional Cooperation (SAARC) acknowledged for the first time the multilateral aspect of disasters in the region by emphasising the sharing of information about disasters. The 13th Summit at Dhaka also approved the setting up of a SAARC Disaster Management Centre (SDMC) in New Delhi. Earlier, an Expert Group of SAARC had drafted a 'Comprehensive Framework on Disaster Management' which was endorsed by the SAARC Environmental Ministers' Meeting in May 2006, urging member countries to each formulate a National Plan of Action by December 2006 and to formulate a Regional Plan of Action by 2007. The Comprehensive Framework is likely to be adopted at the 14th Summit scheduled to be held in New Delhi in April 2007.

Until the endorsement of the framework at the 13th meeting, flooding was the only type of disaster seen by politicians as a common disaster, but it was addressed at bilateral level. For example, India, Bangladesh, and Nepal, the three countries most affected by floods in the GBM (Himalayan) system, face a common hazard, but are yet to acknowledge flooding to be a multilateral problem. The greatest weakness of the SAARC Declaration was that it did not acknowledge flooding to be a multilateral disaster, and therefore it was not mentioned at all. The SAARC Declaration has also accepted that India sign separate treaties with Nepal and Bangladesh.

There is an arrangement (through the Joint Rivers' Commission [JRC]) in place since 1972 between the governments of Bangladesh and India for transmission of limited water-level, discharge, and rainfall data from India to Bangladesh during the monsoon season (May 15-October 15). Subsequently, it was agreed in a JRC meeting that data about flashy rivers would be sent from April 1 to October 15. Although inadequate,

these data can be useful if received in time, but often they are received too late. Data transmission from India starts whenever the water level and rainfall are in the warning stage, i.e., water level one metre below danger level and rainfall exceeding 50 mm. Depending on the location of the meteorological stations and corresponding mode of transmission, data are transmitted either directly or through New Delhi to the Indian Meteorological Department (IMD) in Kolkata. From there, data are transmitted to the Bangladesh Meteorological Department (BMD) using the Global Telecommunication System (GTS) of the WMO. These channels are often beset by impediments and glitches of various kinds and can hardly be considered efficient.

Despite the new institutional structures for disaster preparedness, and strong poverty alleviation programmes, the region lacks an adequate framework to integrate disaster risk reduction with poverty and livelihood issues⁵.

But where are we in actual practice in knowledge sharing? The dialogue during SAARC 13 noted that as yet there are no clear-cut regional policy or programme interventions that look at disaster risk reduction and management from a regional perspective, although there have been some initiatives by SAARC in areas of environmental management. SAARC introduced a 'Regional Study on the Causes and Consequences of Natural Disasters and the Protection and Preservation of Environment' which was completed in 1991. A study on 'Greenhouse Effect and Its Impact on the Region', finalised in 1992, recommended regional measures for sharing experience, scientific capabilities, information on climate change, rise in sea level, and transfer of technology. As a follow-up to these studies, a SAARC Plan of Action on the Environment was adopted in 1997. This plan provided for the establishment of regional centres of excellence. The SAARC Meteorological Research Centre (SMRC) was established in Dhaka in 1995 and the SAARC Coastal Zone Management Centre (SCZMC) was set up in Male in 2004. The 25th Session of the Council of Ministers held in Islamabad in July 2004 approved the establishment of the SAARC Forestry Centre in Bhutan. None of these initiatives focused on the multi-dimensional aspects of disaster risk reduction and management.

⁵ South Asia Policy Dialogue: Towards A Regional Roadmap for Disaster Risk Reduction and Management. The New Delhi Declaration, 22nd August 2006



Chapter 8

Conclusions and Recommendations

Bangladesh has made great strides forward in the field of disaster management. As typical in a disaster-prone country, members of vulnerable communities, driven by the urge for survival, make their own preparations to face and cope with ensuing disasters. Floods and cyclones are considered the main natural hazards, floods being annual phenomena. While scope for preparedness against cyclones was limited in the absence of cyclone shelters, flood-prone communities had enough to do, and their activities always fell short due to resource limitations and non-involvement of the government in the preparedness phase. The government would appear on the scene afterwards for post-disaster relief and rehabilitation. With inadequate preparedness, the damage would be great, so recovery would be complicated and costly also.

Pursuant to the disaster preparedness of the study (FAP-11) with UNDP assistance, the Ministry of Relief was thoroughly revamped and flood preparedness incorporated into the national development agenda. The result was encouraging and, with a comparatively small investment in preparedness, damage was reduced considerably. This was also corroborated by the pilot projects of the action research study of the World Meteorological Office and Global Water Programme (WMO-GWP). The UNDP supported MoFDM's CDMP programme will help to realise the vision, mission, and objectives of the GoB and Ministry and to make a difference. This time we expect that a true paradigm shift will be realised at all levels.

The Ministry of Food and Disaster Management should continue with its programme of improvement in hardware, software, human resources, and skills. In addition, the most important factor will be the exchange and sharing of knowledge with other countries in the region directly, as disasters recognise no political boundary.

Inspired by the success of the implementation of DP plans over the last few years during big floods, the Ministry of Food and Disaster Management has embarked on a corporate plan (2005-2009) and has also developed a National Plan for Disaster Management to serve as a key management tool to guide the efforts of the ministry and the country as a whole in this field. The aim is to achieve a paradigm shift in

national disaster management strategies from conventional response and recovery to a comprehensive culture of risk reduction.

It is, perhaps, not desirable to recommend what the Ministry should do, hence only generalised observations have been made below.

- Accurate early warning is a prerequisite to the success of a DP plan. Reportedly the Asian Development Bank (ADB) is going to offer a package for improvement of the early warning system in which DMB also has a share. This opportunity should not be missed.
- The most important factors of sustainability and reduction of dependence on aid should be considered by planners. This undesired evolution should receive high priority from the Ministry of Food and Disaster Management so that counter measures can be taken in time.
- The Ministry should develop a National Platform for Risk Reduction that can activate disaster management institutions in a meaningful and functional manner.
- Communication and information-sharing gaps at all levels should be minimised by extending the efforts of the Disaster Management Information Centre component of the Comprehensive Disaster Management Programme funded by the UNDP.
- The Directorate of Relief and Rehabilitation should develop projects based on action plans that are developed by unions and 'upazilla'.
- All relevant agencies should pick up district-level disaster management plans and identify their roles and should design their sectoral programmes in line with the needs and considerations reflected in the disaster management plans of a particular district.
- The Ministry of Food and Disaster Management should monitor progress and compliance with the implementation of disaster management instruments in Bangladesh and that information should be disseminated among all disaster management stakeholders in Bangladesh.

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Annex 1

Terms of Reference Preparation of a Status Report on Natural Disaster Preparedness Plans

Background

There is a growing concern within the international community to improve disaster management and preparedness. As a response, ICIMOD has initiated work on collating important information about disaster preparedness in the region through a project titled '***Living with Risks – Sharing Knowledge on Disaster Preparedness in the Himalayan Region***'. The specific objective of the project is to support key practitioners with current knowledge in the field of disaster preparedness, mainly floods, landslides and earthquakes; and build capacity in multi-hazard risk assessment, as well as provide a platform for interaction and exchange of experiences. The prime target countries for the project are Bangladesh, India, Nepal and Pakistan, and with the mountain areas in these countries being of particular interest.

The project is funded by the European Commission Humanitarian Aid Department (DG ECHO) and will be implemented between 1 April 2006 and 30 June 2007.

As part of the activities, the project will promote exchange of experiences, best practices and cross-learning between practitioners through the arrangement of two ***regional workshops*** and the establishment of a website as the basis for knowledge networking.

The first workshop is anticipated to take place in early August. The workshop will focus on disaster preparedness in general and ***plans*** for disaster preparedness in particular. In this case, Plans on a *national* level are of prime interest, but plans on *district* and *community* levels are also of great importance.

Objective of the task

The objective is to provide an account on state-of-the-art on disaster preparedness plans in each of the four target countries: Bangladesh, India, Nepal and Pakistan. There will be a document for each country, with the aim to provide as complete account of existing plans as possible. The account will form basis for a gap analysis during the forthcoming workshop regarding Natural Disaster Preparedness Plans (NDPP) in the four target countries.

Scope of work

The consultant shall prepare a status report on Natural Disaster Preparedness Plans (NDPP) in his/her country.

- A) This report shall list all relevant Preparedness Plans on a national level in relation to three main natural hazards:
- Floods (including flash floods)
 - Landslides (and related land mass movements)
 - Earthquakes

When applicable, a mountain focus shall be taken.

- B) In addition the report shall account for the existence of Preparedness Plans on a district (or similar) and community levels in relation to the three above-mentioned natural hazards. Examples of existing plans shall be attached.
- C) For the national, district, and community plans listed and described, an account of the history of the plans (how they were put into place), institutional ownership and their present functionality, shall be given. Hence, the work encompass a *quantitative* aspect, listing, and describing all relevant Natural Disaster Preparedness Plans, and a *qualitative* aspect, accounting for the functionality of the plans. With functionality means the success with which the plan has been implemented; is it in place and being used? If not, what are the shortcomings and gaps? Case studies may be enclosed from relevant institutions.
- D) The work can be based on individual expertise, or as collaborative work of a group or institution. The work will to a large extent be a desk study using modern communication facilities (internet, telephone, fax), but it *may involve visits to relevant governmental* or other institutions for the collection and assessment of NDPP. In general, the consultant shall try to be as thorough investigating, precise, and objective as possible in his/her study. In cases the consultant may provide his/her own personal analysis on adequacy of plan, impediments to implementation, among others.
- E) All NDPP accounted for and discussed in the report shall appear in the list of References. Relevant plans may also be attached as appendices to the report. In addition, as an appendix, a list of organisations working in Disaster Preparedness in the country shall be provided (it does not need to be exhaustive). From the list it should be clear if the organisation is a governmental, NGO, or other organisation and their role should be stated. Informal networks and/or institutions may also be mentioned.

Reporting

The consultant shall be prepared to present his/her report at the regional disaster preparedness workshop planned for in the end of August 2006.

ICIMOD contacts

For issues or enquiries in relation to the scope of work, please contact Dr. Mats Eriksson (meriksson@icimod.org) or Mr. Vijay Khadgi (vkhadgi@icimod.org) at Water, Hazards and Environmental Management, ICIMOD, tel. +977 1 55 25 313.

Standing Orders on Disaster:

1. Background and definition:

Background:

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) will ensure coordination of disaster related activities at the National level. Coordination at district, Thana and union levels will be done by the respective District, Thana and Union Disaster Management Committees. The Disaster Management Bureau will render all assistance to them by facilitating the process.

The Ministries, Divisions/Departments and Agencies will organise proper training of their officers and staff employed at District, Thana, Union and village levels according to their own Action plans so that they can help in rescue, evacuation and relief work at different stages of disaster.

The local authority shall arrange preparedness for emergency steps to meet the disaster and to mitigate distress without waiting for government help.

The Standing Orders shall be followed during Normal times, Precautionary and Warning stage, Disaster stage and Post-disaster stage.

Definitions:

(i) Disaster

An event, natural or man-made, sudden or progressive, that seriously disrupts the functioning of a society, causing human, material, or environmental losses of such severity that the affected community has to respond by taking exceptional measures. The disruption (including essential services and means of livelihood) is on a scale that exceeds the ability of the affected society to cope with using only its own resources.

(ii) Disaster Management

Disaster management includes all aspects of planning of and responding to disasters. It refers to the management of both the risks and the consequences of disasters, and includes both: prevention and preparedness measures taken in disaster-prone areas in anticipation of the known hazards – often referred to as “pre-disaster” and long-term rehabilitation (sometimes referred to as “reconstruction”).

(iii) Normal Phase (Normal Time)

A period when there is no immediate threat but long-term actions are required in anticipation of the impact, at some unknown time in the future, of known hazards.

(iv) Alert and Warning Phase

The period from the issuing of an alert or public warning of an imminent disaster threat to its actual impact, or the passage of the threat and the lifting of the warning. The period during which pre-impact precautionary, or disaster containment measures are taken.

(v) Disaster Phase

The period during which direct impact of a natural calamity is felt. Disaster phase is long in case of slow on-set disasters (draughts, normal monsoon flood) and short in case of rapid on-set disasters (flash flood, cyclone, earthquake, fire, industrial accident, landslide etc).

(vi) Recovery Phase

The period, following the emergency phase, during which actions are to be taken to enable victims to resume normal lives and means of livelihood, and to restore infrastructure, services and the economy in a manner appropriate to long-term needs and defined development objectives.

Recovery encompasses both rehabilitation and reconstruction, and may include the continuation of certain relief (welfare) measures in favour of particular disadvantaged, vulnerable groups.

2. Policy Formulation and Coordination at National Level:

The following Council/Committee will be responsible for policy formulation and coordination of Disaster Management at national level.

- (a) National Disaster Management Council (NDMC)
- (b) Inter-Ministerial Disaster Management Coordination Committee (IMDMCC)
- (c) National Disaster Management Advisory Committee (NDMAC)

3. National Disaster Management Council

(i)	Prime Minister	-	Chairman
(ii)	Minister, Ministry of Water Resources	-	Member
(iii)	Minister, Ministry of Finance	-	”
(iv)	Minister, Ministry of Local Government, Rural Development and Cooperatives	-	”
(v)	Minister, Ministry of Communications	-	”
(vi)	Minister, Ministry of Health and Family Welfare	-	”
(vii)	Minister, Ministry of Home Affairs	-	”
(viii)	Minister, Ministry of Food	-	”
(ix)	Minister, Ministry of Disaster Management and Relief	-	”
(x)	Minister, Ministry of Agriculture	-	”
(xi)	Minister, Ministry of Shipping	-	”
(xii)	Chief of Staff, Army	-	”
(xiii)	Chief of Staff, Navy	-	”
(xiv)	Chief of Staff, Air Force	-	”
(xv)	Cabinet Secretary	-	Member-Secretary
(xvi)	Principal Secretary to the Prime Minister	-	Member
(xvii)	Secretary, Ministry of Agriculture	-	”
(xviii)	Secretary, Ministry of Finance	-	”
(xix)	Secretary, Ministry of Health and Family Welfare	-	”
(xx)	Secretary, Ministry of Home Affairs	-	”
(xxi)	Secretary, Ministry of Defence	-	”
(xxii)	Secretary, Ministry of Local Government	-	”
(xxiii)	Secretary, Ministry of Roads and Railways	-	”
(xxiv)	Secretary, Ministry of Shipping	-	”
(xxv)	Secretary, Jamuna Bridge Division	-	”
(xxvi)	Secretary, Ministry of Water Resources	-	”
(xxvii)	Secretary, Ministry of Food	-	”

(xxviii)	Secretary, Ministry of Disaster Management and Relief	-	”
(xxix)	Member, Socio-Economic Infrastructure, Planning Commission	-	”
(xxx)	Principal Staff Officer, Armed Services Division	-	”

The Council will meet at least twice in a year (Vide notification of the Cabinet Division No. MP Commi-1/Committee-2/93-141 dated 13th October 1993).

Responsibilities of National Disaster Management Council

- (i) Formulate policy regarding Disaster Management and issue guidelines in this respect.
- (ii) Examine the recommendations of the Inter-Ministerial Disaster Management Coordination Committee (IMDMCC) and National Disaster Management Advisory Committee (NDMAC) and issue directives for their implementation.
- (iii) Approve the Standing Orders on Disasters and National Disaster Management plans.
- (iv) Ensure coordination amongst civil administration, Defence Forces and the NGOs in the planning process of disaster management.
- (v) Arrange framing of law for prevention, mitigation, preparedness and disaster response.
- (vi) Take necessary steps after evaluating the precautionary/preparedness measures immediately with the warning signals regarding imminent disaster.
- (vii) Frame guidelines for distribution of relief materials and assign priority of steps during pre-disaster, disaster and post-disaster periods.
- (viii) Consider other related issues and dispose of them.

4. Inter-Ministerial Disaster Management Coordination Committee

(i)	Minister, Ministry of Disaster Management and Relief	-	Chairman
(ii)	Cabinet Secretary	-	Vice-Chairman
(iii)	Principal Secretary to the Prime Minister	-	Member
(iv)	Member (Planning), Planning Commission	-	”
(v)	Secretary, Ministry of Foreign Affairs	-	”
(vi)	Secretary, Ministry of Agriculture	-	”
(vii)	Secretary, Ministry of Defence	-	”
(viii)	Secretary, Ministry of Water Resources	-	”
(ix)	Secretary, Ministry of Education	-	”
(x)	Secretary, Ministry of Information	-	”
(xi)	Secretary, Ministry of Housing and Public Works	-	”
(xii)	Secretary, Ministry of Power, Energy and Mineral Resources	-	”
(xiii)	Secretary, Ministry of Civil Aviation and Tourism	-	”
(xiv)	Secretary, Ministry of Fisheries and Livestock	-	”
(xv)	Secretary, Ministry of Posts and Telecommunication	-	”
(xvi)	Secretary, Ministry of Environment and Forests	-	”
(xvii)	Secretary, Ministry of Disaster Management and Relief	-	”
(xviii)	Secretary, Finance Division, Ministry of Finance	-	”
(xix)	Secretary, Local Government Division	-	”

(xx)	Secretary, Ministry of Home Affairs	-	”
(xxi)	Secretary, Roads and Railways Division	-	”
(xxii)	Secretary, Jamuna Bridge Division	-	”
(xxiii)	Secretary, Ministry of Shipping	-	”
(xxiv)	Secretary, Ministry of Food	-	”
(xxv)	Secretary, Ministry of Health and Family Welfare	-	”
(xxvi)	Principal Staff Officer, Armed Forces Division	-	”
(xxvii)	Director General, NGO Affairs Bureau	-	”
(xxviii)	Director General, Disaster Management Bureau	-	”
(xxix)	Director General, Relief and Rehabilitation	-	”
(xxx)	Secretary General, Bangladesh Red Crescent Society	-	”

The following officers shall attend the meetings on invitation: Director, Department of Meteorology, Joint Secretary, Ministry of Disaster Management and Relief, Chairman, Water Development Board, Chief Engineer, Roads and Highways Department, Chairman, T&T Board, Director General, Department of Health, Chief Engineer, Public Health-Department, Director-General, Department of Food, Chairman, BIWTC, Chairman, Bangladesh Railway; Director, Cyclone Preparedness Programme (CPP); Director, ADAB; President, Federation of Chamber of Commerce and Industries; UN Resident Coordinator; Representatives of the UN Organizations; Chief Engineer, Public Works and Local Govt. Engineering Department and any other Expert.

Responsibilities of Inter-Ministerial Disaster Management Coordination Committee

- (a) Implement the policy and decisions of the National Disaster Management Council. To monitor the disaster related plans for prevention/mitigation, preparedness, emergency assistance (Disaster Relief), and rehabilitation and to keep the Council informed of the progress.
- (b) Coordinate the activities of the government agencies concerned with disaster management and Evaluate the activities of the Disaster Management Bureau.
- (c) Scrutinize the disaster preparedness of different Ministries and Agencies every six months.
- (d) Take steps for coordination of relief operations in post-disaster recovery period, and
- (e) Advise and issue guidelines for other related issues.

Responsibilities regarding Disaster Prevention/Mitigation

- (a) Recommend to the National Disaster Management Council regarding the prioritization and inclusion of disaster prevention/mitigation projects in the National Development Plan.
- (b) Determine the method of Disaster Impact Assessment (DIA) of large projects regarding their longevity against increasing disaster or damage during disaster.
- (c) Coordinate preparation and implementation of disaster prevention/mitigation projects and to recommend framing of policy, fixing priorities and distributing assets in this respect.
- (d) Arrange for increasing efficiency at all levels of disaster management activities.
- (e) Monitor the disaster risks and their mitigation according to priorities in the national policy and their implementation and to keep the National Disaster Management Council informed of their progress.

Responsibilities regarding Disaster Preparedness

- (a) Scrutinize the disaster forecasts and warning procedure and coordinate among the different agencies.
- (b) Review the action plan of all disaster related agencies.
- (c) Monitor the overall disaster preparedness programmes and inform the National Disaster Management Council (NDMC).
- (d) Review the Warning System at local level.
- (e) Coordinate among different agencies responsible for educating people concerning their duties during disasters.
- (f) Ensure coordination among government agencies and NGOs responsible for imparting training on disaster management.
- (g) Ensure rapid supply of additional equipment/materials to places where telecommunication has been disrupted on account of disaster.
- (h) Ensure quick assessment of damage due to disaster and the quality of reconstruction work.

Responsibilities to meet emergency situation

Alert/Warning Stage

- (a) Ensure that warning signals reach all concerned officials, agencies and mass media.

Disaster Stage

- (a) Depute additional manpower to disaster affected areas in aid of administration.
- (b) Send members of the Defence Services with assigned duties for communications and essential services.
- (c) Determine priority and issue instructions regarding relief materials, funds and transports.

5. National Disaster Management Advisory Committee

Chairman: A person experienced in disaster management/specialist in this field nominated by the Prime Minister.

Members: Members of Parliament (8) elected from disaster prone areas; Experienced persons from Government agencies, University, NGOs, donor organizations and other agencies in the field of water resources, meteorology, seismographic engineering, physical infrastructure planning, social anthropology, education, disaster management (total 30 members); Chairman, Red Crescent Society; President, Federation of Bangladesh Chambers of Commerce and Industries; President, Institute of Engineers, Chairman, Insurance Company Association, Chairman, Krishi Bank; Chairman Grameen Bank; Director

General, Department of Relief and Rehabilitation and Local Representative for Armed Forces Division.

Member-Secretary: Director General, Disaster Management Bureau

Meeting: Twice a Year, the Chairman may call additional meetings, if needed.

Sub-Committee: Sub committees may be formed for cyclone warning, flood forecasts, earthquake risks, participation by the people. Experts may be coopted in the respective sub committees after formation and selection of the Chairman.

General Responsibilities:

- (a) Advise National Disaster Management Council, Ministry of Disaster Management and Relief and the Disaster Management Bureau on technical management and socio-economic aspects of Disaster Prevention/Mitigation, preparedness, emergency response and development (rehabilitation and reconstruction matters).
- (b) Alert the Committee members about the risk of disaster and mitigation possibilities and encourage them in respect of workshop, training and research.
- (c) Create a forum for discussion by experts on the risk of disaster, opening opportunities for cooperation towards solution of problems relating to disaster management.
- (d) Recommend release of funds for special project works and also for introduction of special emergency methods or empowerment, if needed.
- (e) Recommend solution of problems identified by the Disaster Management Bureau or any other agency/person.
- (f) Propose long term rehabilitation plans.
- (g) Hold post-mortem or prepare final evaluation on programmes undertaken to meet the disaster and submit a report with recommendations to the National Disaster Management Council.

6 Ministry of Disaster Management and Relief

The Ministry of Disaster Management and Relief (MDMR) is the focal point of the Government for disaster related issues. The Disaster Management Bureau (DMB) will assist the Ministry with all necessary information during normal time, alert and warning stage, disaster stage and post- disaster recovery stage. The Ministry will supply information to National Disaster Management Council and Inter-Ministerial Disaster Coordination Committee and assist them in taking decisions. The Secretary of the Ministry will control the activities of all officials engaged either directly or indirectly for emergency relief work.

Subject to the approval of the Minister, the Secretary will take decisions on the following matters

- (a) Relax any Standing Regulation (Standing Order?) on relief distribution in the public interest.

Normal Times

- (a) Review the own Action Plan of the Ministry on disaster management every 3 (three) months.
- (b) Identify the disaster prone Thanas and special disaster prone areas under such Thana and the population likely to be affected by the disaster.
- (c) Update the list of foreign and private agencies willing to participate in the disaster preparedness, emergency response and rehabilitation programmes.
- (d) Preserve information regarding food, relief materials and transports usable at all levels during disaster.
- (e) Direct all concerned for ensuring availability of Standing Orders at village, Union, Thana and District levels.
- (f) Arrange meetings of the National Disaster Management Council and Inter-Ministerial Disaster Management Coordination Committee to assess the disaster preparedness of different Ministries, agencies, departments, local governments, autonomous bodies, CPP, Red Crescent, NGOs, etc.
- (g) Ensure non-stop telecom link of the Ministry with District and Thana Headquarters.
- (h) Issue necessary orders for proper coordination of steps relating to disaster and response.

Alert and Warning Stage

- (a) Issue orders, for dispatch of relief materials to required places and to keep the transports ready.
- (b) To select a Focal Point in the Ministry and to inform all concerned about his designation and telephone number.
- (c) To direct the Disaster Management Bureau to open Emergency Operation Centre (EOC) of its own, open Control Room at all levels related to disaster activities and also to reactivate the EOC located at MDMR
- (d) Ensure direct communication with Meteorological Department and issue orders for collection of inputs (warning message and signal) from the department.
- (e) Ensure publicity of warning signals through Radio, Television, Telegram, Fax, teleprinter etc and also inform Ministries, agencies, departments, CPP, BDRCS, NGOs, Deputy Commissioners and other concerned agencies and officials.
- (f) Keep the EOC open day and night.
- (g) Call a meeting of the CPP Implementation Board and inform the decisions to all concerned.
- (h) Inform the Chairman of the National Disaster Management Council, the Prime Minister and the Chairman of the Inter-Ministerial Disaster Management Coordination Committee about the disaster situations and the steps taken to meet them.

- (i) Ensure convening of meetings of the concerned District, Thana and Union Disaster Management Committees (DMCs).
- (j) Request the Armed Forces Division to keep a helicopter and transport plane ready for reconnaissance of loss and damages and for relief operations.
- (k) Request the Armed Forces Division and the Inland Water Transport Corporation to keep water vessels ready for rescue and relief operations.
- (l) Issue directives to evacuate to safer places for saving life and property.
- (m) Request the Army through Armed Forces Division to be on readiness for speedy mobilisation to the affected areas.
- (n) Inform all concerned, specially the Divisional Commissioners, Deputy Commissioners, Thana Nirbahi Officers, Union Parishad Chairmen and other concerned agencies about great danger signals and the arrangement to be made in this respect.
- (o) Instruct district and Thana authorities to requisition required transports for rescue and relief work.
- (p) Arrange for convening of the meetings of the National Disaster Management Council and the Inter-ministerial Disaster Management Coordination Committee.
- (q) In consultation with the Meteorological Department, issue instructions to local administration for evaluation of the people likely to be affected to safer places.
- (r) Ensure issuance of Warning Signals repeatedly through the Bangladesh Betar (Radio) and the Bangladesh Television.
- (s) Ensure non-stop communication with district Control Room, CPP and Meteorological Department.
- (t) Arrange in advance necessary relief materials for the disaster prone areas.
- (u) Designate one Liaison Officer to the Prime Minister's 'co-ordination cell' at the Prime Ministers office.

Disaster Stage

- (a) Request the Bangladesh Navy and Bangladesh Air Force to keep vessels and air planes ready for assessment of loss and damage and rescue operations as soon as weather becomes favorable.
- (b) Request the Civil authorities to assist the Armed Forces Division in respect of relief and rescue operations on the basis of need.
- (c) Coordinate rescue and relief work with NGOs.
- (d) Arrange meetings of the National Disaster Management Council and the Inter-ministerial Disaster Management Coordination Committee.
- (e) Collect information of loss and damage.
- (f) Fix additional requirement of funds and materials for relief and rehabilitation work.

- (g) Collect quickly funds and relief materials for gratuitous relief.

Rehabilitation Stage

- (a) Arrange for housing building grant, test relief and Food for Works programmes.
- (b) Continue emergency rehabilitation work in affected areas until return of normalcy.
- (c) Coordinate rehabilitation programmes.

6.1 Disaster Management Bureau

The Disaster Management Bureau was created under the Ministry of Disaster Management in 1992. Its responsibilities are noted below:

General Responsibilities

- (a) Advise the government on all matters relating to disaster management.
- (b) Maintain liaison with different government agencies, aid-giving agencies, NGOs and Voluntary Organizations and ensure their maximum cooperation and coordination in all matters of disaster management.

Normal Times

- (a) Undertake various activities for creating awareness among the people, government employees and people of other professions for reducing risks during disaster.
- (b) Provide secretarial support to the National Advisory Committee on Disasters.
- (c) Prepare guidelines for mitigation of disaster with the assistance of Planning Commission and other agencies for devising steps to reduce disaster risk.
- (d) Arrange publication and distribution of Standing Orders on Disasters, National Disaster Management Plan and other related guidelines.
- (e) Propose legislation on Disaster, Preparedness and Mitigation and other instructions.
- (f) Assist in the preparation and implementation of framework for Action Plan on disaster management at District, Thana and Union levels.
- (g) Impart training to the government employees, elected representatives and others on disaster management in cooperation with different Ministries, Local authorities, Training Institutions and NGOs.
- (h) Establish an Emergency Operations Centre (EOC) with improved communication facilities at national level and to disseminate inputs/information to government and private agencies.
- (i) Supply books, maps and other information to those associated with disaster management.
- (j) Monitor obstacles to the Action Plan or project implementation for probable disaster risks to lives and properties, preparedness, disaster response and mitigation and inform the Ministry of Disaster Management and Relief.
- (k) Collect and preserve lists with location, condition and ownership of Cyclone shelters,

embankments, platforms at higher than flood level (flood proofing)

- (l) Coordinate the activities of NGOs.
- (m) Educate all about weather signals.
- (n) Arrange public awareness programmes at regular intervals in radio and television on various disaster related issues.
- (o) Organize meetings/seminars/workshops at national, District, Thana and Union levels to increase awareness about disasters.
- (p) Ensure liaison with the Ministry of Education for inclusion of disaster topics in the curricula of schools and colleges.
- (q) Publicise cyclone signals in the villages through posters, cultural functions, documentary films etc.
- (r) Arrange research on disaster management issues.

Alert and Warning stage:

- (a) Ensure receipt of warning signals of imminent disasters by all concerned officials, agencies and mass communication media.
- (b) Assist the Ministry of Disaster Management and Relief for undertaking emergency programmes in risk areas by different agencies and the people in the structured areas.
- (c) Activate the Emergency Operations Centre (EOC) and keep touch with other agencies for making their Action Plan effective and also to activate the Control Room.
- (d) Publish daily bulletins during disaster period for foreign embassies and UN Missions.
- (e) Instruct local authorities for assessment of loss and damage and requirement of relief.

Disaster Stage

- (a) Keep Emergency Operations Centre (EOC) open on non-stop basis (24 hours).
- (b) Assist the Ministry of Disaster Management and Relief for formation of groups for primary assessment of loss and damage.
- (c) Assist the Inter-Ministerial Disaster Management Coordination Committee (IMDMCC) for ensuring coordination among government, NGOs and different agencies for relief and rehabilitation activities.
- (d) Monitor progress of rescue, relief and rehabilitation operations, identify the problems and needs and to draw the attention of the proper authority.
- (e) Assist the Ministry of Disaster Management and Relief for supply of required information to the Economic Relations Division, Ministry of Information, Foreign agencies, NGOs etc.
- (f) Supply information to foreign missions and UN agencies regularly through daily news bulletins.

- (g) Keep the Ministry informed about the progress of use of materials in relief operations.

Rehabilitation Stage

- (a) Supply information/input to concerned authority for the preparation of rehabilitation plan.
- (b) Ensure adoption of steps for minimizing future disaster risks in the rehabilitation plans.
- (c) Undertake post-mortem of steps taken in the overall management in the emergency response of disaster and to prepare reports on the basis of experience/knowledge acquired in this respect and publish the same and to bring required changes accordingly in the training programmes and future policy.

6.2 Directorate of Relief and Rehabilitation

This Directorate will perform the following tasks in addition to its normal duties.

Normal Times

- (a) Ensure stock, security and maintenance of adequate materials in disaster-prone areas.
- (b) Utilize the materials received under the Food for Works Programme for construction of roads to raised places and shelter places and for tree plantation.

Alert and Warning Stage

- (a) Open Control Room in the Department and maintain link with the EOC of the Ministry.
- (b) Direct all officials to remain alert.
- (c) Inform the Ministry about relief preparedness in affected areas
- (d) Send Daily Situation Report to the Ministry
- (e) Keep information about the available quantity of relief materials and foodgrains in the LSD and CSD of the affected areas.

Disaster Stage

- (a) Ensure quick dispatch of relief materials to affected areas.
- (b) Instruct field officers for helping the local administration in evacuation and rescue operations.
- (c) Place the water transports at the disposal of appropriate authority for transportation of relief materials and evacuation and rescue operations of affected people.
- (d) Inform the Ministry about the requirement of relief materials.
- (e) Inform the Ministry instantaneously about special relief.
- (f) Ensure proper account-keeping of the use of allotted relief materials.

Rehabilitation Stage

- (a) Recommend allocation of relief materials after assessing the requirement by touring the affected areas with intimation to the Ministry.
- (b) Ensure quick supply of house building grants, gratuitous relief and other materials in accordance with the delegation of powers.
- (c) Recommend to the Ministry for allocation of (needed) house building grant, test relief, gratuitous relief and other materials beyond delegation of power.
- (d) Issue required government order.
- (e) Continue the most essential rehabilitation work.
- (f) Submit the consolidated expenditure accounts to the government.

6.2.1 Duties of Relief and Rehabilitation Officers at District and Thana

Level

The District Relief and Rehabilitation Officer (DRRO) and the Project Implementation Officer (PIO) will perform the following functions in their respective areas under the supervision of the Deputy Commissioner (DC) and Thana Nirbahi Officer (TNO).

Normal Times

- (a) Preserve materials and implements of relief.
- (b) Ensure fitness of relief materials.
- (c) Ensure formation of Thana and Union Disaster Management Committees and arrange training.

Alert and Warning Stage

- (a) Arrange opening of control room in the office of Deputy Commissioner and Thana Nirbahi Officer.
- (b) Keep the Deputy Commissioner and Thana Nirbahi Officer informed of the condition of the areas likely to be affected by disaster.
- (c) Submit proposal to Relief and Rehabilitation Department for strengthening the stock of relief materials and to transfer the materials of the store houses likely to be affected to safer places with the approval of the Deputy Commissioner.
- (d) Assist coordination of activities among the Voluntary and other agencies at the District and Thana levels.
- (e) Keep vigilance on the security of water transports engaged in relief work.
- (f) Inspect the identified relief centers and send reports to Disaster Management Bureau and Relief Department.

Disaster Stage

- (a) Finalize arrangement for sending the relief materials to destinations.
- (b) Help with the rescue operations.
- (c) Make the primary assessment of loss of lives and properties and send report to Thana Nirbahi Officer and Deputy Commissioner.
- (d) Arrange distributing of relief materials according to approval and supervise and monitor the distribution by the Union authority.

Rehabilitation Stage

- (a) Send a detailed report of loss and damage to the Deputy Commissioner, Relief and Rehabilitation Department and Disaster Management Bureau.
- (b) Arrange quick disbursement of house building grant, gratuitous fund and other relief materials to the affected people.
- (c) Send report of relief and rehabilitation activities to Relief and Rehabilitation Department.
- (d) Keep the evaluation accounts of relief activities ready for audit.
- (e) Arrange employment of disaster affected people through test relief.

7 Cyclone Preparedness Programme (CPP)

7.1 Cyclone Preparedness Programme (Central Office, Dhaka)

Normal Times

- (a) Organize preparedness programmes in disaster prone areas on continuing basis and in order to assess the state of preparedness, hold drills in the months of April and September every year.
- (b) Ensure recruitment and training of volunteers before the month of April every year.
- (c) Ensure formation of Unit, Union and Thana Committees.
- (d) Ensure establishment of Union and Thana Officers and holding of meetings at Union and Thana level.
- (e) Ensure issue of warning signal kits to the leaders of volunteers and use by them.
- (f) Ensure wireless communication between CPP Headquarters and Thana Office and between Thana Office and Union Office.
- (g) Instruct local level Disaster Management Committees for selection of shelters, and high rise safe places and inform people about evacuation plans.
- (h) Make public awareness about cyclone signals and with the help of Disaster Management Bureau (DMB) popularize preparedness plans, through discussion meetings, posters, pamphlets, films and drama etc.
- (i) Operate Fax machines for ensuring non-stop communication with meteorological department.

Alert Stage

- (a) Establish Control Room at CPP headquarters and in regional offices and assist District, Thana and Union authorities in the establishment of Control Rooms.
- (b) Maintain close liaison with Meteorological Department.
- (c) Receive special weather bulletins from Meteorological Office and send them to Thana and regional offices and to instruct the Thana offices to send them to Union offices as quickly as possible.
- (d) Instruct the volunteers to listen to normal radio news/CPP radio news. To communicate with Union group leaders through radio or via liaison volunteers and to advise Union leaders and their colleagues to instruct the volunteers for starting work according to guidelines of cyclone instructions booklet published by CPP.
- (e) Keep the CPP Implementation Board Chairman and the Members informed about the cyclone.
- (f) Alert the Deputy Commissioners, Thana Executive Officers, Union Parishad Chairman and Members and local non-govt. organisations.

Warning Stage

- (a) Propose calling of emergency meeting of the Implementation Board.
- (b) Verify whether the volunteers of the cyclone preparedness programmes have started work at field level.
- (c) Advise people about evacuation under proper protection of animals, poultry and other domestic animals to raised land and Killas.
- (d) Instruct CPP Development Officer for advising Chairman of the Thana Disaster Management Committee to call meeting.
- (e) Instruct Development Officer for calling a meeting of Union Disaster Management Committee.
- (f) Implement the decisions taken in the emergency meeting of the implementation Board.
- (g) Instruct Development Officer for cooperation in the implementation of the decisions of the Thana and Union Disaster Management Committees.
- (h) Send the special weather bulletins through wireless to Regional, Thana and Union Offices.
- (i) Ensure that the people are properly warned (about the disaster) through the Development Officer and volunteers.
- (j) Keep the Chairman, Implementation Board; Director General, Disaster Management Bureau; Relief and Rehabilitation Department and Bangladesh Red Crescent Society informed at regular intervals about the local situation.

Disaster Stage

- (a) Coordinate its own activities with those of all concerned agencies and non-govt. agencies.
- (b) Ensure rescue operations and first aid by Development Officers and volunteers in times of need.
- (c) Instruct Development Officer to maintain wireless communication and to keep touch with the Headquarters at regular intervals and to transmit loss and damage report as soon as it is received.
- (d) Instruct the Union Group leaders to maintain wireless communication and to keep touch with the Development Officer frequently and to instruct the Development Officer to send the reports of loss and damage received from fields to Regional/Central Office.

Rehabilitation Stage

- (a) Instruct every Union leader to send a primary report of loss and damage in their respective areas to the Development Officer.
- (b) Instruct the field office to carry out the following tasks:
 - (c) To assist in the programmes of vaccination, prevention medicines and other health measures.
 - (i) To participate in the rehabilitation programmes.
 - (ii) To assist in coordinating the activities of Non-Govt. organizations (NGOs)

7.2 Field Level CPP

Normal Times

- (a) Organize simulated drills continuously in disaster prone areas and monitor the status of preparedness drill participated by the people in April and September every year.
- (b) Select volunteers and complete their training according to rules of the CPP before April, and organize grouping of families of evacuation in times of need.
- (c) Make physical verification of equipment to facilitate allotted to the leader of volunteers and their condition and undertake their repairs/replacement, if needed.
- (d) Examine the wireless system and keep it running in order to maintain communication between CPP Headquarters, Thana and Union level offices.
- (e) Educate and create awareness amongst the local people about the cyclone preparedness programme and the understanding of different warning signals.
- (f) Earmark shelter places, Killas and safe raised land and to keep them fit for use and to publicise the people about the evacuation plan.
- (g) Make the people and the volunteers aware of the dangers of resistance to disaster preparedness activities, in coordination with Thana and Union Parishad administration.

Alert Stage

- (a) Set up Control Room and maintain contact with Thana, Union offices and CPP Headquarters
- (b) Maintain close link with the Meteorological Department and other offices and collect information about cyclone.
- (c) Receive special weather bulletins from CPP Headquarters and to communicate the same to local offices.
- (d) Alert the chairman of District/Thana/Union Disaster Management Committees, members, religious leaders, local elites, teachers and persons connected with different organizations.
- (e) Advise the CPP volunteers to listening to radio broadcasts in order to ensure that work of the volunteers specified in the booklet published by CPP by the union group leaders and their colleagues is started.

Warning Stage

- (a) Request Deputy Commissioner/Thana Nirbahi Officer/Union Parishad Chairman to call emergency meeting of the respective Disaster Management Committee.
- (b) Assist in the implementation of the decisions taken in the emergency meeting.
- (c) Depute CPP volunteers for shifting the livestock, poultry and other domestic animals to raised land, Killas under proper safety measures.
- (d) Instruct every field office to inform all offices under its control about the special weather bulletins.
- (e) Warn the people about the disaster.
- (f) Advise the people to go to shelter place in the event of evacuation order and to assist them in the process.
- (g) Give the final warning to the people by using megaphone, light signals and flash lights.
- (h) Keep Thana and District administration, CPP Central Headquarters and Disaster Management Bureau and others concerned informed about the field level disaster situation report.
- (i) Assist other agencies and non-government organizations in the implementation of their programmes.

Disaster Stage

- (a) Keep wireless in operation and to maintain communication with CPP Central Office and to send the loss and damage statement to concerned authority as soon as it is received.
- (b) Conduct rescue work in coordination with Union and Thana authority and provide first aid according to need.
- (c) Assist local authority in relief distribution.

Rehabilitation Stage

- (a) Collect data on loss and damage due to cyclone, prepare report and send it to CPP Headquarters, Union Disaster Management Committee, Thana and District administration.
- (b) Assist local administration in burying the dead bodies and dumping the carcasses under the earth.
- (c) Assist in inoculation-vaccination drive and other health measures.
- (d) Participate in the rehabilitation programme with Non-Government Organizations (NGOs) and other agencies.

8 Ministry of Water Resources

Ministry of Water Resources will designate one officer as the focal point and ensure implementation of the responsibilities assigned to Bangladesh Water Development Board as mentioned below.

The Ministry will participate in the meeting of National Disaster Management Council and Inter-Ministerial Disaster Management Coordination Committee and direct Bangladesh Water Development Board to implement the decisions taken in the meetings.

8.1 Bangladesh Water Development Board (Actions relating to Cyclone)

Normal Times

As a part of its normal functions, Bangladesh Water Development Board will perform the following duties:

- (a) The Flood Forecasting and Warning Centre (FFWC) of Bangladesh Water Development Board will act as Focal Point and the Deputy Director in Charge of the Centre will act as Liaison Officer.
- (b) Construct embankment in disaster prone coasts and islands according to designs approved by the government.
- (c) Undertake operation of sluice gates and other water discharging devices in completed embankment areas.
- (d) Monitor continuously the condition of the embankment and repair the breaches and weak points in adequate manner.
- (e) Operate the Flood Forecasting and Warning Center from April up to November.
- (f) Open warning sub-centers at field level offices of Superintendent Engineer/Executive Engineer.
- (g) Collect special weather bulletins regularly from the Meteorological Office.

Cautionary/Warning Stage

- (a) Issue directives and warnings to field level officials through sub-center.

- (b) Designate one Liaison Officer for maintaining liaison with Disaster Management Bureau.
- (c) Make continuous arrangement for ascertaining the leakage, breach, collapse, damage etc in the embankment. Undertake repair work on top priority basis with the participation of local people.
- (d) Keep ready required equipment/materials for use in the affected areas.
- (e) Extend assistance to local civil administration in rescue, evacuation and relief operations and instruct lower level officers to make technical knowledge, equipment articles and transports etc available.

Disaster Stage

- (a) Operate the Control Room day and night (24 hours), warn all concerned about the imminent disaster and alert all to take security steps for the safety of lives, assets, machineries, transports, materials etc.
- (b) Identify the technical manpower and materials required for the emergency repairs of loss/damage to installations and supply lines.
- (c) Request the Ministry of Disaster Management and Relief regarding all appropriate assistance requirements for emergency rehabilitation.
- (d) Undertake actions in the exigency of circumstances to safeguard human lives, property and evacuation.

Rehabilitation Stage

- (a) Determine the extent of loss/damage in details and, if possible, prepare rehabilitation plans with estimates of expenditures by providing funds from own department or with additional funds from other sources.
- (b) Implement suitable projects for the stability of newly formed offshore islands.
- (c) Assist civil administration and other agencies in all possible ways in the rehabilitation activities.

8.2 *Field Offices of Chief Engineer/Superintending Engineer/Executive Engineer/ Assistant Engineer (Cyclone related) of the Bangladesh Water Development Board.*

The officials and staff of Bangladesh Water Development Board shall perform the following duties in their respective areas.

Normal Times

- (a) The Chief Engineer or Superintending Engineer will identify the Disaster Focal Points in their respective offices and inform the Flood Forecasting and Warning Centre (FFWC).
- (b) Arrange to collect special weather bulletins/news and inform all concerned at field level and direct for security steps in embankments and other installations.
- (c) Attend the meeting of the local Disaster Management Committee.
- (d) The Chief Engineer at field level will appoint Liaison Officer for communicating with the local Disaster Management Committee.

- (e) Coordinate and cooperate with civil administration for rescue, evacuation and relief operations and make available implements, materials, transports and technical assistance to them.
- (f) Repair leakage, breaches, holes, weak points in the embankment in their own area and also repair the broken sluice gates. Also keep ready the materials at suitable place for repair purpose.
- (g) Appoint guards for protecting the polders against entry of saline water during tidal bore whipped up by cyclonic storm and also to protect damage to sluice gates.
- (h) Construct protecting embankments in time and maintaining satisfactory standard after receiving approval of the authority.
- (i) Submit reports at regular intervals to higher authority stating the condition of sluice gate, embankment and other works and progress of repair and reconstruction.

Alert and Warning Stage

- (a) Take precautionary steps for protection of the lives of the employees of Water Development Board and secure Board assets, machinery, transports etc.
- (b) Maintain link with the local Disaster Management Committee and coordinate activities with other agencies.
- (c) Give priority to emergency construction of physical infrastructure and repair and maintenance.

Disaster Stage

- (a) Ensure non-stop operation of information centre day and night (24 hrs.) and send liaison officer to the local Disaster Management Committee.
- (b) Inform the information centre of Bangladesh Water Development Board and Control Room of the local administration about any disaster.
- (c) Assist and support the local administration for rescue, evacuation and relief activities.
- (d) Repair any damage, unserviceable installations and supply source by organising technical persons and materials.
- (e) Assess damage/loss and initiate action plan for repair, reconstruction and reinstallation as soon as possible after the recession of water in accordance with the short term and perspective plan of the government.
- (f) Take preventive action on emergency basis through tours in the affected area.
- (g) Request the local civil administration or Disaster Management Committee in case of any difficulty or any exceptional circumstances, the solution of which is beyond the control of own office.
- (h) On exigencies, take any suitable action for the protection of lives and property and evacuation in coordination with the civil administration and Disaster Management Committee.

Rehabilitation Stage

- (a) After assessing the loss/damage, prepare plan and designs, as quickly possible for repair, reinstallation and reconstruction of physical infrastructure, embankments, sluice gates at required places.
- (b) Assist and cooperate with the civil administration in relief activities as far as possible.
- (c) Identify places for the construction of embankments as protective measure against future disasters like tidal bore or floods, prepare plans and request for approval and sanction of funds from the concerned authorities.

8.3 ***Water Development Board (Flood Related Activities)***

In addition to normal functions and Contingency Action Plan on floods, the Water Development Board will also perform the following duties:

Normal Times

- (a) Ensure efficient management of Flood Forecasting and Warning Centre and improve procedure for flood forecasts and after necessary revisions inform the appropriate authority.
- (b) Operate “Flood Information Centre” from April to November every year.
- (c) Establish flood information Sub-Centre at field level from April every year.
- (d) Collect, during monsoon period, weather forecasts, water level of all principal rivers originating from different places in Bangladesh and India. The Bangladesh Water Development Board (BWDB) will request the Ministry of Water Resources regarding the receipt of information from India.
- (e) Inform all concerned regularly about daily weather news and issue regular press bulletins.
- (f) Alert Ministry of Disaster Management and Relief and concerned Deputy Commissioners.
- (g) Inform all concerned about weekly flood situation reports.
- (h) Instruct all subordinate offices in April every year about the following:
 - (i) Coordination with local administration
 - (ii) Supply of required implements, materials, transports, articles and technical know how.
- (i) Inform Disaster Management Bureau and Ministry of Disaster Management and Relief about operation of Information Cell of the Board.
- (j) Ensure Coordination with Inter-Ministerial Disaster Management Coordination Committee (IMDMCC), Ministry of Disaster Management and Relief and Disaster Management Bureau.
- (k) Designate one Liaison Officer in Board Office to maintain link with the EOC of the Ministry of Disaster Management and Relief. Deputy Director of Flood Forecasting and Warning Centre will be in charge of this responsibility.
- (l) Keep budget provision for special repair of embankments, sluice gates and lock gates in

disaster prone areas.

Alert and Warning Stage

- (a) Since flash floods visit within shortest possible time, so take steps to alert all through telephone, telex and wireless according to needs.
- (b) Appoint guards to locate leakage, breach, holes in embankments and also alert warning centers. Take steps for repairing work on emergency basis by month of April through employment of local people. For this purpose, materials and implements are to be stored at suitable place.
- (c) Keep the officials alert for the security of life, supplies, goods in stock and implements.

Disaster Stage

- (a) Operate information cell and Flood Control Centre day and night and send a Liaison Officer to the EOC of the Ministry of Disaster Management and Relief.
- (b) Inform Inter-Ministerial Disaster Management Coordination Committee and the EOC of the Ministry of Disaster Management and Relief about brewing up of any special situation.
- (c) Ensure gathering of all technical people and raw materials for the repair of damage to installations and supply source.
- (d) Give all support and assistance to local civil administration for rescue, evacuation and relief operations through field level administrative machinery.
- (e) Issue the following orders as per delegation of powers, to field level officials of Chief Engineer/Superintending Engineer/Executive Engineer/Assistant Engineer of Water Development Board:
 - (i) To perform duties as member of Disaster Management Committee of their own area.
 - (ii) To gather all technical people and materials for repair work of damage caused to installations and supply sources.
 - (iii) To make plan and programme for repairing, reconstruction and reinstallation according to short and long term planning of the government within shortest possible time after assessment of loss/damage and recession of water.
- (f) Appoint supervisors for frequent visit to affected areas.
- (g) In case of any difficulty in flood disasters or if any matter not possible to solve or if help of the Inter-Ministerial Disaster Management Coordination Committee/National Disaster Management Council is needed, request for intervention by the Ministry of Disaster Management and Relief.
- (h) Take any suitable step in the exigency of circumstances for protection of life and properties.

- (i) Send daily flood reports to following offices:
- (1) President's Office
 - (2) Prime Minister's Office
 - (3) Ministry of Disaster Management and Relief
 - (4) Ministry of Home Affairs
 - (5) Ministry of Information
 - (6) Secretary, Ministry of Agriculture
 - (7) Secretary, Ministry of Water Resources
 - (8) Secretary, Ministry of Fisheries and Live Stock
 - (9) Secretary, Ministry of Power, Energy and Mineral Resources
 - (10) Secretary, Ministry of Education
 - (11) Secretary, Roads and Highways Division
 - (12) Secretary, Railways Division
 - (13) Secretary, Ministry of Water Transport
 - (14) Secretary, Ministry of Health and Family Welfare
 - (15) Secretary, Ministry of Industries
 - (16) Secretary, Ministry Local Government, Rural Development and Cooperatives.
 - (17) Secretary, Ministry of Social Welfare
 - (18) Secretary, Ministry of Defence
 - (19) Disaster Management Bureau
 - (20) Department of Relief and Rehabilitation
 - (21) Director-General, Radio/Television
 - (22) Concerned Chief Engineers
 - (23) Concerned Deputy Commissioners

Rehabilitation Stage

- (a) Quickly assess the loss and damage and prepare required plans for repair and reconstruction work on priority basis.
- (b) Ensure the restoration of infrastructure, logistics and installations in shortest possible time for domestic, industrial and export use projects. Projects connected with agriculture, fisheries and industrial rehabilitation will be given top priority.
- (c) Render assistance and cooperation in the rehabilitation programme of Civil administration and other agencies.
- (d) Prepare new plans and designs for the control, reduction of loss/damage and prevention of recurrence of floods.
- (e) Evaluate the strengths and weaknesses of the current operations with a view to providing guidelines for future planning.

8.4 *Field Level Offices of Chief Engineer/Superintending Engineer/Executive Engineer/Assistant Engineer (Flood disaster related activities) of Water Development Board.*

In addition to their normal functions, these offices will perform the following duties in the light of delegation of powers in their respective spheres:

Normal Times

- (a) Ensure the following:
 - (i) Manage the Flood Information Centre from April up to November every year.

- (ii) Arrange to collect information on rainfall and water level at different points of rivers originated in India.
 - (iii) Submit flood forecast, through respective Head of Office, to Flood Control Room of Water Development Board and the Control Room of the Ministry of Water Resources.
- (b) Inform and alert Water Development Board, Ministry of Water Resources, EOC of the Ministry of Disaster Management and Relief, Deputy Commissioner and Thana Nirbahi Officer about the increase of flood level and flash floods.
 - (c) Inform all concerned about the weekly flood position.
 - (d) Attend meeting of the local Disaster Management Committee.
 - (e) Ensure support and assistance to local administration regarding rescue, shifting and relief operations with required mechanical implements, transports and materials and tactical support.
 - (f) Designate one Liaison Officer for keeping the link with local Disaster Control Room.
 - (g) Alert all concerned speedily by telephone, fax, wireless etc. as flash floods allow very little time.
 - (h) Complete repair of leakage, holes etc in the embankments of respective areas before April every year and keep the materials/implements for emergency work ready at convenient place and complete the on-going projects like construction of embankments and gates. The board will identify earmark funds and responsibilities for these works.

Alert and Warning Stage

- (a) Arrange for guards for sluice and lock gates to avoid loss
- (b) Send reports to higher officials about conditions of sluice gates, embankments and installations and progress of their repair
- (c) Take precautionary steps for the protection of life, assets, equipment and transports.

Disaster Stage

- (a) Operate Flood Information Centre day and night (24 hrs) on a full time basis and send Liaison Officer to the local disaster Control Room.
- (b) Inform Flood Control Cell of Water Development Board and local Disaster Control Room about any untoward incident.
- (c) Support and assist the local civil administration in rescue, evacuation and relief operations in respective areas.
- (d) Repair the damaged installations and supply sources by managing technical manpower and materials.
- (e) Assess loss and damage as soon as the flood waters recede, prepare plans, designs for emergency repair, reconstruction, reinstallation under the short and long term perspective

plan. The Water Development Board will assign responsibility and arrange funds.

- (f) Supervise works by paying repeated visits to affected areas and take preventive measures on emergency basis.
- (g) In case of difficult problem/situation beyond the control of concerned office, ask for help of the Inter-Ministerial Disaster Management Coordination Committee through local Civil Administration or the Ministry of Disaster Management and Relief.
- (h) Take any suitable action in the exigency of circumstances for saving life and assets and also for evacuation.

Rehabilitation Stage

- (a) Assess loss and damage and prepare plans and designs for repair, reinstallation or reconstruction according to necessity on priority basis.
- (b) With the help of local agency/non-govt. organisation, restore physical infrastructure, sluice gate, water drains and re-establish within minimum possible time.
- (c) Co-operate and assist civil administration, and other agencies, including NGOs in the rehabilitation activities.
- (d) Prepare project designs of new type with a view to preventing floods in specific areas. The field offices of Water Development Board will send daily flood situation report to the following offices:
 - (i) Control Room of the Ministry of Disaster Management and Relief
 - (ii) Chairman, Water Development Board
 - (iii) Concerned Divisional Commissioner
 - (iv) All Deputy Commissioners of the affected areas
 - (v) All Thana Nirbahi Officers of the affected areas.

9. Ministry of Information

Ministry of Information can play an important role in the matter of boosting up the morale of the people through the mass-media in facing the emergency with coolness, courage and strong determination for minimising the loss and damage of flood and cyclone. This Ministry will also assist the government employees of all levels in creating awareness and consciousness regarding their responsibilities and duties towards the people in relation to preparedness and response to disasters.

The Secretary of the Ministry will perform the following duties:

Normal Times

- (a) Popularize the techniques for preparedness and survival during pre-disaster, disaster and post-disaster period including leaflets/booklets supplied by the Disaster Management Bureau and concerned Ministry through television, Radio and other publicity media.
- (b) Arrange wide publicity with the help of mass media about the cyclone and flood warning signals with necessary explanations (Director, Meteorological Department will provide details of explanatory notes in simple and easily understandable language).
- (c) Ensure strict performance of the allotted duties by Radio, Bangladesh Television, News Media, Press Information Department, Mass Communication Department and Films and

Publications Department/normal times and specially during cautionary / warning and disaster stages.

- (d) Take proper and adequate security steps for the protection of own installations and properties.

Alert and Warning Stage

- (a) Set up a Control Room in the Ministry and designate one Liaison Officer for maintaining link with the Control Room of the Ministry of Disaster Management and Relief.
- (b) Ensure frequent publicity of precautionary and warning signals according to the advice of the Meteorological Department, and disseminate clear information regarding the duties of the people in the risk zones.
- (c) In case of cyclones ensure frequent publicity of latest weather bulletins to reflect the correct position of cyclone.
- (d) Arrange quick collection of weather bulletins and their dissemination to maintain their news value.
- (e) Take steps for the protection of own properties.

Disaster Stage

- (a) Operate the Control Room round the clock (24 hrs)
- (b) Ensure that the news to be broadcast reflects the true and clear presentation of the actual position and does not create panic in the mind of the people and also advises them to desist from taking unreasonable steps.
- (c) Take steps for publicity of news and directives relating to the situation requested by National Disaster Management Council, Inter-Ministerial Disaster Management Coordination Committee and Ministries/Divisions.
- (d) Arrange visit to affected area by the local and foreign journalists in the interest of publication of accurate and true report in the newspapers.

Rehabilitation Stage

- (a) Arrange dissemination of information of the short and long term measures of different Ministries, Departments/Agencies for relief and rehabilitation of the affected people.

9.1 Bangladesh Betar (Radio Bangladesh)

The role of Bangladesh Betar at every stage of pre-disaster, disaster and post disaster periods is very important. On government orders Bangladesh Betar would, specially at the stage of pre-disaster period, alert the people and motivate them and inform them about the disaster position and their duties in this respect. The responsibility of Bangladesh Betar about disaster will be the following:

Normal Times

- (a) Establish and maintain quickest communication channels with Meteorological Department, Flood Forecasting and Warning Centre and T&T Board and ensure continuous operation of these channels. Establish non-stop communication arrangement with Disaster Management Bureau and Meteorological Department through fax (and

email).

- (b) Publicize special action plans in cooperation with Meteorological Department and the Ministry of Disaster Management and Relief for the information of the people and taking up activities for disaster prevention, mitigation and preparedness.
- (c) Publicise programmes relating to the meaning of warning signals in cooperation with the Meteorological Department/Disaster Management Bureau/CPP.
- (d) Ensure audio briefing from the cyclone forecaster of the Storm Warning Centre (SWC) based on weather charts, radar and satellite pictures while broadcasting special weather bulletins.
- (e) Publicise short talks on the government disaster management policy and work plans.
- (f) Ensure stand-by arrangement to continue round the clock transmission if so ordered.

Alert Stage

Broadcast weather forecast from all Broadcasting Stations on receiving warning signals 1,2,3 from Meteorological Department and announce it at regular intervals.

Warning Stage

- (a) On receipt of warning signal No. 4, arrange to broadcast the same along with the explanations received from the Meteorological Department on hourly basis and on the advice of the Ministry of Disaster Management and Relief continue the broadcast without any interval after the normal broadcasting hours.
- (b) Broadcast the announcement of the Ministry of Disaster Management and Relief from Dhaka Radio station. If required the Radio Stations at Chittagong, Rajshahi, Sylhet, Rangpur and Khulna will broadcast the instructions of the local authority. It will be desirable to use the local dialect in the broadcast.
- (c) Broadcast the Flood Warning on receipt of the same.
- (d) Broadcast danger signal in case of cyclone every 30 minutes and great danger signal every 15 minutes and continue the broadcast after normal broadcasting hours if so advised by the Ministry of Disaster Management and Relief.
- (e) Broadcast the evacuation order for the population living in vulnerable areas to the local administration/authority if so instructed by the Ministry of Management and Relief.

Disaster Stage

- (a) (In case of cyclone) Broadcast danger signal every 30 minutes and great danger signal every 15 minutes and continue to do so even after normal broadcasting hours on the advice of the Ministry of Disaster Management and Relief.
- (b) Broadcast information relating to disaster prevention.
- (c) Broadcast safety programmes on matters relating to survival, rescue and domestic

belongings and drinking water, health etc.

Rehabilitation Stage

- (a) Broadcast programmes to keep the morale of the people in affected area high.
- (b) Broadcast short and long term rehabilitation measures.

9.2 Bangladesh Television

Bangladesh Television will perform the following duties at different stages of disaster.

Normal Times

- (a) Establish contact with Meteorological Department and ensure proper functioning of telephone and teleprinter. To prevent possible disconnection, arrange, if necessary, non-exchange Magneto telephone line of T&T Board. Arrange fax communication (email) with Meteorological Department and Disaster Management Bureau at all times.
- (b) Telecast special programmes as authorised by the Meteorological Department and the Ministry of Disaster Management and Relief for information and action of the public.
- (c) Telecast special precautionary signals of the Meteorological Department along with their meanings.
- (d) Ensure audio briefing from cyclone forecaster of the Storm Warning Centre (SWC) and video representation of radar and satellite pictures along with verbal information while telecasting special weather bulletins.
- (e) Show short films and video on disaster management.

Alert Stage

Soon after receipt of signal Nos. 1,2 and 3 from the Meteorological Department, Bangladesh Television shall immediately telecast them through all its Sub-Centers as well as from Dhaka Centre and continue to do so at regular intervals. Also telecast flood warnings issued by the Flood Forecasting and Warning Centre.

Warning Stage

- (a) Bangladesh Television must telecast on receipt of warning signal No. 4 along with explanation given by Meteorological Department every one hour and continue such telecast if advised by the Ministry of Disaster Management and Relief without any interval even after normal broadcasting hours. As soon as signal No. 3 is hoisted, Bangladesh Television will establish contact with the Ministry of Disaster Management and Relief on full time basis for non-stop broadcast beyond normal broadcasting time.
- (b) Dhaka Television shall telecast all announcements issued by the Ministry of Disaster Management and Relief and the Meteorological Department
- (c) Announce instruction relating to precautionary measures issued by the Ministry of Disaster Management and Relief and the Meteorological Department.
- (d) Telecast in details the flood warnings when received.

Disaster Stage

- (a) In case of cyclones, telecast Danger Signals every 30 minutes and Great Danger Signal every 15 minutes and continue to do so beyond normal broadcasting hours if advised by the Ministry of Disaster Management and Relief.
- (b) Telecast the directions of the Ministry of Disaster Management and Relief issued to local administration/authority for evacuations of population from risk areas to safer places.
- (c) Telecast survival devices and advice regarding rescue and protection of domestic belongings and drinking water.

Rehabilitation Stage

- (a) Telecast programmes to keep the morale of the affected people high
- (b) Telecast short and long term programmes regarding rehabilitation

9.3 Mass Communication Department

The Mass Communication Department shall perform the following duties regarding disaster:

Normal Times

- (a) To increase public awareness about disaster by publicising the following through video, cinema, films, slides, booklets etc.
 - (i) Measures to be adopted in normal times for the reduction/mitigation/preparedness of disaster helpful for reducing loss and damage during disaster.
 - (ii) Duties and responsibilities during disasters for emergency response.
 - (iii) Publicise instructions regarding physical infrastructure to reduce loss and damage from the disaster.
- (b) Take technical advice on the above subjects from the Disaster Management Bureau.

Alert and Warning Disaster Stage

Keep the people of the disaster prone areas informed through different publicity media about their duties at these stages.

Rehabilitation Stage

At this stage conduct publicity work in affected area with a view to keeping mental spirit of the people high and bringing normalcy to life. Specially advise people in respect of epidemic, self reliance in reconstruction work, general security, agricultural rehabilitation etc.

10. Ministry of Health and Family Welfare

The officers and the staff of the Ministry of Health and Family Welfare, Directorate of Health and its attached agencies will be responsible for providing curative and preventive health service to the people during disaster. The Ministry will also keep vigilant eye for ensuring health care to the affected areas soon after disaster by sending medical teams on an emergency basis. The Ministry of Health and Family Welfare should ensure that the Health Directorate performs the following duties:

Normal Times

- (a) Examine the Ministry's cyclone preparedness Contingency Action Plan in April and September every year and coordinate with concerned office/department. Hold mobilisation drills with CPP and other concerned agencies in disaster prone areas.
- (b) Train up volunteers on cyclone preparedness programmes of disaster prone areas, members of Village Defence Party, Ansars, Primary School teachers and religious leaders about oral saline, first aid and preventive measures against diseases.
- (c) Ensure adequate availability of Ambulance, Medicine, Vaccine, Surgical Equipment etc. in the Thana Health Centres of disaster prone areas.
- (d) Prepare the Thana wise list of medical and para-medical personnel of disaster prone area and send the same to concerned Deputy Commissioners.
- (e) Ensure preparedness of Thana Health Complex for meeting additional requirement of disaster and post-disaster period.
- (f) Educate people about health care through radio, television, newspaper and other media during floods and after cyclones.
- (g) Form Medical Team with required medicines/equipment in disaster prone areas and inform all concerned.
- (h) Establish temporary hospitals in Health Sub-Centres and cyclone shelters to meet the emergency needs. If hospitals and Health Centres are destroyed by cyclone, then to set up improvised hospitals in cyclone shelters.
- (i) Ensure active participation in the meeting of Inter-ministerial Disaster Management Coordination Committee and coordinate with health related activities of other offices.
- (j) Designate one officer in the Ministry as Focal Point for disaster management affairs.

Alert and Warning Stage

To ensure through the Director General of Health Directorate, formation of medical teams and their dispatch at short notice and also to ensure supply of adequate medicine and first aid at the threatened area.

Disaster Stage

- (a) Designate one Liaison Officer to maintain the link with the EOC of the Ministry of Disaster Management and Relief.
- (b) Set up Control Room and operate it round the clock (24 hrs).
- (c) Ensure proper performance of duties by the Health Directorate as mentioned in para 10(1) below.

Rehabilitation Stage

- (a) Remain vigilant about break out/possibility of any epidemic and take effective steps against its spreading.

- (b) Send report of health related activities in affected areas to National Disaster Management Council.

10.1 Directorate of Health

Health Directorate shall ensure performance of the following duties in addition to its normal functions.

Normal Times

- (a) Review every three months about cyclone, flood and other disaster preparedness plans with the officers/staff of subordinate offices and also about standby Medical Team, medicine, vaccine and other supplies.
- (b) Designate one officer of the Health Directorate as the Focal Point.
- (c) Form alternative medical team with required medicines, equipment and supplies and start temporary hospitals at short notice in times of need.
- (d) Coordinate with the local administration at all levels according to Directorate's, own work plan.
- (e) Review the availability of sufficient medicine and surgical instruments in cyclone prone areas.
- (f) Prepare list of medical and para-medical manpower and update the list every year.
- (g) Arrange food and accommodation for evacuees in the cyclone centres.
- (h) Ensure availability of medicine, vaccine, public health arrangement and drinking water in cyclone shelter and arrange for treatment of injured persons.
- (i) Educate people about health care through Television, Radio, Newspaper and other media.
- (j) Determine demand for additional manpower, materials and medicine and arrange funds from budget provision.
- (k) During disaster, the supply of power and water may be disrupted any time. Therefore alternative arrangement must be ensured to maintain the power and water supply.
- (l) Health Directorate will establish an information bank and ensure sufficient quantity of life saving drugs in disaster prone area.

Alert and Warning Stage

- (a) Alert the officers/staff of the Health Directorate of disaster prone areas as soon as cyclone/flood danger signal is received from the Ministry of Disaster Management and Relief/Storm Warning Centre/Flood Forecasting and Warning Centre and in case of occurrence of any disaster, will ensure health care.
- (b) Operate a Control Room and inform the Inter-Ministerial Disaster Management Coordination Committee and the Ministry of Disaster Management and Relief.
- (c) Arrange to send medical team to probable affected areas in consultation with the Disaster Management Bureau.

- (d) In addition to own transports, arrange additional necessary road and water transports with the assistance of local authority.
- (e) Warn the field level offices about safety of stores, medicines and assets.
- (f) Designate one Liaison Officer for keeping the link with the Ministry of Health and Family Welfare and the EOC of Disaster Management Bureau.

Disaster Stage

- (a) Operate the Control Room round the clock (24 hrs).
- (b) Arrange immediate primary health and medical care to affected people and if required send Medical Team(s).
- (c) Arrange to evacuate the patients and injured persons to cyclone shelter/hospital and assist the work.
- (d) Supply water purification tablet, bleaching powder etc and strictly comply with the rules of health care and health services at cyclone shelters and ensure supply of pure drinking water.
- (e) Examine all supply source of drinking water and ensure arrangements for protection from pollution and necessary prevention measures.
- (f) Arrange additional beds and medical treatment in local and nearby hospitals.
- (g) Take preventive measures against cholera and typhoid.
- (h) Remain always alert in respect of outbreaks of occurrence of epidemic and take effective measures against the spread of diseases.
- (i) Send daily report of casualties among injured and ailing persons to the Disaster Management Bureau with copy to the Ministry of Health and Family Welfare.

Rehabilitation Stage

- (a) Continue arrangements for preventive steps against cholera and typhoid till completion of vaccination programme in the affected areas.
- (b) Continue treatment of patients.
- (c) Remain always alert against outbreaks of any type of epidemic and take preventive steps against its spreading.
- (d) Continue efforts for health care, health education and population control.
- (e) Start recleaning of the water source as soon as saline water recedes from the affected areas.
- (f) Send a detailed report about steps taken to the Inter-Ministerial Disaster Management Coordination Committee.
- (g) Keep a watchful eye on the nutrition status of affected people and render the required advice and assistance to them.

10.1.1.1 Field office of the Health Directorate

The District Civil Surgeon and the Health Administrator of Thana Health Complex, during emergencies will perform the following duties in addition to their normal functions within their respective jurisdictions.

Normal Times

- (a) Review every three months the position of stores, medicines and manpower to combat disaster and take necessary steps to meet the deficit.
- (b) Maintain the full particulars of medical and para medical personnel (both government and private) and update the same every year. Arrange to increase the efficiency of medical teams through ad-hoc training.
- (c) Verify the availability of serviceable surgical instruments and medicines during disaster.
- (d) Review the situation of stand-by medical teams, demand for medicine and its availability, vaccines, stores and implements and store them area-wise in disaster prone areas.
- (e) Plan operations of mobile and temporary hospitals, on the basis of past experience if necessary.
- (f) Coordinate with the local administration.
- (g) Ensure security of stores, medicines, documents and transports against hazards of cyclone and floods.

Alert and Warning Stage

- (a) Activate the Control Room and designate one Liaison Officer for the local Disaster Management Committee and inform all concerned.
- (b) In case of grave situation keep a number of medical teams on stand-by for sending them to probable affected areas immediately and also some other teams to threatened areas.
- (c) Arrange to call up, according to necessity, additional manpower and support services from the higher authority.
- (d) Arrange necessary road and water transport with the assistance of the local authority in addition to available departmental resources.
- (e) Verify the cleanliness and health care arrangements of cyclone shelters, health sub-centres and relief centres and take steps for their improvements.
- (f) Arrange food and accommodation for patients, helpless and distressed people equally and supply the same to them.
- (g) Arrange to educate rural people about health care, sanitation and environment through departmental officers, NGOs and local government institutions as means of disaster preparedness.
- (h) Ensure security of health centre and stores, and if necessary shift them from disaster areas to safer place or cyclone shelter.

Disaster Stage

- (a) Operate the Control Room round the clock (24 hrs) and send reports and information to the controlling officer.
- (b) Send one Liaison Officer to the local Disaster Management Control Room.
- (c) According to necessity, arrange to operate the Health Complex and Health Sub-Centre by recouping the complementary equipment, manpower and usable materials through proper supply for the purpose of emergency repair.
- (d) Arrange immediate primary and regular medical care to affected people. If necessary, arrange additional bed and medical care in local and nearby hospitals.
- (e) Shift patients and injured persons to cyclone shelters/hospitals/Health Sub-Centres.
- (f) Observe strictly the rules of health care and cleanliness in temporary hospitals, cyclone shelter and health Sub-Centres and also ensure supply of water purification tablets, bleaching powder etc along with drinking water.
- (g) Examine all the supply sources of drinking water and ensure prevention of pollution.
- (h) Start vaccination work of targeted people.
- (i) Start effective publicity against the spread of any epidemic.
- (j) Send daily list of casualty due to disease and other ailments to the higher authority.
- (k) Collect and maintain all documents related to death for dispatch to the proper authority.

Rehabilitation Stage

- (a) Remain ever alert for prevention of spread of epidemic and take preventive steps.
- (b) Continue educative publicity on health and family planning issues through departmental employees with the help of NGOs.
- (c) Make all sources of drinking water in disaster area pollution free.
- (d) Send detailed report to appropriate authority.
- (e) Take steps for projects to eliminate malnutrition and the provision of health care services.

11. Ministry of Food

The role of Ministry of Food is important for maintaining adequate stocks of foodgrains in disaster prone areas. In addition to normal function of the Ministry, the Secretary must ensure the following duties are performed.

Normal Times

- (a) Prepare detailed work plan and review all preparedness programmes taken beforehand in April and September every year. Maintain the updated list of trucks, water transports, country boats etc with the names of their owners. Also maintain particulars of stocks, storehouse and the updated quantity of stored grains.

- (b) Ensure adequate security arrangement of stored food and when necessary ensure the transport of food suppliers.
- (c) Coordinate all activities with concerned Ministry/Department and local administration well in advance and arrange for transports for the movement of foodgrains.
- (d) Keep advance stocks of adequate food grains in safe places in disaster prone areas and examine the stock of the LSDS and CSDs.
- (e) Arrange dispatch, supply and distribution of food supplies on emergency basis, if required.
- (f) Take adequate protective measures for food supplies kept in stock in food and other godowns and arrange for their transfer to safer places, if required.

Alert and Warning Stage

- (a) Open the Control Room in the Ministry
- (b) Designate one Liaison Officer to keep link with the EOC of the Ministry of Disaster Management and Relief.
- (c) Alert all officials of the probable disaster areas about the imminent disaster.
- (d) Ensure normalcy in the foodgrain price.

Disaster Stage

- (a) Operate own Control Room round the clock (24 hrs) and maintain link with EOC of the Ministry of Disaster Management and Relief.
- (b) Collect through own sources reports of affected areas and send them daily to the Inter-Ministerial Disaster Management Coordination Committee through the Disaster Management Bureau.
- (c) If required, operate a special rationing system and open market sale in the affected areas and ensure an adequate supply of food to the people.
- (d) Take precautionary steps against hoarding and profit mongering and ensure normal price of commodities in the market.
- (e) Assist and help the local administration in all possible ways for the evacuation, rescue and relief operations.
- (f) Arrange to deliver food supplies immediately as per Delivery Order of Deputy Commissioner/Thana Nirbahi Officer on the directive of the Ministry of Disaster Management and Relief or National Disaster Management Council.
- (g) Enquire about the loss or damage of food items and food godowns, quantify them and prepare plans for their quick repair and reconstruction.

Rehabilitation Stage

- (a) Arrange for rapid assessment of the loss and damage and take the required steps quickly.
- (b) Arrange to prepare adequate plans for the repair and reconstruction of store houses and

provide funds for the purpose.

- (c) Make regular announcement concerning the production of daily necessities of food items, their stock position and ensure their continuous supply.
- (d) Arrange storage space for the receipt and dispatch of relief materials.
- (e) Continue efforts in all possible ways for the rehabilitation of affected people with the cooperation of Ministry of Disaster Management and Relief, other Ministries and local administration until the return of normalcy.
- (f) Arrange to supply food grains in the affected areas.

11.1 Director General, Directorate of Food

In addition to performing own duties and implementation of work plan, the DG has to ensure the following matters:

Normal Times

- (a) Select the Focal Point for disaster management issues and take steps for the establishment of a Control Room.
- (b) Designate one Liaison Officer for keeping link with the Control Room of the Ministry of Food.
- (c) Update the list of trucks, water transports, country boats etc with the names of owners and also the list of godowns with the quantity of goods stored therein. Review on a quarterly basis progress with implementation of the work plan of subordinate offices.
- (d) Alert every one about the imminent cyclone/flood in cyclone/flood prone areas and ensure security and suitable custody of food store house, silo, food stock, water transport, road transport etc.
- (e) If required, arrange for supply of food materials and their distribution on emergency basis.
- (f) Take steps for the protection of stored food materials and other materials in food godowns and shift them to safer places, if required.
- (g) Arrange adequate advance stock of food materials in secured places in disaster prone areas and examine the stock in LSDs and CSDs.
- (h) Rice and Wheat will be the main stock in disaster prone areas.
- (i) Coordinate all matters with local administration well in advance including the transportation of food materials.
- (j) Inform Ministry of Food regularly concerning the stocks of food supplies in disaster prone districts and Thanas.

Disaster Stage

- (a) Operate Control Room round the clock (24 hrs) and maintain link with the EOC of the Ministry of Disaster Management and Relief and Control Room of the Ministry of Food.

- (b) Prepare a daily food stock and distribution report for the affected areas and send the same to the EOC of the Ministries of Food and Disaster Management and Relief.
- (c) With the approval of the government, start operation of special rationing and open market sale of food supplies and ensure continuous supply of food supplies.
- (d) Ensure legal action against profit mongers and hoarders and keep the market price of food supplies stable and normal.
- (e) Assist and cooperate with the local administration in all possible ways for evacuation, rescue and relief operations.
- (f) Enquire about loss/damage of food supplies and store house and after quantifying the same prepare estimates for their quick repair and reconstruction. These should then be submitted to the Ministry of Food for obtaining funds from the National Disaster Management Council and Inter-Ministerial Disaster Management Coordination Committee.

Rehabilitation Stage

- (a) Assess the extent of loss and damage and try to recoup them on a priority basis.
- (b) Start repair and reconstruction work of godowns immediately as per approved procedure.
- (c) Arrange for uninterrupted supply of food items.
- (d) Arrange immediate release of food supplies as per delivery order of Deputy Commissioner/Thana Nirbahi Officer or in consultation with Ministry of Disaster Management and Relief or National Disaster Management Council.
- (e) Arrange godown space for the receipt and dispatch of relief materials.
- (f) Continue all out efforts in all possible ways for the rehabilitation of affected people in cooperation with the Ministry of Disaster Management and Relief, other Ministries, local councils and local administration until return of normalcy.
- (g) Strengthen the distribution programme of food supplies.

11.1.1 Field Offices of the Directorate of Food

The Field offices of the Directorate of Food located in the Districts and Thanas, the LSDs, the CSDs and the Silos in addition to their individual, joint or combined duties during normal times will perform the following duties in their respective areas:

Normal Times

- (a) Establish and operate an Information Centre in the office to maintain link with the local Disaster Management/Relief Coordination Committee.
- (b) Designate one Liaison Officer for keeping the link with the local Disaster Management/Relief Coordination Committee.
- (c) Review on a three monthly basis the preparedness programme of subordinate offices, CPP, foodgrain traders and local councils in respect of their respective workplans and alert all concerned, about preventive measures regarding the security of food

supplies/items, storehouse, installations, transports and machinery.

- (d) Maintain an updated list of trucks, water transports, country boats etc with the names of owners and drivers and capacity and particulars of stock in the storehouse(s).
- (e) Take security steps for the protection of silos, food materials, food and water transports etc in disaster prone areas.
- (f) Examine every 3 months the supply, movement and distribution arrangement of food supplies.
- (g) Take protective steps for the safety of stored food and other materials and if required arrange to shift them to safer places.
- (h) Arrange adequate storage of food supplies at safe places in disaster prone areas and inspect the stock in LSDs and CSD.
- (i) Rice and wheat will be the main stock in disaster prone areas.
- (j) Coordinate with local administration about food storage, security and transportation of food materials.

Disaster Stage

- (a) Keep communication with the EOC of the Ministry of Disaster Management and Relief, Control Room of the Ministry of Food and local Disaster Management Committee.
- (b) Designate one Liaison Officer at the Control Room of local Disaster Management/Relief Coordination Committee.
- (c) Assist local administration in all kinds of rescue, evacuation and relief operations.
- (d) Submit daily reports to supervisory authority or the DG, Food Directorate about stock position and damage to stock.
- (e) Arrange to start special rationing and open market sale of rice and wheat as per government directives and ensure uninterrupted supply of food materials.
- (f) Take effective legal steps against hoarding and profit mongering and try to keep market price stable and normal.
- (g) Assist and cooperate with the local administration and local council in all possible ways in their evacuation, rescue, relief and rehabilitation programmes.
- (h) Arrange a survey to determine the extent of loss and damage of food godowns and prepare plans for the repair and reconstruction of damaged godowns and submit proposals for sanction of funds for implementation.

Rehabilitation Stage

- (a) Arrange to assess loss and damage quickly to enable rapid repair/recovery.
- (b) Start the repair and reconstruction work of the godowns rapidly on the basis of funds received.
- (c) Arrange uninterrupted supply of food items.

- (d) Arrange rapid release of food supplies as per delivery order of Deputy Commissioner/Thana Nirbahi Officer or in consultation with the Ministry of Disaster Management and Relief.
- (e) Arrange storage space for receipt and dispatch of relief materials.
- (f) Assist local administration in relief and rehabilitation programmes.
- (g) Strengthen food distribution work among target groups.
- (h) Submit regular reports on food supply and distribution situation.

12. Ministry of Agriculture

In addition to normal duties of the Ministry, the Secretary will ensure preparation of own work plan and implementation thereof. Full utilization of time is to be ensured for determination of disaster loss and damage and planning of agricultural rehabilitation. Agriculture Secretary will ensure the following duties are performed:

Normal Times

- (a) Designate a Focal Point in the Ministry for disaster management.
- (b) Review on three monthly basis preparedness arrangements according to own work plan.
- (c) Arrange effective steps for receipt of reports and dispatch of directives.
- (d) Identify disaster prone areas likely to be affected.
- (e) Make necessary preparations for the receipt of seed, seedlings, fertilizer and agri implements by the affected people under loan/grant.
- (f) Make necessary preparations for shifting of stored seeds and implements, if required, to safer places.
- (g) Arrange for keeping stocks of seeds, fertilizers and insecticides.
- (h) Arrange for stock of seeds suitable for the disaster prone areas.
- (i) Arrange for seedling beds according to season and keep them in stock (to be done in places nearer to disaster prone areas).
- (j) Arrange to keep power tillers at Thana Headquarters of the disaster prone areas to meet emergency requirement of land cultivation.
- (k) Arrange for training of various level of officers for participation in different steps of cyclone preparedness activities.
- (l) Arrange to keep stock of all essential commodities at places convenient for quickest distribution without any loss of time during rehabilitation stage.

Disaster Stage

- (a) Designate one Liaison Officer for keeping the link with the EOC of the Ministry of Disaster Management and Relief.
- (b) Direct all offices of different levels to extend cooperation and help to the Commissioner, Deputy Commissioner, Thana Nirbahi Officer and Union Parishad Chairman as required.

Rehabilitation Stage

- (a) Quantify the loss and damage under the existing rules within the quickest possible time and finalize planning of agricultural rehabilitation.
- (b) Arrange for approval of the plan and allocation of funds.
- (c) Ensure availability of adequate supply of seeds, seedlings, fertilizers, agriculture Implements/ including irrigation inputs for agricultural rehabilitation in the affected areas and quickly transport them to the people.
- (d) Arrange for the distribution of agri-inputs and agri-loan through Bangladesh Bank.
- (e) Assemble all assets for disaster management and rehabilitation schemes and action plans for the rehabilitation of affected people, if required.
- (f) Ensure the proper use of all aid/assistance and loans to farmers.
- (g) Submit a weekly report to National Disaster Management Council and Inter Ministerial Disaster Management Coordination Committee. After completion of the rehabilitation schemes a detailed report should be submitted.
- (h) Manage any type of assistance from international and national voluntary agencies and utilize them under intimation to the Ministry of Disaster Management and Relief.
- (i) Ensure timely preparation of master rolls of relief distribution in cash or kind and its preservation and submission in time.
- (j) Arrange to allocate funds for the purchase and distribution of seeds, fertilizers, implements for post disaster relief operations.

12.1 Director General, Agricultural Extension Directorate

The DG, Agricultural Extension Directorate will perform the following duties in addition to his normal functions:

Normal Times

- (a) Designate the Focal Point for disaster management in the Directorate.
- (b) Examine the preparedness every three months according to the Contingency Action Plan.
- (c) Establish the Control Room and on receipt of cyclone/flood forecast alert instruct all concerned for safe custody of seeds, fertilizers, insecticides, agri-implements etc.
- (d) Identify high land in consultation with local officials for seedling beds for recouping loss in areas likely to be affected.

- (e) Take steps to fight serious crop loss.
- (f) Identify the areas likely to be affected in cooperation with other concerned office/agency.
- (g) Ensure necessary steps for the receipt of seedlings/seeds, fertilizers, agri-implements etc by the affected people.
- (h) Examine the stock of seed, fertilizer, insecticides, irrigation implement etc and arrange purchase or imports, if required.

Disaster Stage

- (a) Operate own Control Room and obtain report on crop damage.
- (b) Send report of crop damage to the Ministry of Agriculture.
- (c) Determine extent of loss and damage of crops, stock and implements etc.
- (d) Make rehabilitation schemes through field level offices located at regional, District and Thana level.
- (e) Arrange transport for the distribution of seeds, seedlings, fertilizers, insecticides, agri-implements etc at the right time in the affected areas.
- (f) Instruct officers at different levels for extending assistance and cooperation according to the needs of all from the Commissioner to the Union Parishad Chairman.
- (g) Determine the necessity of crop loans and ensure receipt of agri-loan by farmers through Thana Agri Loan Committee.
- (h) Distribute agri-inputs and implements.

Rehabilitation Stage

- (a) Determine the financial and material necessity for rehabilitation in the affected areas after assessing loss/damage.
- (b) Take collective efforts through field level officials for making available seed, seedlings, fertilizers, agri-implements etc for immediate agri-rehabilitation in affected areas.
- (c) Arrange immediate distribution of agri-inputs and implements.
- (d) Arrange to assist the farmers through field level officials for agri-rehabilitation.
- (e) Educate the people through radio, television, newspaper etc about agri-rehabilitation.
- (f) Ensure fair utilization of distributed aid/assistance or loans through training, inspection and supervision by local field level officials.
- (g) Send final report to the Ministry of Agriculture after completion of rehabilitation programmes following weekly progress reports.
- (h) Ask for assistance from international and voluntary agencies through the Ministry of Agriculture after ascertaining the additional requirement of agricultural inputs.

12.1.1 **Field Offices of the Directorate of Agricultural Extension**

The field offices of the Agricultural Extension Directorate at Regional, District and Thana level will perform the following duties in addition to their own duties:

Normal Times

- (a) Perform responsibilities assigned by DG, Agricultural Extension Directorate.
- (b) Review the level of preparedness as per own Action Plan in April every year and thereafter.
- (c) Alert all concerned for opening the Control Room and ensuring safe custody of seeds, crop, fertilizers, insecticide and agri-implements.
- (d) Identify and select high land locally for cultivation of seedlings for meeting the demand in affected areas.
- (e) Take appropriate steps for meeting serious crop loss of the area.
- (f) Identify the likely areas to be seriously affected by disaster in coordination with other offices/agencies/organisations.
- (g) Make preparations for ensuring the availability seeds/seedling, fertilizers, agri-implements to people in the affected area.
- (h) Submit a proposal for emergency purchase of seed, fertilizer, insecticides, agri-implements/inputs to Agricultural Extension Directorate after examining the stock.

Disaster Stage

- (a) Operate the Control Room for collection of information about crop loss.
- (b) Send reports of loss/damage of crop and seedlings to the Ministry of Agriculture.
- (c) Determine the extent of loss and damage of crops, stocks and implements.
- (d) Prepare schemes for rehabilitation through field offices at regional, District and Thana levels.
- (e) Build up stock of seeds/seedlings, fertilizers, insecticides, agri-implements by transporting the same to the best located centres in affected areas for quickest distribution without any loss of time.
- (f) Help and assist the local administration for evacuation, rescue and relief operations.
- (g) Verify the necessity of crop loan and ensure its receipt by Thana agri loan committee.
- (h) Distribute agri-inputs and implements.

Rehabilitation Stage

- (a) Submit proposal to appropriate authority for financial and material rehabilitation in affected areas after ascertaining loss and damage.

- (b) Bring together all efforts for availability of seeds, seedlings, fertilizers, agri-implements etc for quick agri-rehabilitation in affected areas.
- (c) Distribute agri-inputs and implements rapidly.
- (d) Help the farmers in all possible ways for their rehabilitation.
- (e) Educate the farmers through training and field visits in rehabilitation matters.
- (f) Send daily/weekly report to the appropriate authority regarding loss and damage and rehabilitation programmes and on completion of such programmes submit completion report
- (g) Submit proposal, after determination of loss and damage, for additional agri-inputs and implements.

12.2 Bangladesh Agricultural Development Corporation

Chairman will ensure the following in addition to his normal duties:

- (a) Designate the Focal Point in the principal office of the Corporation.
- (b) Establish contact points at field level under disaster management programmes.
- (c) Examine on three monthly basis the status of preparedness in the subordinate and associate offices as per own Action Plan.
- (d) Ensure preparedness of all concerned regarding the recent serious crop disaster.
- (e) Take necessary steps for the receipt of seeds/seedlings by affected people under loan/grant.
- (f) Make preparations for shifting of seed in stock to a safer place.
- (g) Arrange stocking of seeds according to necessity.
- (h) Arrange availability of spare parts for the repair of deep and shallow tubewells.

Disaster Stage

- (a) Operate Control Room and keep in close touch with the Ministry of Agriculture.
- (b) Prepare assessments of loss and damage and send it to the Ministry of Agriculture.
- (c) Prepare rehabilitation programme and review the same and arrange funds accordingly.
- (d) Prepare schemes for shifting/transportation of seed, seedlings etc for storage at a well located place for quick distribution.
- (e) Help and assist the local administration for evacuation, rescue and relief operations.

Rehabilitation Stage

- (a) Prepare schemes for rehabilitation after rapid assessment of loss/damage for agri works-under irrigation.

- (b) Mobilize all efforts for making necessary materials like seeds/seedlings available for reaching the people for rehabilitation in affected areas in the shortest possible time.
- (c) Help the farmers in all possible ways for repair of deep tubewells and water pumps used for irrigation.

13 Ministry of Fisheries and Livestock

The Secretary will ensure following responsibilities in addition to his normal duties.

Normal Times

- (a) Designate the Focal Point for Disaster in the Ministry.
- (b) Examine the preparedness status every three months as per own Contingency Action Plan for ensuring security and protection of valuable assets through fruitful utilization of time at rehabilitation stage.
- (c) Take the required steps for the collection and dispatch of reports.
- (d) Identify probable areas likely to be affected by disaster.
- (e) Open separate emergency funds so that the post-disaster recovery needs can be met immediately
- (f) Train up and make the officials of Fisheries and Livestock about disaster preparedness, loss and damage to environment and rehabilitation.

Alert and Warning Stage

- (a) Instruct different levels of officials of the Directorate under his control for taking security steps for protection of own buildings and stores and keeping all measures at the highest stage of preparedness.
- (b) Designate one Liaison Officer for keeping link with the EOC of the Ministry of Disaster Management and Relief and Disaster Management Bureau.
- (c) Instruct officers at different levels of the Directorate to render all types of assistance to and cooperation with Commissioners/Deputy Commissioners, Chairman, Thana Disaster Management Coordination Committee, Chairman Union Disaster Management Committee and CPP Officials.

Rehabilitation Stage

- (a) Arrange quick inspection and survey of loss and damage of all assets and stores together with that of cattle, poultry, fisheries, fish hatcheries, fish ponds, trawlers and other structures.
- (b) Finalize evaluation of loss and damage and prepare short and long term rehabilitation schemes in respect of livestock, poultry, fish farms, hatchery, fishing trawler, training and research institutes, medicines and chemicals etc and submit report to appropriate authority for funds.
- (c) Implement approved schemes through release of funds.

- (d) Coordinate with the local administration and other Ministries for rehabilitation programmes
- (e) Prepare completion report of relief and rehabilitation programmes and submit to National Disaster Management Council.

13.1 Directorate of Livestock

The Directorate of Livestock will perform the following duties in addition to normal duties.

Normal Times

- (a) Designate one Liaison Officer in the Directorate as Focal Point for disaster management
- (b) Review every three months about the state of preparedness as per the Directorate's own Contingency Action Plan and maintain liaison with subordinate offices, officials of concerned field level government offices and CPP
- (c) Alert all field officers in the concerned cyclone/flood prone area to take security steps before the start of cyclone/flood season for the purpose of protection of own assets such as stores in poultry farms, shelter place for cattle in the cattle farms etc.
- (d) Select and earmark high lands in consultation with local administration and CPP, for use as shelter of livestock for their protection against severe floods during flood season and against tidal bores during cyclone.
- (e) Arrange for emergency stocks of medicines and articles for protection and control of livestock and poultry, against contagious and infectious diseases.
- (f) Arrange a survey of the number of livestock and poultry in cyclone/flood prone areas and prepare an inventory. Update the same at regular intervals.
- (g) Assist the local administration with shifting of livestock to safer places in the event of imminent cyclone/tidal bore and prepare plans for vaccination and treatment well in advance.
- (h) Prepare schemes for supplementary arrangements for rehabilitation of livestock and recouping their loss.
- (i) Take up schemes for procurement of animal feed on emergency basis for distribution in the affected areas.
- (j) Take steps for training of field level and mid level officials and staff to cope with cyclone/floods, environmental pollution, and works

Disaster Stage

- (a) Designate one Liaison Officer in the Directorate of Livestock for maintaining link with the EOC of the Ministry of Disaster Management and Relief.
- (b) During floods assist the local administration for operations relating to the rescue and shifting of stranded livestock and poultry.
- (c) During floods, arrange for the quick vaccination and treatment of livestock and poultry at shelter places.
- (d) Conduct vaccination of animals in affected areas (during floods).

Rehabilitation Stage

- (a) Prepare measures for the purchase of livestock under loan and supply of animal feed as rapid relief and coordinate with other Ministries/Department.
- (b) Arrange a rapid survey to assess the loss and if necessary import livestock.
- (c) Form veterinary and dispatch Medical Teams on emergency basis for affected area.
- (d) Prepare measures for the rehabilitation of livestock and supplementary arrangement for lost cattle wealth. The Directorate of Livestock will maintain permanent fund for this purpose.
- (e) Prepare measures for the procurement of animal feed on emergency basis for distribution in affected areas. The Directorate of Livestock will arrange emergency fund for this purpose.
- (f) Send to Inter-Ministerial Disaster Management Coordination Committee reports containing information of lost/dead livestock/poultry, diseased livestock/poultry and epidemics.
- (g) During floods, send a report of shifted/rescued livestock to Inter-Ministerial Disaster Management Coordination Committee with the address of shelter places.
- (h) Assist, and cooperate with the local administration for organising relief and rehabilitation immediately.
- (i) Assist local administration for returning livestock to respective area and to the owners from the evacuation centres.
- (j) Assist the affected people for procurement of food to livestock and poultry until return of normal supply.
- (k) Implement all schemes on emergency basis for rehabilitation of livestock including selected animals.
- (l) Implement the import plans of livestock and poultry for distribution in the affected areas.

13.1.1 Field Offices of the Livestock Directorate

In addition to their own responsibilities the offices of Livestock Directorate at district, Thana and Union level will perform the following duties within their respective areas.

Normal Times

- (a) Every year in the month of April before the start of cyclone season alert all field level officials of the Directorate and the farmers will review the preparedness for safety of livestock, poultry and domestic animals and their feed.
- (b) In order to keep the animal wealth under a disciplined safety arrangement starting from the lowest level, examine the preparedness measures as per own Contingency Action Plan in the cyclone/tidal-bore prone areas with the subordinate offices, CPP and farmers representatives.
- (c) In order to protect livestock/poultry against the onslaught of cyclone/tidal bore, select local high land, hillocks or fortified earthen mounds for use as their shelter place in

consultation with the local administration and publicise the same locally.

- (d) Arrange for emergency stocks of medicines and implements in cyclone/tidal bore prone areas for fighting and control of infections and contagious diseases of livestock and poultry.
- (e) Ensure reserve stock of animal feed in cyclone/tidal bore prone areas.
- (f) Conduct survey in the cyclone/tidal bore prone areas in April every year for a census of livestock and poultry.
- (g) Arrange orientation training locally for cyclone disaster preparedness of own officials/staff.

Disaster Stage

- (a) Designate one Liaison Officer for the local Disaster Control Room.
- (b) Arrange assistance to local administration and people/agencies including Union Parishad for rescue and evacuation operations of stranded livestock and poultry during floods.
- (c) Arrange vaccination and treatment of livestock and poultry in shelter places during floods.
- (d) Arrange wholesale vaccination programme of animals in affected areas during floods.

Rehabilitation Stage

- (a) Prepare measures for loan/grant for purchase of livestock and supply of animal feed in affected areas.
- (b) Conduct immediate survey for determination of loss and damage and arrange import of livestock from other areas.
- (c) Send field teams on emergency basis for treatment of animal in affected areas.
- (d) Send a detailed report to departmental head containing the numbers of lost livestock/poultry, diseased livestock/poultry.
- (e) Collect the latest reports of the location of every livestock shelter and number of shifted/collected livestock at every such shelter.
- (f) Assist, and cooperate with local administration in all matters for organising immediate relief and rehabilitation work.
- (g) Prepare local measures of supplementary arrangements for recoupment of loss of perished livestock and poultry and for rehabilitation of affected livestock and poultry.
- (h) Prepare procurement plan of animal feed and other feed for emergency distribution in the affected areas.
- (i) Assist the farmers for the return of livestock to owners from evacuation centres.
- (j) Assist affected people for procurement of feed for livestock and poultry.
- (k) Arrange for receipt of loans from Bangladesh Bank for purchase of livestock and poultry

for rehabilitation of livestock and poultry including selected animals.

13.2 Directorate of Fisheries

The Directorate of Fisheries will perform the following duties in addition to its normal functions:

Normal Times

- (a) Designate one Focal Point for disaster management and inform all concerned authorities including the Disaster Management Bureau.
- (b) Ensure that all concerned field officers of the Directorate take safety measures well before the start of flood season for protection of Pisciculture ponds, chemicals, implements, water and road transports including own assets in respective offices.
- (c) Verify before granting of fishing license to each fishing trawler whether it possesses wireless and radio set and the fishing boats have registration of Marine Fisheries Department.
- (d) Take suitable legal and administrative steps for ensuring that all fishing boats/trawlers, engaged in fishing in the Bay of Bengal possess radio receiving set and life jackets for every person present.
- (e) Prepare and maintain a list of government and privately owned fishery assets in cyclone/tidal bore prone areas and update them at regular intervals.
- (f) Undertake census of fishermen population in cyclone prone areas and compile suitable Thana wise census report and update the same at regular intervals.
- (g) Prepare a list of seagoing fishing vessels (with address of owners) for their use as rescue vessel and maintain the same.
- (h) Ensure, in consultation with Bangladesh Water Development Board, that government embankments and sluice gates are constructed with proper height and sufficient strength to withstand entry of saline water due to tidal bore.
- (i) Coordinate with Bangladesh Agricultural Development Corporation regarding the availability of power driven pumps for pumping out saline water from coastal ponds.
- (j) Arrange for training and orientation of field level officers, staff and fisherman community about preparedness for fighting cyclones, environmental loss and damage and for rehabilitation. Arrange training of field level officers and staff of the Ministry of Fisheries and Livestock and the Fisheries Directorate.

Disaster Stage

- (a) In consultation with Bangladesh Water Development Board, ensure that the sluice gates of the embankments have been constructed adequately, these are well fortified and able to sustain ingress and release of saline water and sufficiently strong to withstand the pressure of waves due to tidal bore and block ingress of saline water.
- (b) Undertake immediate census of loss of fish resources and prepare long term relief and rehabilitation programmes for public and private fishery sector.
- (c) Assist the local administration with the requisition of ocean going vessels for rescue

operations.

- (d) Operate the Control Room in the Directorate and send the Liaison Officer to the local Disaster Management Committee.

Rehabilitation Stage

- (a) Coordinate with the local administration and Bangladesh Agricultural Development Corporation regarding the availability of power pumps for pumping out saline water from government and privately owned ponds (In case of cyclone disaster).
- (b) Undertake immediate preparation of long term relief and rehabilitation scheme with for public and privately owned fishery resources and implement it.
- (c) Prepare a list of affected pisciculturists and fisherman
- (d) Provide technical advice to private pisciculturists about affected ponds and farmers, for making them fit again for Pisciculture.
- (e) Assist, and cooperate with the local administration for relief and rehabilitation programmes.
- (f) Undertake programs for extending loan and grant to affected fisherman and fish farmers.
- (g) Extend technical advice for supply of fish and Pisciculture to affected pond owners.

13.2.1 Field Offices of Fisheries Directorate

The field officers of Fisheries Directorate at Divisional, District and Thana level and of projects will perform the following duties in addition to own normal functions.

Normal Times

- (a) Every year before the start of cyclone/flood season the field officers of Fisheries Directorate will alert the farmers and fisherman about necessary steps for the safety and security of fishing boats, trawlers, fishing gears, fishing implements, fish fries and stock hatchery and fishing farmers in cyclone/flood prone areas.
- (b) Examine the status of preparedness with the subordinate offices, CPP Pisciculturists and fisherman representatives according to the own Contingency Action Plan taken up in the Directorate.
- (c) Identify the permanent safe place for proper safe keeping of fishing boats, trawlers and fishing gears during disaster time.
- (d) Ensure existence of wireless and radio set in each trawler before issue of fishing license.
- (e) Ensure, through proper administrative steps, that fishing boats/trawlers engaged in fishing in the Bay of Bengal have a functioning wireless receiver, life jacket for each person in the boat/trawler.
- (f) Prepare updated list of government and privately owned fishery assets in disaster prone areas and maintain it.
- (g) Maintain the survey reports and statistics of fishermen population, Pisciculturists and fish farms in disaster prone areas.

- (h) Maintain a list of fishing boats, trawlers and ocean going vessels along with the names of owners/drivers in the concerned areas.
- (i) Maintain full time communication with the officials of Bangladesh Water Development Board for ensuring operation and maintenance of embankments and sluice gates in concerned areas for the purpose of blocking entry of saline water due to pressure of tidal bore.
- (j) Ensure adequate operation of sluice gates.
- (k) Coordinate with the local officials of the Bangladesh Agricultural Development Corporation for the availability of power pumps for pumping out saline water from the ponds in cooperation with CPP in times of need.
- (l) Receive training about cyclone preparedness, determination of environmental loss/damage and rehabilitation.

Disaster Stage

- (a) Assist local administration for requisition of ocean going vessels (in times of cyclone disaster) for relief, rehabilitation and rescue work.
- (b) Open the Control Room and send the Liaison Officer to the local Disaster Management Committee.

Rehabilitation Stage

- (a) Arrange for an immediate survey to determinate loss/damage of government and privately owned fishery assets and prepare projects for long term relief and rehabilitation and send the same to appropriate authority.
- (b) In coordination with local administration and Bangladesh Agricultural Development Corporation, take steps for the import of required number of power pumps through government and private funds, if possible.
- (c) Ensure implementation of long term relief and rehabilitation programmes in fishery development sector and send reports of progress to higher authority.
- (d) Inspire and assist the affected pond fish farmers for rehabilitation.
- (e) Assist local administration in relief and rehabilitation.
- (f) Arrange Pisciculture loan to fisherman/fish farmers.

14 Ministry of Civil Aviation and Tourism

This Ministry will perform the following duties in addition to its normal functions:

- (a) Provide air service for evacuation of seriously injured persons from operating airports on the directive of Inter-Ministerial Disaster Management Coordination Committee/National Disaster Management Council.
- (b) Extend full cooperation to local administration for rescue, evacuation, relief and rehabilitation operations.

- (c) Use good offices if necessary for procurement of aircraft from the Flying Club etc in times of need by the Ministry of Disaster Management and Relief for emergency relief operations.
- (d) Ensure quick air traffic clearance of aircraft arriving with relief materials from abroad.
- (e) Ensure appropriate parking and flight facilities of aircraft engaged in rescue/relief work at airports.
- (f) Prescribe policy for collection of fee for landing and flights of aircrafts on relief missions from friendly countries
- (g) Shift imperiled air traffic services to safer place.
- (h) Make quick repairs of affected airports.

15. Armed Forces Division

In addition to discharging normal responsibilities, the division will take the following steps to implement it's own action plans to cope up with the disasters.

Normal Time:

- (a) Designate a Disaster Management Focal Point and inform all concerned.
- (b) Maintain a full-time liaison with the EOC of the Ministry of Disaster Management and Relief.
- (c) Ensure appropriate preparedness planning of the three services in respect of the security of the people, establishment, equipment, installation materials and transport in the cyclone/flood prone areas before the cyclone/flood season starts.
- (d) Ensure all out cooperation of three services in assistance of civil authorities for dissemination of alert and warning signals, evacuation, rescue and relief and rehabilitation work.
- (e) Coordinate between the Ministry of Disaster Management and Relief and the three services where necessary regarding the deployment the Armed Forces in aid of civil authorities on the basis of requisition and request from the Ministry of Disaster Management and Relief to cope up with disasters.
- (f) Ensure budget allocation for disaster emergency works on the basis of demand by the National Disaster Management Council.
- (g) Arrange for training of Task Force Commander on disaster management and environment relating to the impact of disaster.

Alert and Warning Stage

- (a) Operate the Control Room, Prime Minister's Monitoring and Coordination Cell round the clock (24 hrs)
- (b) Maintain liaison with the EOC at the Ministry of Disaster Management and Relief.
- (c) Keep the appropriate units of Army, Navy and Air force in readiness for conducting rescue, evacuation and relief operations as per requisition.

- (d) Ensure that the necessary preparedness arrangements for the deployment of the Army Task Force in the event of disaster to areas identified by the Ministry of Disaster Management and Relief are in force

Disaster Stage

- (a) On the basis of requisition, deploy the Armed Forces on the approval of the Prime Minister for disaster response, relief and rehabilitation work in aid to the civil power.
- (b) Assist in coordination between the Ministry of Disaster Management and Relief and the three services for the balanced performance of the field task force.
- (c) Collect information on the rescue, relief and rehabilitation work of the three services and dispatch it regularly to the coordination cell of the Prime Minister's Secretariat and the Inter-Ministerial Disaster Management Co-ordination Committee and Ministry of Disaster Management and Relief.

Rehabilitation Stage

- (a) Analyze the activities of the three services and assess the benefits, problems and difficulties.
- (b) Terminate relief operations by the Armed Forces at appropriate time in consultation with National Disaster Management Council.
- (c) Prepare a report on relief and rehabilitation operations by the Armed Forces services and furnish it to the National Disaster Management Council/Ministry of Disaster Management and Relief.

15.1 Bangladesh Army

The Bangladesh Army has to play a very important role in evacuation, rescue, relief and rehabilitation operations during disaster. At times of disaster the Army Headquarters will perform the following duties:

Normal Times

- (a) Designate a Disaster Management Focal Point in Army Headquarters and Divisional Headquarters
- (b) Instruct all garrison and central transport pool of Army Headquarters for earmarking light transports, trucks, rescue vessels and motor boats for emergency duties.
- (c) Prepare and continuously update own Action Plan of the Directorate for security and safety of people, materials, installations and equipment and review the status of preparedness.
- (d) Prepare operational plan for responding to the call of civil administration during disaster.
- (e) Impart training on Disaster Management to officers and jawans in all training institutes and staff colleges.
- (f) Hold drills on disaster preparedness and response.

Alert and Warning Stage

- (a) Establish the Control Room for disaster in the headquarters and concerned formation headquarters and convey the telephone no. to the Director of Military Operation (Office and Residence), control room and duty officers of the coordination cell of the Prime Minister's Secretariat and the control rooms of the Ministry of Disaster Management and Relief, Navy and Air Force.
- (b) Designate one Liaison Officer if necessary to the coordination cell of the Prime Minister's Secretariat and maintain liaison with the control room of the Ministry of Disaster Management and Relief.
- (c) Issue warning orders to all concerned. Issue orders for the rapid mobilization of the army and assign duties to them in areas likely to be affected by disaster.
- (d) Organize Task Force in each formation for working as a Disaster Control Unit. Each such unit should be composed of one full infantry company, engineer, adequate first aid, doctors with medicine and nursing assistants.
- (e) Earmark a Reserve Task Force if needed.
- (f) Move the Task Force to the convenient positions if needed.
- (g) Task Force Commander will coordinate with local civil authority for evacuation, rescue, relief, health care and rehabilitation activities.
- (h) Undertake any other preparedness activity if required.
- (i) Dispatch report about the situation and the activities to the coordination cell of the Prime Minister's Secretariat.

Disaster Stage

- (a) Keep the disaster Control Room at the Army and relevant formations headquarters operational round the clock.
- (b) Collect information regarding the levels of the preparedness and other activities from the disaster prone areas and dispatch it to the coordination cell of the Prime Minister's Secretariat and the EOC of the Ministry of Disaster Management and Relief for perusal of the National Disaster Management Council/Inter-Ministerial Disaster Management Coordination Committee.
- (c) Move Task Forces in disaster affected areas in consultation with Ministry of Disaster Management and Relief and local authority.
- (d) Dispatch reports regularly to the coordination cell of the Prime Minister's Secretariat and the EOC of the Ministry of Disaster Management and Relief in order to keep the national Disaster Management Council informed about the latest situation.
- (e) Take up any other activity considered indispensable from the humanitarian point of view.
- (f) Undertake relief operations in all affected areas and assist local administration for implementing rescue operations.

Rehabilitation Stage

- (a) Conduct a survey in affected areas and assess requirement of relief and rehabilitation.
- (b) Assist the local administration in removing the dead bodies and debris in affected areas

and improving the environment.

- (c) Assist with the provision of medical services for the treatment of wounded persons of the disaster affected area and also assist the agencies engaged in the prevention of epidemics.
- (d) Assist local administration for ensuring arrangement of pure drinking water.
- (e) Set up field hospitals, if required.
- (f) Assist the affected people with the construction of temporary shelters.
- (g) Participate in reconstruction and rehabilitation operations if requested by the civil administration.
- (h) Undertake any type of work from a humanitarian point of view for the benefit of affected people.
- (i) Despatch the detailed report to the coordination cell of the Prime Minister's Secretariat and the EOC of the Ministry of Disaster Management and Relief stating all the aspects of relief and rehabilitation work for perusal of the National Disaster Management Council concerning the progress of work relating to relief and rehabilitation.
- (j) Designate one Liaison Officer to the military missions in friendly states where form relief materials are coming so as to help with relief work, if necessary be prepared to participate jointly in conducting the relief work.

15.2 Bangladesh Navy

The Bangladesh Navy will extend all assistance to the local administration of coastal areas during cyclone disasters according to their ability and resources. Such assistance should be rendered within their limitation of normal equipment and vessels. Such assistance should be in the shape of transportation of relief materials from Chittagong to off-shore islands and from Narayanganj/Khulna to Barisal/Patuakhali (only in those areas where depth of water is sufficient for such transportation). These vessels will carry medical teams composed of naval and civilian doctors and medicines supplied by or through Deputy Commissioners.

If additional relief boats and water transports and equipment are supplied to Bangladesh Navy, then possibly these will be operated by personnel of Bangladesh Navy. Above all, the water transports of the Navy can operate as speedy floating communication centres.

In the event of a severe cyclonic situation, they should remain alert for performing any special assignment of the government due to emergency. In addition to implementing their own work plans, the Bangladesh Navy will perform the following duties:

Normal Times

- (a) The Navy will designate three Disaster Management Focal Points at Naval Headquarters Khulna and Chittagong.
- (b) Keep the naval transport station, ready for long term relief operations at short notice.
- (c) Operations Directorate of Naval Headquarters will keep contact with Meteorological Department/Ministry of Disaster Management and Relief for receipt of warning signals and required arrangements in advance.
- (d) Prepare a list of serviceable water transports for relief and rescue operations for use by all

concerned during a cyclone disaster.

- (e) Impart training to staff about rescue and rehabilitation activities.
- (f) Test the effectiveness of own Action Plan adopted for Disaster Management as per Standing Orders through annual drills and take steps for its improvement.
- (g) Prepare plans for the protection of the ships, equipment, installations, goods and personnel of Bangladesh Navy against disasters.

Alert and Warning Stage

- (a) Issue warning orders to all units.
- (b) Establish disaster control room in Naval Headquarters and provide telephone numbers of Director of Naval Operations (office and residence), control room and duty officer to the Prime Minister's coordination cell, EOC at the Ministry of Disaster Management and Relief, Control Room of Army and Airforce.
- (c) Take necessary arrangement for protection of ships and installations, personnel and equipment of Bangladesh Navy likely to be affected by the disaster.
- (d) Designate one Liaison Officer to the coordination cell of the Prime Minister and keep contact with the EOC at the Ministry of Disaster Management and Relief, and Control Room of Army and Airforce.

Disaster Stage

- (a) Arrange requisite manpower in Control Rooms of Naval Headquarters, Chittagong and Khulna.
- (b) Keep all ships and stations ready for launching cyclone relief operations at short notice.
- (c) Naval Headquarters shall keep close liaison with the Control Room of the Prime Minister's coordination cell and EOC at the Ministry of Disaster Management and Relief.
- (d) Adopt all possible security steps in close cooperation and coordination with the concerned civil authority.
- (e) At the instructions of the Armed Forces Division, all the ships containing materials supplied by the agencies at the instruction of the Deputy commissioner or Ministry of Disaster Management and Relief.
- (f) Without prejudice to any other rules and regulations and limitations, on the request of the civil authorities the ships will be sent to the affected areas as soon as the weather becomes favourable at the instructions of the Armed Forces Division.
- (g) At the directives of Naval Headquarters the ships/stations will assist the civil authorities.
- (h) It will regularly send the report of the activities to the Control Rooms of Prime Minister's coordination cell and EOC at the Ministry of Disaster Management and Relief.

Rehabilitation Stage

- (a) Determine the requirement of relief and rehabilitation after assessment survey of loss and

damage through the affected areas and advise government about the necessary steps in this respect has been carried.

- (b) Assist the local administration in all possible ways for relief and rehabilitation programmes in the affected areas.
- (c) Assist the civil authority with the distribution of relief materials among the affected people.
- (d) Continue assistance with all steps undertaken by the local/civil authority until the return of normalcy.
- (e) Prepare detailed reports on all aspects of relief and rehabilitation and submit the same to the National Disaster Management Council.
- (f) Designate Liaison Officers to Naval relief missions from friendly countries.

15.3 Bangladesh Air Force

The role of Bangladesh Air Force in combating national disaster is important. Bangladesh Air Force will have to be prepared for facing any situation created as a result of disaster. In addition to normal functions it will perform the following duties:

Normal Times

- (a) Designate one Disaster Management Focal Point at Air Force Headquarters and stations and inform all concerned including the DMB.
- (b) Establish the Disaster Control Room with updated maps of flood prone areas, coastal areas and offshore islands. Maintain all updated particulars/data about airstrips and Helipads.
- (c) Pre-arrange effective procedures, for the receipt of meteorological messages from Meteorological Department and other sources.
- (d) Prepare contingency plans for the protection of own aircraft, equipment and installations and for responding to the call of the civil authority and also formulate standing orders.

Alert and Warning Stage

- (a) Issue precautionary directives to all concerned.
- (b) Keep transport aircraft and helicopters in readiness.
- (c) Take precautionary steps for keeping aircraft and equipment of the Bangladesh Air Force in cyclone prone areas at a safer place.
- (d) Designate one Liaison Officer to the Prime Minister coordination cell according to necessity and maintain liaison with the EOC at the Ministry of Disaster Management and Relief, and Control Room of Army and Navy.
- (e) Provide the telephone numbers of the Director of Air operations (Office and Residence) of control room and of duty officer to the Control Room of the Prime Minister's coordination cell, EOC at the Ministry of Disaster Management and Relief, and Control Room of Army and Navy.

Disaster Stage

- (a) Keep constant watch on the cyclone/flood situation.
- (b) Furnish any additional meteorological information, if collected through own sources, to the concerned authority in order to supplement the information of Bangladesh Meteorological Department/Bangladesh Water Development Board.
- (c) Keep transport aircraft and helicopters ready for primary trial flight as soon as the weather becomes normal for rescue work and assessment of loss and damage on account of cyclone.
- (d) In case of severe floods, assist with airlifts according to the necessity of relief operations by civil authority.

Rehabilitation Stage

- (a) Conduct an aerial survey to assess of the nature and extent of loss and damage in cyclone/flood affected areas and send a report of findings to the National Disaster Management Council and Inter-Ministerial Disaster Management Coordination Committee.
- (b) Evacuate seriously injured persons to nearest hospitals.
- (c) Supply transport aircraft and helicopters for the survey/visit of affected areas by concerned high officials, Newsmen, Ambassadors etc.
- (d) Carry relief materials like food and water to the affected areas and deliver them to people by airdrop, if required.
- (e) Assist the civil administration, Bangladesh Red Crescent Society and other agencies with helicopters for transportation of essential relief materials, medicines and medical teams to affected area.
- (f) Utilize wireless, radio, telephone communications of Bangladesh Air Force as complementary to existing civil communication net work for transmission of very important messages.
- (g) In the interest of overall relief operations, assume responsibility of any other activity as per directives of the government.
- (h) Prepare a detailed report describing all the aspects of relief operations already in hand.
- (i) Provide one Liaison Officer for Relief Missions (Air Force) from friendly countries.

16. Ministry of Defence

In addition to its normal functions the Ministry will take the following steps to implement its own work plans for coping with disasters.

Normal Time:

- (a) Designate a Disaster Management Focal Point and inform all concerned.

- (b) Designate one Liaison Officer for the EOC at the Ministry of Disaster Management and Relief.
- (c) Ensure appropriate Planning for the security of the people, equipment, establishment infrastructure, transports etc. of the cyclone/flood prone areas before the start of the disaster seasons.
- (d) Ensure effective coordination of line organisations to help civil authorities in respect of dissemination of warning signals, evacuation, rescue and rehabilitation operations.
- (e) Coordinate with the Ministry of Disaster Management and Relief for utilisation of Armed Forces in aid of the civil authorities on the basis of requisition and requirement by the Ministry of Disaster Management and Relief in times of need.
- (f) Ensure budget allocation for disaster emergency work on the basis of the decision by National Disaster Management Council (NDMC).

Alert and Warning Stage:

- (a) Operate Control Room round the clock (24 hrs)
- (b) Depute one Liaison Officer for the EOC at the Ministry of Disaster Management and Relief.
- (c) Collect disaster information from the Department of Meteorology and inform all concerned including the Ministry of Disaster Management and Relief.

Disaster Stage:

- (a) Maintain full time coordination with the EOC at the Ministry of Disaster Management and Relief and Control Rooms of Armed Forces in order to collect information about the situation regularly.
- (b) Help to maintain coordination between the Ministry of Disaster Management and Relief and the Armed Forces Division for the smooth work of the Field Task Force.

Rehabilitation Stage:

- (a) Terminate relief operations by the Armed Forces at the appropriate time in consultation with the National Disaster Management Council.
- (b) Collect reports on relief and rehabilitation operations by the Armed Forces and the civil authorities to the National Disaster Management Council/Ministry of Disaster Management and Relief.

16.1 Meteorological Department

In addition to normal duties, the Meteorological Department will perform the following duties:

Normal Times

- (a) Keep ever careful watch over weather conditions, and ensure improvement of cyclone forecast procedures and supply of information on regular basis.
- (b) Ensure full time effectiveness of the quickest channel of communication for disseminating weather warnings to all concerned. Fax arrangement must be established between SWC of Meteorological Department and Radio, Television and the Ministry of Disaster

Management and Relief.

Alert Stage

- (a) Issue as soon as possible the alert warning signals of cyclone, at least 36 hours ahead of formation of depression in the Bay of Bengal.
- (b) Supply information through Fax/telephone/teleprinter to Cyclone Preparedness Programme (CPP) about the formation of depression in Bay of Bengal so as to allow CPP to take appropriate actions including dissemination of information to all concerned.
- (c) Issue warning signals code 'Whirlwind' as per Annexure-A to all concerned officials through telephone, teleprinter, telegram etc., fax, (email)
- (d) Prepare and submit Special Weather Bulletin and broadcast/publicise the same through national news media such as the all stations of Radio and Television and in national newspapers for the benefit of the general people. In case of Local Cautionary Signal no. 3, arrange for adequate and full time coordination between SWC of the Meteorological Department, Bangladesh Betar, Bangladesh Television for publicity beyond normal broadcasting hours.
- (e) Send Special Weather Bulletins to EOC at the Ministry of Disaster Management and Relief, the Directorate of Relief and Rehabilitation, the Cyclone Preparedness Programme and Bangladesh Red Crescent Society for undertaking adequate arrangements.

Warning Stage

Publicise warning signals at each of the following specified stages.

- | | | |
|-----|--------------|--------------------------|
| (a) | Warning | 24 hours before |
| (b) | Danger | At least 18 hours before |
| (c) | Great Danger | At least 10 hours before |

The same warning signals are to be repeated to the EOC at the Ministry of Disaster Management and Relief, Control Room of the Disaster Management Bureau, the Directorate of Relief and Rehabilitation, the Cyclone Preparedness Programme and the Bangladesh Red Crescent Society.

The following information should be mentioned in the signals to be disseminated.

- (a) Position of the storm centre
- (b) Velocity and direction of the storm
- (c) Mention of the thanas of the districts likely to be affected, if possible.
- (d) Appropriate time of commencement of gale wind at different places (Velocity above 32 miles/hour or 51.84 km/hour).

In case of danger signals messages are to be sent to the addresses under code name "Hurricane" as per Annexure-A through Fax/telephone/teleprinter or telegraph. In case of great danger signals messages should be sent to the addresses under code name "Typhoon" as per Annexure-A through Fax/telephone/teleprinter or telegraph. For the purpose of Inland Water Transportation, appropriate

separate messages should be sent to addresses mentioned therein through Fax/telephone/teleprinter or telegraph under code name “Water ways and Authority” mentioned in Annexure-A.

Alert/Warning signals should be sent to the concerned authorities for publicity through all centres of Bangladesh Betar and Bangladesh Television.

Rehabilitation Stage

Work in collaboration with the Disaster Management Bureau to perform the following tasks.

- (a) Compare the severity of cyclone with that of warning signal.
- (b) Collect data from affected areas for research purpose
- (c) Obtain opinion of the people about the signals issued.

17 Ministry of Home Affairs

The Fire Service and Civil Defence, Police, Ansar, Village Defence Party, Bangladesh Rifles, Coast Guards all have important role to play in rescue, security, relief operations and information management. These Forces under the control of Ministry of Home Affairs are generally deployed in the affected areas and their services are placed under the control of Deputy Commissioners or Thana Nirbahi Officers.

Ordinarily these Forces will assist the local administration in the preparation of Action Plans, preparedness arrangements and local standing orders. The Ministry will ensure that these agencies play an active role in performing their own responsibilities. The Ministry will regularly review the following disaster related issues of agencies/Forces under its control:

- (a) Action Plan for disasters
- (b) Necessary equipment, transports and other materials to combat disaster.
- (c) Telecommunication facilities in possible disaster affected areas.
- (d) Training in Disaster Management.
- (e) Disaster preparedness drills
- (f) Preparation of the necessary legislation

Besides implementation of normal duties towards combating emergency situations during disaster and of own Action Plans the Secretary will:

Normal Times

- (a) Designate one Liaison Officer in the Ministry as Focal Point and inform all concerned including Disaster Management Bureau (DMB).
- (b) Designate one Liaison Officer to the Control Room of Disaster Management Bureau of the Ministry of Disaster Management and Relief.
- (c) Ensure preparedness steps by concerned people of the agencies under control of the Ministry in the disaster prone area regarding security of wireless equipment, transports, goods and installations.
- (d) Ensure all-out cooperation to the civil authorities by agencies like Police, Ansar, Village

Defence Party, Fire Services and Civil Defence regarding warning and warning signals dissemination, evacuation, rescue and relief activities during disaster emergency and during post disaster period for rehabilitation and maintenance of Law and Order.

- (e) Ensure maintenance of Law and Order in disaster threatened areas during the alert/warning stage, disaster stage and rehabilitation stage.
- (f) Ensure adequate budget provision for the performance of emergency duties as instructed by National Disaster Management Council and Ministry of Disaster Management and Relief.
- (g) Arrange training of officers and staff on disaster management of BDR, Police, Ansar, VDP, Fire Brigade and Civil Defence in disaster prone areas.

Alert and Warning Stage

Ensure readiness of the departments/Forces under the control of the Ministry in threatened areas and ensure implementation of their Action plans in alert/warning stages.

Disaster Stage

- (a) Operate the Control Room in the Ministry
- (b) Designate one Liaison Officer for keeping contact with the EOC at the Ministry of Disaster Management and Relief.
- (c) Collect information on Law and Order situation and issue the necessary instructions.
- (d) Ensure quick mobilization of the BDR, Ansar and Village Defence Party (remain stand-by and move as per government instructions).
- (e) Ensure cooperation and assistance to local administration and concerning BDR, Police, Ansar, VDP, Fire Brigade and Civil Defence to rescue and evacuation of people, animals and birds in shelter/safe places, Killas and high rise lands.
- (f) Ensure round the clock operation of disaster control room in the Head Offices of BDR, Police, Ansar, VDP, Fire Service and Civil Defence and sending of regular information to the EOC at the Ministry of Disaster Management and Relief.
- (g) Keep the subordinate field level Forces active and coordinate with local administration and the Ministry of Disaster Management and Relief.
- (h) Collect loss and damage information from head offices of BDR, Police, Ansar, Fire Brigades regularly and send them to National Disaster Management Council/Inter-Ministerial Disaster Management Coordination Committee/Ministry of Disaster Management and Relief.
- (i) Supervise the field level work of BDR, Police, Ansar, VDP etc.

Rehabilitation Stage

- (a) Evaluate the services rendered, identify deficiency if any and correct it.
- (b) Withdraw BDR, Ansar, VDP quickly after they finish their work relating to disaster.
- (c) Send a detailed report after completion of all works related to rescue, relief and rehabilitation by Police, BDR, Ansar, VDP, Fire Brigade & Civil Defence to National

Disaster Management Council/Inter-Ministerial Disaster Management Coordination Committee and Ministry of Disaster Management and Relief.

17.1 Bangladesh Rifles (BDR)

The Bangladesh Rifles as a part of civil administration can play an important role in combating disasters in far flung areas of the country. They must be called upon to aid of the local civil administration on request. But in far flung areas where it is difficult for civil administration to operate, the concerned BDR sectors will have to combat disaster of their own accord.

The Contingency Action Plan of Bangladesh Rifles will enable all concerned in disaster affected areas to start their activities at the appropriate time.

The members of Bangladesh Rifles will perform their assigned task under the agency/department made responsible to achieve the target as per government directives.

Formation

The concerned sectors will constitute 2 platoons' strength force in the disaster affected areas with the following groups.

- (a) Rescue Team - 1 Platoon strength force
- (b) Evacuation and First Aid Team - 1 section strength with one nursing staff.
- (c) Relief and Rehabilitation Team - 2 sections strength.

Normal Times

- (a) One Liaison Office will be designated as the Focal Point in the Headquarters of the Bangladesh Rifles.
- (b) Impart training to selected persons to combat disaster.
- (c) Prepare a list of disaster prone areas within the areas under of responsibility.
- (d) The distance and means of communication of risk areas should be known to the concerned persons to face loss/damage by floods, cyclone, river erosion, drought etc
- (e) Prepare a list of shelter/safe places, hospitals and food godowns.
- (f) Coordinate wireless communication arrangements situated within the areas most likely to face the brunt of disaster and the capability and assigned responsibility of the other agencies.
- (g) Take advanced preparations for receipt of disaster related alert/warning signals from Bangladesh Meteorological Department (BMD) and other sources.
- (h) Every member of the Force should know the meaning of warning signals.
- (i) Inspire the local population to listen to weather/flood bulletins and to work accordingly.
- (j) Arrange for rehearsals in cyclone/flood measures in association with other agencies in cyclone/flood prone areas and examine the standard of preparedness at all levels. Take protective steps for the security of their own lives, assets, equipment, installations, water

transports and road transports.

- (k) Supply additional wireless sets to BOPs in cyclone affected areas.

Alert and Warning Stage

- (a) Members of the BDR will issue warning notice through Thana administration to local people of areas likely to be affected on the basis of warning/alert signals issued by Meteorological Department/Flood Forecast Centres and broadcast/telecast by Radio/TV.
- (b) Form teams for rescue/relief operations.
- (c) Local BDR Sectors will assist local civil authority in the distribution of necessary transport, fuel, medicine and relief materials to the affected people.
- (d) Sectors will establish contact with local administration and decide to gather/evacuate people and materials for sending to safe places.
- (e) One officer will supervise the work of the teams.
- (f) Keep in touch with the Control Room of BDR Headquarters day and night (24 hours).
- (g) If necessary take any other preparedness steps.
- (h) Gather all members and materials of the Force as far as possible.
- (i) Establish a Control Room at BDR HQ and send one Liaison Officer there to assist local administration in rescue, relief and rehabilitation work and maintain Law and Order strictly in cooperation with police according to work distribution.
- (j) Depending on the gravity of situation, cooperate with the local administration for using wireless facility for contacting local Disaster Management Committee or Ministry of Disaster Management and Relief.
- (k) Alert people at the level of BOP.

Disaster Stage

- (a) After assessment of loss and damage, inform local administration, Disaster Management Bureau and BDR Headquarters.
- (b) Shift injured persons to pre-selected places.
- (c) Retrieve dead bodies and arrange burial.
- (d) Retrieve valuable assets.
- (e) Ensure deployment of concerned teams in their respective areas.
- (f) Ensure performance of duties by concerned teams in their respective areas.
- (g) Arrange for primary medical care to injured persons.
- (h) Assist local administration in evacuation operations.
- (i) Distribute food, drinking water and clothing among the affected persons.

- (j) Send maximum information as far as possible in respect of disaster affected areas to the Control Room of the Bangladesh Rifles.
- (k) Send daily situation report to BDR Headquarters.
- (l) Fix up reserve/additional team if deployment of additional manpower is considered necessary.
- (m) Assist civil administration for keeping law and order in affected areas.
- (n) Issue orders for other works, if necessary.
- (o) Send information relating to disaster from Bangladesh Rifles Headquarters to the EOC at the Ministry of Disaster Management and Relief with copy to Ministry of Home Affairs.
- (p) Alert people at BOP level.
- (q) Arrange to keep maximum number of teams in the sector.
- (r) Maintain wireless communication between BOP battalion and Sector Headquarters.

Rehabilitation Stage

- (a) Help local people for quick construction/reconstruction of houses for shelter.
- (b) Help local administration in distribution of relief among affected people.
- (c) Coordinate with and assist in mass vaccination programmes in affected areas.
- (d) Ensure receipt of relief materials without any hindrance to affected people.
- (e) Submit detailed report of activities on relief and rehabilitation to the Ministry of Home Affairs.

Operational procedure for the sectors in areas other than sea coasts.

Location

- | | | |
|--------------------------|---|--|
| (i) Rajshahi Sector | : | This sector is located in Rajshahi city |
| (ii) Rangpur Sector | : | This sector is located in Rangpur town |
| (iii) Dinajpur Sector | : | This sector is located in Dinajpur town |
| (iv) Mymensingh Sector: | | This sector is located in Mymensingh town. |
| (v) Sylhet sector | : | This sector is located in Sylhet town |
| (vi) Comilla Sector | : | This sector is located in Comilla town |
| (vii) Rangamati Sector : | | This sector is located in Rangamati town. |
| (viii) Dhaka Sector | : | This sector is located in Dhaka town. |
| (ix) Kushtia Sector | : | This sector is located in Kushtia town |

Duty

Train up the additional manpower and members of Bangladesh Rifles and keep them in preparedness for rendering assistance to district and concerned authorities for relief and rehabilitation work as per their advice at the time of disaster.

17.2 Bangladesh Police

Because of their presence all over the country, besides playing very important role in all places of disaster response, Bangladesh Police will perform the following duties under the Standing Orders.

Normal Times

- (a) Designate one Liaison Officer in the Directorate as the Disaster Management Focal Point
- (b) Impart training to the members of Police Force in first aid, evacuation, rescue and relief operations.
- (c) Identify the 'High Risk' and 'Risk' areas for cyclone/floods and other disasters and instruct the existing police installations located in those areas for keeping themselves in readiness for undertaking emergency rescue, evacuation and relief operations.
- (d) Coordinate the wireless frequency of Bangladesh Police with the wireless network of Bangladesh Rifles, Bangladesh Water Development Board, Ministry of Disaster Management and Relief, Bangladesh Red Crescent Society, Disaster Management Bureau, Bangladesh Railways, Cyclone Preparedness Programme (CPP), BIWTA and BIWTC etc.

Alert and warning stage

- (a) Establish the Disaster Control Room at Headquarters, Range and District level.
- (b) Designate one Liaison Officer for keeping contact with the Control Room of the Ministry of Disaster Management and Relief.
- (c) Issue cautionary instructions to all concerned.
- (d) Keep appropriate connections with the police installations in areas likely to be affected by disaster.
- (e) Fix up road and water transports and keep them in readiness for movement towards affected areas at short notice.
- (f) Keep direct contact with different levels of officials like Divisional Commissioner, Deputy Commissioner, Thana Nirbahi Officer, Chairman and others and cooperate with local administration and local Disaster Management Committee for taking any steps to combat any situation.
- (g) Instruct all concerned to accord priority to disaster related wireless messages if require by any appropriate official.

Disaster Stage

- (a) On receipt of directives from the appropriate authority for evacuation, organize in close cooperation with local people, agencies, and local administration the endangered people for evacuation and undertake evacuation operations.
- (b) Mobilize reserve police force to the affected areas if required as soon as such mobilisation is possible, maintain effective law and order and safety of the evacuated people.
- (c) Keep close watch on any criminal and anti-state activity in the area and take stern measures, if necessary.

Rehabilitation Stage

- (a) Arrange security of government property and installations damaged in the disaster.
- (b) If necessary, arrange for control of transports in areas around damaged roads, bridges etc.
- (c) Assist the local administration/local agencies in the rescue operations of stranded people and in the burial work of dead human bodies and carcasses after discovery.
- (d) Render emergency assistance and first aid to injured persons and disaster affected people.
- (e) If necessary assist local administration in the establishment of relief shelter places.
- (f) Assist the local administration in putting a stop to theft and misuse in relief operations, especially relief materials.
- (g) Participate in reconstruction and rehabilitation work until return of normalcy.

17.3 Ansar and Village Defence Directorate

Because of their existence all over the country, Ansar and Village Defence Party (VDP) can play an important role in Disaster Preparedness and post disaster periods. Their disaster related activities include publicity of warning signals, rescue, evacuation, security, law and order and rehabilitation operations.

Normal Times

- (a) Impart Training to members of Ansar and VDP on their allotted duties in respect of Warning/Alert signal, evacuation, rescue, first aid, relief and rehabilitation.
- (b) The Ansar and Village Defense Party company is to be divided into following platoons for their engagement in disaster and relief work.
 - (i) Shifting and Rescue Platoon
 - (ii) Relief Platoon
 - (iii) Reconstruction Platoon
 - (iv) First aid Platoon
- (c) Arrange basic and refresher training to company/platoons cited at (b) above .
- (d) Arrange cyclone rehearsals before cyclone season in all cyclone prone areas every year in April and September as per the instructions of Deputy Commissioner.
- (e) Issue instructions to Ansar and VDP units at all levels for informing about the above Standing Orders.
- (f) Maintain contact with Disaster Management Bureau, Deputy Commissioner, CPP, Bangladesh Red Crescent Society and Thana Nirbahi Officer/Chairman for coordination of the work in which participation of Ansar and VDP is necessary.
- (g) Identify shelter places for people and livestock and keep contact with CPP, volunteers and local people for coordination on proper allocation of duties.
- (h) Earn confidence of the people of coastal areas and offshore islands through publicity of cyclone warning signals.
- (i) Assist Thana and Union Parishad in the maintenance of earthen mounds and cyclone shelters to ensure their use as shelter places.

- (j) Ansars should remain ever ready to participate in evacuation operations as per directives issued through Bangladesh Betar or by any other authority in cooperation with local Disaster Management Committee.
- (k) The District and Assistant Adjutant of Ansars should keep close contact with District and Thana police, Red Crescent, Fire Services and Civil Defence and organize preparedness programmes for fighting cyclone/flood situations.
- (l) The District Adjutant of Ansars should make sure that all officials will be visiting the disaster prone areas as frequently as possible and that they are familiar with the environment, communications etc of those areas.

Alert and Warning Stage

- (a) Open the Control Room in the Directorate Headquarters and issue cautionary instructions to all concerned.
- (b) Ensure dissemination of cautionary instructions to community level as quickly as possible.
- (c) Warn the Ansar and VDP companies.
- (d) Keep contact with Deputy Commissioner, Thana Nirbahi Officer, Union Parishad Chairman and other concerned government offices/agencies for proper coordination.

Disaster Stage

For Cyclone

- (a) Visit every house in areas under threat to be hit by cyclone if possible and inform threatened people quickly about danger signal.
- (b) Evacuate people in danger to safer place on the instructions of the appropriate authority.
- (c) Guard residential houses of evacuated people to take security measures if possible.
- (d) Arrange service and Law and Order in cyclone shelter or places where people have been evacuated under orders of the appropriate authority.

For Floods

- (a) All officials should contact the local administration for orders and reach the place of occurrence in disaster affected areas instantaneously if ordered by Deputy Commissioner/Thana Nirbahi Officer.
- (b) Local Ansar platoons under the command of officer/platoon commander will bury the dead bodies and carcasses as well as undertake rescue operations.
- (c) Distribute relief materials among the affected people sincerely. Also keep watch on the safety of assets of people evacuated elsewhere from their residence.
- (d) Those who are trained in vaccination against epidemic should immediately start vaccination work in association with Health Department.
- (e) Prepare and dispatch a report of the flood loss and damage and epidemic.
- (f) Take necessary steps for control of crime in affected areas in association with the police.

Rehabilitation Stage

- (a) Report to the local administration for duty in groups by going to the affected area.
- (b) Assist the local authority if required in rescuing stranded distressed people and bringing them to relief shelters.
- (c) Assist the local administration with enforcing discipline in relief shelter places.
- (d) Assist the local people and administration with providing relief and medical care to distressed people.
- (e) Ensure prevention of deterioration of health and sanitation conditions in affected areas and assist in the burial of carcasses.
- (f) Assist the distressed people in reconstruction of their houses or in any other work being imbued with the idea of self help and mutual assistance.
- (g) Assist local authority in compiling correct report of loss and damage.
- (h) Participate in any long-term rehabilitation programme including agri-rehabilitation under implementation by government or any other agencies.

17.4 Fire Service and Civil Defence Directorate

The Fire Service and Civil Defence Directorate will prepare and implement the following:

Normal Times

- (a) Designate One Liaison Officer as Focal Point and inform all concerned.
- (b) Contact voluntary social welfare agencies, educational institutions etc and enlist volunteers and train them to combat cyclone, floods, fire and other disasters.
- (c) Train up volunteers (in coordination with CPP, Bangladesh Red Crescent Society, local administration and Police Directorate) for implementation of coordinated Action plan regarding safety of assets and food godowns, evacuation and rescue of people and livestock, and relief and rehabilitation related work at normal, disaster and rehabilitation stages.
- (d) Prepare a list of trained people with their addresses and keep them update
- (e) Collect equipment and relief materials and store them at pre-selected places.

Alert and Warning Stage

- (a) After receipt of the warning signal, alert all units of Fire Service and Civil Defence for taking steps and keep them on standby.
- (b) Arrange drill for fire extinguishing, rescue, evacuation and transportation of injured persons and prepare coordinated Action Plans in cooperation with District/Thana administration and concerned local agencies.
- (c) Coordinate activities by keeping close contact with the local administration, police, Red Crescent and other Welfare agencies.

Disaster Stage

- (a) Establish Control Room at Headquarter, Division and District level, contact the Divisional Commissioner, Deputy Commissioner, Thana Nirbahi Officer and concerned Disaster Management Committee and work as per their directives.
- (b) As soon as the disaster has occurred, the local units of Fire Service and Civil Defence at District and Thana level of affected areas should immediately contact the local administration and obtain instructions for carrying out disaster relief operations.
- (c) All volunteers of the Directorate should assemble at the nearest Fire Service and Civil Defence station.
- (d) All workers of Fire Service and Civil Defence should immediately deploy to the affected areas and with the assistance of local authority perform the work of fire extinguishing, rescue, First aid, evacuation, transportation of injured persons, pumping out water from food godowns etc.
- (e) If required, the senior most officer will increase the strength of the service by bringing workers from less affected areas.
- (f) The senior officer will supervise the work of his services and extend cooperation and coordination with other services working in the affected areas. All other offices of the Directorate will cooperate with him.
- (g) Keep the local control room informed about the progress of work.
- (h) Assemble the volunteers and assign tasks suitable to individuals.
- (i) Remain active for fighting anti-social work and assist the police.

Rehabilitation Stage

After completion of emergency operations, the workers of the Fire Service and Civil Defence will take up responsibility of the following post disaster relief and rehabilitation work with the assistance of the local administration and other welfare agencies.

- (a) Take care of affected people and provide food, shelter and services.
- (b) Retrieve Government and personal property.
- (c) Repair damaged houses.
- (d) Dismantle unsafe buildings and construction frame works.
- (e) Supply pure drinking water.
- (f) Remove garbage and bury or remove dead bodies and carcasses with the help of Union Parishad and/or Anjuman-e-Mafidul Hasan or Anjuman-e-Mufidul Islam or any other similar agency.
- (g) Give mass vaccination.
- (h) Give relief materials to the affected people and assist in their rehabilitation.

- (i) Search for lost people and reunite them with their respective family.
- (j) Establish information centre.

18. Ministry of Communications

18.1 Roads and Railways Division

18.2 Jamuna Bridge Division

It is the responsibility of the Ministry of Communications to maintain uninterrupted communication specially to maintain railway connections to nearest railways in disaster prone areas for transportation of food and relief materials. Under the Standing Orders the roads and railways division and Jamuna Bridge Division of the Ministry will perform the following duties.

18.2.1 Bangladesh Railway Authority

Normal Times

- (a) Designate one Liaison Officer of the authority as the Focal Point and inform all concerned.
- (b) Issue disaster management guidelines to all railway authorities.
- (c) Review the current emergency plans in the light of past disasters.
- (d) Coordinate the security measures with Bangladesh Water Development Board, Roads and Railways Division, Jamuna Bridge Division, Ministry of Water Transport and the Ministry of Energy and Mineral Resources.
- (e) Repair railway lines, raise railway embankments and strengthen railway culverts and bridges.
- (f) Issue directives to concerned railway authority for patrol guards at weak points of railway lines during emergency.

Alert and Warning Stage

- (a) Establish Control Room in Railway Headquarters.
- (b) Issue cautionary instructions to railway Districts of those areas likely to be hit by disaster.
- (c) Designate Liaison Officer for keeping contact with the EOC at the Ministry of Disaster Management and Relief.
- (d) One suitable officer will send an emergency message relating to disaster to railway authority through railway communication network.
- (e) Keep revised timetable of railway services ready in case of danger due to disaster.
- (f) Stock construction materials for repair of railway lines and bridges.

Disaster Stage

- (a) Inform National Disaster Management Council/Inter-Ministerial Disaster Management Coordination Committee and the Ministry of Disaster Management and Relief on the basis of information collected through railway channels.

- (b) Strengthen guarding and inspection of railway bridges and lines.
- (c) Assist and advise the concerned authority regarding maintaining traffic and relocating of such traffic in the interest of security.
- (d) Take appropriate steps for the protection of stored items, equipment, implements, rolling stock and railway engines against loss or destruction.
- (e) Ensure arrangements for evacuation of affected people to railway stations.

Rehabilitation Stage

- (a) Arrange survey of railway assets
- (b) Assist concerned authority for assessment of loss incurred by affected people due to disaster and of their requirements.
- (c) Send list of overall loss and damage to the EOC at the Ministry of Disaster Management and Relief for the information of National Disaster Management Council/Inter-Ministerial Disaster Management Coordination Committee.
- (d) Repair damage to railway lines and restart disrupted railway services as soon as possible.
- (e) Assist the local authority with rescue, relief and rehabilitation programmes.
- (f) Assemble adequate materials for return of normal condition in case of damage to important junction stations and installations.
- (g) Arrange for sending food grains and other relief materials on priority basis according to necessity.

18.2.2 Bangladesh Road Transport Authority

Protection of uninterrupted road transportation is of special importance in any disaster situation for the transportation of relief workers and materials. To ensure this, under the Standing Orders, Bangladesh Road Transport Authority will perform the following duties.

Normal Times

- (a) Designate one Liaison Officer in the office as the Focal Point.
- (b) Issue appropriate guidelines for all concerned within the Authority for protection of essential road transports.
- (c) Ensure sufficient budget provision for repair and maintenance of bridges, culverts, roads and embankments so that they can withstand the pressure of tidal bore or flood waters after severe cyclone.
- (d) Review emergency preparedness measures in the light of past experience.

Disaster Stage

- (a) Open the Control Room day and night on full time basis (24 hrs)

- (b) Maintain full time link with the EOC at the Ministry of Disaster Management and Relief.
- (c) Send important information received through own channel to Inter-Ministerial Disaster Management Coordination Committee/Ministry of Disaster Management and Relief.
- (d) Strengthen patrol duty on important bridges and roads.
- (e) Repair roads if road communication is snapped and conduct transports through alternative roads.
- (f) Assemble all possible materials for repair of roads and bridges and send to the affected areas as early as possible.
- (g) Arrange for any other activity if considered necessary.

Rehabilitation Stage

- (a) Create alternative route immediately if road becomes unserviceable.
- (b) Start repairing and reconstruction work of damaged/destroyed roads and bridges immediately.
- (c) Give priority to transports carrying relief workers and relief materials.
- (d) Assess the extent of damage to roads, bridges and culverts and send reports to National Disaster Management Council/Ministry of Disaster Management and Relief and, if necessary, ask for additional funds to meet the emergency situation.
- (e) Make all efforts for maintaining communication on temporary and permanent basis and continue them for the purpose of socio-economic development of the affected areas and for the welfare of cyclone/flood affected people.

18.2.3 Bangladesh Roads and Highways Directorate

The Chief Engineer of Roads and Highways Directorate and all offices under him (as per delegation of powers) will perform the following duties in addition to normal duties and own directorate's work plan and implementation thereof.

Normal Times

- (a) Issue instructions to all levels of officials of the Roads and Highways Directorate for the maintenance of road and ensure maintenance programme of important road communications uninterruptedly.
- (b) Repair the weak points of the road network in disaster prone areas and maintain them in satisfactory condition.
- (c) Strengthen the roads and embankments, light bridges and culverts, so that they can withstand the tidal bore/high floods whipped up by cyclone.
- (d) Review the current emergency schemes twice a year in the light of past experience and strengthen the disaster preparedness.
- (e) If necessary, issue directives for the construction of link roads and temporary bridges and for starting ferry services.

- (f) Arrange patrol duty on important embankments, bridges and roads which are likely to be damaged in cyclone/tidal bore/floods.
- (g) Keep all equipment for road building ready for emergency repair works.

Alert and Warning Stage

- (a) Designate one Liaison Officer for maintaining link with the EOC at the Ministry of Disaster Management and Relief.
- (b) If necessary, assemble transports and maintenance equipment and send them to important installations.
- (c) Protect the infrastructure, construction materials, equipment, stores etc against loss and damage and destruction.
- (d) If necessary, plan alternative roads for transportation.

Disaster Stage

- (a) Operate Control Room round the clock (24 hrs)
- (b) Maintain full time link with the EOC at the Ministry of Disaster Management and Relief.
- (c) On receipt of any important information through its own channel, inform National Disaster Management Council and Disaster Management Bureau.
- (d) Strengthen patrol duty on important bridges and roadways.
- (e) Arrange transportation through alternative roads in the event of disruption of normal road communication.
- (f) Take appropriate steps for the security of ferry equipment, stores and installations in disaster prone area.
- (g) If necessary, take any other steps.

Rehabilitation Stage

- (a) Repair and reconstruct immediately damaged/destroyed roads and bridges.
- (b) Construct alternative roads for return of normalcy to the communication system.
- (c) Give priority to transports carrying relief workers and materials and other essential stores.
- (d) Collect information on loss/damage and quantify them and send reports to National Disaster Management Council/Ministry of Disaster Management and Relief and if necessary, ask for additional funds to meet the emergency situation.
- (e) Make all efforts and continue them for keeping road communications intact on temporary and permanent basis for the welfare of the distressed people and for socio-economic development in these areas.

18.2.4 Bangladesh Road Transport Corporation

Bangladesh Road Transport Corporation will perform the following disaster related activities in addition to normal duties:

- (a) According to government directives, arrange transports in the areas having road communications for evacuation of the people.
- (b) Extend all cooperation to local administration for rescue, evacuation, relief and rehabilitation work.
- (c) Provide truck fleet, on receipt of government orders, for transportation of relief materials, utensils and house building materials to the affected areas.

19. Ministry of Shipping

In addition to performance of normal duties and responsibilities during disaster, this Ministry will have to play an important role and in that eventually the main work of this Ministry will be to ensure assembling and placing into service, at short notice, the water transports of Shipping Directorate, BIWTA, BIWTC and private owners of disaster affected areas as per requirement of the Ministry of Disaster Management and Relief and other government agencies.

Normal Times

- (a) Designate one Liaison Officer as the Focal Point in the Ministry.
- (b) Maintain the list of ships/vessels of BIWTA, BWTC and private owners. In this list names of owners and addresses will be mentioned so that these can be requisitioned at short notice. These ships and vessels should be principally used for the following duties:
 - (i) Evacuation of people prior to disaster.
 - (ii) Evacuation of marooned and distressed people and livestock.
 - (iii) Transportation of food grains from food godowns.
 - (iv) Transportation of relief materials, medical supplies and people engaged in relief work.
 - (v) Maintain communication systems and reestablish the same where it has been snapped.
- (c) Construct jetties in all islands and maintain water channels so that the ships employed in rescue and relief work can reach the islands.
- (d) Undertake dredging of river ways regularly and remove blockades to waterways so that the ships/vessels can ply easily for the purpose of evacuation, rescue, and relief work.

Alert and warning stage

- (a) Establish the Control Room after receipt of warning signal and appoint staff
- (b) Designate one Liaison Officer for keeping link with the EOC at the Ministry of Disaster Management and Relief.
- (c) Maintain link with BIWTA, BIWTC and all ports.
- (d) On receipt of warning signals pursuant to forecast, select places with easy communication for identification of stations at positions nearest to these places and after collecting the ships from the areas likely to be affected, shift them to safer place.
- (e) Arrange to requisition private water transports through appropriate authority, if required.

- (f) Alert all stations and subordinate offices to take appropriate preparations.
- (g) Assist in the shifting operations of population/livestock to safer places according to government decisions.
- (h) Coordinate with local authority and other Ministries and assist them in evacuation, rescue and relief operations in all possible ways.
- (i) Keep ready emergency repair teams with required implements/materials in fast moving water transports and at port.
- (j) Ensure safe transportation of water vessels.
- (k) Ensure running of ferry services efficiently.
- (l) Fix up available coasters for transport of relief and emergency food materials.
- (m) Instruct Port Authority to accord priority to arrival of vessels carrying relief and food materials to port jetty and delivery of their cargo.
- (n) Ensure quick repair of ships damaged in disaster and easy supply of POL.
- (o) Take up security steps for own installations, stores, equipment etc and shift transportable stores, installations and equipment to safer place.
- (p) Send daily reports to the EOC at the Ministry of Disaster Management and Relief about information received through own channels regarding cyclone situation and all actions.
- (q) Keep ship/water transports at earmarked stations outside affected areas, if necessary and shift them to safer places if required. In this respect, establish prior coordination with other Ministries and local government officials.

Disaster Stage

- (a) Operate the Control Room round the clock (24 hrs).
- (b) Ensure the availability of ships in affected areas and engage them according to necessity of local civil authority, Ministry of Disaster Management and Relief and other government agencies.
- (c) Send ships to affected areas from other places, if required.
- (d) Take up steps for rescue of own installations; stores and equipment from affected areas.
- (e) Direct the concerned port authority for speedy delivery of relief and food materials received as grant or imported from foreign countries.
- (f) Quantify loss/damage of own assets and prepare estimates and arrange for their reconstruction/repair.
- (g) Ensure speedy repair and easy supply of POL for ships damaged in the disaster.

Rehabilitation Stage

- (a) Reinstall water communication in affected area.
- (b) Continue all efforts for relief and rehabilitation programmes.

- (c) Fix up BIWTC owned vessel for transportation of relief and food materials received from foreign countries under import or grant and chartered vessels of chartering committee to meet the internal demand and issue necessary instructions to them.
- (d) Keep ready vessels/water transports anchored at stations in unaffected areas for proceeding towards affected areas if necessary. In this respect coordinate with other Ministries and local government officials.

19.1 Bangladesh Inland Water Transport Corporation (BIWTC)

Besides normal work of the corporation BIWTC will perform the following duties:

Normal Times

- (a) Designate a Liaison Officer as the Focal Point in the corporation for disaster related issues.
- (b) Provide all water transports and facilities for requisition by the government for evacuation of population before disaster.
- (c) Provide water transports on requisition for evacuation of marooned and affected people and livestock.
- (d) Give water transports on requisition for following purposes:
 - (i) To bring foodgrains to food godowns and to dispatch from the godowns.
 - (ii) to shift relief materials, medical supplies and workers engaged in relief works from one place to another.
 - (iii) to maintain communication link and reinstate the same at place where it has been snapped.
- (e) Provide ferry service, if necessary, for quick dispatch of relief materials for relief operations.
- (f) Assist in requisitioning privately owned water transports.

Alert and Warning Stage

- (a) Establish the Control Room at the BIWTC Headquarters and maintain communication through own network, with field level offices/officials/Committee.
- (b) Designate one Liaison Officer for maintaining link with Ministry of Shipping, Ministry of Disaster Management and Relief and Disaster Management Bureau.
- (c) Once the cyclone warning has been received, select one port nearest to the area likely to be affected by disaster, which is safe and easily accessible and assemble there the water transports from threatened area.
- (d) Establish a link with all ports and alert all subordinate offices, take protective actions for the security of own installations, stores, equipment and shift similar transportable stores, installations and equipment to safer place.
- (e) Keep ready emergency repair team with equipment and materials in water transports,

capable of plying with speed and at all ports.

- (f) Keep ships stand-by for evacuation of people to nearest safe places.
- (g) Coordinate with the local authorities and assist the government, if required, in evacuation, rescue and relief works.
- (h) Maintain safe operation of water transports and ferry services.
- (i) Fix up required number of BIWTC Coasters for transportation of relief and emergency food supplies.
- (j) Send daily reports of cyclone situation and other activities received from own source to the EOC at the Ministry of Disaster Management and Relief with copy to Ministry of Shipping.
- (k) Keep ship/water transport stand-by at prefixed stations in unaffected areas and if necessary take them to convenient places for evacuation, rescue and relief operations in coordination beforehand, with the Ministry of Shipping, Ministry of Disaster Management and Relief and local government officials.

Disaster Stage

- (a) Operate the Control Room on a full time basis (24 hrs)
- (b) Ensure safety of ships in the affected areas and employ them as per requirement of local civil authority, Ministry of Disaster Management and Relief and other government agencies.
- (c) If necessary, send ships from other stations to the affected areas.
- (d) Take steps to secure own installations, stores and equipment of the affected areas.
- (e) Arrange for quick repair of damaged ships and for easy supply of POL.

Rehabilitation Stage

- (a) Render all help to relief and rehabilitation operations.
- (b) Direct BIWTC ships and vessels hired by them for transportation of relief and food materials.
- (c) Make all arrangements for the assessment of damage to BIWTC installations, equipment and ships due to disaster and take all steps for recouping the loss and restaging normal activities.

19.2 Bangladesh Inland Water Transport Authority (BIWTA)

In addition to normal activities, BIWTA will perform the following duties:

Normal Times

- (a) Identify one Liaison Officer in BIWTA as the Disaster Management Focal Point for disaster related issues.

- (b) Participate in the meeting of Disaster Management Committee and assist in project preparation for rescue, relief and rehabilitation operations.
- (c) Take security steps for protection of own ships, shore facilities, signals, waterway marks, lighthouse and buoys.
- (e) Make arrangement for waterway marks, signals, buoys, lighthouses and regular dredging work along with coast for improvement of water communications and maintain them.
- (e) Strengthen the rescue naval fleet and keep it ready with appropriate equipment at safe port.

Alert and Warning Stage

- (a) Open one Control Room at BIWTA Headquarters and appoint workers.
- (b) Identify one Liaison Officer for keeping contact with EOC at the Ministry of Disaster Management and relief, Ministry of Shipping and BIWTC.
- (c) Alert all concerned of subordinate offices and installations for necessary preparedness.
- (d) Arrange for rescue team with required equipment and materials and keep them in readiness.
- (e) Take protective steps for the safety of own installations, stores, equipment etc and if necessary shift transportable stores, installations, materials to safer place.
- (f) Send regular reports about damage/loss and reconstruction to Inter-Ministerial Disaster Management Coordination Committee/Ministry of Disaster Management and Relief with copy to the Ministry of Shipping.

Disaster Stage

- (a) Operate the Control Room round the clock (24 hrs)
- (b) Coordinate activities with the local authority and extend necessary assistance for safe waterways for ships and water transports in the interest of evacuation, rescue and relief operations on emergency basis.
- (c) Arrange rescue fleet armed with adequate equipment and keeps them stand-by at safe stations nearest to affected area.

Rehabilitation Stage

- (a) Quantify loss/damage of own jetty, stations, installations etc and prepare estimates and arrange for their reconstruction/repair.
- (b) Send regular reports of loss/damage and rehabilitation/ reconstruction to Inter-Ministerial Disaster Management Coordination Committee and Ministry of Disaster Management and Relief with copy to Ministry of Shipping.
- (c) Prepare schemes for short/long term repair/reinstallation of direction indicative buoys and light houses and also prepare estimates of funds for their implementation.
- (d) Arrange for the retrieval of sunken vessels and reinstall the separated coastal line

indicators on emergency basis for the sake of quick transportation of relief materials.

- (e) Send detailed report after completion of relief and rehabilitation operations, to National Disaster Management Council/Ministry of Disaster Management and Relief and Ministry of Shipping.

19.3 Department of Shipping

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- (a) Designate one Focal Point in the Ocean Transport Directorate.
- (b) Help the Ministry of Shipping in the preparation of the list of privately owned ships with their names and addresses specially those water transports of affected area and the information about their owners.
- (c) Help in requisitioning the privately owned water transports.
- (d) Continue all efforts for relief and rehabilitation operations.

20. Ministry of Housing and Public Works

In addition to normal duties and appropriate implementation of Ministry's work plans the Secretary of the Ministry of the Housing and Public Works will ensure implementation of the following in the most effective way as per Standing Orders.

Normal Times

- (a) Designate one Liaison Officer in the Ministry as the Disaster Management Focal Point
- (b) Participate in all Disaster Management Committees from national up to Thana level for planning, rescue, evacuation and rehabilitation work.
- (c) Take precautionary steps for the protection of government property against possible loss and damage during disaster.
- (d) Coordinate disaster management activities with concerned Ministries and local authorities.

Alert and Warning Stage

- (a) Issue cautionary instructions to all concerned.
- (b) Set up Control Room in the Ministry.
- (c) Designate one Liaison Officer for keeping link with the EOC at the Ministry of Disaster Management and Relief as well as with the Disaster Management Bureau.
- (d) Instruct all officials at District and Thana levels for keeping manpower and materials prepared for protection and repair of government property.
- (e) Protect all government stock, materials etc and ensure their safety by shifting them to safer place, if necessary.

- (f) Direct public works Directorate to send necessary workers and materials from other areas to areas likely to be affected for fighting emergency situations.
- (g) Keep link with local authority and coordinate activities of all programmes.

Disaster Stage

- (a) Place workers in the Control Room and keep in touch with the EOC at the Ministry of Disaster Management and Relief and also with the Disaster Management Bureau to know the extent of damage to infrastructure.
- (b) If necessary, direct the Public Works Department for taking up strengthening and repair work on emergency basis in threatened areas.

Rehabilitation Stage

- (a) Coordinate with concerned other Ministries and local authorities in all rehabilitation programmes.
- (b) Prepare detailed programmes with estimates for protection of government property in case of similar disasters in future and submit it to appropriate authority.
- (c) Arrange technical assistance and supervision for reconstruction works as per request.

20.1 Public Works Directorate

In addition to normal duties and implementation of its own Action Plan, the Public Works Directorate will perform the following duties at Headquarters and through its subordinate offices at Region, District and Thana levels as per departmental delegation of powers.

Alert and Warning Stage

- (a) Establish the Control Room to keep in touch with field level offices and the local Disaster Management Committee.
- (b) Alert all concerned after receipt of cautionary signals.
- (c) Keep manpower and materials ready for protection and repair of government property.
- (d) Protect all government stock and ensure their security by shifting them to safer place, if necessary.
- (e) If necessary, send materials and workers from other places to areas likely to be affected, for meeting emergency situation and keep Headquarters and concerned local Disaster Management Committee informed about it.

Disaster Stage

- (a) Coordinate with all activities by keeping in touch with local administration and assist in the evacuation, rescue and relief operations.
- (b) Assess loss and damage and prepare estimates for repair and reconstruction and arrange funds for it.
- (c) Assist in rescue work of people in distress.

- (d) Participate, if necessary, for shifting of stock/property.

Rehabilitation Stage

- (a) Start as quickly as possible repair and reconstruction work of government property damaged in the disaster.
- (b) Arrange repair and reconstruction works immediately and prepare long term perspective of damaged government property.
- (c) Coordinate with local administration and authorities in relief and rehabilitation work.
- (d) Prepare detailed programmes, work plans and estimates for protection of government property in similar disaster in future and submit them to appropriate authority.
- (e) If necessary, extend technical assistance and supervision to reconstruction work.

21. Ministry of Social Welfare (Including Social Service Directorate)

The Secretary of the Ministry of Social Welfare will perform the following duties in addition to normal duties and implementation of the Ministry's own work plans.

Normal Times

- (a) Ensure preparation of own disaster preparedness plans (contingency plan) by all concerned agencies subordinate to the Ministry.
- (b) Designate one Liaison Officer in the Ministry as the Disaster Management Focal Point.
- (c) Form volunteer groups through the Directorate of Social Service and train them in disaster management programmes and keep the volunteer groups ready with necessary stock and implements.
- (d) Review annually the disaster preparedness plans with the concerned Social Welfare office and coordinate own work plans with all level administrative authority.
- (e) If disaster occurs, organize social welfare workers area wise for work.

Alert and Warning Stage

- (a) Keep in full time (24 hrs) touch with all concerned and keep the Ministry of Disaster Management and Relief informed about the main events.
- (b) Designate one Liaison Officer for keeping link with the EOC at the Ministry of Disaster Management and Relief and also with the Disaster Management Bureau.
- (c) On orders of appropriate authority, assist the local administration through own field officers and agencies for alerting people in disaster preparedness.

Disaster Stage

- (a) Through Social Service Directorate, engage social workers where necessary for the care of the people and render immediate assistance.

- (b) Operate the Control Room and keep in touch with the Disaster Management Bureau and the EOC at the Ministry of Disaster Management and Relief.
- (c) Conduct rescue and relief work and assemble workers and volunteers for survey of loss and damage.

Rehabilitation Stage

- (a) Participate in rescue, relief and rehabilitation work programmes.
- (b) Strengthen vocational training programmes for the landless families living near embankments.
- (c) Expand other authority works in affected areas.
- (d) Assist local authority in organising and operating relief centers.
- (e) Assist in the implementation of the programmes of the government and local authorities for rehabilitation of the affected people and continue all efforts until the return of normalcy.
- (f) Give maximum care for the orphanages in the affected areas and give medical care to the orphans and get them admitted in the orphanages.
- (g) Prepare a practical plan for socio-economic rehabilitation of the disabled, widows and children and submit to the competent authority.

22. Ministry of Local Government, Rural Development and Cooperatives.

22.1 Local Government Division

Besides normal functions and implementation of its of own Action Plans, Local Government Division will perform the following duties:

Normal Times

- (a) Designate one Liaison Officer in the Local Government Division as the Disaster Management Focal Point
- (b) Encourage local government agencies for building roads, bridges and culverts for communication to cyclone shelters and growth centers
- (c) Encourage concerned local government and agencies for the construction of fortified earthen mounds and helipads in off-shore islands, union parishad compounds in coastal areas and Thana Headquarters
- (d) Encourage the people of cyclone prone areas to construct at least one brick build residential building with one small room. Advise people to keep the foundations of their residence above flood level
- (e) Advise Union Parishads to coordinate their activities with those of Village Defence Party, Ansar, Family Planning Worker, Agriculture/Livestock/Fishing/ Education Department employee, NGO and CPP volunteers
- (f) Ensure storage of emergency supplies by relief authority and other agencies at Thana level and rescue materials at Union Parishad Headquarters

- (g) Organise necessary public health engineering units at all levels
- (h) Prepare maps showing population concentration and deep wells, protected pond and other sources of drinking water
- (i) Ensure reserve stock of tube wells and spare parts

Alert and Warning Stage

- (a) Establish one Control Room in the Local Government Division
- (b) Designate one Liaison Officer to keep in touch with the EOC at the Ministry of Disaster Management and Relief and the Disaster Management Bureau.
- (c) Alert all concerned about cyclone/flood disaster.
- (d) Ensure formation of committee for rescue, relief and rehabilitation work and village volunteer team.
- (e) Ensure necessary coordination with all concerned Ministries/relief agencies.
- (f) Fix up cyclone shelters, fortified earthen mounds, high lands, private building, schools and safe high lands for sheltering people and livestock in cyclone/flood prone areas.

Disaster Stage

- (a) Ensure operation of the Control Room round the clock (24 hrs)
- (b) Ensure operation of Disaster Management Coordination Committees at various levels.
- (c) Ensure evacuation of the population on receipt of orders for such evacuation.
- (d) Engage one Thana level officer for looking after administrative works of every cyclone shelter.
- (e) Ensure availability of drinking water at times of need.
- (f) Keep in touch with local administration on whole time basis.
- (g) Direct local government institutions for extending assistance to the Deputy Commissioner and the Thana Executive Officer for rescue and relief operations.
- (h) Ensure availability of repair workers for emergency repair of damaged tube wells in every affected Thanas. Send technicians from unaffected areas to the affected areas.

Rehabilitation Stage

- (a) Quantify the loss/damage
- (b) Assist rescue and relief operations at all levels.
- (c) Organise reconstruction of damaged houses on self help basis with local assets and materials received from the government.

- (d) Arrange repair and re-sinking of tube-wells through the Public Health Engineering Department.
- (e) Take up repair/reconstruction work of small roads, culverts and bridges damaged by cyclone/flood.
- (f) Ensure cooperation among Union Parishad/Thana Parishad/Municipal Corporation and Town Committees for keeping the price of essential commodities stable.
- (g) Direct Public Health Engineering Department for preparation of schemes for sinking of deep and shallow tube-wells in cyclone prone areas soon after the occurrence of disaster and arrange fund for the purpose.
- (h) Direct the Local Government Engineering Department for preparation of schemes for small roads, bridges, culverts in cyclone/flood prone areas and community centres like shelter places in disaster prone coastal areas and arrange funds for such programmes

22.1.1 **Local Government Engineering Department (LGED)**

Besides normal duties and implementation of its own Action Plans (contingency plans), the Local Govt. Engineering Department and the Engineers of cyclone prone Thanas will be responsible for the following works in their respective areas subject to their own delegation of powers.

Normal Times

- (a) Designate one Liaison Officer in the Local Government Engineering Department as the Disaster Management Focal Point
- (b) Repair and maintain small roads, bridges and culverts for communication to cyclone shelters, educational institutions, community centres and health centres for the purpose of providing easy communication for evacuation and security during disaster.
- (c) Draw up plans of feeder roads, bridges and culverts and complete their construction keeping provision for easy flow of waters and easy discharge of tide waters.
- (d) Encourage and inspire people through Union Parishads for construction of two storied buildings if possible. Suggest that at least one room on the roof of cyclone/flood resisting brick built residential house for the purpose of using them as shelter place during cyclone/flood.
- (e) Prepare maps identifying population centres, water holes (wells), protected ponds/water reservoir/tube-wells for drinking water and other water sources.
- (f) In cyclone prone areas, advise for raising the banks of water reservoir (pond) above the level of cyclone induced tidal bore and in other places above flood level so that the water reservoir can be used by people as supply source of drinking water and the banks can be used as shelter place for animals. Several rows of trees should be planted.
- (g) Maintain stock of Baily bridges for bridge and culverts, and for repairing the breach on roads for the purpose of quick movement of relief materials.
- (h) Keep the foundations level of cyclone shelter under the control of Thana Parishad above flood level and undertake regular maintenance work.

- (i) Train up the Engineer including Secretary of the Union Parishad and technical and non-technical employees in disaster preparedness and management programmes and make them eager and known to the people.

Alert and Warning Stage

- (a) Operate one Control Room in the Directorate's head office
- (b) Attend the meeting of Local Disaster Management Committee and assist in evacuation, rescue and relief operations.
- (c) Alert all concerned about the imminent disaster and take precautionary steps for the security of materials, stock and implements.
- (d) Ensure steps for removing blockades of flow of water in small roads.
- (e) Help in identifying shelter places, fortified earthen mounds, private buildings, schools and Madrashes and high safe places in disaster prone areas for use as shelter place of people and livestock.

Disaster Stage

- (a) Ensure operation of the Control Room round the clock (24 hrs) and assist in evacuation, rescue and relief operations.
- (b) Coordinate with Inter-Ministerial Disaster Management Coordination Committee.
- (c) Ensure communication with cyclone/flood shelters and take up immediate repair work, if necessary.

Rehabilitation Stage

- (a) Quantify loss/damage.
- (b) Assist in rescue and rehabilitation works at all levels.
- (c) Organise reconstruction of damaged houses, small roads, bridges and culverts on self help basis with materials from local source and these received from the government.
- (d) Take up repair/reconstruction works of small roads, bridges and culverts damaged in cyclone/flood.
- (e) Prepare short and long term programmes for indispensable small roads, for the purpose of communication, evacuation and relief operations during disaster.

22.2 Rural Development and Cooperatives Division

(Including Bangladesh Rural Development Board)

Besides performance of normal duties and implementation of own work plans the Rural Development and Cooperatives Division/Bangladesh Rural Development Board will perform the following duties:

Normal Times

- (a) Designate One Liaison Officer as the Disaster Management Focal Point
- (b) Create an emergency fund for quick management of following subjects to combat disaster.
 - (i) Utilize TCCA and KSS for rural development works in disaster prone areas.
 - (ii) Organise special training courses at TCCA for cooperative members on house construction, land cultivation etc on the basis of mutual assistance and self help.

Alert and Warning Stage

- (a) Operate the Control Room in BRDB Headquarters, TCCA, ATCCA and BRDB Field Offices and coordinate with the local administration at different levels for implementation of post disaster recovery Action Plans.
- (b) Attend meeting of Local Disaster Management Committee and help in evacuation, rescue and relief operations.
- (c) Alert all about imminent disaster through office executives of BRDB, ATCCA and TCCA and ensure safety measures for security of godowns, stocks, stores, implements and materials.

Disaster Stage

- (a) Help the local administration through TCCA for identifying shelters for people and livestock, shift TCCA stock to safer place by keeping the local administration informed and organize members of cooperative societies in the evacuation team through TCCA.
- (b) After ascertaining the loss of life and loss/damage of property and requirement of relief and rehabilitation immediately inform concerned Ministry/Office.

Rehabilitation Stage

- (a) Determine the loss incurred by members of cooperative societies and after ascertaining the demand for production loan arrange for distribution of loan according to rules.
- (b) Help people for ascertaining the demand for various inputs and preparing production programmes and assist in their procurement from different agencies.
- (c) Ensure the preparation of production programmes by officials for primary agri-cooperative societies and other societies and after consolidating the demand for loan, arrange for necessary sanction and quick release of fund.
- (d) Arrange loan for meeting the demand of loan for affected members by cyclone.
- (e) Prepare separate and specific programmes for the rehabilitation of each class of people.
- (f) Implement separate programmes for procurement of irrigation tube-well parts, sinking of tube-wells/re-sinking, repairs etc in affected areas.
- (g) Organise the people and NGOs jointly for taking up development schemes for mopping up loss/damage.
- (h) Encourage and assemble the farmers for adopting joint programmes for agri-production and establishment of nursery for distribution of seedlings among affected farmers.
- (i) Ensure that the officials organise BBS and MBBS among distressed people with NGOs,

if necessary, and in order to employ them in income generating activities consolidate training and loan needs.

- (j) The Cooperative Directorate will work side by side in close cooperation with the BRDB at all levels.

22.3 Public Health Engineering Directorate (DPHE)

The Public Health Engineering Directorate is responsible for taking various steps for continuous supply of safe drinking water and decrease of health hazards. The issue becomes more important specially during disaster period when in absence of safe drinking water people are forced to use polluted water due to which diarrhoea disease breaks out in epidemic form. DPHE, during normal times, pre-disaster period and post disaster period, will encourage people to use safe water in all works and hygienic latrines. During disaster (especially cyclone and floods) DPHE will perform the following duties in addition to normal duties.

Normal Times

- (a) Identify disaster prone areas and ensure sinking of sufficient number of tube-wells for continuous supply of safe drinking water.
- (b) Keep stock of spare parts for repairing the tube-wells likely to be damaged in disaster (tidal bore/floods).
- (c) Keep stock of sufficient quantity of bleaching powder in disaster prone areas.
- (d) Fix up technical/repair team for employment in cyclone/flood prone areas.
- (e) Review the stock position of spare parts and bleaching powder every six months and ensure for sufficient stock.
- (f) Encourage construction of hygienic low cost water resistant latrines for disaster prone areas.
- (g) Keep reserve tube-wells and water resistant latrines for distribution in relief camps, cyclone shelters or in areas where such facilities have been damaged.
- (h) Ensure the availability of cash fund for meeting contingency expenditure in emergency.

Alert and Warning Stage

- (a) Form tube-well repair teams and keep them on stand-by for travelling to possible distressed areas.
- (b) Examine the position of spare parts of tube-wells in areas threatened by disaster and if necessary arrange for additional stock.

Disaster Stage

- (a) Order repair teams for traveling to the affected areas washed away by tidal bore/flood waters for repairing/tending/cleaning of tube-wells/water supply lines.
- (b) Arrange for the supply of drinking water on emergency basis to areas where normal supply has been disrupted (Man can live for longer period without food than without water).

Rehabilitation Stage

In coordination with the Disaster Management Committee and on orders of the Committee.

- (a) Maintain the supply of drinking water under special arrangement.
- (b) Make available sufficient quantity of bleaching powder for maintaining adequate hygienic condition in shelters, relief camps etc.
- (c) Supervise repair/rehabilitation work of tub-well/water supply system and ensure availability of required manpower/spare parts for speedy completion of work.

23. Ministry of Foreign Affairs

The Ministry in addition to normal responsibilities, will perform the following duties:

Normal Times

- (a) The Ministry will designate one Liaison Officer as the Disaster Management Focal Point
- (b) Advise Bangladesh Missions abroad to keep uninterrupted and close contact with the Department of Humanitarian Affairs (DHA) and the International Federation of Red Cross Societies/Red Crescent Societies.

Alert and Warning Stage

- (a) Ensure to keep Bangladesh Missions at Geneva, New York and Brussels alert and knowledgeable about the disaster position in the country and prepared to brief properly any possible aid/assistance source.

Disaster Stage

- (a) Submit a request for special assistance to foreign agencies as per decision of the government.
- (b) Advise the National Disaster Management Council and the Ministry of Disaster Management and Relief/Inter-Ministerial Disaster Management Coordination Committee about the procedure for request to source of assistance and render close cooperation.

Rehabilitation Stage

- (a) Keep in close touch with the Ministry of Home Affairs and the Ministry of Disaster Management and Relief for making issuance of visa easier to persons who are likely to come from abroad for relief work.
- (b) Keep the donor foreign governments, international donor agencies and other donors informed about the manner of use of their donations.
- (c) Ensure sending of appropriate letter of appreciation to donor governments either through their embassies in Dhaka or through our embassies located in their countries.

24. Ministry of Finance

24.1 Finance Division

Besides normal responsibilities, the Finance Division will perform the following duties:

Normal Times

- (a) Designate one Liaison Officer in the Ministry as the Disaster Management Focal Point
- (b) Arrange for the necessary funds as per decision of the National Disaster Management Council.

Disaster Stage

- (a) Ensure quick allocation of funds for meeting relief operations.
- (b) Control all accounts under the responsibility of the Chief Accounts Officer with advice and cooperation.
- (c) Keep ready for mobilizing resources for construction of infrastructure, public facilities and structures required to recoup loss and damage.

24.2 *Economic Relations Division*

In addition to normal functions the Economic Relations Division will perform the following duties:

Normal Times

Designate one Liaison Officer in the Division as the Disaster Management Focal Point

Disaster Stage

Keep a watch on disaster situation and statistics of loss/damage. Keep ready all information regarding the nature and volume of relief materials. The information should be similar to information compiled by the Ministry of Foreign Affairs.

Rehabilitation Stage

Make efforts for foreign assistance as per demand and request of the Ministry of Disaster Management and Relief and the Ministry of Foreign Affairs.

24.3 *Internal Resources Division*

Besides its normal functions, the Internal Resources Division will perform the following duties.

Normal Times

- (a) Designate one Liaison Officer in the Division as the Disaster Management Focal Point
- (b) Direct the Customs Department for speedy release of relief materials.

Disaster and Rehabilitation Stage

- (a) Ensure quick delivery of relief equipment/materials from abroad.

25. Ministry of Industries

In addition to its normal functions, the Ministry of Industries will perform the following duties:

Normal Times

- (a) Designate one Liaison Officer in the Ministry as the Disaster Management Focal Point
- (b) Ensure all possible steps for the security of manpower, implements, stock, installation/factory etc.
- (c) Ensure structure based security steps in the industrial concerns of cyclone and flood prone areas.
- (d) Ensure training on preparedness programmes to be adopted at different levels on cyclone/flood disaster by all manpower employed in all factories and establishments in cyclone/flood prone areas.

Disaster Stage

- (a) Direct all concerned for full cooperation and assistance to the local administrative authority in their rescue, evacuation, relief and rehabilitation programmes.
- (b) Instruct all Corporations, Authorities and Industrialists who have factories in cyclone and flood prone areas to arrange, through rehearsals, for their protection, security and maintenance as a step towards disaster preparedness.

Rehabilitation Stage

- (a) Determine probable expenditure for repair and reestablishment of damaged industrial concerns.
- (b) Instruct damaged industries to submit project proposals for their rehabilitation and allocation of fund to Planning Commission/ Ministry.

26. Ministry of Education

Besides implementation of its own Action Plans (contingency plans) and performance of normal duties, this Ministry will perform the following duties:

Normal Times

- (a) Identify one Liaison Officer in the Ministry as Disaster Management Focal Point
- (b) In consultation with Disaster Management Bureau, include disaster related subjects in the curricula of all schools.
- (c) Arrange for warm up training of teachers and students of disaster prone areas about the steps to be taken at different stages of disaster and if necessary, organise them, through coordination with local authority, as volunteers and inspire them for rescue, evacuation and relief works.
- (d) Ensure as far as possible construction of all educational institutions as two storied building in cyclone and flood prone areas.
- (e) Ensure appropriate repair and maintenance of primary school buildings in cyclone prone

areas.

- (f) Ensure wide scale disaster preparedness rehearsals by educational institutions with CPP in the months of April and September every year for enhancement of education and consciousness among people of the disaster prone areas.
- (g) Introduce disaster related subjects in the curricula of schools and colleges in association with the Disaster Management Bureau.

Disaster Stage

- (a) In the event of possible visit by severe cyclone/floods, place required number of educational institutions and their buildings, under the control of the local administration for use as shelter and relief centre if necessary.

Rehabilitation Stage

- (a) Determine the extent of loss in educational institutions and submit proposals for their repair.

26.1 Primary and Mass Education Division (Prime Minister's Secretariat).

Besides own work plan (contingency plan) and normal responsibilities this Division will perform the following duties:

Normal Times

- (a) Designate one Liaison Officer in the Division as the Disaster Management Focal Point
- (b) In consultation with the Disaster Management Bureau include disaster related subjects in the curricula of all primary schools and mass education programmes.
- (c) Arrange orientation training for teachers and students of disaster prone areas about the steps to be taken at different stages of disaster and if necessary organise them through coordination with local authority as volunteers and inspire them for rescue, evacuation and relief works.
- (d) Ensure as far as possible construction of all primary educational institutions as two storied building in cyclone and flood prone areas.
- (e) Ensure appropriate repair and maintenance of primary school buildings in cyclone prone areas.
- (f) Ensure wide scale disaster preparedness rehearsal by educational institutions with CPP in the months of April and September every year for enhancement of education and consciousness among people of the disaster prone areas.
- (g) Introduce disaster related subjects in the curricula of primary schools and mass education programmes in association with the Disaster Management Bureau.

Disaster Stage

- (a) In the event of possible visit by severe cyclone/flood, place required number of primary schools under the control of local administration, for use as shelter and relief centre, if necessary.

Rehabilitation Stage

- (a) Determine the extent of loss in primary schools and submit proposals for their repair.

27. Ministry of Commerce

In addition to normal functions the Ministry will perform the following duties:

Normal Times

- (a) Designate one Liaison Officer in the Ministry as the Disaster Management Focal Point

Alert and Warning Stage

- (a) Warn all concerned at the appropriate time and arrange for the protection and security of own manpower and stored goods, if exists, in areas apprehended to be hit by disaster.

Rehabilitation Stage

- (a) Prepare plans for import of construction materials like CI sheet, Cement etc for reconstruction of houses and fertilizers and seeds, if necessary for production of agri-products as per demand of concerned Ministry/Agency and process them.
- (b) Take steps for the import of preventive and curative raw materials and medicines to meet the requirements on emergency basis.
- (c) Ensure supply of daily necessities at fair price in affected areas.
- (d) Ensure import of necessary goods for the people of affected areas.
- (e) The officials of the Ministry and the Directorates will keep close watch on the price situation of commodities, their supply and distribution in disaster affected areas and send reports in this respect to the Ministry.
- (f) Arrange for the supply of food materials other than food grain like salt, pulses, vegetables, edible oil, milk, potatoes etc.

28. Ministry of Posts and Telecommunication

Besides implementation of its own Action plans (contingency plan) and performance of normal functions, the Ministry will perform the following duties:

Normal Times

- (a) Designate one Liaison Officer in the Ministry as the Disaster Management Focal Point
- (b) Prepare plans before-hand for emergency post-disaster posts, telecommunications and telegram services in disaster prone areas.
- (c) Ensure fruitful steps for preventing loss to mail/posts, government records, cash money and other valuable materials like stamps, seals, saving certificates and important records etc.

Alert and Warning Stage

- (a) Open the Control Room and operate it.
- (b) Designate one Liaison Officer for keeping link with EOC at the Ministry of Disaster Management and Relief and the Disaster Management Bureau.
- (c) Ensure allocation of frequency on emergency basis to wireless communication at the time of imminent disaster.
- (d) Ensure distribution of warning signals through fax, telephones and telegraph to pre-determined centres quickly.

- (e) Establish wireless link with all inhabited islands.

Disaster Stage

- (a) Take preparation for opening of temporary post offices for postal services to people living at relief shelters, relief centres, disaster shelters and also to people returning to these households for rehabilitation.
- (b) Extend all necessary assistance to local authority for continuing postal services during rescue, evacuation, relief and rehabilitation stage.
- (c) Issue instructions to all concerned explaining the psychological importance of continuing postal services during disaster.
- (d) Take effective steps for maintenance of telephone services day and night.
- (e) Prepare list of emergency telephone and tele printer of Ministries/Divisions/Directorates and other agencies like Red Crescent, CPP and other voluntary Organizations and keep them running. Take immediate steps for complaints received from Control Rooms of Ministries engaged in disaster preparedness and emergency works and from such agencies.
- (f) Keep contact with the local administration and extend T&T and postal services to areas lacking in such facilities.
- (g) Keep alternative communication arrangement for use in emergency work and if necessary keep it ready for operation in affected areas.

Rehabilitation Stage

- (a) Keep a team of technicians ready for emergency repair and reinstallation of snapped telephone/telegraph communications.
- (b) Implement the plan of required connections for telephone/telegraph/wireless broadcasts in disaster prone areas.

28.1 Telephone and Telecommunication Board (T&T)

The Chairman of T&T Board, in addition to Board's normal work and implementation of work plan (contingency plan), will perform the following duties:

Normal Times

- (a) Designate one Liaison Officer in the T&T Headquarters as the Disaster Management Focal Point
- (b) Establish information centre at the Board Headquarters and sub-ordinate offices in disaster prone areas.
- (c) Arrange protection and security of own manpower, installations and assets in disaster prone areas.

Alert and Warning Stage

- (a) Make plans for essential telephone services during disaster time in disaster prone areas.

- (b) Keep persons responsible for installation of telephone, mechanical engineers and technicians ready with equipment for the purpose of emergency repair and reconstruction of telephone and telegraph lines.

Disaster Stage

- (a) Take effective steps on priority basis for keeping telephone services operational day and night.
- (b) Keep the emergency telephones and teleprinters operational at Ministries/Divisions/Directorates and other agencies like Red Crescent, CPP and Voluntary Organisations rendering emergency services.
- (c) Solve immediately the complaints received from the Control Rooms of Ministries/Agencies engaged in cyclone preparedness and very essential programmes.
- (d) Store communication sets for emergency use in disaster prone areas and keep them ready for supply.
- (e) Provide telephone connections to the deployed areas in case of deployment of Armed Forces Division.

Rehabilitation Stage

- (a) Make emergency repair and reinstallation of disrupted telecommunication during disaster. Take special steps for telecommunication installations in coastal islands.
- (b) Prepare projects for rehabilitation/reconstruction of destroyed telephone and teleprinter services and submit them to the Planning Commission for allocation of funds.

28.2 Director General, Bangladesh Post Offices

Besides normal function and implementation of its own Action Plans(contingency plan), Director General will perform the following duties:

Normal Times

- (a) Designate one Liaison Officer in the Directorate as the Disaster Management Focal Point
- (b) Arrange for training in pre-disaster days of own employees regarding priority works to be done in disaster prone areas.
- (c) Identify one Liaison Officer for keeping contact with field offices and Control Room of the Ministry of Posts and Telegraphs and the EOC at the Ministry of Disaster Management and Relief.
- (d) Arrange rehearsals/drills in disaster prone areas in the months of April and September every year.

Alert and Warning Stage

Take steps for the protection and security of departmental manpower, installations and properties in areas likely to be affected by cyclone/floods.

Disaster Stage

- (a) Take appropriate steps to ensure the security of posts and telegraph services with the assistance of subordinate officials and others.
- (b) Maintain emergency post and telegraph services in disaster affected areas.
- (c) Take effective steps for the prevention of damage to mails, government records, cash and valuable articles like postage stamps, seals, saving certificates, important records etc.

Rehabilitation Stage

- (a) If necessary, establish temporary post offices for rendering postal services to returnees from Relief Centre/Disaster Shelter to their houses in respective areas for rehabilitation.
- (b) Assist in the efforts of the local authorities for keeping the postal services operational during evacuation, rescue, relief and rehabilitation operations.
- (c) Issue instructions to all concerned people explaining the benefit of keeping postal services operational during disaster period.

29. Ministry of Power, Energy and Mineral Resources (Including Power Development Board, Rural Electrification Board and Dhaka Electric Supply Authority)

In addition to implementation of its own Action Plans (contingency plans), the Ministry (including subordinate agencies) will perform the following duties:

Normal Times

- (a) Besides performance of normal duties and responsibilities by the departments under control some measures are to be kept in readiness so that power house, supply/distribution of power is not damaged and power system is not seriously hampered. Quick repair of damaged power installations is to be ensured by restoration of power supply to keep important installations (like hospitals, radio/television, civil and social installations) operational
- (b) One Liaison Officer in the Ministry is to be designated as the Disaster Management Focal Point.
- (c) Issue detailed instructions to the employees about their duties and responsibilities at precautionary, disaster and post-disaster stages of natural disasters.
- (d) Arrange regular workshop/on-the job training for working employees in disaster prone areas on disaster issues.

Alert and Warning Stage

- (a) Arrange preparedness measures for the protection of power house located in farflung areas of the country against flooding due to tidal bore/flood waters. Arrange to keep in stock parts of 132 KV tower; 33 KV tower/Poles, 11 KV poles, LT poles, line conductor of different size; transformer of different size and running diesel generator sets along with spare parts in all central stores of Power Development Board/Rural Electrification Board located at Chittagong, Comilla, Barisal, Khulna, Iswardi, Bogra and Rangpur.
- (b) After announcement of cyclone/flood or any other disaster warning signal, establish one control room for keeping uninterrupted communication with local administration and law and order agencies.

- (c) Designate one Liaison Officer for keeping contact with Dhaka Headquarters, Local Disaster Management Committee and different damaged stations.
- (d) Keep communication with all bases.
- (e) Arrange for evacuation of staff/officers to nearest safe shelter place.
- (f) Arrange lighting arrangement for population, transport, implements, materials and emergency power line.
- (g) Shut down quickly the nearest power house/sub-station for preventing accident in case of snapping of conducting wire.
- (h) Constitute central Disaster Management Committee on a permanent basis and at stations in different affected areas.

Disaster Stage

- (a) Operate the Control Room round the clock (24 hrs)
- (b) Ensure quick supply of necessary materials including repair equipment, transformers etc for re-installations of damaged lines/repairs.
- (c) Resume as quickly as possible power supply in affected areas. In case of requirements of further strengthening, Dhaka Headquarters should be informed.

Rehabilitation Stage

- (a) Continue all efforts for resumption of power supply and return of normalcy.
- (b) After assessment of loss/damage due to disaster send requirement of fund for resumption of power supply and reconstruction to Headquarters for information and to higher authority for arranging allotment of fund.
- (c) Plan and prepare projects for reinstallation/rehabilitation and submit project proposals to appropriate authority.

29.1 Petroleum and Mineral Resources Division

In addition to normal duties and responsibilities, this division will ensure, through the appropriate agency like Bangladesh Petroleum Corporation, supply of petroleum products to the areas affected by cyclone/tidal bore or any other disaster.

Normal Times

- (a) The Bangladesh Petroleum Corporation will ensure that no damage occurs to petroleum distribution centre/station and its transport network.

Alert and Warning stage

- (a) Bangladesh Petroleum Corporation (BPC) will alert its oil marketing companies, agency/dealers and all others concerned with distribution of petroleum products about the possible disasters and ensure sufficient stock of petroleum products,
- (b) Ensure specially the stock of Kerosene, petrol (motor spirit) and other petroleum products in distribution centre/station located in and around areas likely to be affected.
- (c) The Bangladesh Petroleum Corporation will make quick arrangement for recoupment, if there is less stock in the above mentioned distribution centres/stations or there is likelihood of quick depletion of stock.

Disaster Stage

- (a) The Bangladesh Petroleum Corporation will make emergency arrangement for availability of petroleum products in all distribution centre/station in times of need in and around affected area.
- (b) Maintain round the clock communication with the fuel oil companies and supplies of petroleum products in concerned areas for coordination regarding availability of POL, its supply and distribution to affected people.

Rehabilitation Stage

- (a) The above mentioned activities will continue even after the end of disaster.
- (b) The field Officers of Bangladesh Petroleum Corporation and its marketing companies and other concerned should participate with interest in post-disaster relief operations and related stages of distribution of petroleum products.
- (c) They will maintain whole time communication with administration until completion of relief operations. The officials and representatives of oil companies will also work as members of regional and local Relief Committees.

30. Ministry of Environment and Forests

Disaster can deteriorate the environment. Disaster can also happen due to deterioration of environment. Afforestation can contribute in a big way for the decrease of disasters like cyclone, floods, draughts etc. Therefore the Ministry of Environment & Forests has a special role to play in disaster management especially in normal times and during rehabilitation stage. The Ministry of Environment and Forests will perform the following duties through two Divisions like Forest and Environment Department under its administrative control

Normal Times

- (a) Designate one Liaison Officer in the Ministry as the Disaster Management Focal Point
- (b) Attach top-most priority to expansion of forestation in coastal areas and coastal islands.
- (c) Encourage forests mangrove afforestation
- (d) Keep a watchful eye on deterioration of environmental situation by disaster to avoid creation of great risk.
- (e) Ensure the implementation and allocation of funds for expansion programmes of afforestation.
- (f) Frame an appropriate law for preventing environmental disaster in chemical industry or industry emitting environment polluting gas or liquid.

Alert and Warning Stage

- (a) Issue warning and instructions to departmental offices and staff of the forests and environment Departments for taking necessary steps at field level for the protection of life and property.

Disaster Stage

- (a) Open the Control Room in the Ministry and keep link with the EOC at the Ministry of Disaster Management and Relief.
- (b) Take steps for prompt removal of uprooted trees on the roads.

Rehabilitation Stage

- (a) Keep watchful eye on the influence of disaster on environment for safety of environment and take necessary steps through manpower and other materials of Forests and Environment Departments in coordination with local administration, social and non-

government agencies.

30.1 Department of Forests

In addition to normal responsibilities, the Forest Department will perform the following duties.

Normal Times

- (a) Prepare intensive afforestation projects on roads and embankments in cyclone prone areas and implement them.
- (b) Accord priority to mangrove afforestation in cyclone prone areas.
- (c) Encourage and assist community afforestation programmes in disaster prone areas.
- (d) Impart training to manpower of Department of Forests for publicity of disaster signals among local people and rescue operations of endangered people.

Alert and Warning Stage

- (a) Issue directives to departmental employees in disaster prone areas for protection of departmental assets and to help local people in times of need.
- (b) Establish one Control Room at department's headquarters.

Disaster Stage

- (a) Issue instructions to departmental officers/staff for assistance to local people of the disaster affected areas and help at times of need.
- (b) Remove uprooted trees from roads.

Rehabilitation Stage

- (a) Assess the loss and damage to forestry assets and submit report to Inter-Ministerial Disaster Management Coordination Committee and the Ministry of Environment and Forests.

30.2. Department of Environment

Besides normal functions the Department of Environment will perform the following duties:

Normal Times

- (a) Identify important obstacles to environmental situation in disaster prone areas and take up plans for their care.
- (b) Advise local administration about the control and prevention of possible environmental pollution after occurrence of disaster.

Alert and Warning Stage

Same as (a) and (b) above.

Disaster Stage

Keep a watchful eye on the environmental situation in disaster affected areas and keep ready for taking necessary actions.

Rehabilitation Stage

Advise and assist the local administration to take preventative measures against deterioration of environmental situation after identifying quickly the possible reasons for such deterioration after disaster and removing/controlling the same in time.

31. Planning Commission

The Planning Commission has an important role regarding allocation of funds on priority basis for disaster mitigation and rehabilitation projects. Investment of fund in disaster mitigation and rehabilitation projects is in reality investment to keep development programmes active. This should be borne in mind while preparing development programmes.

Normal Times

- (a) Accord appropriate priority to disaster mitigation projects like embankments, afforestation, jetty at coastal islands, roads in coastal areas (necessary for evacuation and relief work), telecommunications, fortified earthen mounds and construction of shelter places.

Rehabilitation Stage

Allocate funds for the repair, reconstruction of damaged infrastructure after considering their overall loss and damage.

32. Other Ministries

In the event of proclamation of emergency to combat any national disaster, every Ministry has to contribute its own efforts to resist/reduce loss and damage and restoration of normalcy. The Ministries where clear Standing Orders have not been prepared and no work plan except normal work has been chalked out, will assist and cooperate with ministries and agencies engaged in rescue, evacuation, relief and rehabilitation operations.

33. Divisional Commissioner

According to the Standing Orders, in the event of any emergency situation, the concerned Divisional Commissioner will coordinate among divisional level officers of different Ministries, Departments, Offices, agencies, local administration and non- government organizations. The divisional level officers on receipt of order through government or Divisional Commissioner or through any other authorities will implement them in close coordination with and instructions from the authority. The Divisional Commissioner will perform the following duties:

Normal Times

- (a) Review the overall preparedness level in the Division twice a year and advise corrective steps in case of any weakness or deficiency.
- (b) Ensure effectiveness of district, Thana and union level Disaster Management Committees.
- (c) Ensure formation of team of volunteers and their effective training and knowledge for

reaching disaster warning signals to field level and also for evacuation, search, rescue and relief, and rehabilitation operations.

- (d) Ensure availability of transport facilities for reaching cyclone/flood warning signals and relevant materials to volunteers.
- (e) Ensure drills on disaster preparedness by the people of disaster prone areas for acquiring knowledge and consciousness of such preparedness in coordination with concerned departments, local administrative agencies, local offices, CPP, Bangladesh Red Crescent Society and Civil Defence.
- (f) Inform different departments, agencies and field level concerned people under their control about the Standing Orders.
- (g) Ensure improvement, repair and maintenance of embankments for their protection against the repeated occurrence of cyclone/tidal bore. Ensure effectiveness of sluice gates so that water due to tidal bore inside the embankments can quickly pass outside through them.
- (h) Ensure appointment and stay of officers and staff of important agencies engaged in disaster preparedness and relief works.
- (i) Identify risky and high-risk cyclone/flood areas and prepare contingency plans to combat the problems.
- (j) Determine the volume of assets of all agencies and advise them to remain alert according to necessity.
- (k) Ensure appropriate maintenance of coastal areas and embankments in coastal islands, shelter, helipad and fortified earthen mounds.
- (l) Ensure supplies of sufficient drinking water in all cyclone shelters, and health care facilities.
- (m) Arrange survey of buildings and installations timely for use during disaster time and for their area wise reservation for use as shelter/relief centre.
- (n) Help the Deputy Commissioner(s) with additional fund for disaster preparedness, if necessary.
- (o) Encourage and ensure appropriate implementation of coastal afforestation programmes.
- (p) Ensure appropriate orientation and training on disaster preparedness of all the officers of concerned departments from Thana upto division level within the Division.
- (q) Arrange annual drills for assessing the level of cyclone and flood disaster preparedness within the Division and ensure such disaster preparedness.
- (r) Arrange sufficient medical assistance for post-disaster medical treatment and control of contagious diseases and ensure stock of essential medicines.

Alert and Warning Stage

- (a) Ensure that all concerned in areas likely to be affected by imminent cyclone/flood receive warning signals and work accordingly.
- (b) Establish one Control Room and operate it by minimum number of staff.

- (c) Ensure establishment of District Disaster Management Control Room and keep contact with the same.
- (d) Take other appropriate precautionary steps.
- (e) Maintain whole time contact with the EOC at the Ministry of Disaster Management and Relief and also keep contact with the Control Rooms of the Districts under his control.
- (f) Instruct all concerned to remain in readiness for responding to call of emergency.

Disaster Stage

- (a) Ensure alerting the people of the areas likely to be affected by the imminent danger.
- (b) Advise concerned Deputy Commissioners to keep road and water transports, relief and medical teams ready and to move to affected areas at short notice.
- (c) On receipt of order for evacuation, ensure its compliance in disciplined manner overcoming all fears and threats with the help of all government manpower and CPP volunteers and other agencies.
- (d) Implement orders received from National Disaster Management Council/Inter-Ministerial Disaster Management Coordination Committee and the Ministry of Disaster Management and Relief or take any other step (If considered appropriate).

Rehabilitation Stage

- (a) Visit disaster affected areas on emergency basis and determine the extent of loss and damage and volume and nature of relief required.
- (b) Keep communication with National Disaster Management Council, Inter-Ministerial Disaster Management Coordination Committee, Ministry of Disaster Management and Relief/EOC and Disaster Management Bureau.
- (c) Ensure supply of food and drinking water and medical supplies to cyclone/flood shelters.
- (d) Visit affected areas and recommend to government for additional assistance.
- (e) Coordinate activities of voluntary organisations.
- (f) If necessary, request through Ministry of Disaster Management and Relief and National Disaster Management Council for allocation of more funds/materials.
- (g) Visit and coordinate the implementation of various rehabilitation programmes in own area.
- (h) Coordinate the activities of non-government organizations in rehabilitation programmes.

34. Deputy Commissioner

The Deputy Commissioner will be known as the superior Executive Officer of the District under his administrative control in respect of all activities related to disaster preparedness, response and relief and rehabilitation. All district level officers of the Ministries, Departments, Directorates and agencies will be responsible for the implementation of Standing Orders. He will also coordinate and supervise the implementation of specific provision of Standing Orders earmarked for the Thana. The Deputy

Commissioner will perform the following duties:

Normal Times

- (a) Review the overall disaster preparedness level in the District every three months and try to remove the weaknesses, if any.
- (b) Ensure operation of activities of Thana and Union Disaster Management Committees.
- (c) Identify (unprotected) important places, the highly risky cyclone/flood prone areas and prepare maps showing important places of the Thana and Union, population, detailed preparedness facilities.
- (d) Form team of volunteers at Thana, Union, Ward and Village level and ensure their responsibilities like publicity of signals, rescue, evacuation and relief operations etc.
- (d) Ensure effective training and orientation of the volunteers, formed for cyclone preparedness programme drawn through CPP and other agencies.
- (f) Ensure supply of related implements to the volunteers for improvement of communication for publicity of cyclone/flood warning signals.
- (g) Ensure that all officials of different departments and agencies are aware of Standing Orders related to disaster.
- (h) Arrange tree plantation at shelter places for protection against the severity of tidal bore due to flood and cyclone and arrange proper maintenance of ponds, village roads, embankments and sluice gates.
- (i) Form District Disaster Management Committee in the light of government notification.
- (j) Prepare local contingency plans for disaster response.
- (k) Conduct mobilization drills in April and September every year to know the nature and effectiveness of preparedness.
- (l) Conduct population census in every newly formed chars and if possible encourage/assist people in constructing strong house. Otherwise, prepare plans for their evacuation to safer place.
- (m) Keep ready updated list of important information like population, transport, water transport, food godown, stock of relief materials etc.
- (n) Keep cyclone/flood shelter and fortified earthen mounds fit for use and ensure availability of sufficient water.
- (o) Prepare a list of buildings, schools, colleges, establishments etc by conducting a regular survey annually so that people can use them during emergency as relief camp.
- (p) Ensure extensive publicity among people about cyclone/flood warning signals and their importance.
- (q) Encourage and ensure implementation of coastal afforestation programmes.

- (r) Ensure preparation of Disaster Action Plan (contingency plan) by Thana Disaster Management Committee and Thana Nirbahi Officer to combat emergency situation.
- (s) Ensure ever readiness in respect of all matters of cyclone preparedness programmes.
- (t) Conduct, with the assistance of Disaster Management Bureau, orientation courses of all Thana level officers and staff of cyclone/flood prone areas on disaster and training programme on preparedness for cyclone/floods.
- (u) Ensure calling of meetings now and then for proper formation of District Disaster Management Committee and evaluation of District Disaster Management Action Plans.
- (v) Ensure full implementation of the responsibilities of District Disaster Management Committee during any emergency.
- (w) Keep updated list of non-government agencies who are able to work on disaster management and coordinate their activities.
- (x) Collect information on flood (in case of floods) from Bangladesh Water Development Board (BWDB) sub-centre.

Alert Stage

- (a) Issue warning notice to all concerned for preparedness to meet possible accidents.
- (b) Ensure that the endangered people have been warned through wireless arrangement of police, BDR and CPP and other communication system.
- (c) Establish a Control Room and keep contact with the EOC at the Ministry of Disaster Management and Relief and Divisional Control Room.

Warning Stage

- (a) Call a meeting of the District Disaster Management Committee.
- (b) Instruct concerned agency to hoist appropriate warning signal at specified place.
- (c) Keep contact with the EOC at the Ministry of Disaster Management and Relief, Divisional Control Room and the control room at the concerned Thana headquarters.
- (d) Arrange wide publicity of cyclone danger/great danger signal among people of the area and ensure that the disaster signals are received by people of disaster prone areas.

Disaster Stage

- (a) Gather all necessary materials (manpower, transports, water transport, equipment and relief materials) and send to disaster affected area.
- (b) Arrange to requisition necessary transports and water transports through appropriate authority.
- (c) Ensure supply of drinking water to disaster affected areas.
- (d) Call emergency meeting of District Disaster Management Committee.

- (e) After receipt of evacuation order, ensure evacuation of people and materials through volunteers drawn from local administration, local agencies, police, Union Parishad, Ansar, VDP and Cyclone Disaster Programme (CPP).

Rehabilitation Stage

- (a) Visit affected areas on emergency basis, arrange for appropriate survey to determine loss/damage in the affected areas and necessity for help/assistance.
- (b) Send a report of loss and damage in prescribed form and request for help and assistance.
- (c) Establish relief centres at appropriate places and operate them
- (d) Conduct rescue operation of stranded or affected people in the islands.
- (e) Conduct emergency and normal medical services and supply of food and drinking water. If Director General (Relief and Rehabilitation) cannot be contacted then spend Tk.10,000 (Ten thousand) as one time relief and contingency expenditure. Afterwards request for post-facto sanction of Director General, Relief and Rehabilitation with reasons.
- (f) Arrange for the repair of damaged tube-wells and sinking of new tube-wells. Arrange for making the pond water suitable for use for drinking purpose.
- (g) Arrange assistance for repairing of residential houses of affected people and temporary shelters for them.
- (h) Take steps for burial of dead human bodies and carcasses and also ensure prevention of epidemics due to deterioration of health situation.
- (i) Render essential services through appropriate steps.
- (j) Arrange for repair of roads, culverts, bridges etc and for their rehabilitation, if necessary.
- (k) Prepare appropriate rehabilitation programmes in coordination with housing, agriculture and livestock officers and take steps for their quick approval and implement rehabilitation programmes quickly.
- (l) Take steps for drawing out polluted saline water from areas inside roads and embankments.
- (m) Take all necessary arrangement and steps until return of normalcy.
- (n) Coordinate activities of non-government agencies engaged in rehabilitation work.

35. Thana Nirbahi Officer

The Thana Nirbahi Officer will be principally responsible for the implementation of Thana level Action Plans in addition to his normal duties. He will also coordinate and supervise implementation of all work plans (contingency plan) of different Thana and Union level offices of various ministries/agencies.

Thana Nirbahi Officer will perform the following duties:

Normal Times

- (a) Ensure formation of Thana Disaster Management Committee according to government notification.

- (b) Ensure formation of Union Disaster Management Committee according to government notification.
 - (i) Ensure constitution of team of volunteers at thana/union/ward and village level for publicity of cautionary signals and rescue, evacuation to shelters/safe places and relief operations.
 - (ii) Ensure cooperation with cyclone preparedness programmes for making warning signals fruitful through volunteers and orienting them with the situations.
 - (iii) Ensure appropriate publicity of flood/cyclone warning signals through volunteers.
 - (iv) Ensure awareness of concerned people of different departments about Standing Orders on Disaster related issues and encourage them to perform tasks in the light of these orders.
 - (v) Ensure appropriate maintenance of embankments of the Bangladesh Water Development Board and their raising at level higher than flood level for use as safe shelter places.
 - (vi) Ensure implementation of coastal afforestation programme (if applicable).
- (c) Maintain lists and maps of those areas which are generally affected by cyclone/floods.
- (d) Prepare Thana Disaster Action Plans consistent with the Standing Orders on issues like warnings, shelters, rescue, health care, evacuation, relief and rehabilitation, security and law and order etc and ensure their implementation at union level.
- (e) Ensure cyclone rehearsals and drills in April and September every year so that people concerned can implement the preparedness plans after proper training.
- (f) Undertake survey of new settlements and ensure disaster preparedness of the people living there.
- (g) Arrange construction of fortified earthen mounds, helipads and cyclone shelters at necessary places especially like char areas and keep them effective.
- (h) Help and assist with the implementation of cyclone preparedness programmes.
- (i) Maintain list of all those voluntary organizations which will be called upon to participate in emergency and relief works during pre-disaster, disaster and post-disaster periods and keep coordination with various agencies.
- (j) Maintain list of manpower and transports which can be used in emergency work.
- (k) Ensure stocks of food, medicines, insecticides and tube-wells before flood/cyclone season.
- (l) Ensure operation of Thana Control Room with the cooperation of wireless facilities of the Ministry of Disaster Management and Relief, Police, T&T Board, BDR and Cyclone Preparedness Programme.
- (m) Ensure appropriate repair and maintenance of community centres, cyclone shelters and fortified earthen mounds.
- (n) Ensure stock of warning signal flags at Thana/Union Office/Cyclone Preparedness Programme units.
- (o) Implement the orders of Deputy Commissioner about cyclone preparedness.

- (p) After examining the condition of embankments submit proposals for repair, if necessary.
- (q) Take steps for popularising by publicity through cinema shows, leaflets and posters distribution and programmes regarding cyclone warning signals and preparedness programmes.
- (r) Identify and select places in cooperation with Union Parishad Chairmen/Cyclone Preparedness Programme, Union team leader for taking shelter by people in flood and tidal bore.

Alert and Warning Stage

- (a) Operate the Control Room round the clock (24 hrs). One gazetted officer/one member of Thana Disaster Management Committee will be in charge of Control Room.
- (b) Keep manpower and transport ready for immediate movement.
- (c) Send warning signals to Unions through special messenger/telephone and alert Union Parishad Chairmen.
- (d) Caution people by establishing quick communication in char areas.
- (e) Keep link with the District Control Room.
- (f) Advise for opening of the Union Control Room.
- (g) Call emergency meeting of the Thana Disaster Management Committee.
- (h) Instruct round the clock (24 hrs) operation of the Union Control Room.
- (i) Ensure hoisting of warning signals at all warning centres.
- (j) Inform all concerned about cyclone/flood warning signals. Mention the words “Cyclone Warning/Flood Warning” in all emergency news/information relating to cyclone/flood and ensure maintenance of logbooks from Thana to Union level during emergency period.
- (k) Help and assist for implementation of Cyclone Preparedness Programme (cyclone affected area).

Disaster Stage

- (a) Ensure publicity of danger and great danger signals to the people through volunteers of Cyclone Preparedness Programmes (CPP) and other officials of Thana/Union level, members of VDP/Ansar/BRDB member/Family Planning Workers/ Choukidars/Block Supervisors/ Workers of Fishery and Livestock Department/teachers of educational institutions, employees of cooperatives, BWDB, Roads and Highways, T&T, LGED and Public Health Engineering and NGO workers.
- (b) Ensure correct announcement of evacuation orders.
- (c) Arrange evacuation of human beings and livestock to safer places like cyclone shelters, fortified earthen mounds, schools, community centre, other government buildings and high lands. Arrange for supply of food and clothing etc. For this purpose issue similar order to Union Parishad Chairmen.
- (d) Keep waterpots filled with drinking water and advise for similar action by Chairmen/Union Parishad Members.

- (e) Arrange to special messengers to warn the population. Advice to wrap up drinking water, safety match, dry food, green coconut and utensils etc with plastic sheet and stock them under earth.
- (f) Keep whole time communication with the District Control Room and inform about local weather conditions.
- (g) Keep watchful eye on the cyclone velocity/rising water level.
- (h) Call emergency meeting of the Thana Disaster Management Committee and advise all concerned to keep ready for facing the situation and implement the responsibilities of Standing Orders related to Disaster Management.
- (i) Requisition transports, water transports etc for rescue and relief operations. In addition to this request Deputy Commissioner for supply of required type of transports, if necessary.
- (j) Ensure taking all preparedness steps correctly.
- (k) Coordinate with the activities of Army if requisitioned for rescue and relief work.

Rehabilitation Stage

- (a) Arrange for rapid survey of the affected areas and inform the Deputy Commissioner and the Ministry of Disaster Management and Relief regarding the existing situation. Determine the extent of loss/damage with the opinion and assistance of various level officials at Thana level and Union Parishad.
- (b) Arrange for quick moving water transports for rescue operations.
- (c) Arrange emergency expenditure for relief work from Thana Development Fund.
- (d) Send emergency relief materials to affected Unions.
- (e) Arrange for supply of sufficient number of tube-wells in affected areas.
- (f) Arrange necessary steps relating to health for prevention and cure of diseases for saving the life of human beings and live stock and cleanliness, supply of pure drinking water, food, primary medical supplies, tents and supply of fodder.
- (g) In case of disruption of communication system, send messengers for collecting Union cyclone/flood reports and supply cyclone/flood related information daily to District Control Room.
- (h) Divide affected areas into relief regions and declare Thana Headquarters as Regional Headquarters. For the purpose of conducting relief work entrust the work of the region to one officer. According to volume of loss and damage more than one region in a Thana may be required and in that event one officer will be appointed for each region.
- (i) Prevent mismanagement in relief work. Ensure quick distribution of relief materials, house building fund, cash relief and house building grant. Ensure proper management of emergency hospitals, relief centres and gruel kitchens etc.
- (j) Arrange for the burial of dead bodies and dumping of carcasses under earth in cooperation with local administration, NGO, Volunteers of Cyclone Preparedness

Programme (CPP) and if necessary, members of Bangladesh Rifles, Army, Police, Ansars, VDP and workers of Family Planning/Fishery/Agriculture/Livestock Departments. Arrange for draining out of saline water from households and crop fields.

- (k) Submit proposals for necessary demand, through appropriate authority, for various grant, loan and relief materials for undertaking relief operations.
- (l) Coordinate relief activities of voluntary and non-government agencies.
- (m) Arrange for the rehabilitation of people of the affected areas through Test Relief/Food for Works Programme/VGF etc and ensure successful implementation of these programmes.
- (n) Implement the necessary measures relating to rescue, health, relief and rehabilitation work.

36. Chairman, Union Parishad

Normal Times

In addition to the normal duties, Chairman, Union Parishad will perform the following duties:

- (a) Arrange for training of a team of workers in the Union through Cyclone Preparedness Programme (CPP) and local agencies for works relating to rescue, life saving, health care, cleanliness, supervision of gruel kitchen, vaccination/Injection programmes etc. so that in times of need they can help and assist local volunteers.
- (b) Assist, and coordinate with Cyclone Preparedness Programme (CPP).
- (c) Help the Thana Disaster Management Committee in all respects for raising awareness among people for Cyclone Preparedness Programme (CPP) and inform people about their duties and responsibilities during cyclone/floods.
- (d) Publicize cyclone warning signals and make them popular among the people through cinema shows, distribution of leaflets and arrangement of meetings.
- (e) Encourage people regarding voluntary tree plantation in coastal areas and advise them to plant trees around households.
- (f) Arrange to keep warning signals ready for hoisting in all risky areas of the Union
- (g) Submit proposals for construction of new helipads/fortified earthen mounds and shelter places if the existing cyclone shelters/earthen mound/helipad are not considered sufficient.
- (h) Prepare maps showing the vulnerable areas of the Union exposed to the threat of cyclone/flood and also indicate the areas which are likely to be hit most.
- (i) Give special importance to the preparedness of the people in distant char (shoal) areas.
- (J) Impart necessary preparedness training to Pisciculturists and fishermen of the Union.
- (k) Encourage people and fishermen to regularly listen to weather forecast from radio and to follow the instructions.
- (l) Designate shelter places, high lands and government buildings for taking shelter during

floods and tidal bore and inform people accordingly.

- (m) Maintain a list of volunteers for participation in relief works during pre-disaster, disaster and post-disaster periods and keep in touch with different representatives.
- (n) Maintain a list of transport/boats fit for use in emergency work.
- (o) Ensure appropriate repair to roads, bridges and culverts to maintain communication links with cyclone shelters, community centres, fortified earthen mounds and also for their maintenance.
- (p) Every year arrange mobilization rehearsals and drills on disaster related issues at Union level in coordination with CPP, local government and non-government organizations.
- (q) Ensure protection, and security of source of drinking water, food godowns, seed and stock of fodder etc.

Alert and Warning Stage

- (a) Operate the Union Control Room round the clock (24 hrs). Put one Union Parishad member in-charge of the Control Room.
- (b) Maintain link with Union Parishad members, Union Disaster Management Committee members and volunteers and inform them about the imminent cyclone/floods.
- (c) Ensure hoisting of warning signals in all risky areas of the Union by the volunteers of Cyclone Preparedness Programme (CPP).
- (d) Send special messengers to distant char (shoal) areas to inform about the position of cyclone.
- (e) Advise all concerned to listen to weather reports broadcast by radio and to work accordingly.

Warning Stage

- (a) Call meeting of Union Disaster Management Committee (UDMC).
- (b) Arrange publicity about imminent danger by beating of drums or through megaphone and announce about the safe places and precautionary steps to be taken by the people.
- (c) Form volunteer teams on emergency basis for evacuation of livestock and population from distressed situation created by the onslaught of flood/cyclone to safer places and for food, health care, security etc.
- (d) Cooperate and coordinate with the activities of Cyclone Preparedness Programme (CPP) volunteers and other volunteers.

Disaster Stage

- (a) Ensure arrangement for publicity of danger/great danger signals in time by volunteers of Cyclone Preparedness Programme (CPP), members of Ansar and Village Defence Party.
- (b) Ensure correct publicity about evacuation instructions to people in distant charland and own areas.

- (c) Arrange for evacuation of population and livestock from dangerous areas to safer places like cyclone/flood shelters, fortified earthen mounds, community centres and other government buildings and also arrange for supply of food, clothing etc. Send similar instructions to all concerned for the same purpose.
- (d) Keep the water pots filled with water and advise others to do likewise.
- (e) Keep contact with the Thana Control Room.
- (f) Advise all concerned to listen to weather forecasts regularly and carefully and to know about the directions of cyclone and increase of flood water above danger level.
- (g) Send special messengers to warn people and advise them for keeping materials like drinking water in plastic pots, dry food, safety match etc and materials like green coconut, utensils and fodder under earth. Also advise people to shift livestock to appropriate safer place.
- (h) The Union Disaster Management Committee (UDMC) will call an emergency meeting, instruct all concerned to keep ready to combat the situation and to work as per Standing Orders relating to disaster management.
- (i) Ensure all arrangement for preparedness correctly.
- (j) Requisition sufficient number of transports and boats in the Union for rescue and relief works.
- (k) Arrange for safe custody of assets of evacuated people and their maintenance.

Rehabilitation Stage

- (a) Conduct rescue and relief operations round the clock (24 hrs) with the help of volunteers and Union Disaster Management Committee (UDMC) and also arrange for speed boats for relief work.
- (b) Arrange for a rapid survey in the affected areas and send through special messengers reports of loss and damage to the Thana Executive Officer (if available) with recommendation for relief materials.
- (c) Receive emergency relief materials from Thana Headquarters.
- (d) Arrange for the sinking of a sufficient number of tube-wells on emergency basis in the affected areas for drinking water after removing saline water from ponds, wells and tube-wells.
- (e) Arrange for burial of human dead bodies with the help of volunteers, VDP and if necessary with police, BDR and Army and disposal of carcasses. Also arrange for drainage of stagnant saline water from households and croplands.
- (f) Ensure proper, fair and quick distribution of relief materials, houses, cash, house building grants etc and also proper operation of emergency hospitals, relief centres and gruel kitchens etc.
- (g) Prepare list of losses and damages and send it to Thana Control Room.
- (h) Coordinate and supervise the activities of relief operations by voluntary organizations, volunteers and other organisations engaged in relief works.
- (i) Prepare rehabilitation schemes for affected areas through Test Relief, Food for Works Programme, VGF, etc and arrange for their proper implementation.
- (j) Perform the responsibility related to rescue, relief and rehabilitation as directed by the concerned authority (including preparation of report and submission thereof).
- (k) Reestablish water and road communication through quick repair.

37. Responsibilities of Union Parishad Members

In addition to normal duties Union Parishad Members will perform the following responsibilities related to disaster issues:

Normal Times

- (a) Maintain detailed particulars of trained volunteers for the purpose of instant necessity.
- (b) Earmark trained volunteers for various responsibilities for operation of emergency relief work.
- (c) Combat disaster situations in their own areas better and keep the people aware and ready for rehabilitation work.

Precautionary Stage

- (a) Announce in advance the warning/danger/great danger signals by megaphone, siren, warning notice, drums and beating empty kerosene cans. On receipt of instructions from Union Parishad Chairman or higher authority, announce danger signals without creating

any panic.

- (b) Listen to weather forecasts from radio regularly.
- (c) Take quick steps after receipt of warning signals from the radio/Union Parishad Chairman or higher authority.
- (d) Keep the emergency volunteer team ready for performing specific responsibilities like evacuation, first aid, health care, food, repair of damaged room/house, security etc.
- (e) Cooperate and coordinate with Cyclone Preparedness Programme (CPP).
- (f) Ensure hoisting of warning signals in risky areas.

Disaster Stage

Perform any responsibility entrusted by the Union Parishad Chairman or higher authority and also other responsibilities related to rescue, relief and rehabilitation operations.

Rehabilitation Stage

Help the Union Parishad Chairman in relief and rehabilitation work.

General Instructions

Members of Union Parishad will discharge the following functions:

- (a) Advise people to listen Special Weather Bulletins broadcast by Bangladesh Betar after formation of low pressure.
- (b) After hoisting of warning signals, advise all boats and trawlers to anchor near the coasts and to take shelter in safer places.
- (c) Exchange weather related information with others.
- (d) Advise packing of flattened rice, parched rice, treacle and drinking water, green coconut, utensils, safety match etc in their polyethylene bag and keep them under the earth three feet deep so that these could be used in times of need. Also advise for covering the mouth of tube-well with plastic cover so that saline/polluted water cannot enter into them.
- (e) Immediately after the announcement of evacuation advise people to take shelter in nearby cyclone shelter, fortified earthen mound, brick built building, community centre or any other safer place. Advise for special attention to children, old and infirm people. Also advise for evacuation of livestock and other domestic animals, to high and safe lands.
- (f) Advise people not to propagate rumors and also not to listen to such rumors.
- (g) Advise for rescuing the affected people during and after disaster. If danger is apprehended for the loss of life of any human being or of property due to cyclone/flood or any other disaster, immediately advise for informing Union Parishad Chairman and Members.
- (h) Advise for assisting Union Parishad and voluntary organisation in all matters.
- (i) Advise for primary medical care to injured/drowned people.

- (j) Advise for removal of dead bodies and burial of the dead and for interment of carcasses.
- (k) Advise for house construction, after disaster, on cooperative basis.
- (l) Advise for complying with the instructions or request by the UDMC/Union Parishad Chairman and Member or any other higher authority regarding relief operations.
- (m) Advise for recovering the source of drinking water.

38. Bangladesh Red Crescent Society

The Bangladesh Red Crescent Society is a regulated auxiliary organisation of the government. Its branch is spread all over the country. They complement governmental efforts during disaster. The society plays important role in the overall disaster preparedness and disaster combat programmes. BDRCS will perform the following duties within the ambit of own rules and regulations and organisational structure, in association with various governmental organizations:

Normal times

- (a) BDRCS will take steps for disaster preparedness at all the levels and prepare plans.
- (b) Appoint Red Crescent team of volunteers and workers in disaster prone areas and arrange for their training.
- (c) Take up educational and awareness raising programmes for the people to combat disaster.
- (d) Arrange and participate in seminars, workshops and meetings for earning special efficiency and skill in disaster management.

- (e) Keep contact with concerned Ministry/Department/office/Agency interested in disaster/relief work, United Nation Organizations and non-government organizations.
- (f) Ensure road communication for stocking and receipt of relief materials and maintenance of water transports.
- (f) If possible, participate in the construction work of fortified earthen mound and flood shelter, cyclone shelter and linking them with various socio-economic and social development programmes.
- (h) Take any other steps in connection with preparedness programme of the people to meet any emergency situation.

Alert Stage

- (a) In case of cyclone, issue warning notice to all concerned including the Cyclone Preparedness Programme (CPP) and relevant Red Crescent Unit.
- (b) Ensure dissemination of warning signals, in case of cyclone, to workers of all levels of Cyclone Preparedness Programme (CPP).
- (c) In case of cyclone, keep contact with Cyclone Preparedness Programme (CPP) and the Control Room of Storm Warning Centre (SWC) of Bangladesh Meteorological Department (BMD).
- (d) Designate one Liaison Officer for maintaining link with the EOC at the Ministry of Disaster Management and Relief and the Control Room of Disaster Management Bureau (DMB).
- (e) Issue instructions to Survey Assessment Team to be on standby
- (f) Take any other steps, if necessary.

Warning Stage

- (a) Operate the Control Room round the clock (24 hrs)
- (b) Disseminate warning signals to all including the concerned Red Crescent Units.
- (c) Ensure effectiveness of Cyclone Preparedness Programme (CPP) at field level (for cyclone).
- (d) If necessary send one Liaison Officer for the EOC at the Ministry of Disaster Management and Relief (MDMR).
- (e) Keep the Survey and Relief Team of Headquarters on standby in readiness with required transports.
- (f) Attend the meeting of Cyclone Preparedness Programme Implementation Board and keep contact with Inter-Ministerial Disaster Management Coordination Committee/Ministry of Disaster Management and Relief.
- (g) If necessary, issue instructions for sending of employees, volunteers and materials to disaster affected areas from less disaster prone areas.

- (h) Disseminate the danger/great danger signal with proper explanation to all concerned (in case of cyclone warnings).
- (i) In view of seriousness of situation send reserve employees and materials to advantageous places.
- (j) Take part in evacuation programme of population with close cooperation of volunteers and local authority if directed by the appropriate authority.
- (k) Operate Control Room full time and keep all time contact with the EOC at the Ministry of Disaster Management and Relief.
- (l) Coordinate with principal non-government organisation (NGOs) for possible works.

Disaster Stage

- (a) Ensure survey of loss and damage in affected areas and dispatch of relief/medical teams and arrival of concerned BDRCS units to the affected areas soon after the passage of disaster.
- (b) Assist the local authority to determine loss and damage and requirement and supply information to these organizations and BDRCS Headquarters.
- (c) Give emergency assistance to the disaster affected people, especially in the following cases.
 - (i) Help in rescue and evacuation work.
 - (ii) Assist the local administration in organising shelter places.
 - (iii) Give first aid to injured persons.
 - (iv) Arrange complementary food according to the need of distressed people.
 - (v) Arrange preventive and limited curative treatment.
 - (vi) Arrange for the necessary household materials and clothing to be dispatched to the seriously affected people.
- (d) Inform appropriate authority about loss and damage and requirement of affected people.
- (e) Arrange for use of material, received from Red Crescent unit of areas not attacked by disaster and from Headquarters in areas affected by disaster.
- (g) Send request for requirement of relief and rehabilitation operation after informing about loss and damage due to disaster to the International Federation of Red Cross and Red Crescent Societies (IFRCS).

Rehabilitation Stage

- (a) Participate in reconstruction and rehabilitation programmes in special circumstances.
- (b) Take steps for correct and effective evaluation of preparedness work and for correcting errors/weakness in such work.
- (c) Provide assistance to the local authority in any possible way for relieving the distress of people.
- (d) Extend Cooperation to the National Disaster Management Council (NDMC) and the

Ministry of Disaster Management and Relief in the preparation of list of disaster affected people and the requirement and probability of rehabilitation.

Annexure-A

Publicity of Special Weather Bulletin under code name

1. *Recipients of signal Code named “Whirlwind”.*

(a) Chittagong

- (i) Deputy Conservator, Chittagong Port
- (ii) Chief Officer, Mercantile Marine Department, Chittagong.
- (iii) Fisheries Harbour Management, Chittagong.

(b) Cox’s Bazar

- (i) Deputy Commissioner, Cox’s Bazar

(c) Mongla

- (i) Chairman, Mongla Port Authority.

2. *Recipients of Signal Code named “Hurricane”*

(a) Dhaka

- (i) Secretary to the President.
- (ii) Secretary to the Prime Minister
- (iii) Cabinet Secretary
- (iv) Chief of Staff, Bangladesh Army
- (v) Chief of Staff, Bangladesh Air Force
- (vi) Chief of Staff, Bangladesh Navy
- (vii) Secretary, Defence Division, Ministry of Defence
- (viii) Secretary, Roads & Railways Division
- (ix) Secretary, Jamuna Bridge Division
- (x) Secretary, Ministry of Water Transport
- (xi) Secretary, Ministry of Posts and Telecommunications
- (xii) Secretary, Ministry of Disaster Management and Relief
- (xiii) Secretary, Ministry of Information
- (xiv) Secretary, Ministry of Home Affairs
- (xv) Secretary, Ministry of Civil Aviation and Tourism
- (xvi) Secretary, Local Government Division
- (xvii) Secretary, Rural Development and Cooperative Division
- (xviii) Secretary, Ministry of Water Resources
- (xix) Secretary, Ministry of Food
- (xx) P.S.O., Armed Forces Division.
- (xxi) Inspector General of Police, Govt. of Bangladesh
- (xxii) Chief Executive, Conservancy and Pilot-2, BIWTA Motijheel, Dhaka
- (xxiii) Director, Surface Water Hydraulics- 2, Bangladesh Water Development Board
- (xxiv) Chairman, T&T Board
- (xxv) Chairman, Civil Aviation Authority, International Airport, Dhaka
- (xxvi) Chairman, Power Development Board
- (xxvii) Chairman, Bangladesh Water Development Board
- (xxviii) Commissioner, Dhaka Division
- (xxix) Chairman, Rural Electrification Board

- (xxx) Chief Engineer, Roads and Highways Department
- (xxxi) Chairman, BIWTA
- (xxxii) Chairman, BIWTC
- (xxxiii) Director General, Bangladesh Rifles
- (xxxiv) Director General, Fire Brigade and Civil Defence
- (xxxv) Director General, Disaster Management Bureau
- (xxxvi) Director General, Department of Relief and Rehabilitation

(b) **Chittagong**

- (i) Commissioner, Chittagong Division
- (ii) Deputy Commissioner, Chittagong
- (iii) Chairman, Chittagong Port Authority
- (iv) Commodore Commanding, Bangladesh Navy, Chittagong
- (v) Commodore Commanding, BN Flotilla, Chittagong
- (vi) Fisheries Harbour, Chittagong
- (vii) General Manager, Bangladesh Railways, Chittagong
- (viii) Commandant, Marine Academy, Chittagong
- (ix) Vice Chairman, EPZ, Chittagong.

(c) **Cox's Bazar**

- (i) Deputy Commissioner, Cox's Bazar

(d) **Noakhali**

- (i) Deputy Commissioner, Noakhali

(e) **Laxmipur**

- (i) Deputy Commissioner, Laxmipur

(f) **Barisal**

- (i) Deputy Commissioner, Barisal

(g) **Bhola**

- (i) Deputy Commissioner, Bhola

(h) **Jhalakathi**

Deputy Commissioner, Jhalakathi

(i) **Perojpur**

Deputy Commissioner, Perojpur

(j) **Patuakhali**

Deputy Commissioner, Patuakhali

(k) **Barguna**

Deputy Commissioner, Barguna

(l) **Khulna**

- (i) Commissioner, Khulna Division
- (ii) Deputy Commissioner, Khulna
- (iii) Chairman, Port Authority, Chalna
- (m) Satkhira: (i) Deputy Commissioner, Satkhira
- (n) Bagerhat: (i) Deputy Commissioner, Bagerhat

3. ***Recipients of signal code named “Typhoon”***

(a) **Chittagong Hill Tracts-Region**

- (i) Deputy Commissioner, Rangamati
- (ii) Deputy Commissioner, Khagrachari

(b) **Bandarban Region**

- (i) Deputy Commissioner, Bandarban

(c) **Chittagong Region**

- (i) Deputy Commissioner, Chittagong
- (ii) Deputy Commissioner, Cox’s Bazar
- (iii) Officer-in-Charge, Weather Observatory, Sitakunda
- (iv) Officer-in-Charge, Weather Observatory, Swandip
- (v) Thana Nirbahi Officer, Swandip

(d) **Comilla Region**

- (i) Deputy Commissioner, Chandpur

(e) **Noakhali Region**

- (i) Deputy Commissioner, Noakhali
- (ii) Deputy Commissioner, Laxmipur
- (iii) Deputy Commissioner, Feni
- (iv) Officer-in-Charge, Class I Observatory, Maijdee Court, Noakhali
- (v) Officer-in-Charge, Pilot Balloon Observatory, Feni
- (vi) Thana Nirbahi Officer, Hatiya
- (vii) Officer-in-Charge, Class I Observatory , Hatiya

(f) **Khulna Region**

- (i) Deputy Commissioner, Khulna
- (ii) Deputy Commissioner, Satkhira
- (iii) Chairman, Mongla Port Authority, Bagerhat
- (iv) Deputy Commissioner, Bagerhat
- (v) Officer-in-Charge, Class I Observatory, Gallamari, Khulna
- (vi) Officer-in-Charge, Class I Observatory, Satkhira Khulna
- (vii) Project Director, Coastal Embankment Project, Khulna

(g) **Barisal Region**

- (i) Deputy Commissioner, Barisal
- (ii) Project Director, Coastal Embankment, BWDB, Barisal
- (iii) Deputy Commissioner, Bhola
- (iv) Deputy Commissioner, Jhalakathi
- (v) Deputy Commissioner, Perojpur
- (vi) Officer-in-Charge, PBO, Barisal
- (vii) Officer-in-Charge, Class I Observatory, Bhola

(h) **Patuakhali Region**

- (i) Deputy Commissioner, Patuakhali
- (ii) Deputy Commissioner, Barguna
- (iii) Officer-in-Charge, Weather Station, Khepupara
- (iv) Officer-in-Charge, Class I Observatory, Gallamari, Khulna

4. Recipients of signal code named “Waterways”

(a) **Comilla Region**

- (i) Deputy Commissioner, Chandpur
- (ii) Regional Manager, BIWTC, Chandpur

(b) **Noakhali Region**

- (i) Deputy Commissioner and Officer-in-Charge, Cyclone Warning Signal, Noakhali
- (ii) Deputy Commissioner, Feni
- (iii) Deputy Commissioner, Laxmipur

(c) **Dhaka Region**

- (i) Deputy Commissioner, Dhaka
- (ii) Deputy Commissioner, Narayanganj
- (iii) Regional Manager, BIWTC, Narayanganj
- (iv) Deputy Commissioner, Narsingdi
- (v) Deputy Commissioner, Munshiganj

(d) **Faridpur Region**

- (i) Deputy Commissioner, Faridpur
- (ii) Deputy Commissioner, Rajbari
- (iii) Superintendent of Police, Rajbari
- (iv) Deputy Commissioner, Madaripur
- (v) Deputy Commissioner, Gopalganj
- (vi) Deputy Regional Manager, BIWTC, Goalando
- (vii) Deputy Commissioner, Shariatpur

(e) **Mymensingh Region**

- (i) Deputy Commissioner, Mymensingh

(f) **Tangail Region**

- (i) Deputy Commissioner, Tangail

(g) **Khulna Region**

- (i) Deputy Commissioner, Khulna
- (ii) Wing Commander, Bangladesh Rifles, Khulna
- (iii) Regional Manager, BIWTC, Khulna
- (iv) Divisional Forest Officer, Sundarban, Khulna
- (v) General Manager, Khulna Shipyard, Khulna
- (vi) Deputy Commissioner, Bagerhat
- (vii) Deputy Commissioner, Satkhira

(h) **Barisal Region**

- (i) Deputy Commissioner, Barisal
- (ii) Regional Manager, BIWTC, Barisal
- (iii) Deputy Commissioner, Perojpur
- (iv) Deputy Commissioner, Bhola

(i) **Patuakhali Region**

- (i) Deputy Commissioner, Patuakhali
- (ii) Deputy Commissioner, Barguna

(j) **Rajshahi Region**

- (i) Deputy Commissioner, Rajshahi
- (ii) Deputy Commissioner, Nowgaon

(k) **Pabna Region**

- (i) Deputy Commissioner, Pabna
- (ii) Deputy Commissioner, Sirajgonj
- (iii) Works Inspector, Hardinge Bridge, Paksey, Bangladesh Railway

(l) **Rangpur Region**

- (i) Deputy Commissioner, Rangpur
- (ii) Marine Superintendent, BR Teestaghat, Fulchari

(iii) Deputy Commissioner, Kurigram

5. ***Recipients of signal code named “Authority” or Kartipakkha’***

- (i) Director (C&P, BIWTA)
- (ii) Conservancy and Pilot Superintendent, Sylhet Section, BIWTA
- (iii) Conservancy and Pilot Superintendent, Western Delta Section, BIWTA, Eastern Boyra, Khulna
- (iv) Conservancy and Pilot Superintendent, Central Delta Section, BIWTA, Chandpur
- (v) Conservancy and Pilot Superintendent, BIWTA, Kishoreganj
- (vi) Conservancy and Pilot Superintendent, Eastern Delta Section, BIWTA, Barisal
- (vii) Conservancy and Pilot Superintendent, Eastern Delta Section, Taher Chamber, Agrabad R/A, Chittagong

Annexure-B

Formation and Management of Relief Centre

- The Thana Disaster Management Committee/Thana Nirbahi Officer or District Administration will open shelter space/Relief Centres in times of necessity to save human lives and properties.
- The Union Parishad Chairman in his capacity as Chairman of Union Disaster Management Committee will organise and open relief centres at carefully selected places like cyclone shelter, educational institutions, community centre and other government places in consideration of the nature of disaster.
- The concerned Union Parishad Member will be in charge of the centre and at least 10 (ten) local volunteers will assist him in organising, coordinating and managing the centre.
- Required accommodation, health and sanitation, water supply and lighting arrangement should be ensured. For the supply of pure drinking water, shallow tube-well should be sunk with the help of Public Health Engineering Department.
- Every step should be taken for the prevention of epidemics.
- According to necessity, gruel kitchens may be opened on emergency basis with the permission of the Deputy Commissioner and cooked food may be supplied there. Olio or flat bread and vegetable may be served as food. Milk may be supplied to babies. Expenses on this account should be met from the Thana budget and local fund. Prior approval of the Director General, Relief and Rehabilitation shall have to be obtained for excess food grains or sanction of fund before commitment of additional expenditure. To run gruel kitchen, a stock of utensils should be gradually built up at Thana level.
- Strict control should be observed for admission into Relief Centre. Those who are not affected in the disaster should not be admitted to the Relief Centre.
- Law and order in the relief centres should be ensured with the assistance of Police, Ansar, Village Defense Party, Local Police and volunteers. The personal belongings of the affected people evacuated from their house should be properly preserved.
- First aid and health centres should be opened at the relief centres with the help of Thana Health and Family Planning Officer. Local Red Crescent representative will ensure all cooperation in the centre.
- Muster oil and daily accounts of issue and receipt of relief materials should be maintained and preserved at each centre. One account register of cash receipt and issue should also be opened.

Annexure-C

Stock of Emergency Relief Materials

- In order to supply food and construct shelter space quickly during disaster, stock of food and construction materials should be built up in the Headquarters station of disaster prone districts. District Relief and Rehabilitation Officer will keep account of these materials and ensure their proper maintenance. These relief materials should be sent to Relief Centres on the instructions of Deputy Commissioner or District Disaster Management Committee. If disaster of highest magnitude is feared the Deputy Commissioner will send request letter much ahead to the Director General, Relief and Rehabilitation for additional allocation and also ensure sending of some relief materials to those places which are likely to be affected by the disaster.
- The following materials are required for the management of relief work
(i) Rice/atta (ii) Puffed rice, Purched rice (Muri), Treacle, Sugar (iii) Powder Milk, Biscuit (iv) Various building materials.
- Besides, utensils, tarpaulins, tents and CI sheets are required in the relief centres. Receipt of funds from the Thana treasury should be ensured as soon as it resumes normal operation. Under public food distribution system, the CSDs and LSDs keep sufficient stock of rice and wheat for ensuring supply of food grains throughout the country. Puffed rice, Muri and Treacle are easily available and welcome to the common people. Because of their easy availability and chance of becoming stale it is not necessary to stock them. In times of necessity the District Disaster Management Committee can buy these articles from the local market. Stocks of various building materials should also be built up at district level.
- Sufficiently ahead of cyclone/flood season, the Deputy Commissioner of the disaster prone districts should reappraise their respective position of cash fund or stock of any relief materials. If cash fund and or stocks of any relief materials appears to be inadequate it should be brought to the notice of the Director General, Relief and Rehabilitation.

Annexure-D

Classification of Cyclones

- The following is the classification of the cyclone according to the intensity and velocity of wind.

(a)	Depression	:	Wind speed 31 miles/hr or 50 km/hr.
(b)	Deep depression	:	Wind speed 32-38 miles/hr or 51-61 km/hr.
(c)	Cyclone	:	Wind speed 39-54 miles/hr or 62-88 km/hr.
(d)	Severe Cyclone	:	Wind speed 55-73 miles/hr or 89-117 km/hr.
(e)	Cyclone with hurricane	:	Wind speed 74 miles/hr or 118 km/hr or more.

Annexure-E

Warning Signals for Sea and River Ports

1. For sea ports the following 11 (Eleven) kinds of cyclone warning signals are used.

Warning Signal Number	Explanation
(i) Distant Cautionary Signal No. I	(i) There is region of squally weather in the distance sea where storm may form.
(ii) Distant Cautionary Signal No. II	(ii) A storm has formed in the distant sea.
(iii) Distant Cautionary Signal No. III	(iii) The port is threatened by squally weather
(iv) Local Cautionary Signal No. IV	(iv) The port is threatened by a storm but it does not appear that the danger is as yet sufficiently great to justify extreme precautionary measures.
(v) Danger Signal No. V	(v) The port will experience severe weather from a storm of slight or moderate intensity, that is expected to cross the coast to the South of the port in case of Chittagong and Cox's Bazar and, East of the port in case of Mongla.
(vi) Danger Signal No. VI	(vi) The port will experience severe weather from a storm of slight or moderate intensity that is expected to cross the coast to the North of the port in case of Chittagong and Cox's Bazar and to the West of the port in case of Mongla.
(vii) Danger Signal No. VII	(vii) The port will experience severe weather from a storm of slight or moderate intensity that is expected to cross over or near the port.
(viii) Great Danger Signal No. VIII	(viii) The port will experience severe weather from a storm of great intensity that is expected to cross the coast to the South of the port in case of Chittagong and Cox's Bazar and to the East of the port in case of Mongla.
(ix) Great Danger Signal No. IX	(ix) The port will experience severe weather from a storm of great intensity that is expected to cross the coast to the North of the port in case of Chittagong and Cox's Bazar and to the West of the port in case of Mongla.
(x) Great Danger Signal No. X	(x) The port will experience severe weather from a storm of great

intensity that is expected to cross over or near to the port.

(xi) Communication Failure Signal No. XI

(xi) Communications with the Meteorological warning centre have broken down and the local officers consider that a devastating Cyclone is following.

2. **The following 4 (four) types of signals are meant for River Ports**

(i) Warning Signal No. I

(i) The area is threatened by squally winds of transient nature.

(ii) Cautionary Signal No. II

(ii) A storm is likely to strike the area (vessels of 65 feet and under in length are to seek shelter immediately).

(iii) Warning Signal No. III

(iii) A storm will strike the area (all vessels will seek shelter immediately).

(iv) Great Danger Signal No. IV

(iv) A violent storm will soon strike the area (all vessels will take shelter immediately).

3. Every year 13-14 number cyclones (with wind velocity at 38 miles per hour) are formed in the Bay of Bengal. Out of them 5 (five) attain the strength of cyclone (with wind velocity 39 miles per hour or more) and cross the adjacent coastal areas. The possibility of any one such cyclone taking a turning and passing over the coastal areas of Bangladesh always remains.

PROCEDURE FOR HOISTING CYCLONE WARNING FLAGS

Annexure-F

Floods and its Causes

- Floods are regular phenomena in Bangladesh during monsoon. Every year during May-October period Bangladesh is generally visited by floods of two types -floods due to gradual rise of water level in rivers and canals, and flash floods due to heavy rains in hilly areas.

Due to gradual increase of water level at the sources of Principal rivers of Bangladesh located outside the International geographical boundary, floods are created in the country through inundation of river banks. In such cases level of flood water generally increases slowly but the rise creates floods in Comilla, Sylhet, Mymensingh, Tangail, Jamalpur, Rangpur, Bogra, Dhaka, Faridpur, Rajshahi, Pabna, Sirajgonj and Kushtia areas. Simultaneously these districts witness sufficient rainfall, which deteriorates flood situations.

Due to intensive rains in upstream in Khasia-Jaintia, Garo and Tripura Hill Tracts regions in border areas outside Bangladesh there is sudden upsurge of water in rivers and rivulets resulting in sudden increase of water level inundating river banks thereby creating sudden floods causing immense loss to households, crops and lives and properties. In some areas intensive rainfall locally causes flash floods.

Causes of floods and its intensity

- (a) Heavy rainfall in the Himalayas and immense water volume due to melting of snow.
- (b) Heavy rainfall in Assam valley and Northern Assam
- (c) Local heavy rainfall
- (d) Due to landslides in upstream the alluvial soil raises the bed of rivers and canals.
- (e) Large scale tree felling in and around source of river, streams and water source.
- (f) Blockade of natural drainage of water due to unplanned population settlement and construction of embankments.
- (g) Formation of shoals in rivers and sand beds.
- (h) Increase of sea level and its effect in low-lying areas.

Annexure-G

Thana Disaster Action Plan

PREPARED BY
DISASTER MANAGEMENT BUREAU
MINISTRY OF DISASTER MANAGEMENT AND RELIEF
HOUSE NO. 33, ROAD NO. 2, DHANMONDI
DHAKA

- Thana Disaster Preparedness Action Plan

Introduction

Explanatory Statement

In the statement below, preliminary outline has been given for the preparation of the Thana Disaster Action Plan. Detailed plans will have to be prepared on this basis. This outline will be made more detailed and specific on the basis of research undertaken on experimental basis in some representative Thanass. The plan should be consistent with local conditions and its basis would be:

- (a) A specific goal understandable and agreeable to all
- (b) Updated information/statistics of risk factors and assets
- (c) Concerned national policy and well defined responsibilities (Inclusive of Authority and Accountability) at Union, Thana and District levels.

The plan should be clear, short and understandable to the people and to all those responsible for its implementation. This plan is to be prepared on the initiative of the Thana Disaster Management Committee and in consultation with representatives of all concerned agencies in the Thana.

Guidelines and Responsibility

- Primary responsibility for planning of Disaster Management Preparedness beginning from the stage of publicity of warning signals up to the stage of occurrence lies with the people of the concerned areas. The government and other aid giving agencies specially the non-government organisations (NGOs) will be responsible for helping and advising them to make preparation for meeting disaster and its effects.

The primary aim of such assistance is to minimise the danger of disaster, to increase the ability of people to combat the disaster and also to increase the ability to overcome the post disaster loss and damage. The government's responsibility will be to alert the people in advance about the imminent danger, to reconstruct the most essential infrastructure and to reinstall quickly the basic services. Also soon after occurrence of disaster, for the purpose of saving life, determination of priorities on realistic basis within the limitation of capacity for distribution of relief devolves on the government. Within this general frame-work, specific responsibilities of different administrative layers such as Union, Thana and District are stated in Annexure-G.

These may undergo changes in the light of Standing Orders to be prepared in future.

Mutual Relationship between the Union, Thana and District Action Plans

The schemes of different levels should be prepared in such a manner that they become complementary to each other. In the Thana the subjects regarding responsibilities, based on available materials (human beings and others) at Thana level, will be included. It will be also included as to how to assist the Union level authorities and other local population to perform their responsibilities. But Thana authority will under no circumstances, accept their responsibilities. In the same manner it will be stated in the Thana Disaster Action Plan as to how the Thana authority will inform the district authority about the situation and ask for help in times of need.

Outlines of specific subjects for inclusion in the Thana Disaster Preparedness Scheme

Note: The information contained in Annexure-GC1 are to be considered as very important.

1. In Thana Disaster Preparedness scheme, the goal to be achieved in the relevant disaster management is to be described clearly in details.

Generally the goal under this Action Plan is to reduce the local loss and damage to life and property due to disaster as far as possible

- Through possible practical programmes at family, union and Thana level for increasing public consciousness about risk and to minimise the risk.
- Through implementation of relevant programmes for minimising risk with mobilisation of local materials and efforts.
- Through ensuring improved publicity among the population for advance alertness in respect of cyclone and floods.
- Through preparation of disaster work plan and its implementation after determination of necessity of evacuation, rescue and volume of loss and damage and including the relief and preliminary rehabilitation plans.

The Goals may be more wide within the ambit of the described general frame work in the light of local situation.

2. Risk of Disaster

A separate short description on the following subjects will be included in the Action Plan:

The description of various severe and possible types of disasters relevant in the area, such as severe riverine floods, cyclone, sudden floods or any other disaster and due to which loss and damage might be caused to risky places, population, crops, other economic activities, services, roads and other communication system and any other local facilities etc.

- (a) In the case of cyclone, the places hit by tidal bore with highest surge (height to be

mentioned in feet) during the most severe cyclone in the past and the period of time when the water due to tidal bore remained stagnant for want of proper drainage arrangement should be shown/marked in the map to be prepared.

- (b) In the case of floods the height of flood water level (in feet) at different places and disruption in communication system due to breaches on the roads, during the severe floods in the past should be shown/marked in the map to be prepared.
- (c) The houses and road were completely destroyed during flash floods are to be indicated in the map to be prepared.

One or more maps (according to maps of Local Government Engineering Department) should be prepared marking the risky places including village, physical infrastructure and facilities likely to be affected by cyclone, floods or any other disasters. This map will be attached to Disaster Action Plan as Appendix-I (2).

3. Description of General Responsibilities of Thana Disaster Management Committee

Responsibilities of Thana level committee and Thana authority and mutual relationship with Union and District levels should be included in the Action plan in short form.

4. Formation of Thana Disaster Management Committee

Thana Disaster Management Committee will be formed with ex-officio members, representatives of government offices and other organisations and co-opted members. Cooperation with other organisations should be mentioned.

5. A sub-committee with the members of Thana Disaster Management Committee will have to be formed and its function is to be determined.

6. A sub-committee is to be formed for performance of specific responsibility such as taking up resistance and preparedness programmes unitedly, propagation of warning message; evacuation of population from risky areas to shelter or safer places; determination of damage and loss etc.

7. Adoption of Local Disaster Preparedness Measures

- (a) Pre tested preparedness measures suitable to reduce risk and loss and damage due to cyclone, flood or any other type of disaster acceptable to self and groups should be defined in Thana Action Plan. These measures are aimed at increasing capacity to combat disaster.
- (b) The prevalent measures and programmes or other steps for increasing the awareness of people about risk in risky areas which all concerned can accept or should accept for reduction of loss and damage should be included in the work plan.
- (c) The plan should state the practical methods of implementing the steps mentioned above at the community level.
- (d) The steps planned at Thana level for reducing loss and damage to local infrastructure, service facilities and economy should be mentioned in the plan.

8. Warning procedures and preparedness measures

The followings should be specifically mentioned in the Thana Plan:

- (a) Details of the arrangements for disseminating the cyclone/flood warning to all concerned officials, to the population in the risk areas, and to the manager/officials of important organisations. Lists of people made responsible for disseminating warning messages, the method of reaching the warning message to concerned people and alternative arrangement if problems arise in reaching warning/warning message.
 - (b) The duty of the concerned organisation/person after receipt of a special type of warning message will be:
 - To inform others and if necessary take initiative or assist in initiatives taken by others for evacuation of people to safer places.
 - To protect infrastructure and assets under their own charge which ensure availability of emergency supply and services.
 - Help others to protect the channels through which emergency supplies and services can be made available.
 - To organise all to take preparation or help the government officials to meet the after effects of raging disaster.
8. (a) The manner of arranging correct funeral rites of dead bodies due to disaster (if their number is large with the help of the Union authority, if required) is to be mentioned.

9. Establishment of Thana Control Room and its operation

In the Thana Action Plan the following should be clearly mentioned:

- (a) Where the control room to be established at Thana Headquarters during disaster.
- (b) Which officer should remain in charge of Control Room on whole time basis and which officers will keep the Control Room operational round the clock (24 hrs).
- (c) How to maintain the general communications system operational with every Union and District authority.

10. Evacuation Arrangement

The following should be specifically mentioned in Thana Action Plan:

- (a) After receipt of instructions for evacuation or after occurrence of disaster under what condition and from what place people will shift to safer places themselves or the local authority will remove them.
- (b) Description about areas from where population will be evacuated and also the areas where population will be accommodated for safety with the location.
- (c) In case of evacuation, the type of assistance to be given to Union authority specially in planning the shelter centre, its administration and repair.
- (d) Arrangements for evacuation of endangered population to Thana Headquarters specially in different offices in the Thana and other places, population of which area will be sheltered at which office and existing facilities (availability of water and arrangement of sewerage) and list of shelter centres with the names of people made responsible to

operate them.

- (e) Communication system with different shelter centres and the means of reaching the supplies.
- (f) Special arrangement/considerations for infirm groups.

A map with shelter centres marked there on should be at Annexure-I (3), location of shelter centre, description of areas from where population will be evacuated to these centres, facilities for water and sewerage arrangement , cooking arrangement facilities and the list of persons responsible for operation of these centres will be stated in Appendix IV.

11. Rescue and arrangement for care of injured persons

It will be specifically mentioned in the Thana Action Plan:

- (a) The names of officers in every Thana responsible for search and rescue operations and the types of materials/implements which can be procured from both outside and inside the Thana area for search and rescue work.
- (b) The areas to get priority in rescue work after cyclone/severe floods and the requirement of types of boats/transport.
- (c) Type of assistance to be accorded to Union authorities for organising rescue work.
- (d) Arrangement for rescue work at Thana Headquarters
- (e) Basis of distribution of materials received for conducting relief work.
- (f) Arrangement for coordination of facilities for movements by rescue team with health services and other people.
- (g) Names of places where mobile medical care centres can be established, if necessary.
- (h) Special consideration/arrangements for any specific groups

12. Restoration/Installation of Telecommunication System

Arrangement for restoration/installation of disrupted telecommunication system with District Headquarters and within Thana area duly approved by District Disaster Management Committee/Concerned office will be mentioned in the Thana Action Plan.

13. Security and Safety of Properties

Description on maintenance of law and order within the Thana area, security and protective arrangements of personal and government property by Police, Village Defense Party and Ansar through contact with the district authority will be mentioned in the Thana Action Plan.

14. Loss, Determination of Requirement and Reporting

The following will have to be mentioned at Thana Disaster Action Plan:

- (a) Description of responsibility and arrangement for the assessment of loss and needs (the person/official and the manner of performing is to be described), and after assessment of the same to be communicated to Thana Nirbahi Officer/Thana Disaster Management

Committee along with the report of Union Authority/Union Disaster Management Committee or specially constituted team.

- (b) Consolidation and analysis at Thana level of information received and sending the same to District Administration and to inform, through him, Emergency Operation Centre/MDMR and Disaster Management Bureau.
- (c) If necessary arrangement for constitution of a special team for sending to most distressed area for assessment of loss and damage and requirement and verification of information received from other sources.

15. Coordination of Cooperation/Assistance

Description of Coordinators and arrangement for coordination of work of teams reporting from within Thana and from outside for relief and rehabilitation work. Description of following arrangement through communication with district authority:

- (a) Holding of regular meetings of Thana Disaster Management Committee with the representatives of teams employed for relief work in the Thana.
- (b) Arrangement for informing about location of special information centre, on way, to teams coming from outside for giving relief independently and asking for special assistance on priority basis but not possible to give them.

16. Management of Supply of Relief Materials

The following shall have to be mentioned in the Thana Action Plan:

- (a) Description of arrangement for receipt of relief materials, their storage procedure, maintenance of files and of accounts.
- (b) Description of the basis of distribution among the Unions and the manner of distribution among the distressed.
- (c) Assignment of responsibility for allocation of relief materials at Thana level.
- (d) Description of arrangement for maintenance of accounts of materials received from Thana and district authority.
- (e) Description of monitoring arrangement of final distribution of supplies among the distressed.

17. **Reintroduction of Essential Services**

Description of those primarily responsible for extension of assistance to reintroduction of essential services on priority basis in communication with the concerned departments and the District Disaster Management Committee.

18. **Assistance for Rehabilitation**

- (a) Description of preparation of probable priority list for rehabilitation, construction of house on self-help basis, agri rehabilitation and creation of opportunities in conjunction with District Disaster Management Committee and concerned departments.
- (b) Description of coordination of work of every department/sector at thana level, selection of their focal points and formation of sub-committees, if necessary.

19. **Supply (Logistics) Assistance**

In the light of past experience and specific/contingent situation and in conjunction with District Disaster Management Committee and concerned District authority the following subjects should be mentioned in the Action Plan

- (a) Where the necessary articles for use in relief and rehabilitation work are generally available locally or is there any possibility of their receipt from outside the Thana area, if required.
- (b) Address or location of special experienced person or any special article for relief and rehabilitation work which will be required soon after the occurrence of disaster and the identity of person to whom these will be supplied (godowns for storage and persons responsible for receipt and distribution).
- (c) Type of transport required, where available and how to procure them for sending articles and expert persons to specific areas within Thana areas.
- (d) Where godowns/space for keeping materials supplied will be available at Thana and union level and who will remain in charge of these materials and keep accounts at each place (necessary form should be available).
- (e) Who will remain in charge of priority relief and rehabilitation work and the manner of coordination of transports, goods and articles of services.

20. **Arrangement for Review, Amendment and updating of Action Plan**

Procedure for review of the Action Plan from time to time and the methods to be adopted for the correction of lapses/errors found during the review should be described.

21. **Appendix:** The information relating to following subjects should be included in the Appendix

- (a) **Maps**
 - (i) Maps showing demarcation of union boundary lines, village, highways/roads, bridge, market, Ferry, Power and Telephone lines, Health Care Centre, LSD etc.
 - (ii) Maps showing disaster areas (Relevant to subject No. 2)

(iii) Maps showing location of shelters.

(b) General picture of the Thana: Collected statistics will be complementary to maps.

(i) **General**

- Union wise population (male/female) table and agricultural statistics.
- Nature of Common diseases and nutritional situation, change of season and observed health problems during last disaster.
- Distance, common communication system (pitched road, earthen road and river) and travel time required for going to every Union, District Headquarters or any other important place.
- Existing health care arrangement, location, strength, hospital capacity, health centre, MCH, Clinic etc.
- Water Supply arrangements.

(ii) **Supply (Logistics) arrangements**

- Telecommunication arrangement within Thana area and with district Headquarters.
- Storage arrangement: Location, size/capacity and ownership
- Transport arrangement: Number of trucks and water transports in the Thana, transportation capacity and ownership and the means to organise them in times of emergency.
- POL Location, ownership and normal stock of petrol and diesel.
- Stock of food department: Normal stock of LSD from time to time.
- Private Traders names, address and normal stock of important traders of food-grains, edible oil, building construction materials, utensils for daily use, kerosene etc.

(c) **Communications System**

(i) **Thana Level**

List of government offices, non-government organisations (NGOs), voluntary organizations and any other organisation located within the Thana whose services in disaster resistance, preparedness and combating may be necessary and the names of officer-in-charge and immediate subordinate of concerned office, organisation, agency along with address and telephone number.

(ii) **Union Level**

List of people made responsible by the Union Disaster Management Committee for different works related to disaster (Model Disaster work plan at Union level is to be described).

(d) **Shelter Centres**

One form should show the location of shelters/safe centres and names of the respective areas assigned to each centre/shelter and the facilities available therein and the name of officer-in-charge responsible for the operation of the centres/shelter.

- (e) The guidelines to be followed by rescue teams.
- (f) Specific form to be used for assessment of loss/needs.
- (g) Distribution list (related to this plan).

Annexure-G(1)

Constitution and Responsibilities of Union, Thana and District Disaster Management Committee

1. Constitution of Union Disaster Management Committee

(i)	Chairman, Union Parishad	-	Chairman
(ii)	Members, Union Parishad	-	Member
(iii)	Teachers Representative	-	Member
(iv)	Government Employee at Union level	-	Member
(v)	Women Representative	-	Member
(vi)	Cyclone Preparedness Programme (CPP) Representative	-	Member
(vii)	Bangladesh Red Crescent Society's Representative	-	Member
(viii)	NGO's Representative	-	Member
(ix)	Union Parishad Secretary	-	Member-Secretary

In the light of local situation and special circumstances, the Chairman of the Committee can co-opt more members.

The committee will meet once in every two months. During disaster the Committee will meet once daily, and after some improvement in situation, twice in every week.

2. The responsibilities of Union Disaster Management Committee are mentioned below:

2.1 Normal Times

- Ensure that local people are kept informed regarding taking practical measures for the reduction of risk personally or unitedly and also about wide publicity regarding the reduction of risk at community level and the methods of keeping alive.
- Arrange training and workshops on regular basis on disaster issues and keep the Disaster Management Bureau informed.
- Prepare a Disaster Action Plan with a view to enabling local people, Union authority and local organisation to take up security arrangement in the perspective of imminent danger related warnings or occurrence of disaster including the issues already mentioned under this paragraph.
- Take steps for quickest and effective publicity of forecasts/warnings relating to cyclone and floods and also inform people about their responsibilities of saving their lives and properties from disaster.

Determine specific safe centre/shelter where the population of certain areas will go at the time of need and assign responsibilities to different persons for various services at the shelter/centre.

- Ensure supply of water and if necessary other services from specific points near the shelter/centre with the help of Thana authority.
- Prepare relevant plans for local rescue plan, primary relief operation, restoration of communication with Thana Headquarters and local arrangement for rehabilitation of severely affected families.
- Arrangement for rehearsals or drills on the dissemination of warning signals/forecasts, evacuation, rescue and primary relief operations.

2.2 During Disaster

- Organize emergency rescue work by using locally available facilities in times of need and if directed assist others in rescue work.
- Collect statistics of loss incurred in disaster in the light of guidelines of Disaster Management Bureau and Thana Authority and send the same to TDMC/Thana authority.
- Take steps for distribution of articles for rehabilitation received locally or from Relief and Rehabilitation Directorate and any other source following the guidelines from Disaster Management Bureau and TDMC/Thana authority.
- Send accounts of material received to Thana authority or donor agency.

2.3 In addition to above follow Standing Orders on disaster management related issues and instant orders of appropriate authority.

3. Thana Disaster Management Committee

- | | | | |
|--------|---|---|-------------------|
| (i) | Thana Nirbahi Officer | - | Chairman |
| (ii) | Chairman of Union Parishad | - | Member |
| (iii) | Officials of concerned department of Thana leve | - | Member |
| (iv) | Women's Representative | - | Member |
| (v) | Representative of Thana central Cooperative Society | - | Member |
| (vi) | Representative of Cyclone Preparedness Programmes (CPP) | - | Member |
| (vii) | Representative of Bangladesh Red Crescent Society | - | Member |
| (viii) | Representatives of NGOs | - | Member |
| (ix) | Thana Project Implementation Officer | - | Member- Secretary |

The local members of Parliament will be Advisers to the Committee.

The Chairman of the Committee may co-opt any other member, if necessary, in the light of local situation and special conditions.

This Committee will sit in a meeting once in every two months. During disaster, meeting will be held once daily and after some improvement in the situation twice in every week.

4. The Responsibilities of Thana Disaster Management Committee

4.1 Normal Times

- To constitute a broadly representative Union Disaster Management Committee and its activation, give necessary advice and ensure receipt of information and benefit drawn from training facilities.
- To ensure increased alertness, disaster risk reduction and informing about ways of sure and effective survival.
- To ensure whether the risk of disaster and possibility of its reduction has been fully considered in preparation and implementation of development plans at local level.
- To arrange training and workshop on disaster related issues regularly by keeping the Disaster Management Bureau informed.
- To prepare a Disaster Action Plan in the light of warning signals for impending disaster including the issues below keeping in view whether Thana authority and local organizations are prepared to meet the disaster effectively and efficiently:
- To take steps for speedy and effective dissemination of the forecasts of cyclone and flood to all officials of the Thana, relevant persons/organisations and the persons responsible in this respect at Union level.
 - To select specific shelters/safe centres for evacuation of population of Thana Headquarters in times of need and make different persons responsible for various services at the shelter/centre.
 - To ensure water supply by filling cans to shelters/safe centres and also to arrange for other necessary services and to ensure similar services at shelter/centres at Union level in cooperation with Union Disaster Management Committee.
 - To help Union Disaster Management Committee in initial emergency relief and rescue work, establish communication between unions and District headquarters, and to prepare contingent plans comprising arrangements for its maintenance/restoration.

To hold mobilization drills in cooperation with district and Union authority for intermittent publicity of information and warning signal/forecasts and of matters related to evacuation, rescue and primary relief operations in the interior of the Thana.

- To raise public awareness at village level by wide publicity of disaster forecasts.

4.2 **During Disaster**

To operate emergency operation centre (Information Centre and Control Room) for coordination of activities related to evacuation, rescue and relief at Thana level.

- If necessary to operate rescue work by using the services available locally and to coordinate the relief operations undertaken by others, if made responsible for it.
- To collect and verify statistics regarding loss due to disaster from Thana and union level officials according to directives from Disaster Management Bureau and District authority. To identify needs and priorities by conducting study and information analysis by officials or any other competent persons.
- To supply report/statistics to district authority about loss, requirement and available resources for relief and rehabilitation work.

To prepare plans carefully for rehabilitation work at local level including possible arrangements

for risk minimization.

- To allocate and distribute on the basis of actual needs, the materials received from local source or Relief Directorate/other sources for rescue, relief and rehabilitation work according to the directives of Disaster Management Bureau and District authority.
- To supervise the distribution work of materials related to relief and rehabilitation and to maintain its accounts and send the same to district authority and other relief donors.

4.3 To be responsible for coordination among different offices at Thana level.

4.4 In addition, to follow Standing Orders on Disaster and comply instant orders of appropriate authority.

5. District Disaster Management Committee

(i)	Deputy Commissioner	-	Chairman
(ii)	Officials of Concerned Department at District level	-	Member
(iii)	District Executive Officers	-	Member
(iv)	Women's Representative	-	Member
(v)	District Representative of Bangladesh Red Crescent Society	-	Member
(vi)	Representative of Cyclone Preparedness Programmes (CPP)	-	Member
(vii)	NGO's Representative	-	Member
(viii)	District Relief & Rehabilitation Officer	-	Member-Secretary
(ix)	Representative of Armed Forces (During disaster time)	-	Member

All the MPs of the District will be advisers to the Committee.

The chairman of the Committee can co-opt more members in the light of the local situation and special circumstances.

The Committee will meet at least four times a year. During the disaster period, meetings should be held once daily and after some improvement of situation, at least twice a week.

6. Responsibilities of District Disaster Management Committee

6.1 Normal Times

- To constitute a broadly representative Thana Disaster Management Committee with its activation, ensure receipt of directives and information and draw benefit from available training facilities.
- To arrange training and workshops on disaster related issues regularly by keeping the Disaster Management Bureau informed.
- To ensure that the risk factor of disaster and the possibilities of reduction of risks have been fully considered while preparing and implementing development programmes at District level.
- To disseminate forecasts and warnings regarding disaster and to make the people conscious about them.

To prepare a District Disaster Action Plan including the following issues with a view to keep the District authority and local organizations well prepared so as to meet the disaster effectively and efficiently in the light of warning signals about imminent disaster and the occurrence of disaster:

- To ensure speedy and effective publicity of cyclone and flood related forecasts and warnings among all officials of the District, relevant persons/organizations and the persons of Thana level responsible in this respect.
- To select if necessary the specific shelter/safe centre for evacuation of people from District Headquarters and allocation of responsibility to different persons for rendering various services at these places.
- When necessary, to ensure supply of water which can be filled in cans at shelter/safe centre located at District Headquarters and arrange other necessary services and ensure same type of facilities and services to shelter/centre at Union level in communication with Thana Disaster Management Committee.
- To make contact with the Thana Headquarters, National Emergency Operations Centre (EOC) and Disaster Management Bureau for helping Thana Disaster Management Committee in rescue work, emergency relief work and preparation of contingency plans for essential services in the interior of the District along with their maintenance and re-installations.
- To arrange mobilization drills intermittently for publicity of the warning signals/forecasts and matters related to evacuation, rescue and operation of emergency relief work in cooperation with Disaster Management Bureau and Thana authority.

6.2 During Disaster

- To operate Emergency Operations Centre (Information Centre and Control Room) for maintaining coordination of activities at all places in the interior of the district in respect of evacuation, rescue, relief and primary rehabilitation work.

If necessary, to operate rescue work with the facilities locally available and to coordinate mobilization of rescue teams for rescue operations in severely affected Thanas.

- To collect and verify statistics relating to loss according to instructions issued by Disaster Management Bureau and other national authorities from Thana officials and Thana Disaster Management Committee and to determine priority and requirement through emergency survey by officials or any other competent persons.
- To supply information relating to loss, needs, available resources and priority needs for relief and rehabilitation work to the EOC at the Ministry of Disaster Management and Relief and the Control Room of Disaster Management Bureau.
- To prepare plans for rehabilitation work carefully based on priority measures for risk reduction at District level.
- To allocate and distribute to Thanas the materials, received from local source or Relief Directorate/any other sources on realistic basis according to necessity as per directives issued from Disaster Management Bureau and District authority.
- To supervise distribution of materials under relief and rehabilitation activities and maintain their account and send the same to national authority and other relief donor

organizations.

6.3 To perform responsibility of overall coordination among various departments at district level.

6.4 In addition, to follow the Standing Orders on Disaster and comply with instant orders of appropriate authority.

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Annexure-H

Outline of Model Union/Municipal Corporation Disaster Action Plan

Introduction

It is necessary to have a Union Disaster Action Plan for the reason that based on this plan by adopting adequate preparedness programme, it is possible to combat disaster efficiently. As a result, there is not need to take up any Action Plan on ad-hoc basis to combat disaster as in the past. Due to preparedness the people can take more responsibility for the safety of their life and property. It takes several days to bring the relief materials by the government and the non-government organizations after the occurrence of disaster, but the people can take steps for saving their families and belongings before the disaster hits. The people can also help the government and outside organizations engaged in Union relief and rehabilitation activities. While preparing the Union Action Plan the following instructions may be considered.

1. Objectives of the Action Plan

- 1.1 To make the inhabitants of the Union more conscious about the possible natural disaster in their own area and the consequent risk to their lives and property.
- 1.2 To encourage adoption of measures related to disaster preparedness and mitigation so as to reduce disaster risk to families and communities.
- 1.3 To improve dissemination of disaster warning signals like cyclone warning signals or flood warning signals locally and in local dialect.
- 1.4 To prepare plans relating to local evacuation/search and rescue, assessment of needs and losses and matters relevant to relief and primary rehabilitation with their practice.
- 1.5 To keep in mind the disaster management issues while preparing the Union Development Plan. For example, how the food grains received under “Food For Works Programme” can be used for disaster preparedness/resistance programmes.

2. Union Disaster Management Committee

- 2.1 Pursuant to orders issued under government letter No. Tran/Puba/Durjog-2/93-98 dated 12/7/93, a committee has been constituted with the following members under the chairmanship of Union Parishad Chairman.
 - 2.1.1 Union Parishad Members
 - 2.1.2 Teacher’s Representative
 - 2.1.3 Government Officials/employees at Union level, specially health workers.
 - 2.1.4 Union leader of Union Cyclone Preparedness Programmes of Unions in cyclone prone areas.
 - 2.1.5 Representative of Bangladesh Red Crescent Society.

- 2.1.6 Representatives of local Non government organisations (NGO) or Societies.
- 2.1.7 At least two women's Representatives
- 2.1.8 Union Parishad Secretary (Member-Secretary)
- 2.2 Preparation of Union Disaster Action Plan is one of the responsibilities of Union Disaster Management Committee. Under this Action Plan one register is to be maintained for persons entrusted with specific responsibilities; maintenance of maps with updated information of those unions which are prone to natural disasters; and arrangement for rehearsals on warning, evacuation, search and rescue operations.

3. The main objective of the first meeting relating to preparation of the Disaster Action Plan of Union Disaster Management Committee.

- 3.1 The Chairman, Union Parishad will call a meeting of Union Disaster Management Committee and discuss about the role and responsibility of the Members of Union Disaster Management Committee in the light of guidelines of Model Union/Municipal Corporation Disaster Action Plan prepared by Disaster Management Bureau. Every Union will prepare its own Action Plan on the basis of nature of risk of natural disasters in their own areas and specific requirement of the area. The plan is to be prepared according to own characteristics of the Union. In such case guidelines of Model Union/Municipal Corporation Disaster Action Plan will afford primary guidance which may be amended according to needs.
- 3.2 In the meeting the Chairman, Union Parishad will write down any question or opinion of committee members if they have any regarding Union Disaster Action Plan.
- 3.3 Thereafter the Chairman, Union Parishad will arrange the second meeting of the Committee with the participation of Thana Nirbahi Officer or his representative. In this meeting the Committee Members will discuss about the questions and opinions raised in the first meeting. If possible, the Chairman, Union Parishad will send a list of questions and opinions raised in the first meeting to Thana Nirbahi Officer prior to holding of the second meeting of the Committee.

4. Chronological account of Disaster in the Union

- 4.1 The Union Disaster Management Committee will discuss unprecedented flood, cyclone, river erosion, tornado and other disasters that occurred in the past. In case of recent unprecedented floods one indicative mark of flood water height is to be drawn on a brick built structure in every village. The height of water level due to floods and tidal bore is to be recorded in a register.
- 4.2 Learn about the information of various disasters in the Union and the reasons thereof, if possible.
- 4.3 Learn about how quickly water level increased in the Union in the last monsoon seasons.
- 4.4 Learn about the number of days or duration of flood water or that of tidal bore in the Union in the past.
- 4.5 Learn about the direction of flood water or cyclone in the Union in the past.
- 4.6 Infrastructure Map: Identify all evacuation centres like shelter/safe centre, brick built building, high land etc, all roads, ferries, all bus stops, jetty, newly built bridge and embankment, godowns, hospitals etc in a map of the Union.
- 4.7 Map indicating distress and danger prone points: Identify in a separate map of the Union, the roads

and other structures which suffered severe most damage in the last natural disaster like flood, cyclone etc. The map should also show the area(s) which suffered water logging due to insufficient drainage facility. Also to be identified in the map the most risky populated areas.

- 4.8 Both the maps should be hung up in a suitable open place in the Union Parishad Office.

5. Introduction of single warning system at village level of the Union

- 5.1 The name and address of volunteers of CPP working in the Unions prone to cyclones are to be written in a register. A volunteer team is to be organised in every village.
- 5.2 Identify the families possessing radio and television. They should listen to weather forecasts regularly and inform the families having no such communication device about the warning signals as soon as broadcast by radio.
- 5.3 If the Union is located in a flood prone area, identify yardstick for measuring the height of flood water in every village so as to give flood warning after measurement of flood water level. For example, the mark may be indicated on a house at the centre of the village or at a suitable height of any brick built house in the market. When the flood water level will touch that mark, all will be alerted for evacuation.

Where and at what height the mark will be given will be determined in consideration of chronology of flood in every village. The team leader of village volunteer group will supervise the place of marking.

- 5.4 Introduce a system for dispatch of information and warning signals from one village to another through volunteers. Determine how the method of sending the information regarding the increase of water level in upstream to downstream village can be organised. For example, if there is heavy rainfall in hilly areas then the people of that area can alert the villages living at the foot of the hill against flash floods.

6. Preparation of the Evacuation Plan

- 6.1 Identify sufficient number of shelter/safe centres where all unprotected families of the Union like people living in flood prone areas in shoals having no embankments can be evacuated. It should be remembered that shelter/safe centre does not mean a centre built as such but any brick built house can also be used as safe centre. If there is no shelter/safe centre in any Union then Union Parishad can raise any school field, Mosque, Madrasha or market land and use as a shelter/safe centre.
- 6.2 Select one superintendent for supervision of every shelter/safe centre and write their names in the register. These persons will be responsible for the following:
- 6.2.1 To arrange for keeping the assets of people and livestock
- 6.2.2 To keep separate arrangement for babies and women in the shelter/safe centre.
- 6.2.3 To ensure keeping tube-well in working order
- 6.2.4 To ensure required number of latrines and to keep them fit for use.
- 6.2.5 If the shelter/safe centre is to be kept under lock and key during normal times, then one key should be kept with the superintendent and the other with any responsible person/Union Parishad Chairman/Secretary.

- 6.3 Prepare a list of owners of motorized boats and launches and know their places of moorings and after collection of their names and addresses note down in the register.
- 6.4 In times of need for collection of boats and launches make one responsible specifically. Write down the name of such responsible person in the register.
- 6.5 Arrange a meeting in the village and ask the villagers to take decisions in respect of the following:
 - 6.5.1 At what height the level of flood water or at what cyclone warning signal number they will vacate their house for evacuation to a safer place.
 - 6.5.2 Women, babies and infirm people will have first preference for evacuation. Decide who amongst the members of a family should remain in the house up to the last moment and keep guard over the belongings of the family.
 - 6.5.3 Decide what articles in small quantity should accompany at the time of evacuation.
 - 6.5.4 Identify the food items and valuable articles which should be kept under the earth before evacuation.
 - 6.5.5 Decide the mode of transport (if available) to be used for shifting to safe shelter place.
 - 6.5.6 Write down the names of volunteers in the Register who will assist in evacuation work.

7. Search and Rescue Work

- 7.1 Constitute search and rescue party at village level who will be activated during flood and after cyclones. Search every house to rescue stranded people. Search should also be conducted in rivers and at sea.
- 7.2 Write down in the register about the location of available articles like boats, rafts, life-jackets etc which are required for undertaking search and rescue work.
- 7.3 Write down the selected names of person made responsible for removing the obstacles on roads specially the link road from Union to Thana Headquarters.
- 7.4 Write down the names of persons in the register who will render primary medical care to the injured persons immediately after disaster. Decide how to transfer the injured persons, if necessary, to hospital or clinic.
- 7.5 Write down the names of persons in the register who will be responsible for disposal of carcasses and burial of human dead bodies. Identify the places where the dead bodies will be buried/funeral rites will be held.
- 7.6 Practice rehearsal, before the beginning of flood/cyclone season for search and rescue work.

8. Assessment of loss and needs

- 8.1 Select the person who will visit the affected areas for assessment of loss/damage due to flood/cyclone. Form one team for every village for assessment of primary loss/damage and requirement. The assessment of loss/damage and of requirement is to be done according to prescribed form mentioned in the Standing Orders on Disaster. Write down the names of team members in the register.
- 8.2 Union Parishad Chairman will furnish to Thana Nirbahi Officer all information relating to loss, damage and needs of his Union according to guidelines of the Disaster Management Bureau.

- 8.3 Write down in the register where sufficient dry food will be available for feeding the affected people after disaster and who will remain responsible for their procurement.

9. Preparation of Public Awareness Programmes for all villages of the Union.

Union Disaster Management Committee will prepare a mass awareness build-up plan for implementation in all villages of the Union at normal times. The following subjects will be included in this plan. Union Disaster Management Committee can include any other subject, if necessary. A booklet containing priorities to be done in case of disaster will be given to Union Disaster Management Committee. These subjects should be discussed in the mass awareness build-up plan.

- 9.1 **Flood prevention:** To encourage village people living in low lying areas to raise the floor level of their houses. To encourage them to build a strong house (for example not to construct house walls with earth) and to plant strong and deep rooted trees around the house.
- 9.2 First Aid: Suitable volunteers in every village are to be trained in first aid. The help of Health Dept/NGOs can be taken in such training programmes.
- 9.3 Treatment with oresaline: All women should be trained in applying packet oresaline and to prepare oresaline at home and method of its application.
- 9.4 Purification of water: All women should be trained in the method of purification of water by applying water purification tablet and alum.
- 9.5 Safe water: Keep pure drinking water in any pot with mouth covered with polyethylene before the occurrence of cyclone/tidal bore and keep it under earth.
- 9.6 Stock of Dry Food: Every family should be encouraged to stock dry food during cyclone and flood seasons. At times of disaster they will carry a part of this dry food to shelter/safe centre and keep the rest under earth.
- 9.7 Carbolic Acid: During floods carbolic acid in open bottle is to be kept at safe place in the house outside the reach of children. Snakes will not enter inside the house.
- 9.8 Keep rafts prepared with banana tree or bamboo ready for use in times of need.
- 9.9 Prevent small children from swimming in flood water.
- 9.10 If there is power supply in the village advise people to switch off the power during floods, storm or cyclone.
10. **Preparation of check list for pre-flood or cyclone season:** Prepare a checklist of pre-flood or cyclone season. The following amongst others may be included in this checklist.
- 10.1 Ensure through Thana Nirbahi Officer whether sufficient food grains are available in the Union/Thana godowns.
- 10.2 Ensure whether all children in disaster prone villages are vaccinated/inoculated against diseases.
- 10.3 Ensure whether all children between the age of 3 and 6 years and pregnant women have been administered vitamin A capsule during the past three months.
- 10.4 Ensure sufficient stock of oresaline, water purification tablet or alum with trained persons for use.

- 10.5 Sink tube-well at level higher than flood level. Drink water from the ordinary well after purification.
- 10.6 Identify shelter/safe centre for evacuation of unprotected villagers of the Union and ensure whether responsibilities have been assigned as per directions under paragraph No.6.
- 10.7 Whether sufficient number of temporary latrines have been constructed.
- 10.8 Whether procedures for warning signals remain operational at the village level?
- 10.9 Whether stocks of dry food and safe water for people has been arranged?
- 10.10 Any other subject?

11. Checklist of responsibilities of Union Disaster Management Committee at the beginning of floods or when the local warning signals reach no. 7 from no. 5.

- 11.1 The Union Parishad Chairman will call the volunteers responsible for warning systems mentioned in paragraph No. 5 and direct them to inform the people about the imminent danger.
- 11.2 The person responsible for the procurement of transport (Paragraph No 6.3) for evacuation will make necessary arrangement for transports.
- 11.3 Remind the people who have electricity connection in their houses to switch off the electricity supply.
- 11.4 Contact with Thana Nirbahi Officer and inform him about the capability of the Union Disaster Management Committee to meet the imminent danger and the requirement of the Union.
- 11.5 What else to be done?

12. Disaster Relief Plan

- 12.1 Prepare a list of families which will require relief after disaster. In this list the most deserving families such as families which have women as head of family and unemployed and landless family etc will be included. The limited quantity of relief materials that will be received after disaster will be distributed amongst the people requiring them most according to priority list.
- 12.2 Select a place for receipt and storage of relief materials.
- 12.3 Identify several possible distribution points in the Union of relief materials and note them down in the register.
- 12.4 Relief materials can come from various sources like Thana Headquarters, NGO, charitable persons, etc. Select who will coordinate the distribution work of all these relief materials fairly among the poor people. In the case of more than one distribution centre, the Union Disaster Management Committee will decide people of which village/ward will receive the relief materials from which centre.
- 12.5 The Union Disaster Management Committee will submit a report to Thana Nirbahi Officer about the quantity of relief materials received and the method of their distribution, determine how the distribution work will be monitored and who will maintain the related papers/documents and who will send report to the Thana Nirbahi Officer.

Annexure-I

S O S FORM *

Approximate Loss and Damage and Emergency Requirement

Name of Thana_____

- | | | | |
|-----|------------------------------------|---|-------------------------|
| 1. | Affected Unions (Number) | : | |
| 2. | Number of affected people (Approx) | : | |
| 3. | House Destroyed (Approx) | : | |
| 4. | Death (Approx) | : | |
| 5. | Search/Rescue | : | Necessary/Not necessary |
| 6. | First Aid | : | Necessary/Not necessary |
| 7. | Drinking water | : | Necessary/Not necessary |
| 8. | Ready Food | : | Necessary/Not necessary |
| 9. | Clothing | : | Necessary/Not necessary |
| 10. | Emergency shelter | : | Necessary/Not necessary |

* Please send this information as primary report within one hour after the occurrence of disaster or as soon as possible through telephone or wireless to Thana Nirbahi Officer and District Administration and EOC at the Ministry of Disaster Management and Relief.

Annexure-J***Form for Assessment of Loss and Damage*****Form-D**

Thana Nirbahi Officer will collect detailed information from Union Parishad and various departmental officers and fill up this form and send to the EOC at the Ministry of Disaster Management and Relief through the Deputy Commissioner.

Name of Thana	Affected Union (nos)	Affected Area (Sq.km)	Number affected people			No. of dead	No. of dead buried	No. of Injured	Number of Affected Families			No. of house totally destroyed	No. of houses partially damaged
1	2	3	4	5	6	7	8	9	10	11	12	13	14
			W	S	P				Very much	Much	Partial		

Form for Assessment of Loss and Damage

Loss of Livestock		Loss of Poultry		Loss of Crops		Partial damage to crop		Damage to salt		Damage to Shrimps		Educational Insts.(destroyed) (No.)		Partially damaged educational Insts.(Number)	
11		12		13		14		15		16		17		18	
Number	Taka (000)	Number	Taka (000)	Quantity	Taka (000)	Acre	Taka (000)	Acre	Taka (000)	Acre	Taka (000)	School/ Madrasha	College	School/ Madrasha	College

Form for Assessment of loss and damage

Number of damaged mosques/Temples		Roads Destroyed (KM)		Partially damaged roads (Km)		Destroyed Embankments (KM)		Partially damaged embankments (KM)		Damaged Forests (TK)		Damaged Power lines (TK)	
19		20		21		22		23		24		25	
Number		Carpetted	Uncarpetted	Carpetted	Uncarpetted	Severely	Little			(000)		(000)	

Form for Assessment of Loss and damage

Fish Farms	Damaged Tubwells		Pond/Water Reservoir(Nos)	Boat/Trawler	Fishing Nets	Looms (In taka)	Others
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28		29			30	31		32		33		34
Nos	(Tk) (000)	Deep	Shallow	Hand driven		Nos.	(Taka) (000)	Nos	Taka (000)	Nos	Taka (000)	

Annexure-K

***Guidelines for Construction, Management, Maintenance and use of multipurpose
Shelters in Coastal areas of Bangladesh***

VERY URGENT
BY SPECIAL MESSENGER

**Government of the People's Republic of Bangladesh
Ministry of Planning
Physical Infrastructure Division**

Memo No. PK/BhouPa Ga/Misc-16/Part-5/93/505, date:28.2.96 / 26.11.1402 (Beng)

Sub: ***Guidelines for Construction, Management, Maintenance and use of multipurpose
Shelters in Coastal areas of Bangladesh***

Pursuant to decision taken in the meeting of the Executive Committee of the National Economic Council (ECNEC) held on 29/12/93 a meeting of the relevant National Steering Committee was held on 19/12/95/5/9/1402 (BS) under the Chairmanship of State Minister of Planning to finalise the Guidelines for Construction, Management, Maintenance and use of multipurpose cyclone shelters in coastal areas of Bangladesh. The Minutes of the meeting have been sent to all concerned under the same memo number dated 4/1/96. Copy of guidelines prepared in the light of discussions and decisions in the said meeting is sent herewith for kind information and necessary action.

Signed
Abdur Rahim Bhuyia
Joint Chief and
Member-Secretary
InterMinisterial Steering
Committee
Telephone 814706

Distribution:

1. Secretary, Cabinet Division, Bangladesh Secretariat, Dhaka.
2. Principal Secretary to the Hon'ble Prime Minister, Prime Minister's Secretariat, Tejgaon, Dhaka
3. Secretary, Ministry of Health and Family Planning, Bangladesh Secretariat, Dhaka
4. Secretary, Economic Relations Division, Sher-e-Bangla Nagar, Dhaka
5. Member (Physical Infrastructure), Planning commission, Sher-e-Bangla Nagar, Dhaka
6. Secretary, Planning Division, Sher-e-Bangla Nagar, Dhaka
7. Secretary, IMED, Shere-e-Bangla Nagar, Dhaka
8. Secretary, Local Government Division, Bangladesh Secretariat, Dhaka
9. Secretary, Ministry of Disaster Management and Relief, Bangladesh Secretariat, Dhaka
(As per decision taken in the meeting held on 19/12/95 the Ministry of Disaster Management and Relief is requested to print these guidelines in booklet form and distribute to all concerned).
10. Secretary, Ministry of Education, Bangladesh Secretariat, Dhaka
11. Secretary, Ministry of Land, Bangladesh Secretariat, Dhaka

12. Secretary, Ministry of Housing and Public Works, Bangladesh Secretariat, Dhaka
13. Secretary, Ministry of Fishery and Livestock, Bangladesh Secretariat, Dhaka
14. Secretary, Ministry of Posts and Telecommunication, Bangladesh Secretariat, Dhaka
15. Secretary, Ministry of Environment and Forests, Bangladesh Secretariat, Dhaka
16. Secretary, Ministry of Roads and Railways, Bangladesh Secretariat, Dhaka
17. Secretary, Ministry of Women and Children Affairs, Bangladesh Secretariat, Dhaka
18. Secretary, Ministry of Social Welfare, Bangladesh Secretariat, Dhaka
19. Secretary, Ministry of Food, Bangladesh Secretariat, Dhaka
20. Division Chief, Physical Infrastructure Division, Planning Commission, Dhaka
21. All Divisional Commissioners
22. Chief Engineer, Local Government Engineering Directorate
23. Director General, NGO Affairs Bureau, Matsya Bhaban, Dhaka
24. Director General, Disaster management Bureau
25. All Deputy Commissioners

Copy for Information and necessary action to

- (i) Private Secretary to Hon'ble Minister of State Minister of Planning, Sher-e-Bangla Nagar, Dhaka
- (ii) Private Secretary to Hon'bleMinistry of.....

Signed
Md. Yakub Ali
Assistant Chief
Tele: 317820

Guidelines for Construction, Management , Maintenance and use of cyclone Shelter Centre

Government of the People's Republic of Bangladesh
Ministry of Planning
Planning Commission
Physical Infrastructure Division

Subject: ***Guidelines for Construction, Management , Maintenance and use of cyclone Shelter Centre***

1. Introduction

1.1 The geographical location, the position of coastal islands and the size of Bay of Bengal etc are instrumental to making the coastal areas of Bangladesh vulnerable to cyclone. From Chronological data it is seen that in the past cyclone and tidal bores hit the areas beginning from the Sundarbans of Khulna upto Taknaf, many times. In recent years severe cyclone hit in 1970 followed by another severe cyclone during 29-30 April, 1991 causing colossal loss and damage to lives and properties. In order to save life and property from the onslaught of severe cyclone, the government with the assistance of various Development Partner Countries/Organisations and Non-government Organizations have completed building of a good number of multipurpose shelters in coastal areas. Many other shelters are under process of construction and construction proposal of more multipurpose shelters are under examination.

1.2 Although some activities have taken place on piecemeal basis at different times for the construction of cyclone shelters, their maintenance and operation but in absence of any proper and compact guidelines in this respect until now, fair use, maintenance and operation of the constructed shelters is being hampered in one hand and on the other hand for lack of proper guidelines Development partner Countries/organisations are expressing their concern for appropriate use, maintenance and operation of these centres. In view of such a situation the following guidelines may be followed for overall management, use and daily maintenance of multipurpose cyclone shelters already constructed/under construction/to be constructed.

2. Construction of new cyclone shelters.

2.1 In future, the location of cyclone shelters to be constructed by any Development Partner country/organisation is to be decided, for the sake of its construction at appropriate place, at the planning stage by applying geographical information system (GIS) technology in respect of habitation, communication facilities, distance from the nearest cyclone centre etc. The advice of the concerned District Committee is to be obtained before final decision. The shelters shall be located at such places so that they benefit the majority number of population.

2.2 The cyclone shelters should have easier communication facilities so that in times of distress delay does not occur to go there. For this reason the road communication from the cyclone shelters should not only link up with city or main road but also with neighboring village areas.

2.3 Construction of cyclone shelters should be according to approved design of Master Plan by the Government so that if necessary their multipurpose and appropriate use is possible.

2.4 In case of consideration for future construction of shelters, provision of emergency water, food, sanitation and shelter space for livestock during disaster period should also be kept in view.

2.5 The concerned organizations should accept responsibility for maintaining quality standard in the construction of cyclone shelters. Special importance should be accorded to cost effectiveness of new construction of cyclone shelters.

3. Overall Management of Shelters.

- 3.1 If the owner/construction Firm is also the user of the cyclone shelters in normal times then the responsibility of its maintenance will devolve on the owner/organisation.
- 3.2 If owner of construction Firm/Organisation surrenders ownership soon after completion of construction of cyclone shelters, then in such case government will take over the ownership. In this case the concerned Thana administration will take over control of these shelters on behalf of the government and ensure their management and use through Union Disaster Management Committee.
- 3.3 Whichever organisation may be the owner or user of cyclone shelters all matters relating to cyclone shelters will be coordinated by the concerned district administration through the concerned Thana administration. The concerned district administration will work as the sole source of specific information in respect of all shelters within own jurisdiction.
- 3.4 The District administration will regularly communicate the necessary information about the overall management of the shelters under its jurisdiction to concerned Ministry and the Ministry of Disaster Management and Relief. The Ministry of Disaster Management and Relief will act as repository of all such information and will keep the Cabinet Division regularly informed about it.

4. Maintenance/'Repair of Shelter

- 4.1 If the persons/non-government organizations constructing the cyclone shelters are also the users of the centres they will be responsible for their maintenance and repair.
- 4.2 Maintenance, repair and rehabilitation of those shelters whose ownership have been transferred to the government soon after their construction by non-government firm/organisation will be the responsibility of Thana Disaster Management Committee. After the transfer of ownership of the shelters from the concerned construction Firm to the government the concerned Ministry will allocate necessary fund to Thana Administration for their maintenance/major repair works/rehabilitation etc. Thana administration will implement the work through Thana Disaster Management Committee after preparation of priority list. For repair and rehabilitation work the firm made responsible for such work, will work under the direct supervision of Thana Disaster Management Committee.
- 4.3 The responsibility of maintenance and repair/rehabilitation of the shelters constructed by government Agency/Department/Ministry will also devolve on the Thana Disaster Management Committee. In such case the relevant government Agency/Department/Ministry will allocate necessary fund to Thana Disaster Management Committee through Thana administration.
- 4.4 Thana Disaster Management Committee will take necessary action for emergency repair/rehabilitation of the cyclone shelters constructed before and abandoned now.
- 4.5 Necessary fund for petty repairs of shelters may be procured by Union Parishad/Union Disaster Management Committee in the following manner which should be deposited in the relevant account of Thana Disaster Management Committee. Thana Nirbahi Officer and Thana Engineer will operate the fund jointly. It may be mentioned that the fund thus raised will be spent compulsorily for meeting petty repairs/maintenance work of shelters.
- (i) Through the payment made by the users of shelters in normal times (specially more than 90 percent centres have been/are used as school, so part of the fund received by the school committee can be collected by Union Parishad for expenditure on this account).
 - (ii) Union Parishad can collect fund by realizing hire charges of shelters for holding marriage

ceremony, meeting, cultural functions and using as office space therein.

5. Use of Shelter

- 5.1 In whatever manner the shelters is used by persons or organizations during normal times, its use during emergency disaster period will be determined by Union Disaster Management Committee and during disaster period their decision will be considered as final. But Union Disaster Management Committee will ensure that the goods/furniture used in the centre during normal times are not damaged during disaster period.
- 5.2 The cyclone shelters which are not used in the regular and whole time manner can be used, as per local requirement, by the Union Disaster Management Committee for various welfare works like School, Madrasha, mass education centre, night school centre or public welfare activities by the NGO's (like loan disbursement programme, relief materials distribution), temporary medical centre etc.
6. These guidelines will have to be followed by all concerned Ministries/ Divisions/ Organizations for construction of cyclone shelters, their overall management, use and maintenance/repair in future.
7. In the light of objective circumstances, if amendment/addition/of these guidelines becomes necessary in future, it may be coordinated with the various Ministries/Divisions/Non Govt. Organisation (NGO) responsible for implementation of cyclone shelters construction programme in coastal areas and may be taken up after approval of Inter-Ministerial Steering Committee formed under "Bangladesh Coastal Area Multipurpose Cyclone Shelters Construction Programme" for issuing guidelines.
8. The Ministry of Disaster Management and Relief will act as coordinator for issues relating to cyclone shelters. All relevant information in this respect will be maintained in that Ministry and all Ministries/organisations will keep the Ministry of Disaster Management & Relief informed about it.

Annexure-L

Co-option of Trainers trained in Disaster Management subjects as Observer in Thana Disaster Management Committee and as Member in Union Disaster Management Committee

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
DISASTER MANAGEMENT BUREAU
MINISTRY OF DISASTER MANAGEMENT & RELIEF

Memo No. DMB/Pari-2/93-1939

Dated 8/12/96

Sub: ***Co-option of Trainers trained in Disaster Management subjects as Observer in Thana Disaster Management Committee and as Member in Union Disaster Management Committee***

There is provision in paragraph 1, 3 and 5 of Annexure-G(1) of Standing Orders on Disaster for co-option of members in different tiers of Disaster Management Committees. Disaster Management Bureau has imparted training in the past several years to selected leader/persons from disaster prone Thanas. If the Disaster Management Committees keep in touch with these trained people, they will, in one hand, feel encouraged in disaster management work and the officials engaged in disaster management work can, on the other hand, get a group of volunteers at local level. In the interest of efficient disaster management, the following arrangements may be undertaken.

- (a) 2/3 trained volunteers should be available in every Union. They may be co-opted as member of various committees.
- (b) These trained volunteers in different Unions may be invited to attend Thana Disaster Management Committee meeting as observers so that Thana Disaster Management Committee is able to get more data from village level. This step can be taken with immediate effect.
- (c) If, two or more trainers available in any Union and if no trainer is available in some other Union, Thana Nirbahi Officer will nominate one trainer from the Union having more than one trainer as co-opted in the Union Committee of such Union having no such trainer.
- (d) The updated list of trainers trained by the Disaster Management Bureau has been sent to concerned Thana Nirbahi Officer. Thana Nirbahi Officer will inform Thana Disaster Management Committee about the trainers.

Signed
Dr. Khanoda Mohan Das
Director General
Disaster Management Bureau
Phone : 869313

Memo No. DMB/Pari-2/93-1939(7)

dated 8/12/96

Copy for information and necessary action forwarded to

1. Secretary, Ministry of Disaster Management & Relief, Bangladesh Secretariat, Dhaka
2. Divisional Commissioner, Dhaka/Rajshahi/Chittagong/Khulna/Barisal/Sylhet. I am directed to request to inform the Deputy Commissioner and Thana Nirbahi Officer under him.

Signed
Jannat Ara Rashid
Deputy Director (Mitigation)
Disaster Management Bureau
Phone : 506832

Annexure-M

Regarding Better Co-ordination of Disaster Management Activities

Government of the People's Republic of Bangladesh
Prime Minister's Office
Old Parliament Building, Tejgaon, Dhaka

Memo No : 51.48.03.0.03.97-273

14-07-1404
Dated:-----
28-09-1997

Circular

Subject:Regarding Better Co-ordination of Disaster Management Activities

In order to co-ordinate Disaster Management activities, there are at present National Disaster Management Council at the national level chaired by the Hon'ble Prime Minister, Inter- Ministerial Disaster Management Co-ordination Committee chaired by the Hon'ble State Minister, in-charge of the Ministry of Disaster Management and Relief, Cyclone Preparedness Programme/Implementation Board chaired by the Secretary, Ministry of Disaster Management and Relief, Disaster Management Training and Public Awareness Building Task Force, Co-ordination Group for Focal points Programmes on Disaster, Co-ordination Committee with NGOs in Disaster Management activities and the Committee for Speedy Dissemination of Disaster related Signals, all chaired by the Director General of Disaster Management Bureau. Besides, there are District, Thana and Union Disaster Management Committees at the field levels to co-ordinate the Disaster management activities. In the field level Committees, in addition to Government officers there are representations of NGOs, Local Government and semi-Government organisations. The question of forming Disaster Management Committees at the village and ward level is under the active consideration of the Government.

It is extremely important and urgent for all including government, semi-government, autonomous, non-government and local government organisations to respond to any kind of disaster. It is expedient to take a co-ordinated implementation action in respect of disaster preparedness, disaster response and post-disaster relief and rehabilitation programmes immediately on receipt of disaster warning. In this context, Government has taken the following decisions to further activate and strengthen the Committees for better co-ordination of Disaster Management activities. All concerned are to follow these compulsorily.

1. The Committees headed by the Director General, Disaster Management Bureau and the Committees at field levels shall meet at least once in three months to review pre-disaster preparedness, public awareness building about disasters, disaster response and post-disaster relief and rehabilitation programme and take co-ordinated decision and shall also appropriately ensure all arrangements including pre-disaster preparedness by calling up support, help and advice of higher authorities in all cases where necessary. If needed, the Committees shall meet frequently to take decisions about disaster management in the light of the Sanding Orders on Disaster.
2. The concerned committees shall ensure the equitable implementation of Disaster Management related training, distribution of relief materials and post disaster rehabilitation programme in each zone and also ensure the non-involvement of any other governmental, non-governmental and other organizations in Disaster Management and Relief and Rehabilitation work in the same area.

The committees will take specific decisions in their meeting about the type of work to be done by governmental and non-governmental agencies in specific area/village of the concerned District/Thana/Union and shall implement them. During the disaster and post-disaster rehabilitation work the concerned committees shall, if needed, meet at the end of each day to review all disaster related programmes and take appropriate decisions.

3. It was observed in the past that often different agencies send very lower level officers to the meetings of the concerned committees as representatives. It is undesirable. Now onward all the members of the committees shall compulsorily attend all disaster related meetings themselves. If for any unavoidable reason, an officer can not attend a meeting on the fixed date, he will nominate the officer next below his rank to attend the concerned meeting. It is desirable that the concerned member himself should attend the meeting. If any lower level representative is sent to any such meeting in contravention to this circular, the Chairman of the concerned committee shall inform the Prime Minister's Office about it.
4. Ministry of Disaster Management and Relief is the main focal point for disaster management activities. As a rule, all relevant information regarding disaster is to be sent to the control room (EOC) of the Ministry of Disaster Management and Relief with care. It has been observed that many Ministries and agencies do not send the statement of their loss and damage to the control room (EOC) of the Ministry of Disaster Management and Relief and the Disaster Management Bureau. As a result, it becomes difficult to get the consolidated account of losses and damages from one point and also to give an overall picture of Disaster of different national and international agencies. In this context, it is again requested that all ministries/agencies will send the data regarding the loss and damage to the control room (EOC) of Ministry of Disaster Management and Relief and the Director General, Disaster Management Bureau at the soonest possible time after a disaster occurs. Moreover, a preliminary report regarding the disaster must be sent within 7 days.
5. Side by side with government and semi-government agencies in their work for pre-disaster preparedness, disaster related training and relief and rehabilitation activities, NGOs also perform similar functions. In order to preserve correct and complete data on the national basis, Ministry of Disaster Management and Relief needs preserving information regarding the training and relief and rehabilitation work of NGOs. In this connection NGO Bureau shall discharge the following responsibilities.
 - (a) NGO Bureau shall co-ordinate the activities of NGOs regarding disaster by keeping it in continuous touch with them and inform the Ministry of Disaster Management and Relief about it;
 - (b) During disaster period, NGO Bureau shall collect information in the form at Appendix-A every week and ensure its despatch to the control room (EOC) of the Ministry of Disaster Management and Relief and the Disaster Management Bureau;
 - (c) NGO Bureau shall ensure sending of training and public awareness activities every six months in the form at Appendix-B to the Ministry of Disaster Management and Relief and the Disaster Management Bureau by collecting the data from the NGOs. The Disaster Management Bureau shall print the data received in the book form and arrange for its wide circulation. All agencies including Government and non-governmental organisations will avoid duplication in the training and public awareness programmes, prepare appropriate curriculum etc. in the light of the information detailed in the book;
 - (d) NGO Bureau shall also collect information regarding other activities of NGOs relating to disaster regularly and send it to the Ministry of Disaster Management and Relief and the Disaster Management Bureau.

6. During disaster, NGOs will keep regular contacts with District, Thana and Union Disaster Committees in conducting their relief and rehabilitation activities. NGOs will submit their Report to the Deputy Commissioner/Thana Nirbahi Officer or the Officer-in Charge of the Control Room in the specific form shown at Appendix-C. Within 2 (two) hours of the receipt of such Report, the Deputy Commissioner/ Thana Nirbahi Officer/ Officer-in Charge, Control Room shall give appropriate instructions to the concerned NGO to avoid duplication and ensure conducting of relief and rehabilitation activities for the really affected people. In this respect, the concerned officers will be held responsible for any kind of delay.
7. Standing Orders on Disaster has already been distributed widely. While visiting schools, colleges and madrasas in the outlying areas, the Chairman/Members of the Disaster Management Committee shall invariably inform the local people and the students about the relevant portions of the Standing Orders.
8. The National Curriculum and Textbook Board has already added a chapter in the Textbook of Class V. Arrangement is being made to include the Disaster Management topics in the textbooks of class IV to class XII gradually, The Ministry of Education and the Disaster Management Bureau shall implement the aforesaid programme on a very emergent basis.
9. The Ministry of Establishment in its circular No. Sa-Mau/AuPra-2/Misc-4/97-217(4), dated 10.07.97 has directed the different Training Institute to keep a session on Disaster Management Accordingly, all types of Training Institutes under each Ministry/Division/Agency shall keep at least a two hour's session on Disaster Management in their Training Programme.

This circular is issued at the direction of the Hon'ble Prime Minister and shall take effect immediately.

(Signature)
Dr. S.A. Samad
Principal Secretary

Prime Ministry's Office

Copy to Necessary action to:

1. Secretary of all Ministry/Division.
2. Army/Navy/Air Force Headquarters
3. Director General/Director of all Department and Directorates
4. Divisional Commissioner. All Divisions
5. Deputy Commissioner. All Districts
6. Thana Nirbahi Officer. All Thana
7. All Union Parishad Chairmen and Chairmen of Union Disaster Management Committee

Annexure-N

Regarding taking action in pursuance of Standing Orders on Disasters.

Government of the People's Republic of Bangladesh
Ministry of Disaster Management and Relief
Bangladesh Secretariat, Dhaka.

No. Tran/Puba/Durjog-2/93-51(950)

Dated : 27.11.1404/11.03.1988

CIRCULAR

Subject : ***Regarding taking action in pursuance of Standing Orders on Disasters.***

By drawing attention to the above subject, it is hereby informed that Government has constituted the following committees at the District, Thana and Union levels in addition to those at National level for co-ordination of all activities including dissemination of disaster warning for impact, Disaster response, preparedness, planning, rescue, post disaster rehabilitation etc.:

1. District Disaster Management Committee.
2. Thana Disaster Management Committee.
3. Union Disaster Management Committee.

The detailed information about the constitution, functions etc has been incorporated in the Standing Orders on Disaster published by the Disaster Management Bureau in January 1997. This book has been distributed to each District and Thana.

2. Information received from different sources reveals that the activities of the Committees are not being carried out in pursuance of the said Standing Orders. As a result, lack of co-ordination during disaster time is noticed at the District, Thana and Union Levels and it becomes almost impossible to take quick and necessary actions efficiently at the time of disasters.
3. In context of the above situation, all Deputy Commissioners and Thana Nirbahi Officers are hereby requested to hold the meetings of District, Thana, and Union Disaster Management Committees in accordance with the Standing Orders on Disaster and make preparedness right from now to face any disaster.

Azad Ruhul Amin
Secretary

Distribution:

For Action

1. Divisional Commissioners (all)
2. Deputy Commissioners (all)
3. Thana Nirbahi Officers (all)

For information

1. Cabinet Secretary, Cabinet Division, Dhaka.
2. Principal Secretary, Prime Minister Office, Tejgoan, Dhaka.
3. Director General, Disaster Management Bureau, Dhanmondi, Dhaka.
4. Director General, NGO Affairs Bureau, Mastsa Bhaban, Ramna, Dhaka.
5. Director General, Department of Relief & Rehabilitation, 22, Purana Palton, Dhaka.

6. Private Secretary to Honourable State Minister, Ministry of Disaster Management and Relief.

Annexure-O

Committee for speedy dissemination and determination of strategy of Special Weather Bulletin

Government of the People's Republic of Bangladesh
Ministry of Disaster Management and Relief
Bangladesh Secretariat, Dhaka.

No- DubbaTram/Pro-1/8/98/550

Dated : 03.06.1998

Notification

The following committee is hereby formed for speedy dissemination and determination of strategy of Special Weather Bulletin :

1.	Director General , Disaster Management Bureau	-	Convenor
2.	Director General , Bangladesh Betar	-	Member
3.	Director General, Bangladesh Television	-	"
4.	Director General, Mass Communication Department	-	"
5.	Director General, Film and Publications Department	-	"
6.	Chairman, WARPO/ Director FAP-10	-	"
7.	Chairman, SPARRSO	-	"
8.	Chairman, Water Development Board	-	"
9.	Director, Meteorological Department	-	"
10.	Director, CPP	-	"
11.	Director (Planning), Disaster Management Bureau		Member-Secretary

The Chairman of the committee may co-opt more members if necessary.

2. Terms of Reference of the committee:

- (a) To determine the means, methods and strategy of Disaster related publicity matters e.g. weather bulletins, warning signals, slogans, etc.
- (b) To discuss matters relating to weather Bulletins and signals and formulate recommendations there of.
- (c) To discuss from time to time with the help of slides etc. how disaster related publicity might be strengthened for public awareness building.
- (d) To determine the ways and means for speedy dissemination of weather signals among the people.
- (e) To take steps for enhancing public awareness in respect of weather.
- (f) Miscellaneous.

This notification shall be deemed to have taken effect from December '95.

By the order of the President

Azad Ruhul Amin
Secretary
Ministry of Disaster Management & Relief.

Annexure-P

Committee for Focal Points Operational Co-ordination Group

Government of the People's Republic of Bangladesh
Ministry of Disaster Management and Relief
Bangladesh Secretariat, Dhaka.

No- DubbaTram/Pro-1/8/98/552

Dated : 03.06.1998

Notification

In pursuance of ProDoc (Para B-4(D)) of the Disaster Management Bureau, the committee consisting the following members is hereby formed as Focal Points Operational Co-ordination Group:

1.	Director General, Disaster Management Bureau	-	Convenor
2.	Director General, NGO Affairs Bureau	-	Member
3.	Director General, Health and Family Welfare Directorate	-	"
4.	Director General, Livestock Directorate	-	"
5.	Director General, Fisheries Directorate	-	"
6.	Director General , Bangladesh Betar	-	"
7.	Director General, Bangladesh Television	-	"
8.	Director General, Relief and Rehabilitation Directorate	-	"
9.	Director General, Mass Communication Department	-	"
10.	Director General, Bangladesh Mass-Media Institute	-	"
11.	Director General, Press Institute	-	"
12.	Director General, Food Directorate	-	"
13.	Director General, Primary and Mass Education Directorate	-	"
14.	Director General, Higher and Secondary Education	-	"
15.	Director General, Environment Directorate	-	"
16.	Director General, Bangladesh Rural Development Board	-	"
17.	Director General, Postal Department	-	"
18.	Director General, Ansar and VDP	-	"
19.	Director General, Geological Survey of Bangladesh	-	"
20.	Director General, Fire Service and Civil Defence	-	"
21.	Director General, Women's Affairs Directorate	-	"
22.	Registrar, Co-operative Societies	-	"
23.	Representative of Armed Forces Division	-	"

24.	Joint Chief, Planning Commission	-	"
25.	Chief Conservator of Forest	-	"
26.	Chief Engineer, Road and Highways Department	-	Member
27.	Chief Engineer, Public Works Directorate	-	"
28.	Chief Engineer, Local Govt. Engineering Department	-	"
29.	Chief Engineer, Public Health Engineering Department	-	"
30.	Directors (all), Disaster Management Bureau	-	"
31.	Directors (all), Relief and Rehabilitation Directorate	-	"
32.	Director, Meteorological Department	-	"
33.	Chairman, SPARRSO	-	"
34.	Director, CPP	-	"
35.	Director, ADAB	-	"
36.	Representative of UNDP	-	"
37.	Representative of UNICEF	-	"
38.	Representative of World Food Programme	-	"
39.	Representative of World Health Organization	-	"
40.	Representative of Bangladesh Red Crescent	-	"
41.	Director (Planning), Disaster Management Bureau		Member-Secretary

The Chairman shall meet once in every three months during normal time and more than once in every week during disaster period. The chairman of the committee may co-opt more members if necessary.

Terms of Reference of the Committee:

- (a) It shall supervise the overall co-ordination of national and field-level activities of the Disaster Management Committees and give appropriate directions in this respect. If necessary, the chairman of the committee may co-opt more members.
- (b) The committee shall review the disaster preparedness and post disaster programmes.
- (c) The group shall identify the different problems relating to disaster management and make recommendations for their solutions.
- (d) Miscellaneous.

This notification shall be deemed to have taken effect from December 1995.

By the order of the President

Azad Ruhul Amin
Secretary
Ministry of Disaster Management & Relief.

Annexure-Q

Committee for overall co-ordination of Disaster Management as Co-ordination Committee of NGOs relating to Disaster Management.

Government of the People's Republic of Bangladesh
Ministry of Disaster Management and Relief
Bangladesh Secretariat, Dhaka.

No- DubbaTram/Pro-1/8/98/551

Dated : 03.06.1998

Notification

In pursuance to ProDoc (Para B-(E)) of the Disaster Management Bureau the following committee is hereby formed for the interest of overall co-ordination of Disaster Management as Co-ordination Committee of NGOs relating to Disaster Management.

- | | | | |
|-----|--|---|------------------|
| 1. | Director General, Disaster Management Bureau | - | Convenor |
| 2. | Director General, NGO Affairs Bureau | - | Member |
| 3. | Joint Secretary (Relief), Ministry of Disaster Management and Relief | - | " |
| 4. | Director General, Relief and Rehabilitation Directorate | - | " |
| 5. | Director General, Environment Directorate | - | " |
| 6. | Director General, Women's Affairs Directorate | - | " |
| 7. | Director, CPP | - | " |
| 8. | Director, Bangladesh Meteorological Department | - | " |
| 9. | Chairman, SPARRSO | - | " |
| 10. | Representative of OXFAM | - | " |
| 11. | Representative of Disaster Forum | - | " |
| 12. | Representative of BDPC | - | " |
| 13. | Representative of CARITAS | - | " |
| 14. | Representative of CCDB | - | " |
| 15. | Representative of PRIP-DPSI | - | " |
| 16. | Representative of ADAB | - | " |
| 17. | Representative of Deep Unnayan Sangstha, Hatiya | - | " |
| 18. | Representative of PROSHIKA | - | " |
| 19. | Representative of Helen- Killer International | - | " |
| 20. | Representative of World Vision, Bangladesh | - | " |
| 21. | Representative of CONCERN | - | " |
| 22. | Director (Planning), Disaster Management Bureau | | Member-Secretary |

This committee may co-opt any other NGOs if necessary. This notification shall be deemed to have taken effect from June '94.

Terms of Reference of the committee shall be as follows:

- (a) To ensure the co-ordination of Disaster Management and Relief work between Governmental and Non-Governmental agencies.
- (b) To ensure the transmission and preservation of disaster related information.
- (c) To identify the co-ordination problems relating to Disaster Management Activities and make recommendations in this respect.
- (d) Miscellaneous.

By the order of the President

Azad Ruhul Amin
Secretary
Ministry of Disaster Management and Relief

Annexure-R

Committee for Disaster Management Training and Public Awareness Task Force for co-ordination of Disaster Management training activities

Government of the People's Republic of Bangladesh
Ministry of Disaster Management and Relief
Bangladesh Secretariat, Dhaka.

No- DubbaTram/Pro-1/8/98/549

Dated : 03.06.1998

Notification

In pursuance to the terms of ProDoc (chapter-g) of the Disaster Management Bureau the following Committee is hereby formed as Disaster Management Training and Public Awareness Task Force for co-ordination of Disaster Management training activities:

1.	Director General, Disaster Management Bureau	-	Convenor
2.	Representative of Ministry of Establishment	-	Member
3.	Representative of chief Information officer	-	"
4.	Director General , Bangladesh Betar	-	"
5.	Director General, Bangladesh Television	-	"
6.	Representative of Rector, BPATC	-	"
7.	Representative of Armed Forces Division	-	"
8.	Representative of chairman, SPARSO	-	"
9.	Director General, Bangladesh Academy for Rural Development, Comilla	-	"
10.	Principal, Academy for Planning & Development		"
11.	Director General , NGO Affairs Bureau		"
12.	Director General, Health Directorate		"
13.	Director General, Rural Development Academy, Bogra.	-	"
14.	Director General, Higher and Secondary Education	-	"
15.	Director General, Directorate of Fisheries	-	"
16.	Director General, Directorate of Primary Education	-	"
17.	Director General, Directorate of Women's Affairs	-	"
18.	Director General, Directorate of Youth Affairs	-	"
19.	Director General, Directorate of NILG	-	"
1. 19. 20.	Registrar, Co-operative Societies	-	"
2. 20. 21.	Director, Meteorological Department	-	"
3. 21. 22.	Representative of UNDP	-	"
4. 22. 23.	Representative of UNICEF	-	"

5.	23.	24.	Representative of CARE, Bangladesh	-	"
6.	24.	25.	<i>Chairman, ADAB</i>	-	"
7.	25.	26.	<i>Representative of OXFAM</i>	-	"
8.	26.	27.	Representative of CCDB	-	Member
9.	27.	28.	Representative of PRIP-DPSI	-	"
10.	28.	29.	Vice-Chancellor, IUBAT	-	"
11.	29.	30.	Director, BDPC	-	"
12.	30.	31.	Representative of PROSHIKA	-	"
13.	31.	32.	Representative of ASA	-	"
14.	32.	33.	Representative of Bangladesh Scouts	-	"
15.	33.	34.	Director, CPP	-	"
16.	34.	35.	Director (Training), Disaster Management Bureau		Member-Secretary

The convenor of the Task Force may co-opt more members if necessary.

Terms of Reference of the committee:

- (a) To act as consulting and advisory committee for planning, implementation and evaluation relating to Disaster Management Training
- (b) To assist in the activities relating to public awareness building and communication in respect of Disaster Management.
- (c) To co-ordinate the public awareness building training and other programmes relating to Disaster Management.
- (d) To assist the concerned agencies in respect of planning and implementation of other necessary activities relating to Disaster Management training and public awareness building.
- (e) Miscellaneous.

This notification shall be deemed to have taken effect from December '95.

By the order of the President

Azad Ruhul Amin
Secretary
Ministry of Disaster Management & Relief.

Annexure-S

Disaster Management Committee for the different City Corporations and Poursavas of the country

Government of the People's Republic of Bangladesh
Ministry of Disaster Management and Relief
Bangladesh Secretariat, Dhaka

***No.MDMR/Rehab-35/98/372(700)
1998***

Date: 01 Agrahayan, 1405BS/15 November,

CIRCULAR

Sub: Constitution of the Disaster Management Committee for the different City Corporations and Poursavas of the country

Government has constituted the following City Corporation Disaster Management Committee and Poursava Disaster Management Committee to cope up with the natural disaster in the concerned City Corporation and Poursava area as:

(i) City Corporation Disaster Management Committee:

(a)	Mayor, City Corporation	Chairman
(b)	Chief Executive Officer, City Corporation	Member
(c)	Concerned Deputy Commissioner	Member
(d)	Concerned Superintendent of Police	Member
(e)	Health Officer of the City Corporation concerned	Member
(f)	Representative of Director General, Health Directorate	Member
1. 7.	(g) Representative of Director general, Agriculture Extension Department	Member
(h)	Representative of Chief Engineer, LGED	Member
(i)	Representative of Chief Engineer, Public Health Engineering Directorate	Member
(j)	Chairman/MD, WASA (concerned)	Member
(k)	Representative of Water development Board	Member
(l)	Representative of concerned Electricity Authority	Member
(m)	Representative of T&T Board	Member
(n)	One NGO representative nominated by ADAB	Member
(o)	War Commissioners	Member
(p)	Secretary, City Corporation	Member

Secretary

The Hon'ble members of the Parliament of the City Corporation area will be the Advisers in the Committee. The Chairman of the Committee may co-opt more members in consideration of local situation and special conditions.

The Committee shall meet at least 4 times a year. But during disaster the Chairman shall hold the meeting whenever he finds it necessary.

Responsibilities of the City Corporation Disaster Management Committee

During normal time

To ensure very speedy dissemination of cyclone and flood forecast to all officers, concerned persons/organizations and other persons having the responsibility about it in the City area.

To determine safe centres and shelter places and distribute responsibility to different persons for rendering different services in those places.

To arrange for holding mobilization drill from time to time for disseminating warning signals/forecasts, evacuation, rescue and primary relief operations in co-operation with the Disaster Management Bureau.

During Disaster

To operate emergency operations centre (Information centre and control room) for assisting co-ordination of activities relating to evacuation, rescue, relief and primary rehabilitation in all places of the city area. If necessary, to conduct rescue operations by using locally available resources and also co-ordinate overall activities including sending of reserve teams to highly affected areas for conducting rescue operations.

To collect data regarding the damages of disaster in pursuance to the directives of Disaster Management Bureau and other National authorities and also dispatching it to appropriate authorities including the Ministry of Disaster Management and Relief.

To formulate plans on priority basis and arrange for distribution of the resources received from the Ministry, district or any other authority objectively. To maintain the accounts relating to the materials concerning relief and rehabilitation and dispatching it to the relief-giving authority.

1. 1. (2) Pourasava Disaster Management Committee:

(i)	Chairman, Pourasava	Chairman
(ii)	All Commissioners of the Pourasava	Member
(iii)	Medical Officer/Sanitary Inspector of the Pourasava	Member
(iv)	Executive/Assistant Engineer of Purasava	Member
1. 1.	(v) The officer of the Agriculture Department posted in the pourasava area	Member
1. 1.	(vi) The officer of the Family Planning Department poste in the Ppurasava area	Member
(vii)	The BRDB officer posted in the Pourasava area	Member
(viii)	Two members of local elites of the Pourasava	Member
1. 1.	(ix) Representative of all NGOs at work in the relevant Pourasava	Member
(x)	Representative of District Civil Surgeon	Member

(xi) Chief Executive Officer
Secretary

Member-

(If there is a Chief Executives Officer, the Secretary of Pourasava will be a member)

The concerned Hon'ble member(s) of the Parliament will be the Adviser(s) in the Committee. The Committee shall meet bimonthly. During disaster the committee shall meet every day, and when the situation will improve to some extent, it will meet twice a week.

The responsibilities of the Pourasava Disaster Management Committee will be:

During normal time

To ensure that the local people are aware about adopting Action Plan regarding the reduction of disaster risk individually or collectively, and also to ensure wide publicity of the means of reducing disaster risk and saving life at the community level.

To arrange regular training programmes and workshops relating to disaster by keeping the Disaster Management Bureau informed.

To prepare Disaster Action Plan for taking security measures by the local people, Pourasava authority and local agencies in case of warning signals for any impending disaster or for disaster response including the following measures to take:

To arrange speedy and effective dissemination of forecasts relating to cyclone and flood and inform the people about their duty to save their life and property at such stage.

To determine which of the people of the area would take shelter in which safe centre/shelter place and to assign responsibility to different persons for different services at the shelter/safe centre.

To ensure supply of water from some pre-determined places to safe centres/shelter places with the assistance of District/Thana authorities and to give other necessary services.

To prepare Contingency Plan including local action for local rescue operations, primary relief work, re-establishing communication with the District/Thana headquarters and rehabilitation of seriously affected families.

To arrange for mobilization drill relating to dissemination of warning signals/forecasts, evacuation, rescue and primary relief operations with the assistance of District/Thana authorities.

During Disaster

To conduct if necessary, primary rescue operations by using locally available facilities and if directed, cooperating with others in rescue operations.

To collect data about the damages of disasters in the light of the guidelines given by the Disaster Management Bureau and District/Thana authorities and dispatching it to District/Thana authorities.

To arrange for distribution of rehabilitation materials collected locally or received from any other source including Relief and Rehabilitation Directorate in the light of the guidelines given by the Disaster Management Bureau and District/Thana authorities, and

To dispatch accounts of the distribution of the resources so received to District/Thana authorities or donor agencies.

(Md. Shamsul Islam)
Joint Secretary (Relief)

Distribution:

For Action:

- | | | | | |
|----|----|----|------------------------------|------------------------|
| 1. | 1. | 1. | Hon'ble Mayor | City Corporation (All) |
| 2. | 2. | 2. | Chairman/Administrator | Pourasava (All) |

For information:

- | | | | | |
|----|----|----|--|--------|
| 1. | 1. | 1. | Director General, Disaster Management Bureau, Dhanmondi, Dhaka | |
| 2. | 2. | 2. | Deputy Commissioner | (All) |
| 3. | 3. | 3. | Thana Nirbahi Officer | (All). |

National Disaster Management Council

i)	Prime Minister	-	Chairman
(ii)	Minister, Ministry of Water Resources	-	Member
(iii)	Minister, Ministry of Finance	-	"
(iv)	Minister, Ministry of Local Government, Rural Development, and Cooperatives	-	"
(v)	Minister, Ministry of Communications	-	"
(vi)	Minister, Ministry of Health and Family Welfare	-	"
(vii)	Minister, Ministry of Home Affairs	-	"
(viii)	Minister, Ministry of Food	-	"
(ix)	Minister, Ministry of Disaster Management and Relief	-	"
(x)	Minister, Ministry of Agriculture	-	"
(xi)	Minister, Ministry of Shipping	-	"
(xii)	Chief of Staff, Army	-	"
(xiii)	Chief of Staff, Navy	-	"
(xiv)	Chief of Staff, Air Force	-	"
(xv)	Cabinet Secretary	-	Member-
	Secretary		
(xvi)	Principal Secretary to the Prime Minister	-	Member
(xvii)	Secretary, Ministry of Agriculture	-	"
(xviii)	Secretary, Ministry of Finance	-	"
(xix)	Secretary, Ministry of Health and Family Welfare	-	"
(xx)	Secretary, Ministry of Home Affairs	-	"
(xxi)	Secretary, Ministry of Defence	-	"
(xxii)	Secretary, Ministry of Local Government	-	"
(xxiii)	Secretary, Ministry of Roads and Railways	-	"
(xxiv)	Secretary, Ministry of Shipping	-	"
(xxv)	Secretary, Jamuna Bridge Division	-	"
(xxvi)	Secretary, Ministry of Water Resources	-	"
(xxvii)	Secretary, Ministry of Food	-	"
(xxviii)	Secretary, Ministry of Disaster Management and Relief	-	"
(xxix)	Member, Socioeconomic Infrastructure, Planning Commission	-	"
(xxx)	Principal Staff Officer, Armed Services' Division	-	"

The Council will meet at least twice in a year (Vide notification of the Cabinet Division No.

MP Commi-I/Committee-2/93-141 dated 13th October, 1993).

Responsibilities of the National Disaster Management Council

- (iv) Formulate policies for disaster management and issue guidelines in this respect.
- (v) Examine the recommendations of the Inter-Ministerial Disaster Management Coordination Committee (IMDMCC) and National Disaster Management Advisory Committee (NDMAC) and issue directives for their implementation.
- (vi) Approve the Standing Orders on Disasters and National Disaster Management plans.
- (vii) Ensure coordination amongst civil administration, defence forces, and the NGOs in the process of planning for disaster management.
- (viii) Arrange framing of laws for prevention, mitigation, preparedness, and disaster response.
- (ix) Take necessary steps after evaluating the precautionary/preparedness measures immediately with the warning signals regarding imminent disaster.
- (x) Frame guidelines for distribution of relief materials and assign priority of steps during pre-disaster, disaster, and post-disaster periods.
- (xi) Consider other related issues and settle them.

Annex 4

Inter-Ministerial Disaster Management Coordination Committee

(i)	Minister, Ministry of Disaster Management and Relief	-	Chairman
(ii)	Cabinet Secretary	-	Vice-Chairman
(iii)	Principal Secretary to the Prime Minister	-	Member
(iv)	Member (Planning), Planning Commission	-	"
(v)	Secretary, Ministry of Foreign Affairs	-	"
(vi)	Secretary, Ministry of Agriculture	-	"
(vii)	Secretary, Ministry of Defence	-	"
(viii)	Secretary, Ministry of Water Resources	-	"
(ix)	Secretary, Ministry of Education	-	"
(x)	Secretary, Ministry of Information	-	"
(xi)	Secretary, Ministry of Housing and Public Works	-	"
(xii)	Secretary, Ministry of Power, Energy and Mineral Resources	-	"
(xiii)	Secretary, Ministry of Civil Aviation and Tourism	-	"
(xiv)	Secretary, Ministry of Fisheries and Livestock	-	"
(xv)	Secretary, Ministry of Posts and Telecommunication	-	"
(xvi)	Secretary, Ministry of Environment and Forests	-	"
(xvii)	Secretary, Ministry of Disaster Management and Relief	-	"
(xviii)	Secretary, Finance Division, Ministry of Finance	-	"
(xix)	Secretary, Local Government Division	-	"
(xx)	Secretary, Ministry of Home Affairs	-	"
(xxi)	Secretary, Roads and Railways' Division	-	"
(xxii)	Secretary, Jamuna Bridge Division	-	"
(xxiii)	Secretary, Ministry of Shipping	-	"
(xxiv)	Secretary, Ministry of Food	-	"
(xxv)	Secretary, Ministry of Health and Family Welfare	-	"
(xxvi)	Principal Staff Officer, Armed Forces' Division	-	"
(xxvii)	Director General, NGO Affairs' Bureau	-	"

(xxviii)	Director General, Disaster Management Bureau	-	“
(xxix)	Director General, Relief and Rehabilitation	-	“
(xxx)	Secretary General, Bangladesh Red Crescent Society	-	“

The following officers shall attend the meetings on invitation: Director, Department of Meteorology; Joint Secretary, Ministry of Disaster Management and Relief; Chairman, Water

Development Board; Chief Engineer, Roads and Highways Department; Chairman, Telephone and Telecommunications Board (T&T) Board; Director General, Department of Health; Chief Engineer, Public Health-Department; Director-General, Department of Food; Chairman, Bangladesh Inland Water Transport Corporation (BIWTC); Chairman, Bangladesh Railway; Director; Cyclone Preparedness Programme (CPP); Director, Association of Development Agencies of Bangladesh (ADAB); President, Federation of Chamber of Commerce and Industries; UN Resident Coordinator; Representatives of the UN Organisations; Chief Engineer, Public Works and Local Government, Engineering Department, and any other Expert.

Responsibilities of the Inter-Ministerial Disaster Management Coordination Committee

- (a) Implement the policy and decisions of the National Disaster Management Council. Monitor the disaster related plans for prevention/mitigation, preparedness, emergency assistance (disaster relief), and rehabilitation and to keep the Council informed of progress.
- (b) Coordinate the activities of government agencies concerned with disaster management and evaluate the activities of the Disaster Management Bureau.
- (c) Scrutinise the disaster preparedness of different ministries and agencies every six months.
- (d) Take steps for coordination of relief operations in post-disaster recovery periods.
- (e) Advise and issue guidelines for other related issues.

Responsibilities for disaster prevention/mitigation

- (A) Recommend the prioritisation and inclusion of disaster prevention/mitigation projects in the National Development Plan to the National Disaster Management Council.
- (b) Determine the method of Disaster Impact Assessment (DIA) for large projects in terms of their longevity in the context of increasing disasters or damage during disasters.
- (c) Coordinate preparation and implementation of disaster prevention/mitigation projects and recommend framing of policies, fixing priorities, and distributing assets in this respect.
- (d) Arrange for increasing efficiency at all levels of disaster management.

- (e) Monitor the risks of disaster and their mitigation and implementation according to priorities in the national policy and o keep the National Disaster Management Council informed of progress.

Responsibilities regarding disaster preparedness

- (a) Scrutinise disaster forecasts and warning procedures and coordinate among different agencies.
- (b) Review the action plans of all disaster-related agencies.
- (c) Monitor the overall disaster preparedness programmes and inform the National Disaster Management Council (NDMC).
- (d) Review the warning system at local levels.
- (e) Coordinate among different agencies responsible for educating people about their duties during disasters.
- (f) Ensure coordination among government agencies and NGOs responsible for imparting training on disaster management.
- (g) Ensure rapid supply of additional equipment/materials to places where telecommunication has been disrupted on account of disaster.
- (h) Ensure quick assessment of damage due to disaster and ensure the quality of reconstruction work.

Responsibilities in emergency situations

Alert/warning stage

- (a) Ensure that warning signals reach all officials and agencies concerned as well as the mass media.

Disaster stage

- (a) Depute additional manpower to disaster-affected areas in aid of administration.
- (b) Send members of the defence services with assigned duties for communications and essential services.
- (c) Determine priorities and issue instructions regarding relief materials, funds, and transport.

National Disaster Management Advisory Committee

Chairman: A person experienced in disaster management/specialist in this field nominated by the Prime Minister.

Members: Members of Parliament (8) elected from disaster-prone areas; experienced persons from government agencies, university, NGOs, donor organisations and other agencies in the field of water resources, meteorology, seismographic engineering, physical infrastructure planning, social anthropology, education, disaster management (total 30 members); Chairman, Red Crescent Society; President, Federation of Bangladesh Chambers of Commerce and Industries; President, Institute of Engineers; Chairman, Insurance Company Association; Chairman, Krishi Bank; Chairman Grameen Bank; Director General, Department of Relief and Rehabilitation; and Local Representative for the Armed Forces' Division.

Member-Secretary: Director General, Disaster Management Bureau.

Meetings: Twice a year, the Chairman may call additional meetings, if needed.

Sub-committees: Sub committees may be formed for cyclone warning, flood forecasts, earthquake risks, and participation by the people. Experts may be coopted on to the respective sub committees after formation and selection of the Chairman.

General responsibilities

- (a) Advise the National Disaster Management Council, Ministry of Disaster Management and Relief, and the Disaster Management Bureau on technical management and socioeconomic aspects of disaster prevention/mitigation, preparedness, emergency response, and development (rehabilitation and reconstruction).
- (b) Alert Committee members about the risk of disaster and mitigation possibilities and encourage them to become involved workshops, training, and research.
- (c) Create a forum for discussion by experts on the risk of disaster, opening opportunities for cooperation in solving problems related to disaster management.
- (d) Recommend release of funds for special projects and also to introduce special emergency methods or empowerment, if needed.
- (e) Recommend solutions to problems identified by the Disaster Management Bureau or any other agency/person.
- (f) Propose long-term rehabilitation plans.
- (g) Hold post-mortems or prepare final evaluations of programmes undertaken to cope with disasters and submit a report with recommendations to the National Disaster Management Council.



Government of the People's Republic of Bangladesh

**National Plan for Disaster Management
2007-2015**

Ministry of Food and Disaster Management

February 2007

Foreword

National Plan for Disaster Management 2007-2015 is an outcome of the national and international commitments of the Government of Bangladesh (GoB) and the Ministry of Food and Disaster Management (MoFDM) for addressing the disaster risks comprehensively. The plan has been developed on the basis of the GoB Vision and MoFDM mission to reduce the vulnerability of the poor to the effects of natural, environmental and human induced hazards to a manageable and acceptable humanitarian level by a) bringing a paradigm shift in disaster management from conventional response and relief practice to a more comprehensive risk reduction culture and b) strengthening the capacity of the Bangladesh disaster management system in improving the response and recovery management at all levels.

Bangladesh has taken a holistic approach for disaster management where emphasis has been given to work together with all the stakeholders and build strategic, scientific and implementation partnerships with all the relevant government departments and agencies, other key non-government players including NGOs, academic and technical institutions, the private sector and the donors. The role of Government is mainly to ensure that risk reduction and comprehensive disaster management is a focus of national policy and programmes.

The National Plan for Disaster Management is indicative to what the relevant regional and sectoral plans would consider to address the key issues like risk reduction, capacity building, climate change adaptation, livelihood security, gender mainstreaming, community empowerment and response and recovery management. The plan also will act as basic guideline for all relevant agencies in strengthening better working relations and enhancing mutual cooperation.

The plan reflects the country initiatives since 2003 in line with the paradigm shift in disaster management from conventional response and relief to a more comprehensive risk reduction culture having the development linkages. Inclusion of Policy Matrix on Comprehensive Disaster Management towards poverty reduction and growth in Poverty Reduction Strategy (PRS) is an indicator of mainstreaming risk reduction and consideration of disaster-development linkages.

The Government of Bangladesh is committed to the implementation of its global and national commitment for establishing risk reduction framework. Launching of MoFDM Corporate Plan, Developing Bangladesh Disaster Management Model, Establishing Disaster Management Information Centre (DMIC) and developing National Plan for Disaster Management are the major milestones in the long run of our achievement.

The strategic goals of the Plan are drawn from the SAARC Disaster Management Framework. These goals are well linked to the international and national drivers, so that the plan can articulate the long term strategic focus of disaster management in Bangladesh.

We hope that the plan will contribute towards the formulation of a road map for the development of strategic and operational plan by various entities.

I would like to congratulate the MoFDM officials and CDMP Professionals for developing this National Plan for Disaster Management, which will contribute in achieving Millennium Development Goals (MDGs) and sustainable development of the country.

(Tapan Chaudhury)

The Honourable Advisor to the Caretaker Government in charge
of the Ministry of Food and Disaster Management

Acknowledgement

Ministry of Food and Disaster Management is very much pleased for launching the National Plan for Disaster Management to be implemented during 2007-2015. The Plan is the reflection of the commitments of the Government of Bangladesh for addressing disasters in a comprehensive way. The Plan will be helpful for effective intervention by the MoFDM to fulfil its mandatory role of coordinating all disaster management activities within the country. We hope that the plan will contribute towards a cohesive and well coordinated programming framework incorporating GoB, Non-Government and the private sector.

Special thanks are extended to Dr. Selina Ahsan, Director General (Additional Secretary), FPMU and her team for overseeing and guiding the development of this National Plan. I offer special thanks to the officials of relevant ministries and thier agencies, NGOs, members of disaster management committees and other stakeholders for offering their views, comments and recommendations in developing the plan. I particularly offer special thanks to officials of Disaster Management Bureau (DMB) and Water Resources Planning Organization (WARPO) for their valuable contribution to the development of this document.

A team of highly dedicated and experienced professionals working with the Ministry of Food and Disaster Management and its Comprehensive Disaster Management Programme (CDMP) has worked hard to prepare this important document. I am pleased to express my appreciation for their diligence. Sincere thanks are extended to CDMP professionals Dr. Aslam Alam and Dr. Shantana Halder for their special efforts in preparing the plan.

We are most grateful to our honourable Advisor for his kind guidance provided to us for developing this plan. We also take this opportunity to put on record our deep appreciation for the excellent cooperation from our development partners and well wishers for their support in preparing the document.

(Dhiraj Malakar)
Secretary in-charge
Ministry of Food and Disaster Management

LIST OF ABBREVIATION

ADB	Asian Development Bank
ADPC	Asian Disaster Preparedness Centre
AFD	Armed Forces Division
ASEAN	Association of South East Asian Nations
BBS	Bangladesh Bureau of Statistics
BCAS	Bangladesh Centre for Advanced Studies
BDPC	Bangladesh Disaster Preparedness Centre
BDRCS	Bangladesh Red Crescent Society
BFS&CD	Bangladesh Fire Service and Civil Defence
BGD	Bangladesh
BGS	British Geological Survey
BIDMTR	Bangladesh Institute of Disaster Management Training and Research
BMD	Bangladesh Meteorological Department
BNDV	Bangladesh National Disaster Volunteers
BUET	Bangladesh University of Engineering and Technology
BWDB	Bangladesh Water Development Board
CBO	Community Based Organization
CCC	Climate Change Cell
CCDMC	City Corporation Disaster Management Committee
CDMP	Comprehensive Disaster Management Programme
CEGIS	Centre for Environmental and Geographical Information Services
CPP	Cyclone Preparedness Program
CPPIB	Cyclone Preparedness Program Implementation Board
CRA	Community Risk Assessment
CSDDWS	Committee for Speedy Dissemination of Disaster Related Warning/ Signals
DAE	Directorate of Agricultural Extension
DC	Deputy Commissioner
DDMC	District Disaster Management Committee
DDMP	District Disaster Management Plan
DESA	Dhaka Electric Supply Authority
DFID	Department for International Development
DGOF	Director General of Food
DIRA	Disaster Impact and Risk Assessment
DMB	Disaster Management Bureau
DMC	Disaster Management Committee
DMIC	Disaster Management Information Centre
DMTATF	Disaster Management Training and Public Awareness Building Task Force
DoE	Department of Environment
DPHE	Department of Public Health Engineering
DRR	Directorate of Relief and Rehabilitation
DRRO	District Relief and Rehabilitation Officer
ECNEC	Executive Committee of the National Economic Council

EIA	Environmental Impact Assessment
EOC	Emergency Operation Centre
FBCCI	Federation of Bangladesh Chamber of Commerce and Industries
FFE	Food for Education
FFW	Food for Works
FFWC	Flood Forecasting and Warning Centre
FPMU	Food Planning and Monitoring Unit
FPOCG	Focal Point Operation Coordination Group of Disaster Management
GDP	Gross Domestic Product
GIS	Geographical Information System
GOB	Government of Bangladesh
GSB	Geological Survey of Bangladesh
HFA	Hyogo Framework for Action
HIPC	Heavily Indebted Poor Countries
HIV/AIDS	Human Immune Virus/Acquired Immune Deficiency Syndrome
ICT	Information Communication Technology
IFRC	International Federation of Red Cross
IMDMCC	Inter-Ministerial Disaster Management Co-ordination Committee
IMF	International Monetary Fund
ISDR	International Strategy for Disaster Reduction
IWM	Institute of Water Management
JPOI	Johannesburg plan of Implementation
LGED	Local Government Engineering Department
LGRD	Local Government and Rural Development
LRP	Land Reclamation Programme
MDGs	Millennium Development Goals
MES	Meghna Estuary Study
MoEF	Ministry of Environment and Forest
MoFA	Ministry of Foreign Affairs
MoFDM	Ministry of Food and Disaster Management
MoH	Ministry of Health
MoHA	Ministry of Home affairs
MoW&CA	Ministry of Women and Children Affairs
MoWR	Ministry of Water Resources
MSL	Mean Sea Level
MPO	Master Plan Organisation
NAEM	National Academy for Educational Management
NDMAC	National Disaster Management Advisory Committee
NDMC	National Disaster Management Council
NEC	National Economic Council
NGO	Non Governmental Organization
NGOCC	NGO Coordination Committee on Disaster Management
NWMP	National Water Management Plan
NWRD	National Water Resources Database
PCP	Project Concept Paper

PDMC	Pourashava Disaster Management Committee
PDMP	Pourashava Disaster Management Plan
PIO	Project Implementation Officer
POA	Plan of Action
PP	Project Proforma
PPRR	Prevention, Preparedness, Response and Recovery
PRSP	Poverty Reduction Strategy Paper
PWD	Public Works Department
RAJUK	Rajdhani Unnayan Katripakhaya
RCC	Regional Consultative Committee
RRAP	Risk Reduction Action Plan
SAARC	South Asian Association for Regional Cooperation
SARDI	Soil and Agricultural Research and Development Institute
SDMC	SAARC Disaster Management Centre
SFA	SAARC Framework for Action
SMRC	SAARC Meteorological Research Centre
SOD	Standing Orders on Disaster
SPARRSO	Space Research and Remote Sensing Organisation
TAP	Technical Assistance Project
TAPP	Technical Assistance Project Proforma
TOT	Training of Trainers
TR	Test Relief
UDMC	Union Disaster Management Committee
UDMP	Union Disaster Management Plan
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
UNO	Upazila Nirbahi Officer
UZDMC	Upazila Disaster Management Committee
UZDMP	Upa-Zila Disaster Management Plan
VGD	Vulnerable Group Development
WARPO	Water Resource Planning Organization
WASA	Water and Sewerage Authority
WB	World Bank
WFP	World Food Programme
WHO	World Health Organization
WSSD	World Summit on Sustainable Development

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I. INTRODUCTION

Bangladesh is a low-lying deltaic country in South Asia formed by the Ganges, the Brahmaputra and the Meghna rivers. It is a land of about 144 million people within its 147,570 sq. km territory. More than 310 rivers and tributaries have made this country a land of rivers.

Diversified cultural heritage, archaeological sites and natural beauty of the country have made this land attractive. The country has the world's longest unbroken sandy beach of 120km, sloping gently down to the blue water of the Bay of Bengal.

Around 52% percent of the civilian labour force of the country is engaged in agriculture and 14% is engaged in industry. Per capita GDP for 2002-2003 was US \$ 418 (BBS, 2006).

Since independence in 1971, Bangladesh has achieved substantial improvements in some social indicators like decrease in infant and maternal mortality, and illiteracy, increase in life expectancy, access to safe water and sanitation. However, approximately 40% of the population still continue to live below the poverty line (BBS, 2005). Economic performance of the country has been relatively strong since 1990, with an annual 5% average GDP growth rate. Although half of the GDP is generated through the service sector, nearly two thirds of Bangladeshis are employed in the agriculture sector with paddy as the single most important product.

The geophysical location, land characteristics, multiplicity of rivers and the monsoon climate render Bangladesh highly vulnerable to natural hazards. The coastal morphology of Bangladesh influences the impact of natural hazards on the area. Especially in the south eastern area, natural hazards increase the vulnerability of the coastal dwellers and slow down the process of social and economic development. Significant country features include:

- A vast network of rivers and channels
- An enormous discharge of water heavily laden with sediments
- A large number of islands in between the channels
- A shallow northern Bay of Bengal and funnelling to the coastal area of Bangladesh
- Strong tidal and wind action

Natural and human induced hazards such as floods, cyclones, droughts, tidal surges, tornadoes, earthquakes, river erosion, fire, infrastructure collapse the high arsenic contents of ground water, water logging, water and soil salinity, epidemic, and various forms of pollution are frequent occurrences.

Climate change adds a new dimension to community risk and vulnerability. Although the magnitude of these changes may appear to be small, they could substantially increase the frequency and intensity of existing climatic events

(floods, droughts, cyclones etc). Current indications are that not only will floods and cyclones become more severe, they will also start to occur outside of their “established seasons”. Events, such as drought, may not have previously occurred in some areas and may now be experienced.

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II. HAZARDS IN BANGLADESH¹

Bangladesh is exposed to natural hazards, such as, floods, river erosion, cyclones, droughts, tornadoes, cold waves, earthquakes, drainage congestion/ water logging, arsenic contamination, salinity intrusion etc. But the nature of occurrence, season and extent of effect of the hazards are not the same in all places. Figure 1 presents Bangladesh Topography.

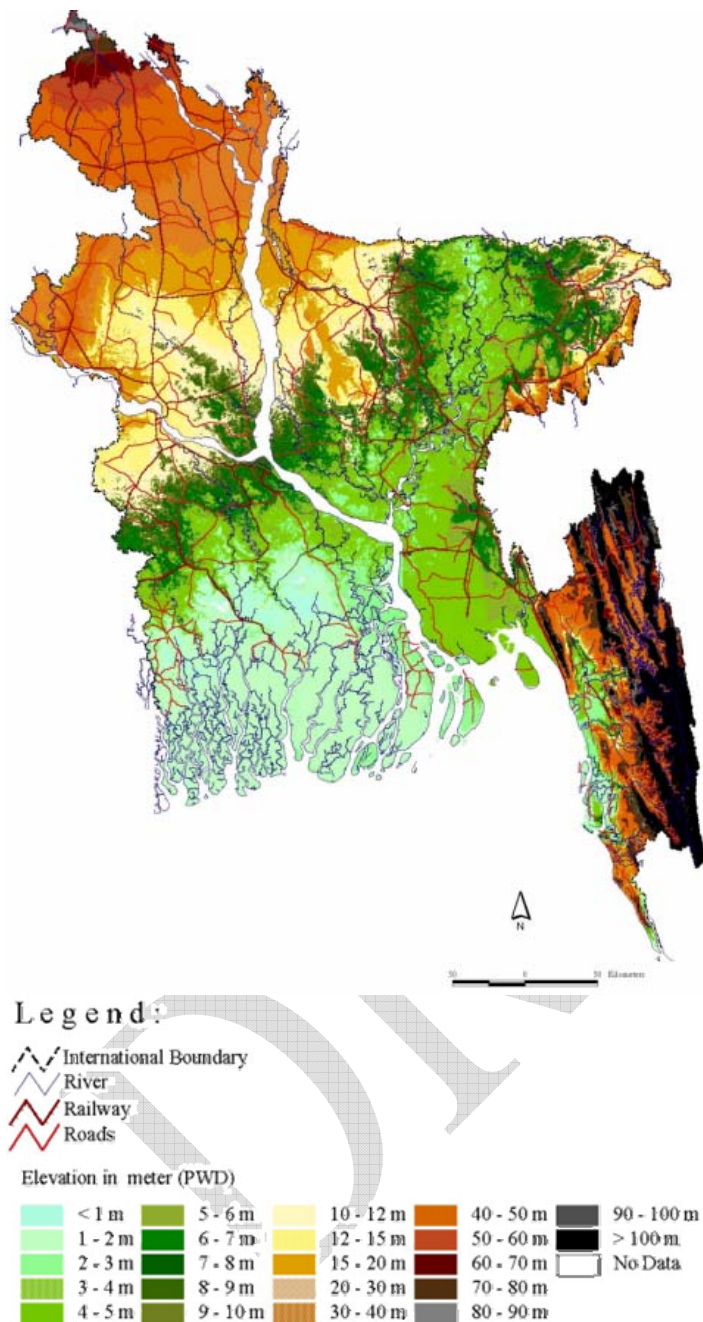
2.1 Flood

Floods are annual phenomena with the most severe occurring during the months of July and August. Regular river floods affect 20% of the country increasing up to 68% in extreme years. The floods of 1988, 1998 and 2004 were particularly catastrophic, resulting in large-scale destruction and loss of lives.

Approximately 37%, 43%, 52% and 68% of the country is inundated with floods of return periods of 10, 20, 50 and 100 years respectively (MPO, 1986). Four types of flooding occur in Bangladesh (Figure 2).

- Flash floods caused by overflowing of hilly rivers of eastern and northern Bangladesh (in April-May and September-November).
- Rain floods caused by drainage congestion and heavy rains.
- Monsoon floods caused by major rivers usually in the monsoon (during June-September).
- Coastal floods caused by storm surges.

¹ Prepared by CEGIS for CDMP under the study on “Inventory of Community Risk Reduction Programme” November 2006



•About 50% of the country is within 6-7 m of MSL.

•About 68% of the country is vulnerable to flood.

•25 to 30% of the area is inundated during normal flood

Figure 1: Topography of Bangladesh

Figures 3 and 4 show the percentage of total flood affected areas of the country for some selected years. The 1988 flood affected about two-third area of the country. The 1998 flood alone caused 1,100 deaths, rendered 30 million people homeless, damaged 500,000 homes and caused heavy loss to infrastructure. The 1998 flood lasted for 65 days from July 12 to September 14 and affected about 67% area of the country. This devastating flood had an enormous impact on the national economy, in addition to causing hardships for people, and disrupting livelihood systems in urban and rural areas.

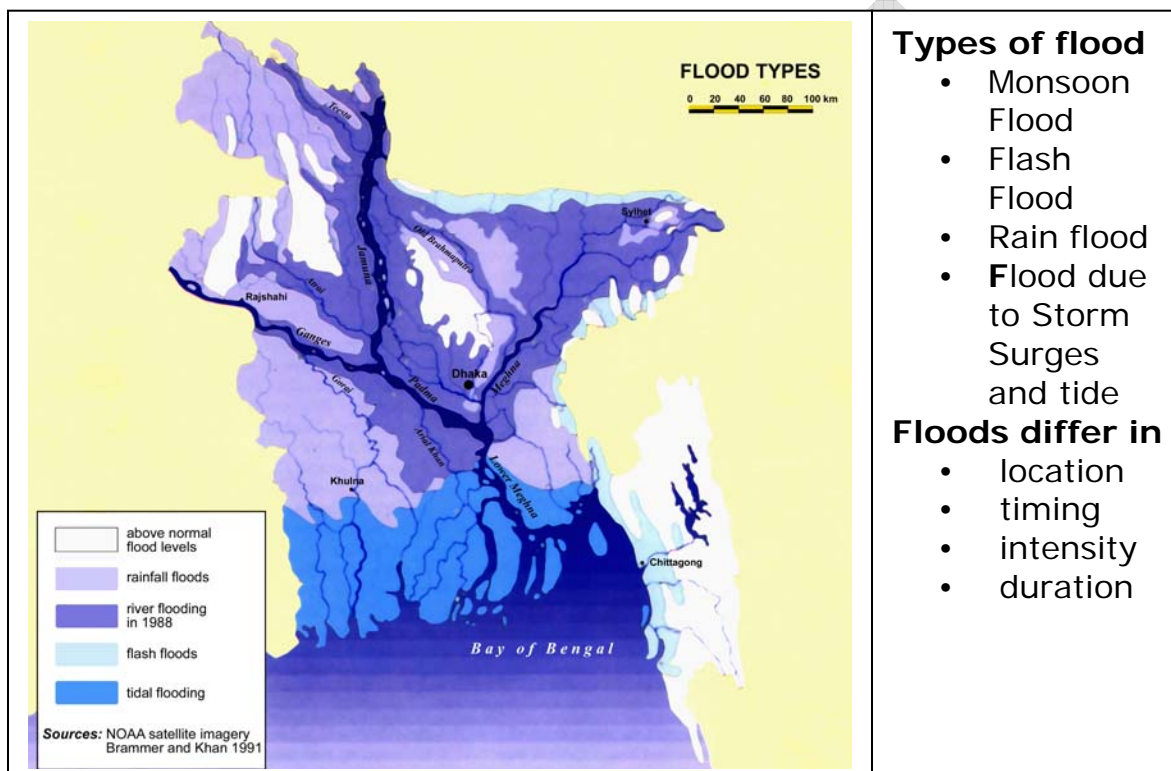


Figure 2: Flood Types in Bangladesh

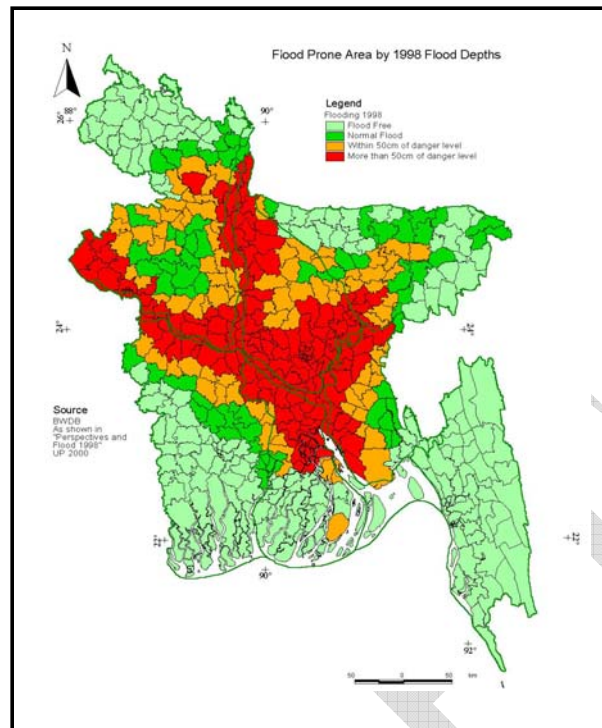


Figure 3: Flood prone areas by 1998 flood depth (Source: BWDB, 2000)

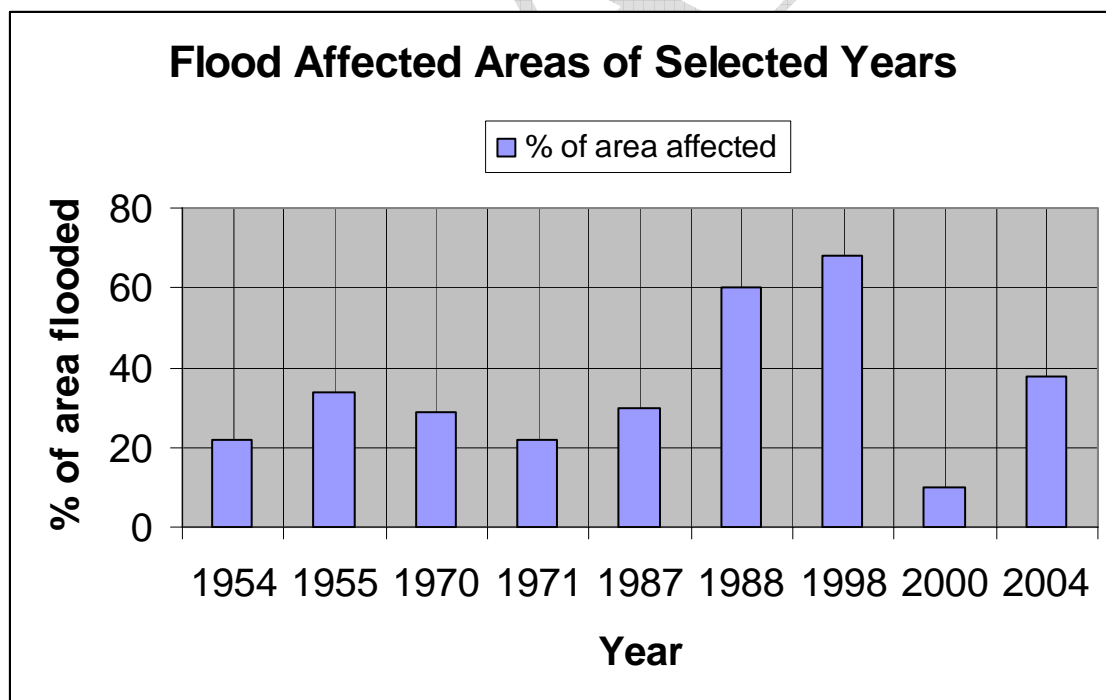


Figure 4: Flood affected area in different years (Source: State of Environment 2001(modified))

In the year 2000, Bangladesh faced an unusual flood over its usually flood-free south western plain, which also caused loss of life and massive damage to property. In 2004, floods inundated about 38% of the country (WARPO, 2005). About 747 people lost their lives. About 2500 kilometres of embankment were damaged. About 74 primary school buildings were washed away. This flood caused economic loss of about US\$ 2200 Million. Floods continue to be major hazards in Bangladesh. To mitigate the impacts of floods, the government has been developing and implementing various measures to better equip the country to deal with floods. The Ministry of Water Resources (MoWR) is leading the country on flood mitigation initiatives. Important initiatives include Flood Action Plan, Flood Hydrology Study, Flood Management Model Study, National Water Management Plan, National Water Policy, Flood Early Warning System Study, etc.

2.2 Cyclones and Storm Surges

Tropical cyclones from the Bay of Bengal accompanied by storm surges are one of the major disasters in Bangladesh. The country is one of the worst sufferers of all cyclonic casualties in the world. The high number of casualties is due to the fact that cyclones are always associated with storm surges. Storm surge height in excess of 9m is not uncommon in this region. For example, the 1876 cyclone had a surge height of 13.6 m and in 1970 the height was 9.11 m (WARPO, 2005). In fact, the 1970 Cyclone is the deadliest Cyclone that has hit Bangladesh coastline. With a wind-speed of about 224 km per hour and associated storm surge of 6.1 to 9.11 Metre, it was responsible for death of about 300,000 people. A list of devastating cyclones is given in Table 1.

Table 1: Major cyclones that hit the Bangladesh coast

Date		Maximum Wind speed (km/hr)	Storm Surge height (Meter)	Death Toll
11 May	1965	6.1-7.6	160	19,279
15 December	1965	4.6-6.1	211	873
01 October	1966	4.6-6.1	144	850
12 November	1970	6.0-9.1	224	300,000
25 May	1985	3.0-4.6	152	11,069
29 April	1991	6.0-6.0	225	137,470
19 May	1997	3.1-4.2	232	155

Source: Chowdhury 1987, 1991 and Bangladesh Meteorological Department 1988, BBS, 1998

The cyclone prone areas of Bangladesh are shown in Figure 5.

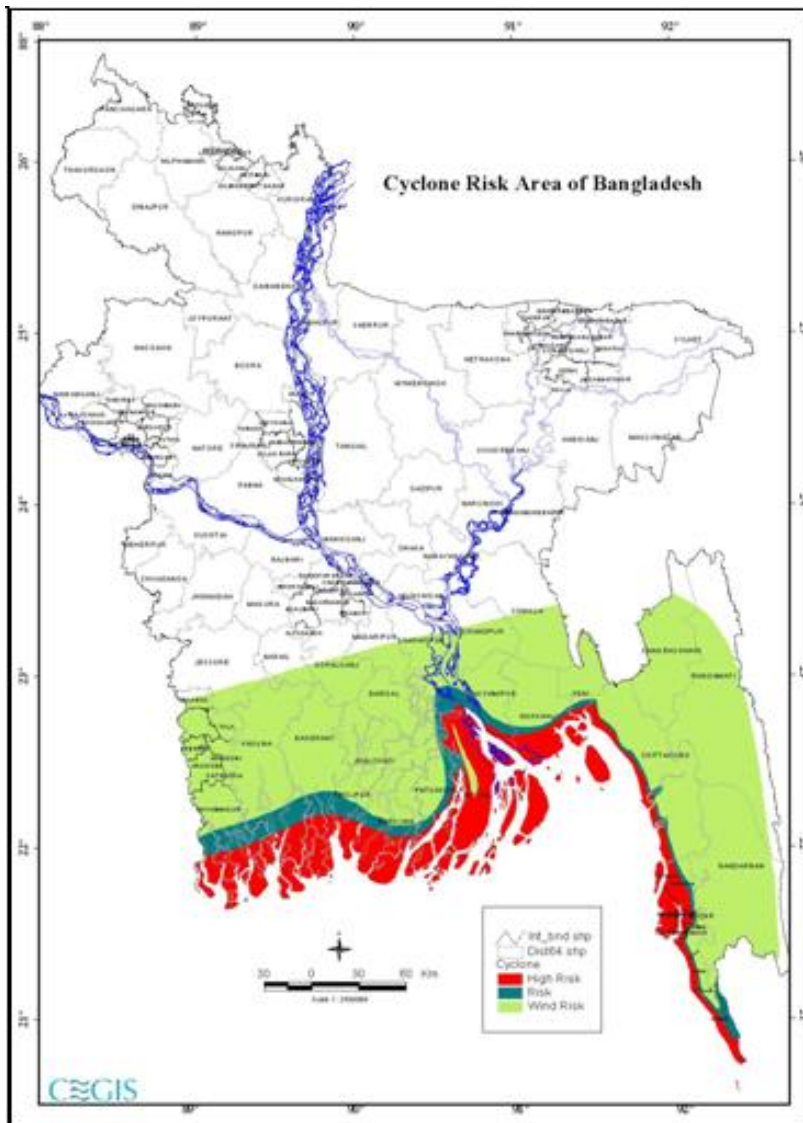


Figure 5: Cyclone prone areas of Bangladesh
(Source: WARPO, 2005)

2.3 Tornado

The two transitional periods between southwest and northeast monsoons over the Indian sub-continent are characterized by local severe storms. The transitional periods are usually referred to as pre-monsoon (March-May), and post-monsoon (October- November). It is the pre-monsoon period when most of the abnormal rainfall or drought conditions frequently occur in different parts of Bangladesh. Also there are severe local seasonal storms, popularly known as nor'westers (*kalbaishakhi*). Severe nor'westers are generally associated with tornadoes. The tornado forms within the nor'wester, and moves along the direction of the squall of the mother storm. The frequency of nor'westers usually reaches the maximum in April, while a few occur in May, and the minimum in March. Nor'westers and tornadoes are more frequent in the afternoon. Table 2 shows some of the devastating nor'westers and tornadoes that hit Bangladesh. Nor'westers may occur in late February due to early withdrawal of winter from Bangladesh, Bihar, West Bengal, Assam, and adjoining areas. The occasional occurrence of nor'westers in early June is due to delay in the onset of the southwest monsoon over the region (Karmakar, 1989).

Table 2: Some of the devastating nor'westers and tornadoes

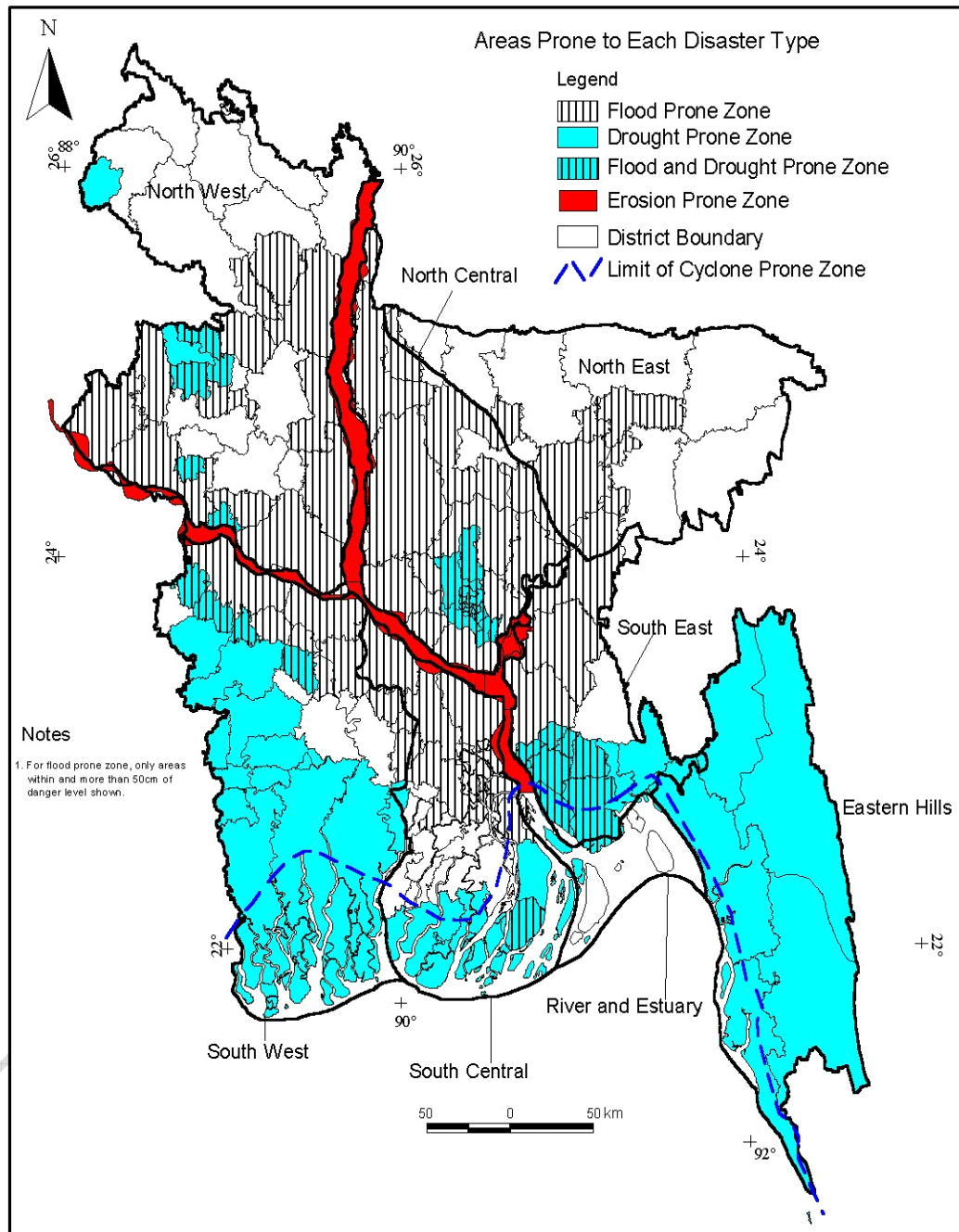
14 April 1969	Demra (Dhaka)
17 April 1973	Manikganj (Dhaka)
10 April 1974	Faridpur
11 April 1974	Bogra
09 May 1976	Narayanganj
01 April 1977	Faridpur
26 April 1989	Saturia (Manikganj)
14 May 1993	Southern Bangladesh
13 May 1996	Tangail
04 May 2003	Brahmanbaria
21 March 2005	Gaibandha

Source: *Bangladesh: State of the Environment 2001* and web sources

Wind-speeds in nor'westers usually do not exceed 113-130 km/hr (70-80 miles/hr), though often their speeds exceed 162 km/hr (100 miles/hr). When the winds become whirling with funnel shaped clouds having a speed of several hundred kilometers or miles per hour, they are called tornados. Nor'westers bring the much needed pre-monsoon rain. They can also cause a lot of havoc and destruction. Tornados are suddenly formed and are extremely localized in nature and of brief duration. Thus, it is very difficult to locate them or forecast their occurrence with the techniques available at present. However, high-resolution satellite pictures, suitable radar, and a network of densely spaced meteorological observatories could be useful for the prediction or for issuing warnings of nor'westers and tornados.

2.4 River Bank Erosion

Rivers in Bangladesh are morphologically highly dynamic. The main rivers are braided, and form islands or chars between the braiding channels. These chars, of which many are inhabited, "move with the flow" and are extremely sensitive to changes in the river conditions. Erosion processes are highly unpredictable, and not compensated by accretion. These processes also have dramatic consequences in the lives of people living in those areas. A study concluded in 1991 reported that: out of the 462 administrative units in the country, 100 were subject to some form of riverbank erosion, of which 35 were serious, and affected about 1 million people on a yearly basis. Around 10,000 hectares land is eroded by river per year in Bangladesh (NWMP, 2001). The erosion prone zones of Bangladesh are shown in the Figure 6. Kurigram, Gaibandha, Jamalpur, Bogra, Sirajganj, Tangail, Pabna and Manikganj districts lie in the erosion prone area along Jamuna River. Erosion of total area and settlement is higher along the left bank than that of the right bank. Along Padma River, there are the districts of Rajbari, Faridpur, Manikganj, Dhaka, Munshiganj, Shariatpur and Chandpur. A recent study of CEGIS (2005) shows that bank erosion along Padma River during 1973 – 2004 was 29,390 hectares and along Jamuna River during 1973 – 2004, it was 87,790 hectares. As relevant to this study, loss of land, settlements, roads and embankments due to erosion in 2004 in Sirajganj and Faridpur districts is shown in Table 3.



**Figure 6: Areas Prone to Various Disasters including River Erosion
(Source: NWRD)**

Table 3: Erosion of agricultural land, roads, embankments and settlements along the banks of the Jamuna and Padma in 2004 in Sirajganj and Faridpur districts

District	Upazila	Total Land (ha)	Eroded Infrastructures				
			Settlement (ha)	District Road (m)	Upazila Road (m)	Rural Road (m)	Embankment (m)
Sirajganj	Kazipur	177	50		176	84	1617
	Sirajganj Sadar	170	13	1		164	2107
	Belkuchi	0	0				
	Chauhali	207	45		395		
	Shahjadpur	148	31	159			
	Total	702	139	160	571	248	3724
Faridpur	Faridpur Sadar	200	57		1175	370	
	Char Bhadrasan	78	17	320			
	Sadarpur	3	1				
	Total	281	75	320	1175	370	

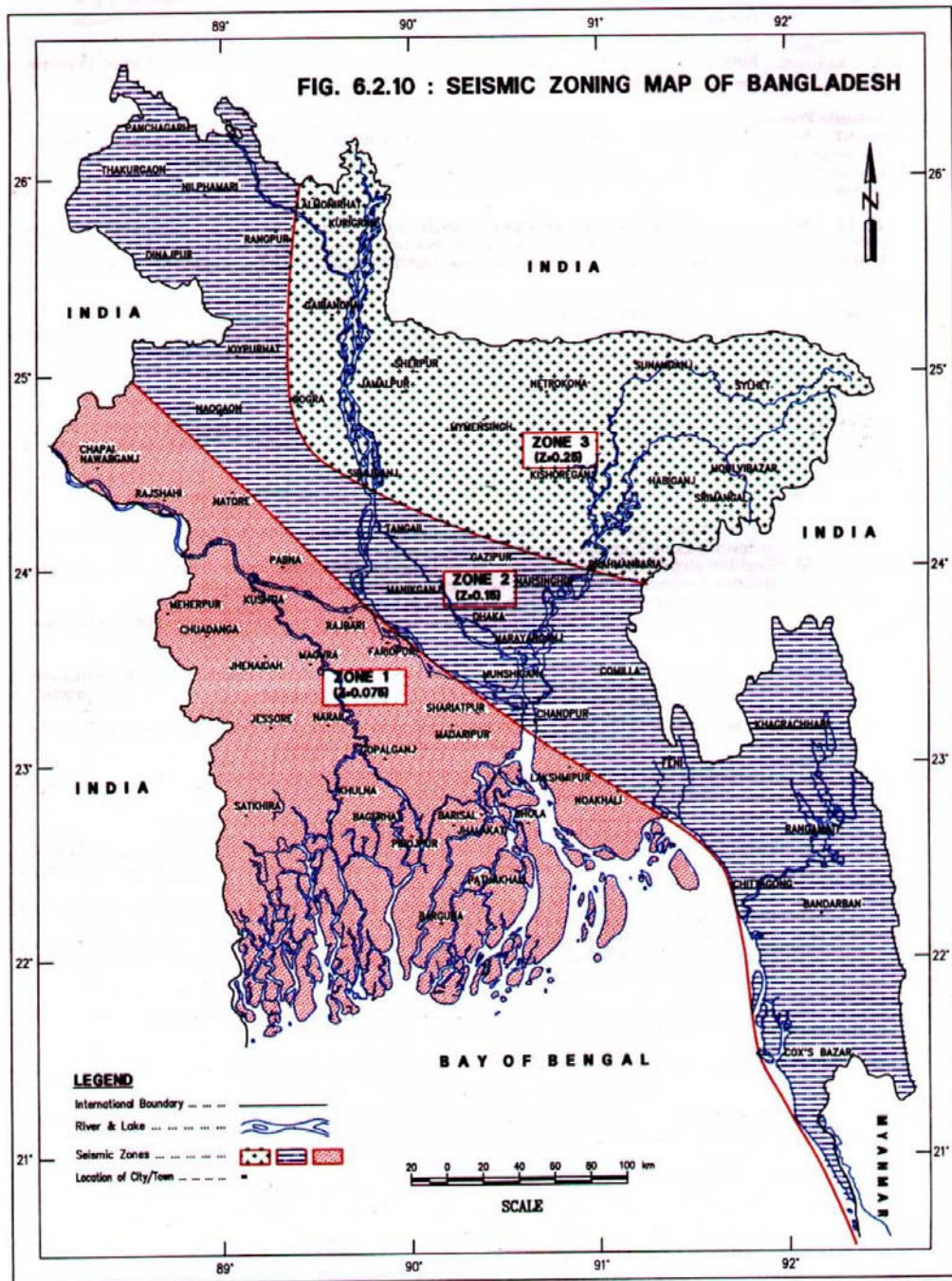
Source: CEGIS, 2005

2.5 Earthquake

Bangladesh and the northeastern Indian states have long been one of the seismically active regions of the world, and have experienced numerous large earthquakes during the past 200 years. The catastrophic earthquakes of 1762 and 1782 are believed to have been partially responsible for the diversion of the Old Brahmaputra River from the west of its main Arial Khan distributory to the present Padma channel. Since 1860 over 20 shallow and intermediate earthquake epicenters have been recorded in Bangladesh and the surrounding areas.

Lots of seismo-tectonic studies have been undertaken on the area comprising the Indo-Burman ranges and their western extension and in the northern India. A complete list of reference of this is provided in Haque, (1990), using data from various sources. A seismicity map of Bangladesh and its adjoining areas has also been prepared by BMD and GSB. Bangladesh has been classified into three seismic zones with zone-3 the most and zone-1 the least vulnerable to seismic risks (Fig. 7).

Figure 7: Seismic Zoning Map of Bangladesh



Source: Jamilur Reza Choudhury (JRC), 2005

Table 4. List of Major Earthquakes Affecting Bangladesh

Date	Name of Earthquake	Magnitude (Richter)	Epicentral Distance from Dhaka (km)	Epicentral Distance from Sylhet City (km)	Epicentral Distance from Chittagong (km)
10 January, 1869	Cachar Earthquake	7.5	250	70	280
14 July, 1885	Bengal Earthquake	7.0	170	220	350
12 June, 1897	Great Indian Earthquake	8.7	230	80	340
8 July, 1918	Srimongal Earthquake	7.6	150	60	200
2 July, 1930	Dhubri Earthquake	7.1	250	275	415
15 January, 1934	Bihar-Nepal Earthquake	8.3	510	530	580
15 August, 1950	Assam Earthquake	8.5	780	580	540

Source: JRC, 2005

The record of approximately 150 years shows that Bangladesh and the surrounding regions experienced seven major earthquakes (with $M_b = 7$). In the recent past, a number of tremors of moderate to severe intensity had already taken place in and around Bangladesh. The Sylhet Earthquake ($M_b = 5.6$) of May 8, 1997, the Bandarban Earthquake ($M_b = 6.0$) of November 21, 1997, the Moheshkhali Earthquake ($M_b = 5.1$) of July 22, 1999, and the Barkal (Rangamati) Earthquake ($M_b = 5.5$) of July 27, 2003 may be cited as examples (Source: JRC, 2005).

2.6 Drought

Drought is an abnormal condition where there is a lack of sufficient water to meet the normal needs of agriculture, livestock, industry, or for human use. While generally associated with semi-arid or desert climates, droughts can also occur in areas that normally enjoy adequate rainfall, and moisture levels (ADB, 1991). It is the result of insufficient or no rainfall for an extended period, and causes a considerable hydrological (water) imbalance. The ensuing water shortage leads to stream flow reduction, depletion of ground water and soil moisture, and hence, crop damage. In drought conditions, evaporation and transpiration exceed normal levels. If it continues for a prolonged period, a serious threat is posed to agricultural production. In the agricultural context drought affects rice production the most. Based on drought severity, crop loss ranges between 20-60% for T. Aman and other

rice varieties (Iqbal, 2000). It is one of the most insidious causes of human misery. Basically, there are three types of droughts in Bangladesh:

- Permanent drought characterizes regions with the driest climate, having sparse vegetation that is adapted to aridity. Agriculture cannot be practiced without irrigation.
- Seasonal drought occurs due to abnormal rainfall shortage in places where there are well-defined annual rainy and dry seasons.
- Unpredictable drought involves an abnormal rainfall failure, mostly in localized areas of humid and sub-humid climates.

Bangladesh is at higher risk from droughts. Between 1949 and 1991, droughts occurred in Bangladesh 24 times. Very severe droughts hit the country in 1951, 1957, 1958, 1961, 1972, 1975, 1979, 1981, 1982, 1984 and 1989. Past droughts have typically affected about 47% area of the country and 53% of the population (WARPO, 2005). Figure 8 shows the drought prone areas of Bangladesh.

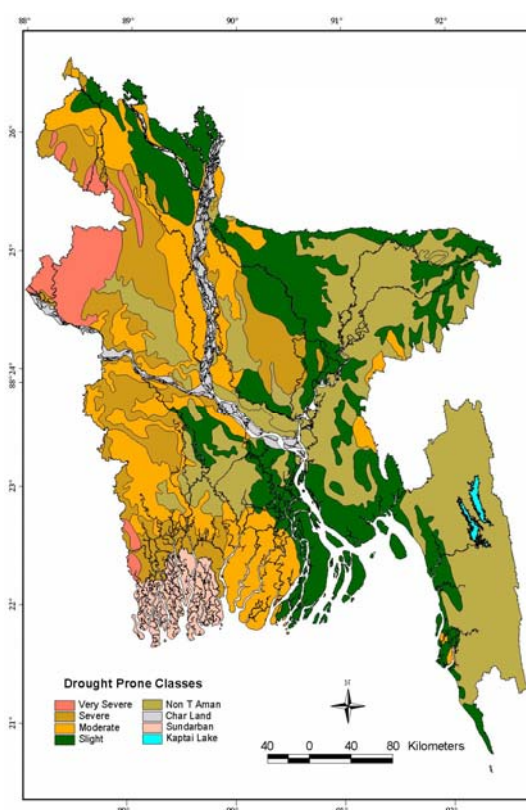


Figure 8 (a): Drought prone (Kharif) areas of Bangladesh (Source: SARDI)

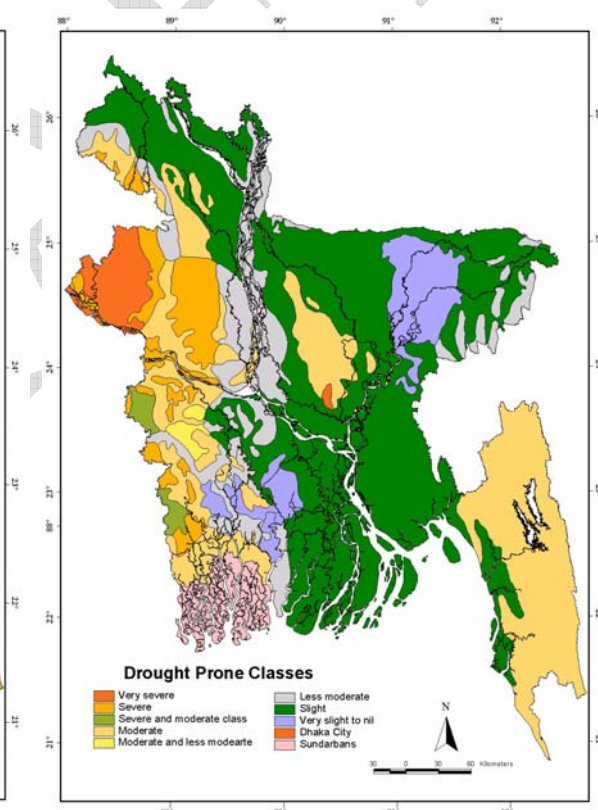


Figure 8 (b): Drought prone (Rabi and Pre Kharif) areas of Bangladesh (Source: SARDI)

Drought conditions due to deficiency in rainfall affect different parts of Bangladesh mostly during the pre-monsoon and post-monsoon periods. One study has shown (Figure 9) that from 1949 to 1979, drought conditions had never affected the entire country and total population in any drought year. The drought of 1979 was one of the severest in recent times. The percentage of drought-affected areas was 31.63 percent in 1951, 46.54 percent in 1957, 37.47 percent in 1958, 22.39 percent in 1961, 18.42 percent in 1966, 42.48 percent in 1972, and 42.04 percent in 1979. During 1981 and 1982, drought affected the production of the monsoon crop only.

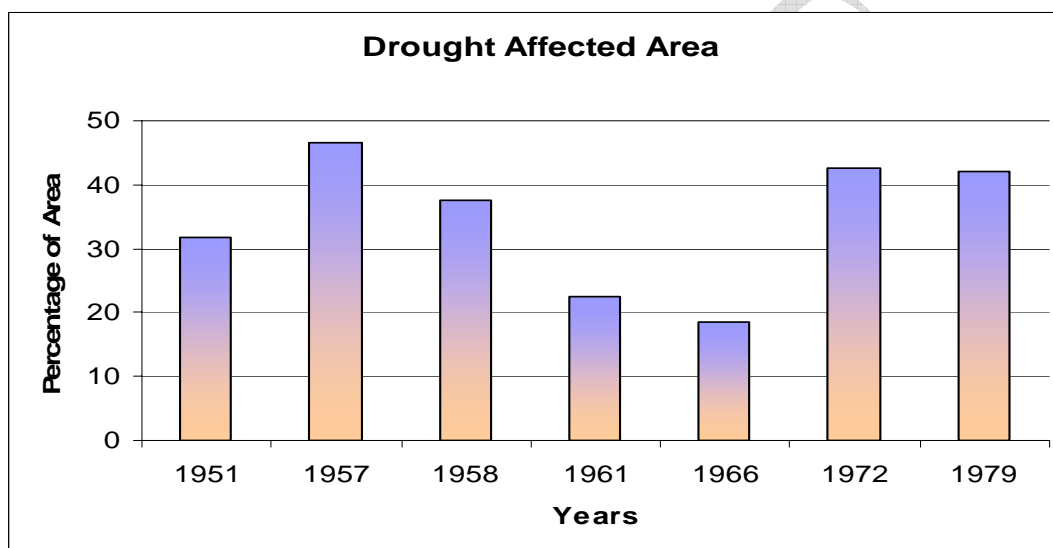


Figure 9: Drought affected areas of Bangladesh in different years (Source: State of Environment 2001).

2.7 Arsenic Contamination

At present, arsenic contamination is considered to be a dangerous environmental threat and a serious health risk. It is identified as a public health emergency in Bangladesh. There is no specific treatment for chronic arsenicosis other than ceasing further intake of arsenic contaminated water and raising awareness of the population about the problem.

The value (recommended limit) for arsenic in drinking water as per the guideline of the World Health Organization (WHO) is 10 mg/L while the national standard in most countries, including Bangladesh, is 50 mg/L. With varying levels of contamination from region to region, groundwater in 61 out of the 64 districts in Bangladesh is contaminated with arsenic. According to a study conducted by the British Geological Survey and DPHE, Bangladesh, arsenic concentrations in the country range from less than 0.25 mg/L to more than 1600 mg/L. This study report estimates that out of the Bangladesh population of 125.5 million, up to 57 million drinks water that has an arsenic concentration greater than the WHO guideline value and up to

35 million drinks water that has concentrations in excess of the Bangladesh standard. The waters in the southwest and southeast parts of Bangladesh are highly contaminated with arsenic (Figure 10). Important government initiatives to mitigate risk to arsenic contamination include development of the National Policy for Arsenic Mitigation 2003 and the Implementation Plan for Arsenic Mitigation in Bangladesh

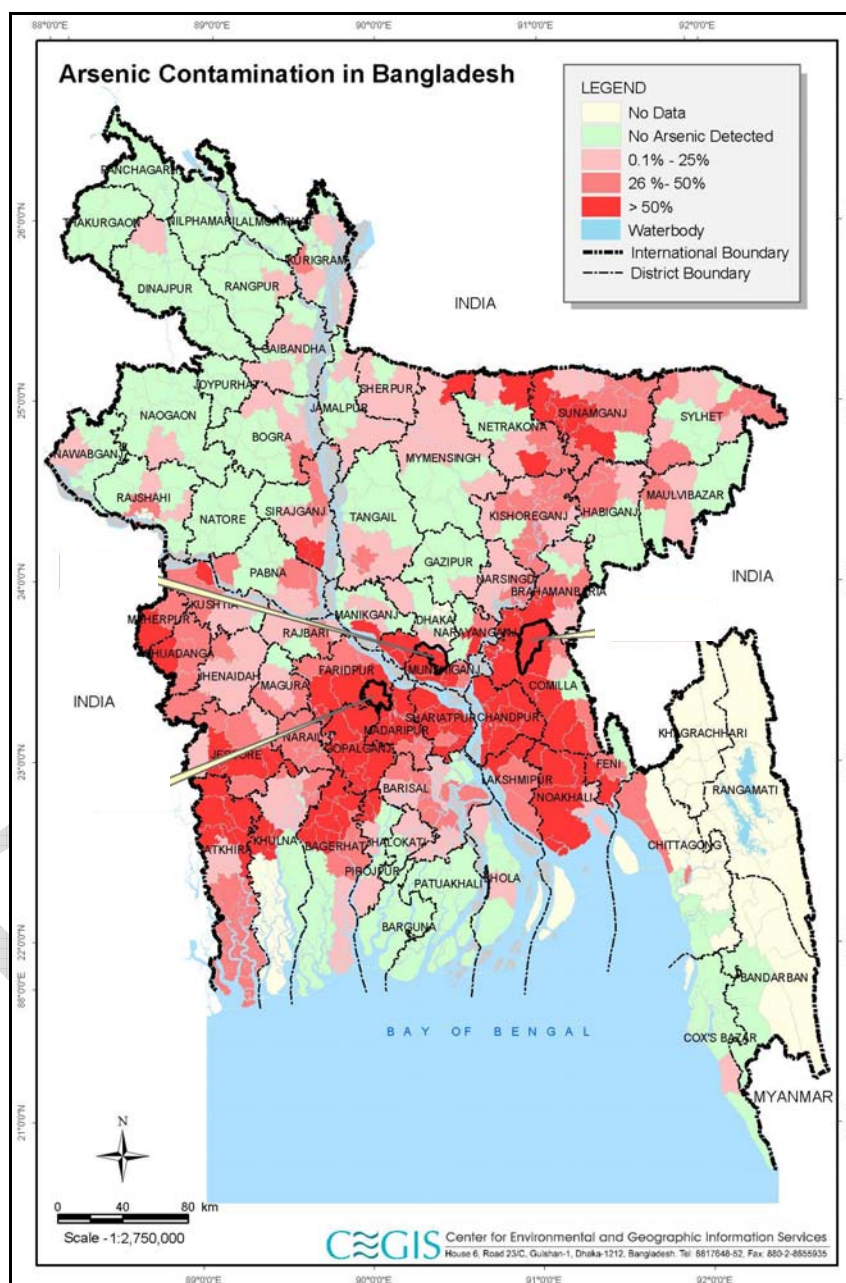


Figure 10: Arsenic contamination status in Bangladesh

2.8 Salinity Intrusion

Saline water intrusion is mostly seasonal in Bangladesh; in winter months the saline front begins to penetrate inland, and the affected areas rise sharply from 10 percent in the monsoon to over 40 percent in the dry season. Coastal districts such as Satkhira, Khulna, Bagerhat, Barguna, Patuakhali, Barisal are the victims of salinity intrusion. Agricultural production, fisheries, livestock, and mangrove forests are affected by higher salinity in the dry season. It is observed that dry flow trend is being declined as a result of which sea flow (saline water) is travelling far inside the country resulting in contamination both in surface and ground water.

Salinity data from Land Reclamation Programme (LRP) and Meghna Estuary Study (MES) indicate an enormous seasonal effect due to the influence of huge fresh water discharge from the Lower Meghna River on the horizontal distribution of salinity in the estuary. This distribution is strongly influenced by the fresh water flow in the Lower Meghna River. Figures 11 and 12 present the movement of the 1 ppt salinity line during monsoon and dry season respectively. High salinity both in monsoon and dry season in the southwest corner and along the Pussur-Sibsa system of the area is associated with the decreasing upstream freshwater flow as well as silting of major channels (WARPO, 2005).

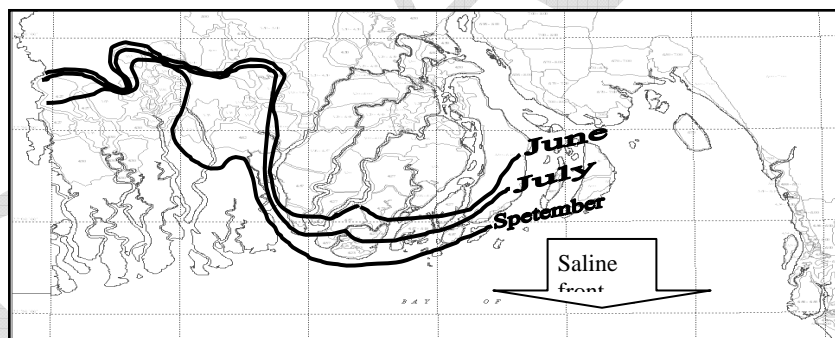


Figure 11: Movement of saline front of 1 ppt in the monsoon season (June to September)

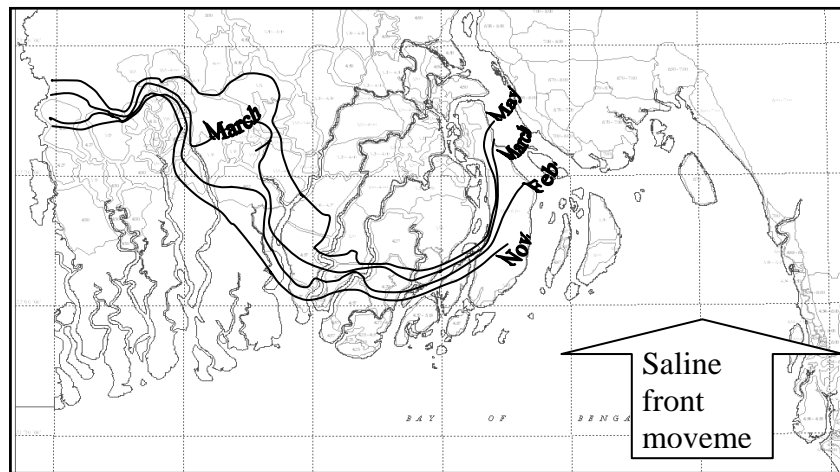


Figure 12: Movement of saline front of 1 ppt in the dry season (November to May)

2.9 Tsunami

Before the Asia Tsunami 2004, a few Bangladeshis ever thought that Bangladesh was vulnerable to tsunami hazards. However, the 2004 Asia Tsunami raised the question why Bangladesh was not hit by the Tsunami. Bangladeshi scientists put together the following reasons:

1. Long distance from the Epicenter
2. Long Continental Shelf (about 200 km) at the front of Ganges- Brahmaputra active Delta System.
3. Thick sedimentation in Bengal fan
4. High density of sea-water in Bay of Bengal around / along the coast (suspended load).
5. Anti-clockwise oceanic current at Bay of Bengal (winter time)

Considering the state of tsunami vulnerability and potential seismic sources the coastal belt of Bangladesh, Geological Survey of Bangladesh has divided the Bangladesh coastal belt into three zones:

- a. *Tsunami Vulnerable Zone- I* (Chittagong-Teknaf coastline) *Most vulnerable*. The intra-deltaic coastline is very close to the tectonic interface of Indian and Burmese plates. The active Andaman-Nicobar fault system is often capable of generating tsunami waves.
- b. *Tsunami Vulnerable Zone- II* (Sundarban-Barisal coastline)– *Moderately vulnerable*. This old deltaic belt is extremely vulnerable to local tsunamis due to presence of Swatch of No Ground.
- c. *Tsunami Vulnerable Zone- III* (Barisal-Sandwip estuarine coastline)– *Low vulnerability*. The estuarine coastal belt considered to be less vulnerable due

to presence of numerous islets and shoals in the upper regime of the continental shelf.

Bangladesh needs detailed study to scientifically assess the Tsunami vulnerability. Bangladesh also needs to develop a Tsunami early warning system and mass awareness of Tsunami threat at the coastal areas.

2.10 Fire



Fire hazards occur frequently in Bangladesh. Fire causes huge loss of lives and properties every year. Although termed as 'fire accident', most fire events are far from being accidental. Indeed, most fires are preventable. Industrial units, particularly garments industry, produce deadliest of the fires. For example, a fire broke out on 6 January 2005 on the fourth-floor of a building housing a factory in Narayanganj. It took fire-fighters four hours to extinguish the blaze. Dozens of workers were injured as they desperately tried to escape down the narrow smoke-engulfed stairs. About 23 people died because they were unable to escape because many of the exits were blocked, and the fire extinguishers were not working.

Tragically, factory fires are all too common in Bangladesh. Whenever a fire occurs, the authorities are usually asked to investigate the fire, pay

exemplary compensation to the survivors as well as to the families of those that died, take immediate steps to improve health and safety in the industry, as well as take legal action against those found responsible for criminal negligence in allowing the existence of such unsafe conditions. Fire incidents in the country are increasing at an alarming rate. In 2004 alone, a total of 7,140 fire incident occurred which caused damage to property worth more than Tk. 200 crore.

2.11 Infrastructure Collapse



A nine-storied building housing a garments factory at Palashbari, Savar, Dhaka collapsed at around 1 am on 11 April 2005. It was a total structural failure. Local administration, especially the Fire Brigade and Bangladesh Army quickly rushed to the spot just after the collapse. NGOs, construction companies and other organizations joined later. 40-50 rescued alive during that night. Rescue Operations completed on 19.04.05. Scores of people died.

Lessons learned from the operation includes the following: a) site was inaccessible to the equipments – mobilized almost all the required equipments but sitting idle due to their inaccessibility to the site, b) unfamiliarity with the understanding and practical collapse condition, c) Lack of awareness of mass people on the stages of rescue operations, and d) Insufficient /lack of appropriate modern equipments to rescue victims alive

Incidents of infrastructure collapse are on the rise. Prevention and preparedness programmes are absolute necessity of the time.

III. DISASTER MANAGEMENT VISION

The Disaster Management Vision of the Government of Bangladesh is to reduce the risk of people, especially the poor and the disadvantaged, from the effects of natural, environmental and human induced hazards, to a manageable and acceptable humanitarian level, and to have in place an efficient emergency response system capable of handling large scale disasters.

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IV. DISASTER DEVELOPMENT LINKAGES: NATIONAL AND INTERNATIONAL DRIVERS FOR CHANGE

4.1. Millennium Development Goals

The Millennium Declaration of September 2000 identified, among others, the following key objectives:

Protecting the vulnerable

"We will spare no effort to ensure that children and all civilian populations that suffer disproportionately the consequences of natural disasters.....are given assistance and protection so that they can resume normal life as soon as possible."

Protecting our common environment which resolve to "intensify cooperation to reduce the number and effects of natural and man-made disasters".

Principal goals include the following:

1. Eradicate extreme poverty and hunger
2. Achieve universal primary education
3. Promote gender equality and empower women
4. Reduce child mortality
5. Improve maternal health
6. Combat HIV/AIDS, malaria and other diseases
7. Ensure environmental sustainability
8. Develop a global partnership for development

4.2. Poverty Reduction Strategy Paper (PRSP), Bangladesh

Poverty-disaster interface in Bangladesh is quite perplexing. Disasters have had adverse long-term impact on economic and social activities of the poor. Additionally, the poor are more vulnerable to any kind of disaster due to a) depletion of assets, b) income erosion due to loss of employment, c) increased indebtedness and d) out migration. Moreover, cost to cope with disaster is disproportionately higher for the poor.

Poverty Reduction Strategy Paper is a policy and strategy document prepared by World Bank and the IMF member countries in broad consultation with stakeholders and development partners, including the staffs of the World Bank and the IMF to be updated every three years with annual progress reports. It describes the country's macroeconomic, structural and social policies and programs in support of growth and poverty reduction, as well as associated external financing needs and major sources of financing.

For WB and the IMF financing it is the basis for concessional lending from IMF and the WB for the low-income countries and debt relief under the WB-IMF Heavily Indebted Poor Countries (HIPC) initiatives.

The principal goal of the Bangladesh Government's economic policy is to reduce poverty so as to gradually lift the vast majority of the people above the poverty line and improve the quality of life for the average citizen. Developing home-grown poverty reduction strategies (PRSPs) along with operational plans suited to the particular circumstances and needs of Bangladesh with a focus of long-term vision was thus the objective of Bangladesh PRSP.

The core principle of the Bangladesh PRSP include the following:

- It is country-driven and promotes national ownership of strategies through broad-based participation of civil society;
- It is result-oriented and focused on outcomes that will benefit the poor;
- It is comprehensive in recognizing the multidimensional nature of poverty;
- It is partnership-oriented and involves coordinated participation of development partners (government, domestic stakeholders, and external donors); and
- It is based on a long-term perspective for poverty reduction.

The poverty reduction strategy framework in Bangladesh is as follows:

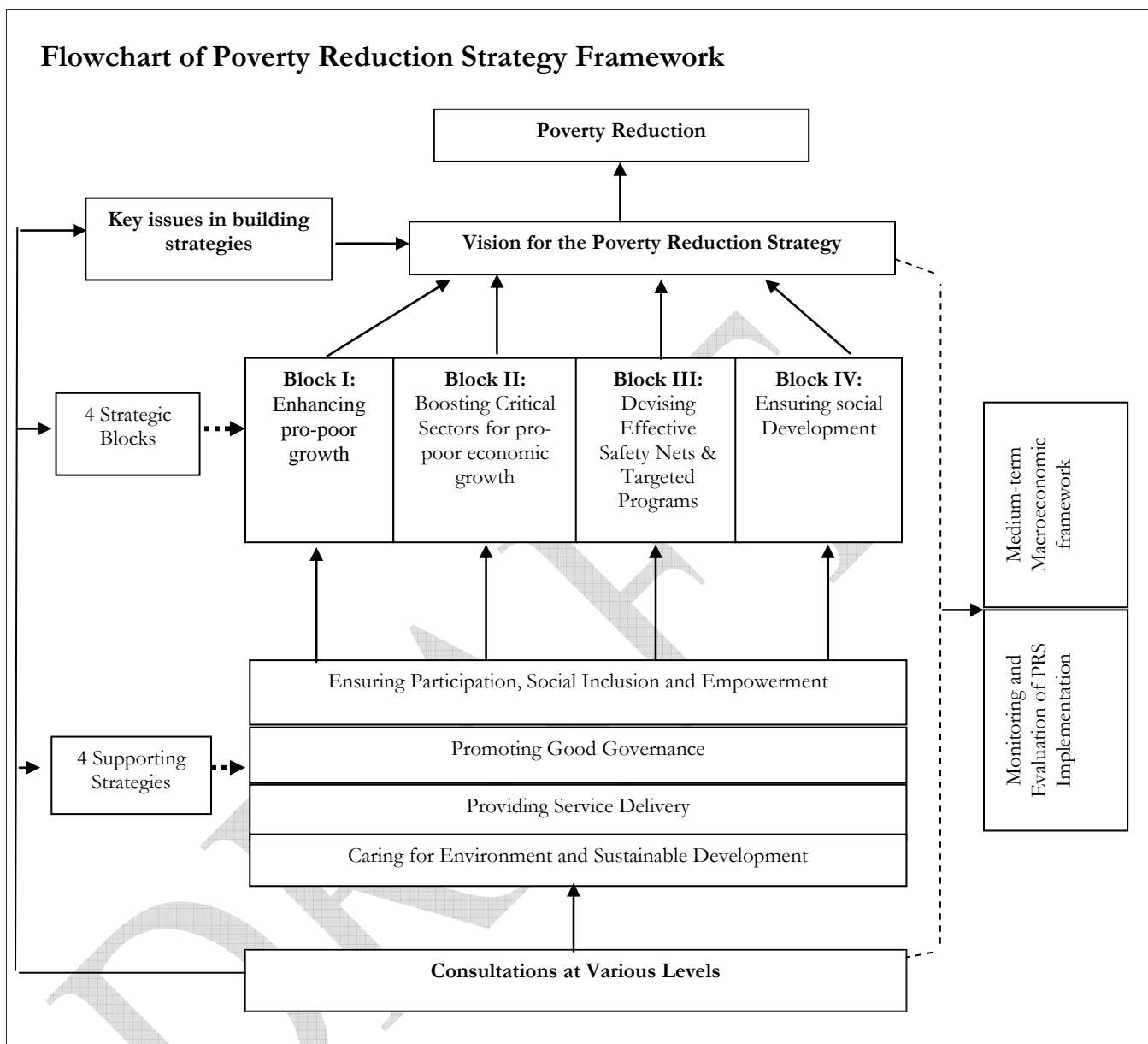


Figure- 13: Poverty Reduction Strategy Framework

Considering the direct poverty disaster linkages the Bangladesh PRSP included one separate policy matrix Number 07 on Comprehensive disaster management towards poverty reduction and growth. Disaster Management as a cross-cutting issue being included in the following three other policy matrices:

- a. Policy Matrix 08: Food security
- b. Policy Matrix 12: Promote use of ICT in Disaster Management

- c. Policy Matrix 15: Ensure social protection for women against vulnerability and risks

The Policy Matrix 07 envisages:

- Mainstreaming disaster management and risk reduction into national policies, institutions and development processes (introduction of Disaster Impact and Risk Assessment (DIRA))
- Strengthening disaster management and risk reduction capacity
- Ensuring knowledge management (acquiring, storing, sharing and applying) on disaster risk reduction
- Enhancing community level capacity for disaster risk reduction (community level preparedness, response, recovery and rehabilitation)

Ensuring social protection of women, children, elderly, people with disability and other vulnerable groups against vulnerability and risk

4.3. Recommendations of the National Workshop on Options for Flood Risks and Damage Reduction in Bangladesh, 2004

In 2004, Bangladesh experienced one of the most devastating floods in nearly 50 years. About 38% of the country went under water. The damage caused by the flood was to the tune of US\$ 2 billion. Millions of people were affected. The most affected were the poor- the most vulnerable in such disasters.

In the backdrop of the devastating 2004 flood, on 7-9 September a national workshop was convened with the Prime Minister's Office on 'Options for Flood Risks and Damage Reduction in Bangladesh'. The workshop was attended by about 900 participants, including scientists, academicians, engineers, government servants, social workers, NGO leaders, defence personnel, businessmen and industrialists, representatives from development partners and the private sector. The objective of the workshop was to develop/design a context based set of policy recommendations for flood management in Bangladesh and evaluate the experiences of flooding and flood management initiatives and lessons learnt from different kinds of interventions in the flood plains. The workshop also explored socio-economic aspects of the problem.

The workshop was inaugurated by the Hon'ble Prime Minister of the Peoples' Republic of Bangladesh. Hon'ble Ministers from the ministries concerned were present throughout the seminar. The Workshop started with presentation of three keynote papers from three very eminent experts on water resources, community participation and economy. Thereafter, the workshop broke up into parallel working group sessions along six broad themes. The themes included: (i) Working Group 1: Flood & Disaster Management and Mitigation Options, (ii) Working Group 2: Impact of Flood on National Transportation and Mitigation Options, (iii) Working Group 3: Impact of Flood on Agriculture, Livestock, Fisheries & Industries Sector and Mitigation Options, (iv) Working Group 4: Impact of Flood on Housing, Urban Planning Utilities (Water Supply, Sanitations) & Environment and Mitigation Options, (v) Working Group 5: Impact of Flood on Social Services and Law & Order and Mitigation Options, (vi) Working Group 6: Impact of Flood on Economy Major Infrastructures and Livelihood and Mitigation Options.

The workshop came up with a total of 323 recommendations of which 87 recommendations were directly related to the Ministry of Food and Disaster Management.

As a follow-up to the workshop a detailed implementation plan of all the recommendations suggested were prepared with the direct involvement from the ministries and departments concerned. The Plan also identified the resource requirements, timeframe and the probable development partners.

4.4. Hyogo Framework for Action (HFA) 2005-2015

On January 18-22, 2005 the World Conference on Disaster Reduction was held in Kobe Japan. About 4,000 participants from 168 States, 78 observer organizations from the UN and other inter-governmental organizations, 161 NGOs and 154 media organizations attended the conference.

The broad objective of the conference was building the resilience of nations and communities to substantially reduce the losses in lives and social, economic and environmental assets of communities.

The specific objectives were:

- Conclude the review of the Yokohama Strategy and Plan of Action with a view to updating the guiding framework on disaster reduction for the 21st century;
- Identify specific activities aimed at ensuring the implementation of relevant provisions of the Johannesburg Plan of Implementation (JPOI), adopted in 2002 at the World Summit on Sustainable Development (WSSD);
- Share best practices and lessons learned to support and facilitate disaster reduction within the context of attaining sustainable development, and identify gaps and challenges;
- Increase awareness of the importance of disaster reduction policies to facilitate and promote the implementation of those policies; and
- Increase the reliability and availability of appropriate disaster-related information to the public and disaster management agencies in all regions, as set out in the relevant provisions of the JPOI.

The conference produced a 10 year Framework document called **“Hyogo Framework for Action 2005-2015: Building the resilience of nations and communities.** The HFA commits:

- To pursue an integrated multi-hazard approach for sustainable development to reduce the incidence and severity of disasters;
- To place disaster risk at the center of our political priorities and policies;
- To integrate disaster risk reduction in all our development work;
- To strengthen the capacity of disaster prone countries to address risk;
- To invest substantively in disaster preparedness;

- To reduce the relief-development gap and thereby reduce vulnerability;
- To enable civil society actors and affected communities to strengthen their resilience to disasters
- To reduce the gap between what we know and what we do, with the critical ingredient being political commitment; and
- To build on the momentum of this World Conference to accelerate implementation of the Framework for Action.

Priorities for action

Drawing on the conclusions of the review of the Yokohama Strategy, and on the basis of deliberations at the Conference and especially the agreed expected outcome and strategic goals, the World Conference on Disaster Reduction adopted the following five priorities for action:

1. Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation

Countries that develop policy, legislative and institutional frameworks for disaster risk reduction and that are able to develop and track progress through specific and measurable indicators have greater capacity to manage risks and to achieve widespread consensus for, engagement in and compliance with disaster risk reduction measures across all sectors of society.

2. Identify, assess and monitor disaster risks and enhance early warning

The starting point for reducing disaster risk and for promoting a culture of disaster resilience lies in the knowledge of the hazards and the physical, social, economic and environmental vulnerabilities to disasters that most societies face, and of the ways in which hazards and vulnerabilities are changing in the short and long term, followed by action taken on the basis of that knowledge.

3. Use knowledge, innovation and education to build a culture of safety and resilience at all levels

Disasters can be substantially reduced if people are well informed and motivated towards a culture of disaster prevention and resilience, which in turn requires the collection, compilation and dissemination of relevant knowledge and information on hazards, vulnerabilities and capacities.

4. Reduce the underlying risk factors

Disaster risks related to changing social, economic, environmental conditions and land use, and the impact of hazards associated with geological events, weather, water, climate variability and climate change, are addressed in sector development planning and programmes as well as in post-disaster situations.

5. Strengthen disaster preparedness for effective response at all levels

At times of disaster, impacts and losses can be substantially reduced if authorities, individuals and communities in hazard-prone areas are well prepared and ready to act and are equipped with the knowledge and capacities for effective disaster management.

4.5. United Nations Framework Convention on Climate Change (UNFCCC)

Climate change is rapidly emerging as one of the most serious threats that humanity may ever face. Global warming threatened the development goals for billions of the world's poorest people. We face a genuine danger that recent gains in poverty reduction will be thrown into reverse in coming decades, particularly for the poorest communities.

The Convention on Climate Change sets an overall framework for intergovernmental efforts to tackle the challenge posed by climate change. It recognizes that the climate system is a shared resource whose stability can be affected by industrial and other emissions of carbon dioxide and other greenhouse gases. The Convention enjoys near universal membership, with 189 countries having ratified.

Under the Convention, governments:

- gather and share information on greenhouse gas emissions, national policies and best practices
- launch national strategies for addressing greenhouse gas emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries
- cooperate in preparing for adaptation to the impacts of climate change

The Convention entered into force on 21 March 1994.

4.6. SAARC Framework for Action (SFA) 2006-2015

The Heads of State or Governments in the 13th Dhaka Summit called for elaboration of a Comprehensive Framework on Early Warning and Disaster Management. In view of the December 2004 Asia Tsunami and the 2005 Pakistan Earthquake, the Heads of State or Governments underscored the urgency to put in place a regional response mechanism dedicated to disaster preparedness, emergency relief and rehabilitation to ensure immediate response. They directed the concerned national authorities to coordinate their activities in the areas of disaster management such as early warning, exchange of information, training and sharing of experiences and best practices in emergency relief efforts.

Following the Dhaka Declaration, a SAARC (South Asian Association for Regional Cooperation) Expert Group was formed to formulate a regional comprehensive framework on disaster management for the SAARC region. The expert group met in Dhaka on 7-9 February 2006. As per the mandate of the Meeting and taking into account the deliberations of the Meeting, Bangladesh circulated a draft Comprehensive Framework on Disaster Management titled- 'Disaster Management in South Asia: A Comprehensive Regional Framework for Action 2006-2015', for consideration. After detailed discussions and amendments, the Framework was adopted in the Meeting.

Strategic Goals of the framework include the following:

- Professionalising the disaster management system;
- Mainstreaming disaster risk reduction;
- Strengthening of community institutional mechanisms;
- Empowering community at risk particularly women, the poor and the disadvantaged;
- Expanding risk reduction programming across a broader range of hazards (all hazards approach);
- Strengthening emergency response systems; and
- Developing and strengthening networks of relevant national, regional and international organizations.

The SFA identifies the following as the priority areas for action:

- Develop and implement risk reduction strategies
- Establish Regional and National Response Mechanisms
- Establish a Regional Information Sharing Mechanism and Develop Network of Institutions and Organizations
- Develop and implement Disaster Management training, education, research and awareness programmes
- Apply the ICT for disaster management.
- Establish an effective monitoring and evaluation mechanism.

For implementation and follow up of the SFA, it has been emphasized that:

- The strategic goals and priorities for action should be addressed by different stakeholders in a multi-sectoral approach, including the development sector.
- Member States and regional organizations will integrate disaster risk reduction considerations into their sustainable development policy, planning and programming at all levels.
- Civil society, including volunteers and community-based organizations, the scientific community and the private sector are vital stakeholders in supporting the implementation of disaster risk reduction at all levels.
- While each Member State has primary responsibility for its own economic and social development, an enabling regional environment is vital to stimulate and contribute to developing the knowledge, capacities and motivation needed to build disaster resilient nations and communities.
- All the Member States will be encouraged to apply a holistic approach and maintain consistency in programming and building multi-stakeholder partnerships at all levels, as appropriate, to contribute to the implementation of this Framework for Action.
- Member States and other actors are encouraged to promote the strengthening or establishment of volunteer corps, which can be made available during disasters.
- Member countries shall develop their own plan of action for implementation of this framework.

The draft SFA was placed before the SAARC Environment Ministers' Meeting held in Dhaka from 22-24 May 2006. The Meeting endorsed the SFA and urged the member states to prepare their own plans of actions for implementation of the SAARC framework and forward to the SAARC Secretariat by December 2006. This National Plan is an outcome of the SAARC process.

V. METHODS OF PLAN DEVELOPMENT

After the approval of the SFA at the SAARC Council of Ministers' Meeting held in Dhaka on 01 August 2006, the Ministry of Foreign Affairs requested MoFDM to urgently prepare the National Plan. Accordingly, the MoFDM formed a committee (Annexure- 1) to recommend a draft national plan. The committee requested the Comprehensive Disaster Management Programme (CDMP) to formulate the draft plan. CDMP engaged a drafting and editing team for this purpose (Annexure-2). CDMP also formed a working group for this purpose (Annexure-3). Initially CDMP prepared a planning template and consulted both the working group and the MoFDM committee on several occasions. Several versions of the draft were prepared and consulted. Finally, version three of the draft national plan was placed before a wider group comprising government and non-government organizations and academic institutions (Annexure-4). With the feedback from this wider group, the draft national plan was finalized.

VI. OBJECTIVES OF THE PLAN

The objectives of this Plan are to:

- Align the strategic direction of disaster management programs with national priorities and international commitments.
- Articulate the vision and goals for disaster management
- Outline the strategic direction and priorities to guide the design and implementation of disaster management policies and programs.
- Create a cohesive and well coordinated programming framework incorporating government, non-government and private sector.
- Ensure that disaster management has a comprehensive and all-hazards focus comprising disaster risk reduction and emergency response.
- 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.

6.1. CORE PRINCIPLES

The core principles of this plan have been adopted from the PRSP.

- **Country Driven**, promoting national ownership of strategies through broad based participation of government, NGOs and civil society.
- **Result Oriented** and focused on outcomes that will benefit vulnerable communities, especially women, the poor and socially disadvantaged.
- **Comprehensive** in recognizing the multidimensional nature of risk reduction.
- **Partnership oriented**, involving coordinated participation of development partners (government, domestic stakeholders, and external donors)
- Based on a **long-term perspective** for risk reduction.

VII. STRATEGIC GOALS OF THE PLAN

The strategic goals of the plan are drawn from the SAARC Disaster Management Framework

GOAL 1: PROFESSIONALISING THE DISASTER MANAGEMENT SYSTEM

GOAL 2: MAINSTREAMING RISK REDUCTION

GOAL3: STRENGTHENING INSTITUTIONAL MECHANISMS

GOAL 4: EMPOWERING AT RISK COMMUNITIES

GOAL 5: EXPANDING RISK REDUCTION PROGRAMMING

GOAL 6: STRENGTHENING EMERGENCY RESPONSE SYSTEMS

GOAL 7: DEVELOPING AND STRENGTHENING NETWORKS

The linkages of the key strategic goals to key international and national drivers for change are presented in Annexure- 5.

VIII. CONCEPTUALIZING DISASTER MANAGEMENT IN BANGLADESH

8.1. Disaster Management Model

Bangladesh has created a simplistic model to guide disaster risk reduction and emergency response management efforts in Bangladesh. The model (Figure 14) has three key elements and ensures that the move to a more comprehensive risk reduction culture remains central to all efforts.

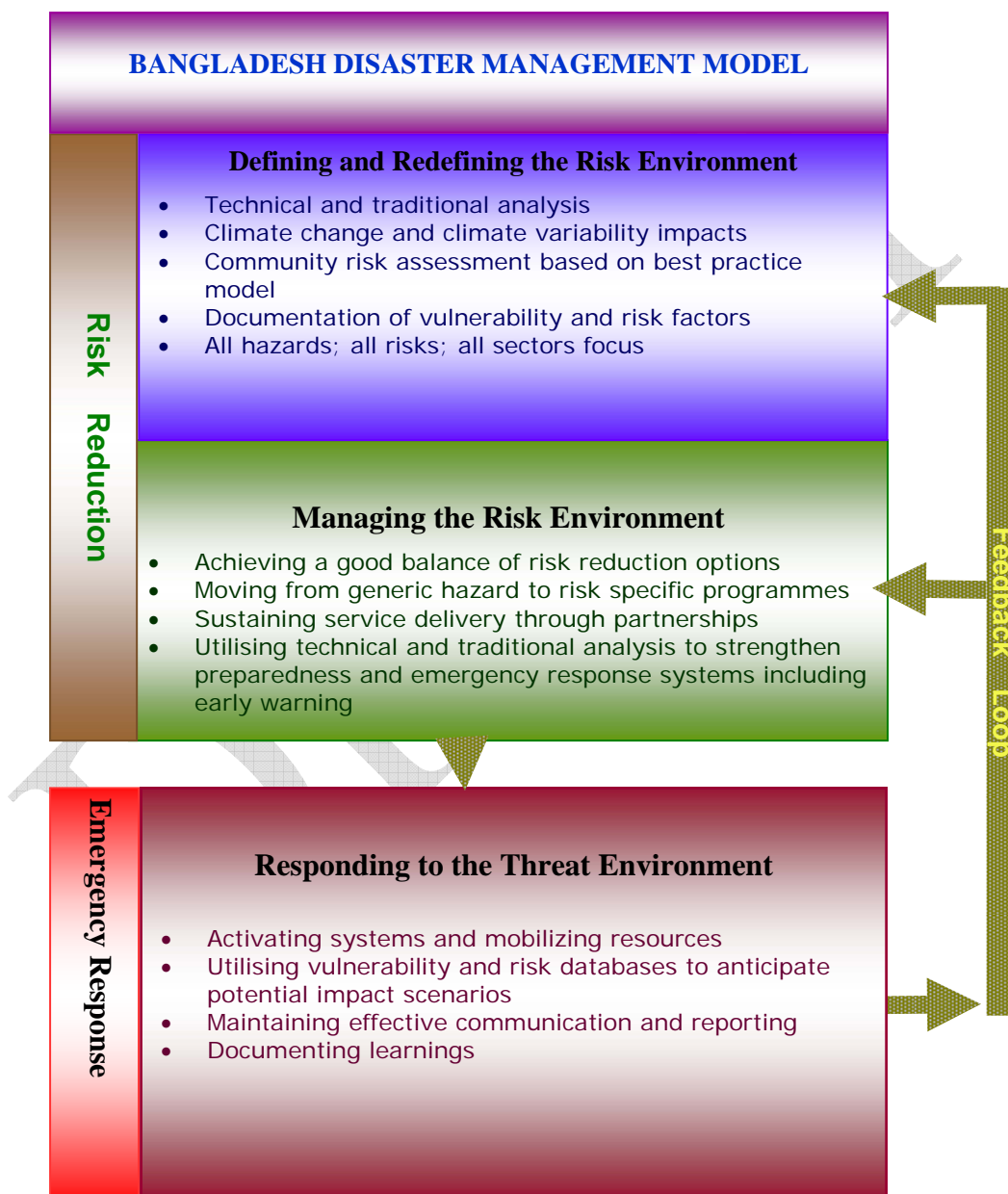


Figure 14: Disaster Management Model

8.1.1. Defining and redefining the risk environment

This element of the model promotes the use of scientific analysis (including climate change impacts) as the basis for accurately determining the future risk environment relative to all hazards, all sectors and all geographical areas.

To develop actions for managing risk (risk treatment options) the risk environment must first be defined. Defining the risk environment creates knowledge of the interaction of hazard and the elements at risk (community) and is conducted in a structured and analytical process. Defining the risk environment involves both the traditional and formal hazard analysis, and includes the following steps:

- Understanding the social, political and community environment (Establishing the context)
- Establishing what are the likely threats (Identifying hazards and risks)
- Understanding the likelihood and consequences (Analyse the risks)
- Rank risks in priority (Evaluate risks)
- What can be done to eliminate, reduce or manage risk (Identify risk treatment strategies).

8.1.1.1. Hazard Analysis

Hazard Assessment is the process of identification of events that lead to harm or loss. It may be undertaken using traditional or formal methods, and should consider both primary hazards (e.g. cyclone) and secondary hazards (e.g. storm surge, wind, rain). Hazards may be represented using GIS and modern mapping methodologies, and must include details of the effects to communities of the hazard.

8.1.1.2. Vulnerability Assessment

In order to understand the interaction of hazards on communities, it is important to conduct a vulnerability assessment. This should be completed in terms of elements within the community (e.g. women, children, and the poor), support elements to the community (e.g. lifelines (electricity) transportation links, community services) and livelihood factors within the community (e.g. food, accommodation, farm activity, industry)

8.1.1.3. Risk Treatment

Risk Treatment options involve ranking risk in priority, and addressing vulnerability by determining actions that reduce or eliminate risk or by determining mitigation programs for communities.

8.1.2. Managing the risk environment

This element of the model promotes the design of risk reduction strategies (Community Based Adaptation Programmes) as an outcome of the risk assessment process. This ensures Prevention, Preparedness, Response and Recovery programmes are multi hazard focused and that the move from being hazard generic in nature to risk specific. This will enable communities to better understand their changing risk environment and thus become more resilient through proactive risk reduction efforts.

Managing the risk environment involves developing programs and strategies that eliminate, or reduce the level of risk. Traditionally mitigation programs were viewed as engineering solutions to eliminate risk, but it is now accepted that all activities undertaken to eliminate or reduce risk are “mitigation” strategies (e.g. community education and awareness, planning activities, development of warning systems). This includes activities previously described as the PPRR Model- Prevention, Preparedness, Response and Recovery. Activities in developing response or recovery systems are included as legitimate mitigation activities.

8.1.3. Responding to the threat environment

This element of the model involves responding to an actual threat situation. It helps Bangladesh disaster management officials to clearly articulate the difference between risk reduction and emergency response and how accurately defining risk environments can influence and enhance emergency response systems and decisions.

Not all hazards can be managed and not all risks can be eliminated or minimized. At times a response to an emerging threat or an event that has happened will be necessary. In this case, response and recovery systems that have been developed in managing the risk environment are activated as needed to respond to the threat. Such response may include:

- Warning Period (Alert and activation).
- Hazard Onset (Response), and.
- Post Hazard Period (Relief, early recovery and Rehabilitation).

The key attributes of the model are:

- It provides a framework to guide the achievement of the Hyogo Framework for Action commitments.
- It clearly articulates the key elements of disaster management and their interactive relationships.
- It facilitates the transition from generic hazard based to specific risk based programmes through the inclusion of technical inputs.
- It provides guidance for the design of policy, planning and training.
- It provides a mechanism to achieve consistency in process and methodology.

- It ensures preparedness and response strategies are influenced by technical and traditional considerations

8.2. Mainstreaming Risk Reduction – The Strategies

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. 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 16.

8.2.1. 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.

8.2.2. 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.

8.2.3. 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.

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

8.2.5. 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.

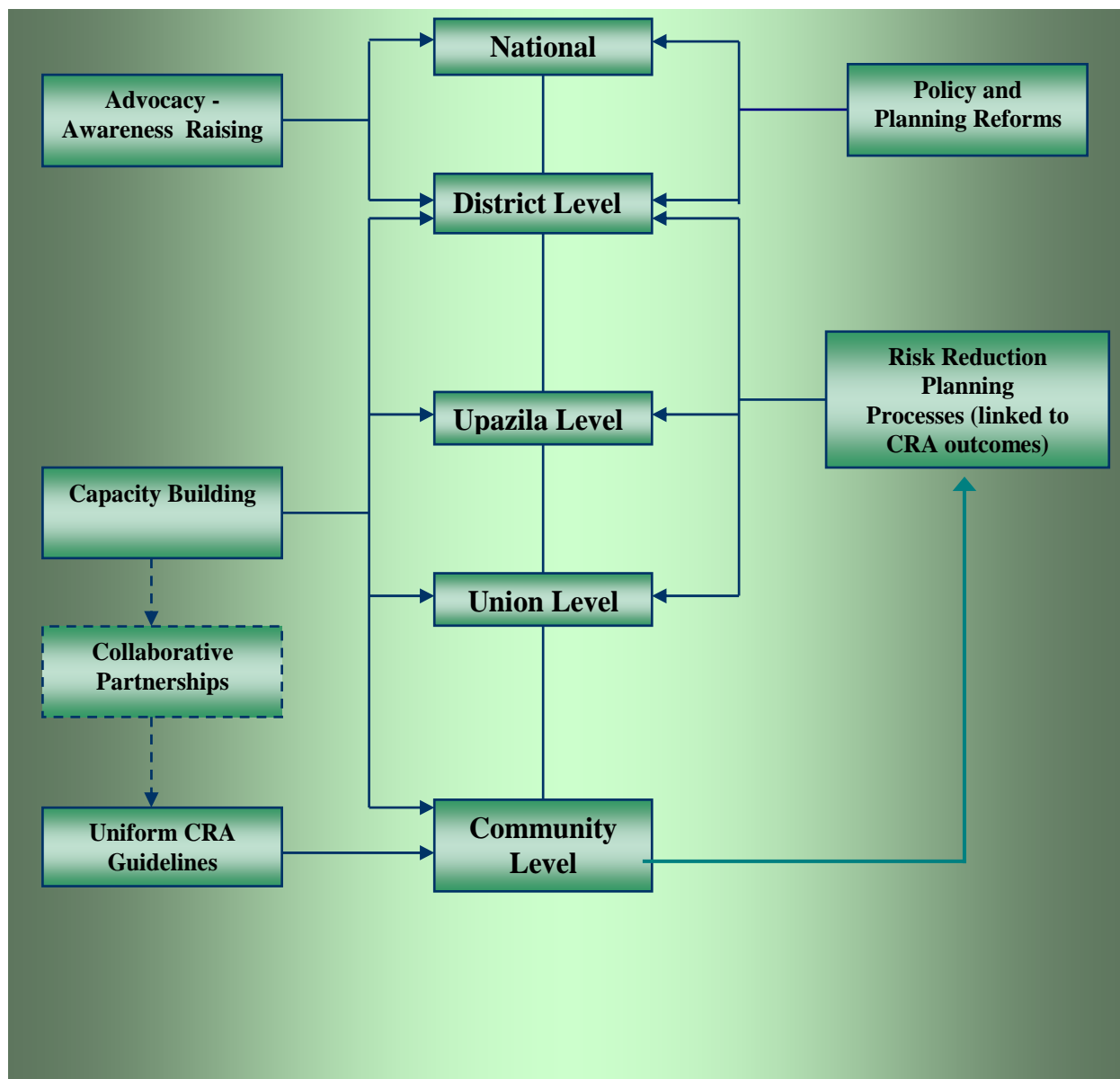


Figure 15: Mainstreaming strategies

IX. DISASTER MANAGEMENT SYSTEM IN BANGLADESH

The Ministry of Food and Disaster Management (MoFDM) of the Government of Bangladesh has the responsibility for coordinating national disaster management efforts across all agencies. In January 1997 the Ministry issued the Standing Orders on Disaster (SOD) to guide and monitor disaster management activities in Bangladesh. A series of inter-related institutions, at both national and sub-national levels (Figure 12) have been created to ensure effective planning and coordination of disaster risk reduction and emergency response management.

At the national level

- i. **National Disaster Management Council (NDMC)** headed by the Hon'ble Prime Minister to formulate and review the disaster management policies and issue directives to all concerns.
- ii. **Inter-Ministerial Disaster Management Co-ordination Committee (IMDMCC)** headed by the Hon'ble Minister in charge of the Ministry of Food and Disaster Management (MoFDM) to implement disaster management policies and decisions of NDMC / Government.
- iii. **National Disaster Management Advisory Committee (NDMAC)** headed by an experienced person having been nominated by the Hon'ble Prime Minister.
- iv. **Cyclone Preparedness Program Implementation Board (CPPIB)** headed by the Secretary, Ministry of Food and Disaster Management to review the preparedness activities in the face of initial stage of an impending cyclone.
- v. **Disaster Management Training and Public Awareness Building Task Force (DMTATF)** headed by the Director General of Disaster Management Bureau (DMB) to co-ordinate the disaster related training and public awareness activities of the Government, NGOs and other organizations.
- vi. **Focal Point Operation Coordination Group of Disaster Management (FPOCG)** headed by the Director General of DMB to review and co-ordinate the activities of various departments/agencies related to disaster management and also to review the Contingency Plan prepared by concerned departments.
- vii. **NGO Coordination Committee on Disaster Management (NGOCC)** headed by the Director General of DMB to review and co-ordinate the activities of concerned NGOs in the country.
- viii. **Committee for Speedy Dissemination of Disaster Related Warning/ Signals (CSDDWS)** headed by the Director General of DMB to examine, ensure and find out the ways and means for the speedy dissemination of warning/ signals among the people.

At sub-national levels

- i. **District Disaster Management Committee (DDMC)** headed by the Deputy Commissioner (DC) to co-ordinate and review the disaster management activities at the district level.
- ii. **Upazila Disaster Management Committee (UZDMC)** headed by the Upazila Nirbahi Officer (UNO) to co-ordinate and review the disaster management activities at the Upazila level.
- iii. **Union Disaster Management Committee (UDMC)** headed by the Chairman of the Union Parishad to co-ordinate, review and implement the disaster management activities of the concerned union.
- iv. **Pourashava Disaster Management Committee (PDMC)** headed by Chairman of Pourashava (municipality) to co-ordinate, review and implement the disaster management activities within its area of jurisdiction.
- v. **City Corporation Disaster Management Committee (CCDMC)** headed by the Mayor of City Corporations to co-ordinate, review and implement the disaster management activities within its area of jurisdiction.

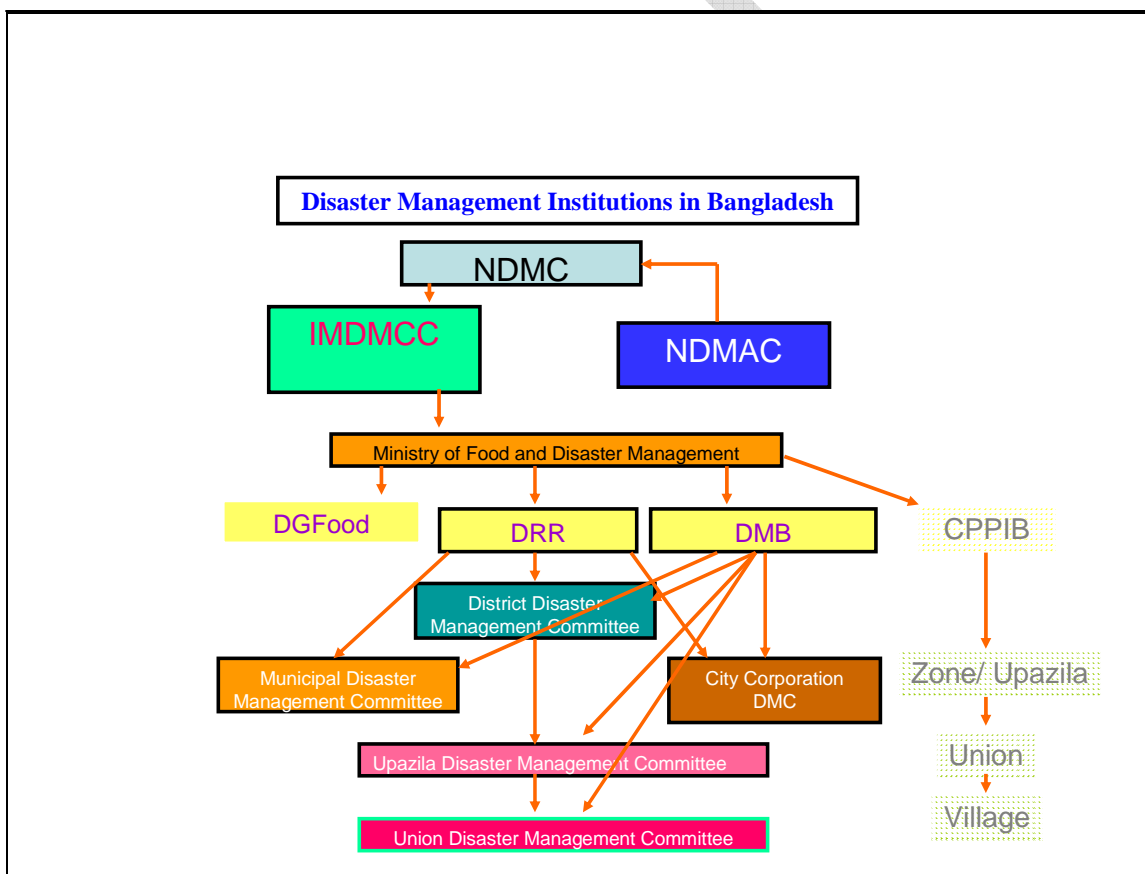


Figure 16: Disaster Management Institutions in Bangladesh

A brief summary of roles and responsibilities (an indicative list) of the Disaster Management Committees is enclosed in Annexes 6 and 7. Detailed roles and responsibilities of all entities are outlined in the Standing Orders on Disaster.

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X. DISASTER MANAGEMENT REGULATIVE FRAMEWORK

Bangladesh's regulative framework for disaster management provides for the relevant legislative, policy and best practice framework under which the activity of Disaster Risk Reduction and Emergency Management in Bangladesh is managed and implemented. The framework includes:

10.1. Disaster Management Act

A Disaster Management Act will be enacted with a view to create the legislative tool under which disaster risk and emergency management will be undertaken in Bangladesh, and the legal basis in which activities and actions will be managed. It will also create mandatory obligations and responsibilities on Ministries, committees and appointments. The objectives of the Act will be a) To help communities to mitigate the potential adverse effects of hazard events, prepare for managing the effects of a disaster event, effectively respond to and recover from a disaster or an emergency situation, and adapt to adverse effects of climate change; b) To provide for effective disaster management for Bangladesh; c) To establish an institutional framework for disaster management; and d) To establish risk reduction as a core element of disaster management.

10.2. National Disaster Management Policy

A National Disaster Management Policy will be formulated to define the national perspective on disaster risk reduction and emergency management, and to describe the strategic framework, and national principles of disaster management in Bangladesh. It will be of strategic in nature and will describe the broad national objectives, and strategies in disaster management.

10.3. Disaster Management Plans

The Bangladesh National Plan for Disaster Management is a strategic document to be effective for a certain period of time. This is an umbrella plan which provides the overall guideline for the relevant sectors and the disaster management committees at all levels to prepare and implement their area of roles specific plans. The Ministry of Food and Disaster Management (MoFDM) being the focal ministry for disaster risk reduction and emergency management will take the lead role in disaster risk reduction and emergency management planning. Additionally, there will be a few hazard specific management plans, such as Flood Management Plan, Cyclone and Storm Surge and Tsunami Management Plan, Earthquake Management Plan, Drought Management Plan, River Erosion Management Plan, etc. Moreover, there will be a detailed Disaster Management Plan for each District, Upazila, Union and Paurashava and City Corporation of the country. A District Disaster Management Plan will be the compilation of the Upa-zila Disaster Management Plans of the district. Similarly a Upa-zila Disaster Management Plan will be the compilation of the union disaster management plans of that Upazila prepared by the Union DMCs. So DMCs at Union and Paurashava levels will be mainly responsible for conducting the risk assessments and prepare the ground level plans. Once developed those will be sent to the

DMCs at one level higher – Upazila DMCs, whose role will be to verify and compile the union plans and identify the resource requirements for the Upazila.

10.4. Standing Orders on Disaster

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

10.5. Guidelines for Government at all Levels (Best Practice Models)

Guidelines for Government at all levels are developed as best practice models, and are used to assist Ministries, NGOs, disaster management committees and civil society in implementing disaster risk management. Guidelines will include, among others:

- Disaster Impact and Risk Assessment Guideline
- Local Disaster Risk Reduction Fund Management Guidelines
- Emergency Fund Management Guidelines
- Indigenous Coping Mechanism Guidebook
- Community Risk Assessment Guidelines
- Damage and Needs Assessment Methodology
- Hazard Specific Risk Assessment Guidelines
- Emergency Response and Information Management Guideline
- Contingency Planning Template
- Sectoral Disaster Risk Reduction Planning Template
- Local Level Planning Template
- National Risk Reduction Fund Management Guideline
- National Disaster Reduction and Emergency Fund Management Guideline
- Local Disaster Management Fund Guideline
- Guideline for road and water safety
- Guideline for industrial safety
- Guideline for Disaster Shelter Management
- Monitoring and Evaluation Guideline for the Implementation of the Plan
- Guideline for international Assistance in disaster emergency

XI. DISASTER MANAGEMENT PLANS

The disaster management planning framework in Bangladesh is presented below:

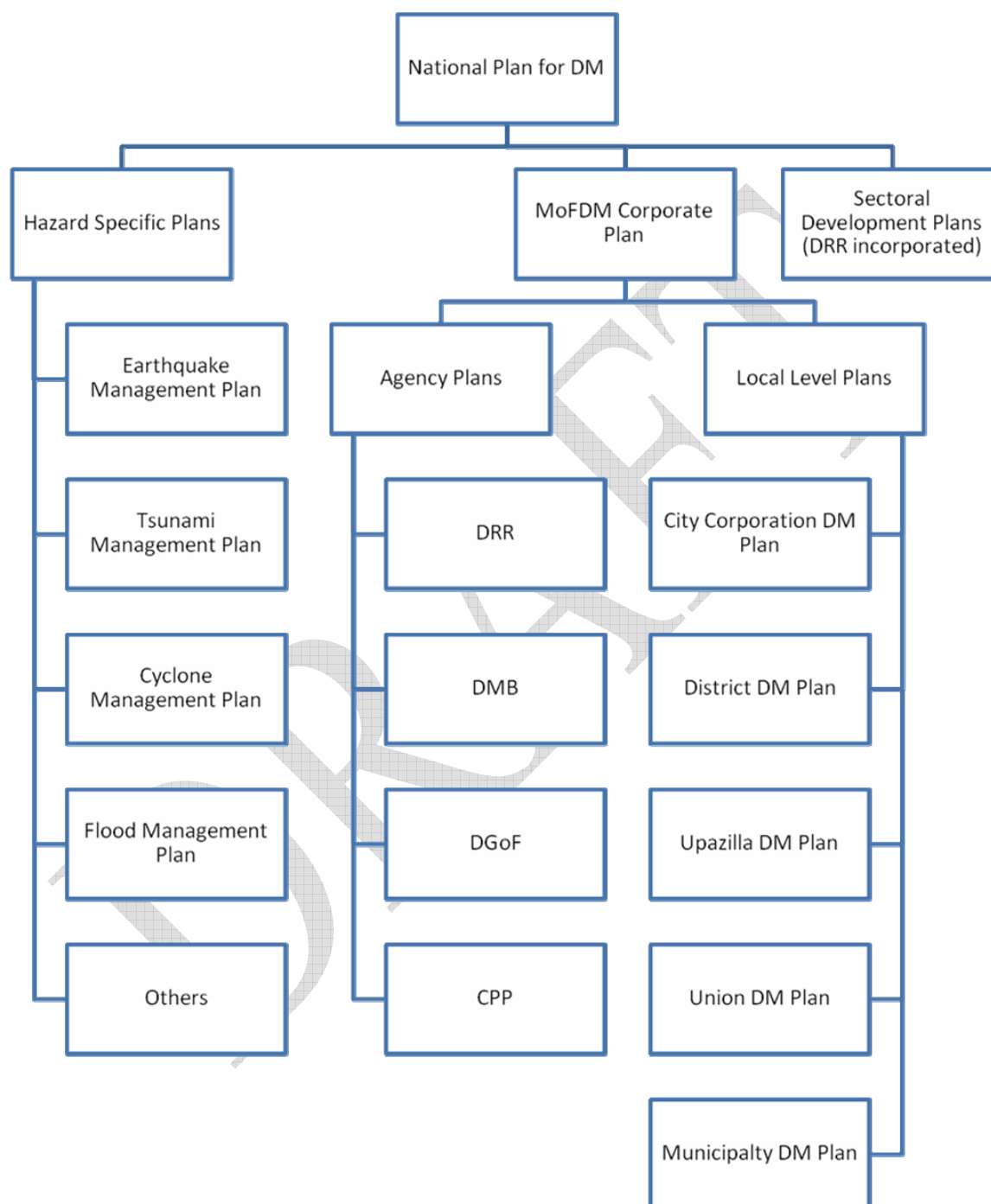


Figure-17: Disaster Management Planning Framework

11.1. National Plan for Disaster Management

The National Plan for Disaster Management is prepared by the Ministry of Food and Disaster Management. The plan includes the following as minimum:

- i. Introduction
- ii. GoB Vision for Disaster Management
- iii. Hazards profile of Bangladesh,
- iv. Disaster development linkages: national and international drivers for change
- v. Aim of the plan,
- vi. Strategic goals of the plan,
- vii. Conceptualizing disaster management in Bangladesh
- viii. Disaster management system in Bangladesh
- ix. The roles and responsibilities of entities involved in emergency operations and risk reduction
- x. Disaster management regulative framework,
- xi. Action matrix for disaster risk reduction and emergency management in Bangladesh describing the priorities and the strategies
- xii. Review and evaluation
- xiii. Implementation and follow-up
- xiv. Financing of the plan
- xv. Other matters relating to disaster management as deemed necessary by appropriate authority for inclusion in the plan.

The Plan to be 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 MoFDM 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

11.2. District Disaster Management Plan (DDMP)

There is a District Disaster Management Committee (DDMC) at the District level. The DDMC consists of the Deputy Commissioner of the District as the chairperson and members comprising all District level department heads, NGO leaders and civil society members. District Relief and Rehabilitation Officer (DRRO) acts as member secretary of the committee. Members of Parliament act as advisors of the committees. The committee is required to meet bi-monthly during normal period and as and when necessary during emergency situation.

There will be a plan for each District titled "District Disaster Management Plan" comprising both disaster risk reduction and emergency response to be prepared by the District Disaster Management Committee. This is a plan to be prepared by compilation of the Upa-zila and Paurashava Disaster Management Plans of the district being received from the respective Upazila and Paurashava/City Corporation DMCs. The DDMP should highlight and articulate, among others, the following:

- a. The areas in the district vulnerable to different forms of hazards and risks,
- b. Total resource requirements and the planned action for the district
 - i. to take measures for prevention and mitigation of disasters by government agencies, NGOs, CBOs and the private sector within the district,
 - ii. capacity building and preparedness measures to be taken by government agencies, NGOs, CBOs and the private sector
 - iii. strengthening emergency response management system plans and procedures in the event of a disaster, providing for –
- c. The response plans and procedures in the event of a disaster, providing for –
 - i. Allocation of responsibilities to the departments of the government at district level and other DMC members;
 - ii. Procedure for mobilization of resources,
 - iii. Prompt response to disaster and relief thereof;
 - iv. Procurement of emergency supplies;
 - v. Operation of disaster shelters,
 - vi. Restoration of emergency services, such as water supply, gas supply, power, telecommunication, road links,
 - vii. Provision of emergency medical services,
 - viii. Burial of dead bodies,
 - ix. Trauma counselling, and
 - x. The dissemination of information.

- d. Recovery plans and procedures delineating damage assessment procedure, restoration of damaged public infrastructure, resumption of educational institutions, restoration of livelihood, rehabilitation of affected people, especially the disabled, and elderly women and children.
- e. The DDMP shall be reviewed and updated annually.
- f. The copies of the DDMP shall be made available to all district level stakeholders, Divisional Commissioners, etc.
- g. A copy of the DDMP will be sent to the Disaster Management Bureau and all relevant ministries and divisions.
- h. The DMB/ BIDMTR will provide technical advice and capacity building services to all DMCs.

11.3. Upa-Zila Disaster Management Plan (UZDMP)

Upazila is an important and vital administrative unit of Bangladesh. There is a Upa-Zila Disaster Management Committee (UZDMC) at the Upa-Zila level. The UZDMC consists of the Upa-Zila Nirbahi Officer as the chairperson and members comprising all Upa-Zila level department heads, NGO leaders and civil society members. The PIO acts as the member secretary of the committee. Members of Parliament act as advisors of the committees. The committee is required to meet bi-monthly during normal period and as and when necessary during emergency situation.

There will be a plan for each Upa-Zila titled "Upa-Zila Disaster Management Plan" comprising both disaster risk reduction and emergency response to be prepared by the Upa-Zila Disaster Management Committee by compiling all the Union Disaster Management Plans of the Upa-zila being received from the respective Union DMCs of the Upazila. The UZDMP should highlight and articulate, among others, the following:

- a) The areas in the upazila vulnerable to different forms of hazards and risks
- b) Total resource requirements and the planned action for the district
 - i. to take measures for prevention and mitigation of disasters by government agencies, NGOs, CBOs and the private sector within the district,
 - ii. capacity building and preparedness measures to be taken by government agencies, NGOs, CBOs and the private sector
 - iii. strengthening emergency response management system plans and procedures in the event of a disaster, providing for –
- c) The response plans and procedures in the event of a disaster, providing for
 - i. Allocation of responsibilities to the departments of the government at district level and other DMC members;
 - ii. Procedure for mobilization of resources,

- iii. Prompt response to disaster and relief thereof;
 - iv. Procurement of emergency supplies;
 - v. Operation of disaster shelters,
 - vi. Rrestoration of emergency services, such as water supply, gas supply, power, telecommunication, road links,
 - vii. Provision of emergency medical services,
 - viii. Burial of dead bodies,
 - ix. Trauma counselling, and
 - x. The dissemination of information.
- d) Recovery plans and procedures delineating damage assessment procedure, restoration of damaged public infrastructure, resumption of educational institutions, restoration of livelihood, rehabilitation of affected people, especially the disabled, and elderly women and children.
 - e) The UZDMP shall be reviewed and updated annually.
 - f) The copies of the UZDMP shall be made available to all Upazila level stakeholders and members of DDMCs.
 - g) A copy of the UZDMP will be sent to the District Disaster Management Committee and DMB.
 - h) The DMB/ BIDMTR will provide technical advice and capacity building services to all DMCs.

11.4. Union Disaster Management Plan (UDMP)

Union Parishad is the lowest administrative unit of Bangladesh. There is a Disaster Management Committee at the Union level. The UDMC is Chaired by the elected Chairman of the respective Union Parishad. The Union Disaster Management Committee consists of the Union Parishad Chairman as the Chairperson and members comprising all the Government department head at Union level, members of Union Parishad, NGO leaders working in respective union and civil society members. Secretary of the respective Union Parishad acts as the member secretary of the committee. The committee is required to meet bimonthly during normal period and as and when necessary during emergency situation.

There will be a plan for each Union titled "Union Disaster Management Plan" comprising both disaster risk reduction and emergency response to be prepared by the Union Disaster Management Committee following a proper community risk assessment procedure to be provided by MoFDM with the participation of vulnerable groups and the communities. The UDMP should highlight and articulate, among others, the following:

- a) Defining and redefining community risks to hazards utilizing both traditional and scientific knowledge,
- b) Total resource requirements and the planned action for the district

- i. to take measures for prevention and mitigation of disasters by government agencies, NGOs, CBOs and the private sector within the district,
 - ii. capacity building and preparedness measures to be taken by government agencies, NGOs, CBOs and the private sector
 - iii. strengthening emergency response management system plans and procedures in the event of a disaster, providing for –
- c) The response plans and procedures in the event of a disaster, providing for –
 - i. Allocation of responsibilities to the departments of the government at district level and other DMC members;
 - ii. Procedure for mobilization of resources,
 - iii. Prompt response to disaster and relief thereof;
 - iv. Procurement of emergency supplies;
 - v. Operation of disaster shelters,
 - vi. Restoration of emergency services, such as water supply, gas supply, power, telecommunication, road links,
 - vii. Provision of emergency medical services,
 - viii. Burial of dead bodies,
 - ix. Trauma counselling, and
 - x. The dissemination of information.
- d) Recovery plans and procedures delineating damage assessment procedure, restoration of damaged public infrastructure, resumption of educational institutions, restoration of livelihood, rehabilitation of affected people, especially the disabled, and elderly women and children.
- e) The UDMP shall be reviewed and updated annually.
- f) The copies of the UDMP shall be made available to all Union level stakeholders, UNOs and DCs.
- g) A copy of the UDMP will be sent to the Upazila Disaster Management Committee.
- h) The DMB/ BIDMTR will provide technical advice and capacity building services to all DMCs.

11.5. Paurashava/City Corporation Disaster Management Plan

Paurashava is at the bottom of the urban administrative tier of Bangladesh. There is a Disaster Management Committee at the City Corporation/Paurashava level. The Paurashava Chairman is the head of the committee. The members of the Committee are all Paurashava commissioners, representatives from all the Government departments, NGOs and CBOs. Chief Executive Officer of the Paurashava is the member secretary of the committee. The committee is required to meet monthly during normal period and as and when necessary during emergency situation. Besides, metropolitan cities in Bangladesh have City Corporation Disaster

Management Committees with the Mayor as the Chairman and comprising members as it is in case of Paurashavas.

There will be a plan for each Paurashava/City Corporation titled "Paurashava/City Corporation Disaster Management Plan" to be prepared by the "Paurashava/City Corporation Disaster Management Committee having linkages with the National Plan for Disaster Management. The PDMP/ CCDMP should highlight and articulate, among others, the following:

- a) The areas in the Paurashava/city corporation vulnerable to different forms of hazards and risks,
- b) Total resource requirements and the planned action for the district
 - i. to take measures for prevention and mitigation of disasters by government agencies, NGOs, CBOs and the private sector within the district,
 - ii. capacity building and preparedness measures to be taken by government agencies, NGOs, CBOs and the private sector
 - iii. strengthening emergency response management system plans and procedures in the event of a disaster, providing for –
- c) The response plans and procedures in the event of a disaster, providing for –
 - i. Allocation of responsibilities to the departments of the government at district level and other DMC members;
 - ii. Procedure for mobilization of resources,
 - iii. Prompt response to disaster and relief thereof;
 - iv. Procurement of emergency supplies;
 - v. Operation of disaster shelters,
 - vi. Restoration of emergency services, such as water supply, gas supply, power, telecommunication, road links,
 - vii. Provision of emergency medical services,
 - viii. Burial of dead bodies,
 - ix. Trauma counselling, and
 - x. The dissemination of information.
- d) Recovery plans and procedures delineating damage assessment procedure, restoration of damaged public infrastructure, resumption of educational institutions, restoration of livelihood, rehabilitation of affected people, especially the disabled, and elderly women and children.
- e) The PDMP shall be reviewed and updated annually.
- f) The copies of the PDMP shall be made available to all Paurashava/city corporation level stakeholders, UNOs and DCs.
- g) A copy of the PDMP will be sent to the District Disaster Management Committee and Disaster Management Bureau.

- h) The DMB/ BIDMTR will provide technical advice and capacity building services to all DMCs.

11.6. Sectoral Development Plans incorporating Disaster Risk Reduction

Every Ministry/Division of the Government of Bangladesh prepares their own Sectoral Development Plans. MoFDM with the participation of sectoral experts will prepare a general guideline to incorporate disaster risk reduction agenda for the sectors. MoFDM will also be responsible for overall monitoring and follow-up of the process to ensure that disaster risk reduction agenda are mainstreamed within the sectoral policies, plans and programmes. The development plans should address, among others, the following:

- a) Defining and redefining risk environment through hazard analysis, vulnerability assessment, risk evaluation, risk treatment options, and risk treatments.
- B) Managing the risk environment by developing programs and strategies that eliminate, or reduce the level of risk. Traditionally mitigation programs were viewed as engineering solutions to eliminate risk, but it is now accepted that all activities undertaken to eliminate or reduce risk are “mitigation” strategies (e.g. community education and awareness, planning activities, development of warning systems). This includes activities previously described as the PPRR Model- Prevention, Preparedness, Response and Recovery.
- c) Regularly review and update the plan; and
- d) Submit a copy of the plan, and of any amendment thereto, to appropriate authority including the MoFDM.
- d) Submit a copy of its disaster management plan, and of any amendment thereto, the concerned authority.

11.7. Hazard Specific Multi-sectoral Disaster Management Plans

In addition to area specific disaster management plans and sector specific disaster risk reduction plans, it is envisaged that there will be a few hazard-specific management plans, such as earthquake management plan. This type of plans will be multi-sectoral and will be divided into two components: risk reduction and emergency response. This type of plans will address specific necessities to deal with a particular hazard.

XII. DISASTER MANAGEMENT ACTION MATRIX 2007-2015

Strategic Goal	Key targets	Expected Outcomes	Action Agenda for 2007-2015	Lead Agency /dept.	Supporting Agency/ dept.
1	2	3	4	5	6
1.0 Professionalizing the disaster management system	<p>1.1 Develop and establish a Disaster Management Regulative Framework</p> <p>1.2 Review and revise the key disaster management policy documentation (Disaster Management Act, Policy and Plan, Standing Orders on Disasters) reflecting broader risk reduction functions</p> <p>1.3 Establish and progressively implement a learning and development strategy to facilitate the professional development of MoFDM and key personnel from government and NGOs and the private sector.</p> <p>1.4 Design and implement training and awareness programmes targeting national and district level policy officials.</p>	<p>1.1.1 A legal, policy and planning framework that makes disaster risk reduction a mandatory requirement for disaster management at all levels.</p> <p>1.1.2 A professional and competent disaster management workforce that is demonstrating effective leadership nationally and regionally</p>	<p>1.1.1.1 Enact laws and formulate rules for expansion of mandates of MoFDM</p> <p>1.1.1.2 Formal Govt. approval and gazetting of Act, Policy and Plan</p> <p>1.1.1.3 Revise Allocation of Business in relation to MoFDM Mandates</p> <p>1.1.1.4 Revise Standing Orders on Disaster Management in line with Comprehensive Disaster Risk Reduction and Emergency Management Approach</p> <p>1.1.1.5 To ensure that risk reduction is a mandated requirement for all disaster management programmes by December 2008</p> <p>1.1.1.6 Enhance professional skills and</p>	MoFDM	Ministry of Establishment /Ministry of Law, Justice and Parliamentary Affairs/ Cabinet Division/ Sectoral Ministries

			<p>knowledge of MoFDM and selected other key implementing agency staff on disaster risk reduction, preparedness, warning and forecasting system, and post-disaster activities by December 2008</p> <p>1.1.1.7 Develop a learning and development framework for disaster management professionals</p> <p>1.1.1.8 Develop and implement a skills enhancement strategy for effective disaster management</p>		
2.0 Mainstreaming Disaster Risk Reduction	<p>2.1 Identify relevant development policy and planning frameworks, develop and establish mechanisms to ensure risk reduction is a national and local priority.</p> <p>2.2 Develop and implement an advocacy strategy facilitating incorporation of disaster risk reduction within development and agency policy and plans.</p> <p>2.3 Design and implement</p>	2.1.1 Risk reduction principles and practices are mainstreamed within all development programmes and policies	<p>2.1.1.1 MoFDM is recognized as a key partner in development planning and policy making process (such as NEC, ECNEC, Economic Affairs Council etc. membership)</p> <p>2.1.1.2 Development project appraisal process includes applications of disaster and climate change risk management and supported</p>	MoFDM	<p>Ministry of Finance and Planning/ Planning Commission/ Ministry of Environment and Forest/ Ministry of Water Resources/ Ministry of Agriculture/ NGO Affairs Bureau/ / Sectoral Ministries/NGOs, Private Sector bodies Development Partners</p>

	<p>capacity building training to strengthen relevant planning capability at national and local levels.</p> <p>2.4 Incorporate disaster risk reduction approaches in all ongoing and future development plans, programs, and policies.</p> <p>Inclusion of disaster risk management within the development project validation process through Disaster Impact and Risk Assessment (DIRA) in addition to EIA</p> <p>2.5 Projecting future activities and growth targets incorporating risk scenario and reduction options.</p> <p>2.6 Establish a monitoring and support mechanism to assist relevant agencies and ensure effective transitioning of policy and plans to reflect risk reduction concepts.</p>		<p>2.1.1.3 Development of Disaster Impact and Risk Assessment (DIRA) Technique for all hazards and incorporation of DIRA into Project Proforma (PP), Technical Project Proforma (TPP) and Project Concept Paper (PCP) formats</p> <p>2.1.1.4 Inclusion of Disaster Risk Reduction Mechanism into FD-6 Form (for NGO programmes)</p> <p>2.1.1.5 Advocacy and public awareness for social mobilization</p> <p>2.1.1.6 Strengthened relevant planning capability at all levels.</p> <p>2.1.1.7 Prepare a monitoring and evaluation Guideline</p> <p>2.1.1.8 Establish Focal points within planning cell of relevant ministries and departments</p>		
3.0 Strengthening	3.1 Identify national, regional, sub-regional and	3.1.1 Members of DMCs at all levels	3.1.1.1 Revise Allocation of Business in relation to	MoFDM	Ministry of Establishment /Ministry of Law, Justice

Institutional Mechanisms	<p>local institutional mechanisms including informal systems and undertake an audit to validate roles and linkages</p> <p>3.2 Design and implement a national training strategy aimed at building knowledge and understanding of disaster management roles and responsibilities of key players at all levels as per SOD</p> <p>3.3 Create a national training capacity to sustain and progressively expand the training efforts.</p> <p>3.4 Develop a national monitoring and evaluation system to enable the effectiveness of the training strategy to be measured.</p>	<p>are aware of their roles and responsibilities</p> <p>3.1.2 DMCs at all levels are functional and carrying out their mandated jobs during both normal and emergency periods and post emergency situations</p>	<p>MoFDM Mandates;</p> <p>3.1.1.2 Revise Standing Orders on Disaster Management in line with Comprehensive Risk Management Approach</p> <p>3.1.1.3 Formal Govt. approval and gazetting of MoFDM Allocation of Business and SOD</p> <p>3.1.1.4 Prepare Plan of Action (PoA) for policy implementation with clear delineation of responsibilities;</p> <p>3.1.1.5 Enhance professional skills and knowledge of key implementing agency staff on disaster risk reduction, preparedness, warning and forecasting system, and post-disaster activities.</p> <p>3.1.1.6 Establish of Contingency Planning Framework with a block allocation for risk reduction</p> <p>3.1.1.7 Establish</p>		<p>and Parliamentary Affairs/ Cabinet Division/ Sectoral Ministries/ NGOs/ Development Partners/</p>
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			Bangladesh Institute of Disaster Management Training and Research		
4.0 Empowering At Risk Communities.	4.1 Establish the baseline on existing community knowledge of their all hazard risks.	4.1.1 Communities have a greater understanding of their risks and strategies for reducing or managing their all hazard risks.	4.1.1.1 Conduct a baseline study on current awareness and knowledge on disaster risk reduction among the DMC members at all levels	MoFDM	Relevant ministries/ NGOs/ Development Partners
	4.2 Develop a standard Guideline to prepare the local level risk reduction action plan based on all hazard risk analysis	4.1.2 Risk Assessment and risk reduction action planning processes are framed around gender and social exclusion frameworks.	4.1.1.2 Establish a technical working group to develop the guideline		
	4.3 Strengthen mechanisms and build community and household level capacities to prepare the local and household level risk reduction action plans	4.1.3 Government and donor funding targeting strategies identified within the local level risk reduction plans.	4.1.1.3 Develop and finalize the guideline through pilot testing and validation processes		
	4.4 Develop and implement Comprehensive risk reduction action plans (RRAPs) at Upazila, Union and household levels		4.1.1.4 Design and implement the skill and knowledge based training programme for the local level DMCs in high to medium risk areas		
	4.5 Reducing vulnerability through social safety nets	4.1.4 Protect the needs of women, children, elderly, physically unable people of at risk communities against seasonality	4.1.1.5 Develop the action plan following an all hazard risk assessment procedure 4.1.1.6 Design and implement the target based FFW, FFE, VGD, TR programmes 4.1.1.7 Establish an effective targeting		

		and risks	mechanism		
			4.1.1.8 Establish an effective monitoring and support mechanism to assist implementing agencies to avoid political influences and leakages		
	4.6 Strengthening asset base through Risk Reduction Programme	4.1.5 Livelihood support through financial assistance to withstand the disastrous situations	<p>4.1.1.9 Implement the Risk Reduction Programme targeting the at risk communities and the households</p> <p>4.1.1.10 Ensure proper execution of the guideline of the programme</p> <p>4.1.1.11 Establish an effective monitoring and support mechanism to assist implementing agencies to avoid political influence and leakage.</p> <p>4.1.1.12 Policy advocacy to ensure continuity of the block allocation in the annual budget</p>		
5.0 Expanding Risk Reduction Programming across hazards	<u>Across Hazards:</u> 5.1 Update Hazard maps	5.1.1 Local and national development plans	5.1.1.1 Conduct Hazard Risk Analysis and produce updated hazard maps	MoFDM	Ministry of Defence/ MoWR/Ministry of Science and Technology/ NGOs /

and sectors	<p>5.2 Establishing an Integrated Approach to disaster management including Climate Change and climate variability impacts</p> <p>5.3 Develop scenario and prediction models to determine climate change and climate variability impacts.</p> <p>5.4 Strengthening existing knowledge and information accessibility on impact prediction and adaptation to climate change</p> <p>5.5 Design and implement capacity building programme to improve understanding on climate change impacts among the DM stakeholders</p>	<p>are developed on the basis of the updated hazard maps</p> <p>5.1.2 Scientific analysis including climate change impacts is guiding all hazards risk assessment processes.</p> <p>5.1.3 Timely all hazards risk information readily available in user friendly format to key stakeholders and development planners.</p> <p>5.1.4 Research gaps are influencing government, donor and private sector priorities.</p> <p>5.1.5 DM stakeholders are updated with climate change and climate variability impact knowledge</p>	<p>5.1.1.2 Establish and capacitate the Climate Change Cell (CCC) within DoE</p> <p>5.1.1.3 Establish a Technical Advisory Group to assist the CCC</p> <p>5.1.1.4 Conduct research to determine climate change and climate variability impacts for Bangladesh</p> <p>5.1.1.5 Identify adaptation options through action research</p> <p>5.1.1.6 Establish a climate change information library, database and Knowledge information network</p> <p>5.1.1.7 Design and implement a capacity building training to improve understanding among the DM stakeholders</p>	MoEF	<p>Development Partners</p> <p>Ministry of Defence/ Technological Universities/ MoWR/ NGOs/ Development Partners</p>
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			5.1.1.8 Implement priorities identified by National Adaptation Programme of Action (NAPA)		
	<p>5.6 Conduct earthquake and tsunami Vulnerability assessment and prepare:</p> <ul style="list-style-type: none"> • Earthquake vulnerability and risk maps for mega cities • Tsunami vulnerability maps for all the coastal districts • Map out critical vulnerable infrastructure and communities within the high risk zones <p>5.7 Strengthening national capability to reduce the risks of</p> <ul style="list-style-type: none"> • Chemical, technological and biological hazards • Infrastructure collapse • Fire • Road accidents • Launch capsized 	<p>5.1.6 Produce earthquake vulnerability maps for cities of Dhaka, Chittagong and Sylhet</p> <p>5.1.7 Produce tsunami vulnerability maps for Chittagong, Cox's Bazar, Satkhira, Khulna, Bagerhat, Barguna, Patuakhali, Bhola and Noakhali Districts</p> <p>5.1.8 Reduce the incidence of disasters in the manufacturing industry</p> <p>5.1.9 Bangladesh Fire Service and Civil Defense are better equipped</p>	<p>5.1.1.9 Develop and implement an extensive awareness programme for the earthquake and tsunami risk</p> <p>5.1.1.10 Use of earthquake risk maps in urban planning and development</p> <p>5.1.1.11 Develop guidelines for industrial safety</p> <p>5.1.1.12 Establish and regularly update a information database and network on industrial safety measures</p>	MoFDM	<p>Ministry of Local Government and Rural Development; Ministry of Home Affairs; AFD; Ministry of Housing and Works; Ministry of Science and Technology; Ministry of Power, Energy and Mineral Resources; Ministry of Defence; Ministry of Communications Academic Institutions;</p>

5.8 Strengthen national capacity for erosion prediction and monitoring	<p>with latest fire fighting technology including training</p> <p>Reduced the incidence of launch capsizes</p> <p>5.1.10 Erosion prediction information used in the development of Local level Risk reduction and response plans</p>	<p>5.1.1.13 Develop and implement a strategy to strengthen the BFS&CD</p> <p>5.1.1.14 Develop guidelines for road and water safety</p> <p>5.1.1.15 Identify the organizations conducting the predictions</p> <p>5.1.1.16 Assess the utility of the information</p> <p>5.1.1.17 Identify the resource requirements and probable source of funding to further capacity strengthening and information generation on a continuous basis</p>		
<p><u>Across Sectors:</u></p> <p>5.9 Develop and establish policy and planning frameworks to incorporate all hazard risk reduction perspectives into sectoral development plans, such as:</p> <ul style="list-style-type: none"> • Agriculture, livestock and fishery 	<p>5.1.11 Disaster risk reduction elements are included in sectoral policies and plans</p> <p>5.1.12 Promote Innovations in the broader agricultural sector to withstand</p>	<p>5.1.1.18 Inclusion of Disaster Risk Reduction in the policies and development plans of various relevant sectors</p> <p>5.1.1.19 Revise the education and training curriculum on disaster management</p>	MoFDM	All relevant ministries and their agencies

	<ul style="list-style-type: none"> • industry • education curriculum (primary and secondary) • rural and urban housing, • construction of roads, bridges and culverts • water transportation • Search and rescue • Health • Water resources • Power, energy and mineral resources • Environment and forestry • Science and ICT • Tele-communication • Water Supply and Sanitation 	<p>and cope with disastrous situations.</p> <p>5.1.13 More flood and drought tolerant varieties of crops and species are introduced by the agricultural extension departments</p> <p>5.1.14 Newly constructed houses , roads, bridges and culverts can withstand with high intensity earthquakes</p>	<p>incorporating an all hazard risk reduction perspectives at primary, secondary and tertiary levels of education</p> <p>5.1.1.20 Conduct TOT and capacity building training for the teachers and instructor of different national training institutions on the revised curriculum</p> <p>5.1.1.21 Promote action research in the broader agriculture sector</p> <p>5.1.1.22 Risk based design of projects and ancillary structure</p> <p>5.1.1.23 Develop and establish guidelines to ensure incorporation of disaster risk reduction issues in all safety net programmes' design and implementation process</p>		
6.0 Strengthening Emergency Response Systems	<p>6.1 Strengthen and improve an all Hazard Early Warning Systems through</p> <ul style="list-style-type: none"> •technical, technological and physical capacity 	<p>6.1.1 Ensure accuracy in the early warning information generation</p>	<p>6.1.1.1 Technical and technological capacity building of BMD, FFWC and other related organisations to</p>	<p>MoFDM/ Ministry of Defence/ MoWR</p>	<p>Ministry of Post and Telecommunication/MoHA / MoFA/ SMRC/ NGOs/ Development Partners</p>

	strengthening of BMD and FFWC •establishment/strengthening regional networks for real time data/information sharing		a) improve the accuracy of early warning information generated and b) increase the lead time for flood forecast 6.1.1.2 Use SAARC, RCC and other available frameworks and platforms to establish regional networks for real time data/information sharing		
6.2 Establish a National Disaster Management Information Centre: •to establish a computer network with the all the 64 districts and high risk upazila DMCs •to archive and share disaster risk reduction information •to produce and share policy briefs •to receive and disseminate early warning information •to receive and disseminate information on emergency need assessments and management	6.1.2 An effective 24/7 information hub including early warning dissemination system 6.1.3 An effective information management system that is providing on-time adequate and necessary information during emergency situations	6.1.1.3 Establish and operational the National Disaster Management Information Centre including emergency operation centres (EOC) 6.1.1.4 Design the information products 6.1.1.5 Produce and disseminate regular information products in time intervals	MoFDM	Ministry of Defence/ MoWR/ MoWR/ NGOs/ Development Partners	

<p>6.3 Establish an effective Community Alerting System through capacity strengthening of CPP and DMCs at District, Upazila and Union levels</p>	<p>6.1.4 An effective communication network to timely disseminate all hazard warning messages to the communities</p> <p>6.1.5 A disaster management information network is operational and demonstrated down to household level</p>	<p>6.1.1.6 Develop and establish an all hazards community alerting system and impart training to enhance its operational capability.</p> <p>6.1.1.7 Organize regular drills to improve the efficiency of the system</p>	MoFDM	MoWR/ MoD/ NGOs/ BDRCS
<p>6.4 Establish and improve Search and Rescue Mechanism by</p> <ul style="list-style-type: none"> • Preparing a potential search and rescue scenario • Strengthening S&R capability of first responding institutions by providing training and equipments support • Establish an all hazard volunteer groups for S&R operations • Establish an effective command and control system 	<p>6.1.6 An effective search and rescue mechanism to provide timely operations</p> <p>6.1.7 First Responding Institutions are fully equipped to efficiently handle the S&R operations</p> <p>6.1.8 A well-trained standby volunteer workforce to assist in S&R operations</p>	<p>6.1.1.8 Identify potential rescue scenarios and determine appropriate search and rescue equipment needs</p> <p>6.1.1.9 Strengthen BFS&CD with required training and equipment support</p> <p>6.1.1.10 Establish and strengthen the community based institutional mechanism for disaster volunteering , such as CPP and BNDV</p> <p>6.1.1.11 Develop and implement a training</p>	MoFDM	Local Government Bodies/MoHA/ AFD/ MoHW/MoLGRD/ MoD/ MoPE&MR/ / NGOs

		<p>programme to establish the all hazard volunteer workforce at city corporations level</p> <p>6.1.1.12 Prepare SOPs for specific hazard based disasters incorporating command, control and coordination mechanism for emergency response</p>		
<p>6.5 Develop templates and procedures to establish and operational Disasters Contingency Plans</p> <p>6.6 Establish policy and guideline to incorporate geo-hazard contingency plans in future spatial plans for city corporations and local government</p> <p>6.7 Prepare Contingency Plans on non-seasonal disaster risks for selected cities and coastal zones</p> <p>6.8 Strengthen the District and Upazila DMCs to implement contingency planning across the country</p> <p>6.9 Develop and standardize</p>	<p>6.1.9 Contingency Planning for Non Seasonal Disaster Risks is introduced by city corporations</p> <p>6.1.10 A heightened level of preparedness to the earthquake and tsunami risk</p>	<p>6.1.1.13 Establish earthquake contingency plans for Dhaka, Sylhet and Chittagong Cities based on the outcomes of risk assessments</p> <p>6.1.1.14 Review and where necessary strengthen emergency response contingency plans at all levels</p> <p>6.1.1.15 Establish Tsunami contingency plans for the coastal districts</p> <p>6.1.1.16 Review existing damage and needs assessment systems and strengthen where</p>	MoFDM	Local Government Bodies/MoHA/ AFD/ MoH&W/MoLG&RD/ MoD/ MoPE&MR/ /MoS&T NGOs/

	<p>Damage, Loss and Impact Assessment Methodologies and Relief Management Procedure</p> <p>6.10 Establish a post-disaster recovery and reconstruction mechanism</p>		necessary		
7.0 Developing and Strengthening regional and global Networks	<p>7.1 Identify key regional collaborating organizations and develop systems for coordination, and knowledge sharing.</p> <p>7.2 Establish public and private partnerships for disaster risk reduction.</p> <p>7.3 Negotiate on cross border information to enhance early warning.</p> <p>7.4 Support regional and global initiatives and ensure representation that is consistent with the government integrated all sector risk reduction approach at all levels</p>	<p>7.1.1 To create a working interface with and between the technical and scientific community</p> <p>7.1.2 To establish formal and informal partnerships with regional organizations for enhanced information exchange and mutual support</p> <p>7.1.3 Facilitate information sharing and more effective cross border mutual support programmes including early warning mechanisms.</p>	<p>7.1.1.1 Use SAARC, ASEAN and RCC platforms to establish regional networks for real time data/information sharing as well as sharing of new knowledge and technology.</p> <p>7.1.1.2 Prepare guideline for international assistance for disaster emergencies</p>	MoFA	MoFDM/MoD/ / MoWR/ MoP&T/NGOs/ / Regional and International Organisations

		<p>7.1.4 Timely cross border early warning.</p> <p>7.1.5 Appropriate representation at regional and international forums.</p> <p>7.1.6 Formalized public private partnerships</p>			
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XIII. IMPLEMENTATION AND FOLLOW-UP

1. Disaster management which includes disaster risk reduction and emergency response management will be viewed holistically and the strategic goals and priorities for action presented in Section XII should be addressed by various stakeholders in a multi-sectoral approach, including the development sector.
2. All relevant organizations and agencies will integrate disaster risk reduction considerations into their sustainable development policy, planning and programming at all levels. MoFDM as the focal agency for disaster management will provide the guidelines to be developed with the participation of sectoral experts to ensure its compatibility.
3. Civil society, including volunteers and community-based organizations, the scientific community and the private sector are vital stakeholders in disaster management. MoFDM will ensure contribution of all actors in the development and implementation of the plan to build disaster resilient nations and communities.
4. Following the broader guideline described in the National plan and the specific guidelines to be provided by MoFDM, the district, upazila, union, City Corporation and paurashava disaster management committees will prepare their respective plans for the area of responsibility of the committee.
5. MoFDM with the assistance from sectoral experts will develop a general guideline to mainstream disaster risk reduction within their respective sectoral development plans.
6. The planning process at all levels should be completed by December 2010.

XIV. MONITORING AND EVALUATION

The National Plan is a dynamic document and will be reviewed and evaluated annually to ensure consistency with national initiatives and Government priorities. Key performance indicators will be monitored and reported annually to assess the progress of the implementation of the Framework. The key indicators will:

- Measure the expected outcomes of the Plan.
- Set benchmarks.
- Measure the effectiveness of policies, strategies and programs and inform policy development.
- Identify agency accountability and responsibility for each performance indicator.
- Identify opportunities for improvement that lead to enhancement of the Disaster Management System

The IMDMCC will be responsible for monitoring progress of implementation of this plan at the national level. The MoFDM through Disaster Management Bureau will be responsible for monitoring at the local level.

XV. FINANCING OF THE PLAN

15.1. National Disaster Response and Recovery Fund

The Government will constitute a fund called the “National Disaster Response and Recovery Fund” from its own resources and donations from home and abroad. The fund shall be used for response, relief and recovery. The allocation and utilization of the fund shall be governed as per rules and guidelines laid down by the Government. Ministry of Food and Disaster Management, in consultation with Ministry of Finance, will take initiative to establish the fund by consolidating the existing relief funds.

15.2. National Risk Reduction Fund

The Government will constitute a fund called the “National Risk Reduction Fund” for projects which are designed for the purpose of prevention, mitigation and preparedness. The allocation and utilization of the fund shall be governed as per rules and guidelines laid down by the Government. Ministry of Food and Disaster Management, in consultation with Ministry of Finance, will take initiative to establish the fund by consolidating the existing risk reduction funds.

15.3. Financing Sectoral Plans

Relevant Ministries/ Divisions/ Directorates and departments will make provisions in its annual budget to fund the activities and programmes set out in the Disaster Risk Reduction component of its Sectoral Development Plans.

15.4. District/Upazila/Union/Paurashava/City Corporation Disaster Management Fund

Disaster Management Committees at the district, upazila, union, city corporation and paurashava levels will constitute its Disaster Management Fund to implement programmes and activities as set out in Disaster Management Plans. This fund will make up of the following: a) contribution from the government, b) contribution from local government and c) local donation. The government will formulate guideline for operating the fund.

Reporting:

The authority/authorities responsible for the utilization of funds shall submit specific report(s) to the Governments regarding executions of, and expenditures of funds

along with an audit certification. The period of time not for such reports shall be as prescribed by the rules and guidelines for the use of funds.

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তারিখ: ৩১/০৪/১৪১৩ বাং
১৫/০৮/২০০৬ খ্রি:

কমিটি গঠন

০১)	মহা পরিচালক, একপিএমইউ, খাদ্য ও দুর্যোগ্য ব্যবস্থাপনা মন্ত্রণালয়	-	সভাপতি
০২)	পরিবেশ ও বন মন্ত্রণালয়ের একজন প্রতিনিধি	-	সদস্য
০৩)	পানি সম্পদ মন্ত্রণালয়ের একজন প্রতিনিধি	-	সদস্য
০৪)	সিডিএমপি-এর একজন প্রতিনিধি	-	সদস্য
০৫)	দুর্যোগ্য ব্যবস্থাপনা ব্যুরো এর একজন প্রতিনিধি	-	সদস্য
০৬)	জনাব মোঃ রুহুল আমিন তালুকদার, অতিরিক্ত পরিচালক (খানিপু), একপিএমইউ	-	সদস্য সচিব

২। যথাযথ কর্তৃপক্ষের নির্দেশক্রমে জনস্বার্থে এ আদেশ জারী করা হলো এবং অবিলম্বে তা কার্যকর হবে।

০১) সচিব, পরিবেশ ও বন মন্ত্রণালয়, বাংলাদেশ সচিবালয়, ঢাকা।
০২) সচিব, পানি সম্পদ মন্ত্রণালয়, বাংলাদেশ সচিবালয়, ঢাকা।
০৩) মহা-পরিচালক, দুর্গোণ ব্যবস্থাপনা ব্যুরো, ৯২-৯৩, মহাখালী বা/এ, ঢাকা।
০৪) মহা-পরিচালক, এক্সপিমাইউ, খান্য ও দুর্গোণ ব্যবস্থাপনা মন্ত্রণালয়, বাংলাদেশ সচিবালয়, ঢাকা।
০৫) চীফ টেকনিক্যাল এ্যডভাইজার, সিডিএমপি, ৯২-৯৩, মহাখালী বা/এ, ঢাকা- কমিটিতে একজন উপযুক্ত প্রতিনিধি মনোনয়ন এবং
বর্ণিত National Plan of Action এর একটি খসড়া প্রণয়নের জন্য অনুরোধ করা যাচ্ছে।

(REGISTER COPY)

১। মাননীয় মন্ত্রীর একান্ত সচিব, খাদ্য ও দুর্যোগ ব্যবস্থাপনা মন্ত্রণালয়, বাংলাদেশ সচিবালয়, ঢাকা।	TARS
২। মাননীয় উপ-মন্ত্রীর একান্ত সচিব, খাদ্য ও দুর্যোগ ব্যবস্থাপনা মন্ত্রণালয়, বাংলাদেশ সচিবালয়, ঢাকা।	NE (Coord)
৩। সচিব মহোদয়ের একান্ত সচিব, খাদ্য ও দুর্যোগ ব্যবস্থাপনা মন্ত্রণালয়, বাংলাদেশ সচিবালয়, ঢাকা।	NE (M&E)
৪। মহা পরিচালক, এফপিএমইউ এর ব্যক্তিগত কর্মকর্তা, খাদ্য ও দুর্যোগ ব্যবস্থাপনা মন্ত্রণালয়, বাংলাদেশ সচিবালয়, ঢাকা।	NE (T&P)

REGISTRY FORM

Date: ২১/৯/৮৬
File No: ৩১/০৪/১৯৮৩ বাঃ
তারিখঃ ১০০৭
To: [Signature]
By: ২১/০৮/১৯৮৬
CTA
NPME
FARS
NE (Coord)
NE (M&E)
NE (T&P)
বালেক, চাঁদাবান্দা, ঢাকা।
বালেক)
লক(উপ-সচিব)

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Annexure 2

National Plan for Disaster Management

Drafting and Editorial Team

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National Programme Management Expert and Deputy Team Leader
Comprehensive Disaster Management Programme

Dr. Shantana R. Halder
National Consultant (Monitoring and Evaluation)
Comprehensive Disaster Management Programme

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Annex 3

**LIST OF WORKING GROUP MEMBERS FOR DEVELOPING THE NATIONAL
PLAN FOR DISASTER MANAGEMENT**

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Annex 4

**LIST OF PARTICIPANT IN THE ROUNDTABLE MEETING ON DRAFT
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22.	Sujit Kumar Debsarma Assistant Director & System Manager	Bangladesh Metrological Department	8113071 9135742
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Annex 5

LINKAGES OF THE KEY STRATEGIC GOALS TO KEY INTERNATIONAL AND NATIONAL DRIVERS FOR CHANGE

ELEMENTS OF DRIVERS	<u>GOAL 1: PROFESSIONALISING THE DISASTER MANAGEMENT SYSTEM</u>	<u>GOAL 2: MAINSTREAMING RISK REDUCTION</u>	<u>GOAL 3: STRENGTHENING INSTITUTIONAL MECHANISMS</u>	<u>GOAL 4: EMPOWERING AT RISK COMMUNITIES</u>	<u>GOAL 5: EXPANDING RISK REDUCTION PROGRAMMING</u>	<u>GOAL 6: STRENGTHENING EMERGENCY RESPONSE SYSTEMS</u>	<u>GOAL 7: DEVELOPING AND STRENGTHENING NETWORKS</u>
<u>United Nations Millennium Development Goals:</u>							
Eradicate extreme poverty and hunger			✓	✓		✓	
Promote gender equality and empower women		✓		✓		✓	
Ensure environmental sustainability		✓		✓	✓		✓
<u>Hyogo Framework for Action 2005-2015</u>							
Integration of disaster risk reduction considerations into sustainable development policies, planning and programming at all levels.	✓	✓	✓		✓		
Development and strengthening of institutions, mechanisms and capacities at			✓		✓		✓

all levels, in particular at the community level.							
Systematic incorporation of risk reduction approaches into the design and implementation of emergency preparedness, response and recovery programmes in the reconstruction of affected communities					✓	✓	
<u>ISDR Guiding Principles: National Platforms for Disaster Risk Reduction</u>							
Increase public awareness to understand risk, vulnerability and disaster reduction globally				✓	✓		✓
Commitment from public authorities to implement disaster reduction policies and actions	✓	✓	✓				
Stimulate interdisciplinary and inter-sectoral partnerships; include the expansion of risk reduction networks					✓		✓
United Nations Framework Convention on Climate Change (UNFCCC)	✓	✓	✓	✓	✓		✓
Improve scientific knowledge about disaster reduction				✓	✓	✓	✓

PRSP Comprehensive Disaster Management towards Poverty Reduction and Growth: Policy Matrix key strategic goals:							
Mainstreaming Disaster Management and Risk Reduction into National Policies, Institutions and Development Processes		✓	✓		✓		✓
Strengthening disaster management and risk reduction capacity	✓				✓		✓
Ensuring knowledge management on disaster risk reduction	✓						✓
Enhancing community level capacity for disaster risk reduction				✓		✓	
Ensuring social protection of the most disadvantaged				✓		✓	

Annex 6

ROLES AND RESPONSIBILITIES OF DISASTER MANAGEMENT COMMITTEES

Disaster Management committees are established at the national, and sub-national levels (City Corporation/District, Upazila/Pourashava, and Union). The roles and responsibilities of National as well local level councils and committees, within the Bangladesh Disaster Management Model have been listed below. The Following is an indicative list of responsibilities subject to approval of the revised SOD. The provisions of SOD stand valid at any point of time.

National Disaster Management Council (NDMC)

The National Disaster Management Council is formed with the Prime Minister in the Chair. Related ministers and Secretary of relevant ministries are the member of the Council and Cabinet Secretary will act as member Secretary.

The Council is required to meet at least twice in a year (Vide notification of the Cabinet Division No. MP Commi-1/Committee-2/93-141 dated 13th October 1993).

Responsibilities of National Disaster Management Council

- Formulate strategic policy regarding Disaster Risk Management and issue guidelines in this respect.
- Examine the recommendations of the Inter-Ministerial Disaster Management Coordination Committee (IMDMCC) and National Disaster Management Advisory Committee (NDMAC) and issue directives for their implementation.
- Approve policies and guidelines under the Bangladesh regulative framework.
- Ensure whole-of-government coordination between Ministries, and with civil society, the business sector and NGOs in the process of disaster risk reduction and emergency response management.
- Develop an appropriate planning framework for the application of the Bangladesh Disaster Management model, including prevention, mitigation, preparedness, emergency response, relief and recovery.
- Frame guidelines and policies for post hazard relief and recovery including the assignment of priorities for relief.

Inter-Ministerial Disaster Management Coordination Committee (IMDMCC)**Responsibilities of Inter-Ministerial Disaster Management Coordination Committee****Defining the risk environment**

- Develop national and sub-national programs for risk reduction.
- Consider issues of major national development programs as they relate to disaster risk.
- Advocate and ensure disaster risk reduction is mainstreamed in development policies.

- Coordinate the activities of the government agencies concerned with disaster risk management.
- Monitor risk reduction activities and programs and keep the National Disaster Management Council informed of their progress.
- Develop policy related to whole-of-government disaster risk reduction for consideration of the NDMC.
- Develop programs for research and hazard analysis at national and sub-national levels.
- Mainstream disaster management principles and practices within national development planning processes.

Managing the risk environment

- Implement the policy and decisions of the NDMC.
- Monitor plans for prevention/mitigation, preparedness, emergency assistance, relief, and rehabilitation and to keep the NDMC informed of the progress.
- Scrutinize the disaster preparedness of different Ministries and Agencies.
- Recommend to the NDMC regarding the prioritization and inclusion of disaster prevention/mitigation projects in the National Development Plan.
- Determine the method of Disaster Risk and Impact Assessment (DIRA) of large development projects.
- Coordinate preparation and implementation of disaster prevention/mitigation projects and to recommend framing of policy, fixing priorities and distributing assets in this respect.
- Scrutinize the disaster forecasts and warning procedure and coordinate among the different agencies.
- Review the action plans of all disaster related agencies.
- Monitor the overall disaster preparedness programmes and inform the NDMC.
- Coordinate agencies responsible for educating people concerning their duties during disasters.
- Ensure coordination among government agencies and NGOs responsible for imparting training on disaster management.

Responding to the threat environment

- Ensure coordination in emergency response, relief and rehabilitation operations of the government at all levels.
- Ensure the effective dissemination of warning signals.
- Ensure the timely activation of the Bangladesh emergency response system.
- Ensure effective communications, information and reporting during emergency response, and recovery operations
- Coordinate relief operations in post-impact recovery period.
- Ensure the rapid supply of additional equipment/materials to places where telecommunication has been disrupted.
- Ensure the quick assessment of damage and the quality of reconstruction work.

- Coordinate the provision of additional manpower and resources to disaster affected areas, including the provision of members of the Defence Services with assigned duties for communications and essential services.
- Determine priorities and issue instructions regarding relief materials, funds and transport.

National Disaster Management Advisory Committee (NDMAC)

Responsibilities of the National Disaster Management Advisory Committee

- Advise the National Disaster Management Council and the MoFDM on technical matters and socio-economic aspects of prevention, mitigation, preparedness, emergency response and recovery
- Alert committee members about hazards, risks and mitigation possibilities.
- Create a forum for discussion by experts on risks, opening opportunities for cooperation towards solutions to problems relating to disaster risk management.
- Recommend funding for special projects and for the introduction of special emergency relief measures, as necessary.
- Recommend solution of problems identified by the NDMC, IMDCC, MoFDM, or any other agency/person.
- Investigate and propose long term rehabilitation plans.
- Hold post-emergency response evaluations and prepare an evaluation of actions undertaken and submit a report with recommendations to the NDMC.

District Disaster Management Committee

Responsibilities of the District Disaster Management Committee:

Defining the Risk Environment

- Ensure the constitution of Upazila Disaster Management Committees and Pourashava Disaster Management Committees (Grade 'A') with its activation, ensure receipt of directives and information and draw benefits from available training facilities.
- Arrange training and workshops on disaster related issues regularly by keeping the Disaster Management Bureau informed.
- Ensure that the risk factors of disaster and the possibilities of reduction of risks have been fully considered while preparing and implementing development programmes at district level.
- Prepare a comprehensive report on "Hazard, vulnerability and risk assessment" at district level based on the compilation of 'Hazard, vulnerability and risk assessment report' prepared by Upazila and Pourashava (grade 'A') disaster management committees and submit the same to the Disaster Management Bureau.

- Prepare a comprehensive report on the lists of vulnerable community and location map' at district level based on the compilation of 'lists of vulnerable community and location map' prepared by individual Upazila and Pourashava (grade 'A') disaster management committees and submit the same to the Disaster Management Bureau.
- Prepare comprehensive short, medium and long-term risk reduction action plans at district level based on the compilation of short, medium and long-term risk reduction action plans prepared by Upazilas and Pourashava (grade 'A') disaster management committees and submit the same to the Disaster Management Bureau.
- Regularly review the implementation status of the short, medium and long-term action plans through coordinating the programmes of development and service organizations at district level.
- Provide necessary support to union, Pourashava and Upazila disaster management committees to create local level fund appropriate for the implementation of the risk reduction action plans.
- Inform the disaster management bureau on the progress of action plan and other activities at district level.

Managing the Risk Environment

- Disseminate forecasts and warnings regarding disasters and make the people conscious about them.
- Prepare a district disaster action plan including the following issues with a view to keep the district authority and local organizations well prepared so as to meet the disaster effectively and efficiently in the light of warning signals about imminent disaster and the occurrence of disaster:
- Ensure speedy and effective publicity of forecasts and warnings relating to disasters (tornado, cyclone, tidal surge, earthquake, landslide, river erosion, tsunami, heavy rainfall, no rainfall, drought, flood, water logging, high tide, cold wave, etc.) among all officials of the district, relevant individuals/organizations and take measures to send the messages to the concerned individuals at the union, Pourashava and Upazila levels; and assist the implementation of the action plans prepared by the union, Pourashava and Upazila disaster management committees with the coordination efforts of district level government and non-government organizations.
- Select specific safe centre/shelters for evacuation of the people from district headquarters and to build capacity and assign responsibility to different individuals and organizations – for rendering various services and securities at the shelters. At the same time, build the capacity and instruct all the departments to provide necessary support to the union, Pourashava and Upazila disaster management committees.
- Ensure supply of safe drinking water, which can be filled in cans, ensure security and other essential services at the safe centres/shelters located in the district headquarters. And arrange similar services and facilities at union, Pourashava and Upazila levels in communication with union, Pourashava and Upazila disaster management committees.

- Take all necessary measures to activate union, Pourashava and Upazila disaster management committees; at the same time, provide necessary support to the union, Pourashava and Upazila disaster management committees in rescue work and emergency relief work and preparation of contingency plans for essential services in the interior of the district along with district headquarters, Upazila headquarters and Pourashava (grade 'A') and disaster management information centre (DMIC).
- Arrange occasional rehearsals or drills on the dissemination of warnings/forecasts, evacuation, rescue and primary relief operations with assistance from Disaster Management Bureau and Upazila/Pourashava authority.
- Monitor the progress of the activities and implementation status of the action plans of Upazila and Pourashava disaster management committees (grade 'A') and submit a comprehensive progress report to Disaster Management Bureau regularly.

Responding to the Threat Environment

During Warning Period

- Disseminate warnings/forecasts, evacuate the vulnerable people as per evacuation plan, check the overall preparation for rescue operation and prepare the rescue team.
- Engage trained institutions, volunteers and people in the field for effective and speedy dissemination of early warnings/forecasts and to coordinate and monitor the whole warnings/forecasts dissemination system.
- Visit the pre-selected emergency shelters/safe centres and ensure that different organizations and individuals are alert and ready to provide essential services and security at the centres.
- Review and take alternative measures to ensure the supply of safe drinking water from the selected places nearby the safe centres/shelters.
- Conduct a mock or drill, on a small scale, with the trained students, youths, club members and volunteers on the community based water-purification techniques and ensure all the relevant preparatory measures for speedy supply of water after proper purification.
- Take emergency measures to fill up the stock of life saving drugs after carefully scrutinizing the stock of life saving drugs at Pourashava level.
- Prepare a checklist of emergency activities including the time schedule of the assigned personnel.

During Hazard Onset

- Operate "Emergency Operation Centre (Information Centre and Control Room)" for maintaining coordination of activities at all places in the interior of the district in respect of evacuation, rescue, relief and primary rehabilitation within the district.

- Operate emergency rescue work with the facilities locally available and coordinate mobilization of rescue teams for rescue operations in severely affected Upazilas and Pourashavas.
- Coordinate all relief activities (GO-NGO) at union, Pourashava, Upazila and district level so that relief materials are distributed impartially.
- Ensure dissemination of correct information for protecting the people from being upset by rumour related to disaster.
- Take necessary measures for ensuring the security of the local and outside relief workers during disaster.
- Ensure the overall security of women, children and persons with disability during disaster (residing in safe centres/shelters and other places).
- Take necessary measures to protect environmental degradation by arranging quick memorial services of dead bodies and quick disposal of dead domestic animals.
- Assist people to transfer their essential resources (livestock, poultry, essential food, kerosene, candle, matches, fuel, radio, etc.) to safe places.

Post Hazard Period

- Collect and verify statistics relating to loss according to instructions issued by Disaster Management Bureau and other national authorities from Upazila officials and members of the Upazila/Pourashava disaster management committees regarding loss due to disaster according to directives of Disaster Management Bureau and other national authorities; to determine priority and requirements through emergency survey by officials or any other competent persons.
- Supply information relating to loss, needs, available resources and priority needs for relief and rehabilitation work to the EOC at the Ministry of Food and Disaster Management and 'Disaster Management Information Centre (DMIC)' of Disaster Management Bureau.
- Prepare contingency plans for rehabilitation work carefully based on priority measures for risk reduction at district level.
- Allocate and distribute the materials to Upazila/Pourashava, received from local source or Relief Directorate/any other sources on realistic basis according to necessity as per directives issued from Disaster Management Bureau and district authority.
- Supervise the distribution of materials under relief and rehabilitation activities and maintain their account and send the same to national authority and other relief donor organizations.
- Take necessary measures so that people can come back to their previous places after the disaster is over. In such cases, if there is any dispute regarding the legality of the land that should not be an obstacle to come back to the previous place after disaster.
- Arrange counselling for the psycho-traumatic people due to disaster with the collaborative support of experts and community elites.
- Instruct the health related personnel of the district and Upazila level to provide appropriate and adequate care to disaster affected people and if needed, request the district health authority for assistance.

- Arrange workshop with the participation of concern institutions and individuals on the lessons learned during and after the disaster.
- Perform responsibility of overall coordination among various departments at district level.
- In addition, follow the “Standing Orders on Disaster Management” and comply with instant orders of appropriate authority.

Paurashava/City Corporation Disaster Management Committee

Responsibilities of the City Corporation Disaster Management Committee :

Defining the Risk Environment

- Arrange regular training and workshops on disaster issues by keeping the District Disaster Management Bureau informed.
- Hold a hazard, vulnerability and risk analysis at City Corporation level.
- Identify community at risk based on age, sex, physical fitness, social status, profession and economic condition.
- Prepare short, medium and long-term vulnerability reduction and capacity building action plan for the high-risk people with the active participation of the community at risk
- Organize regular meetings on developmental issues with organizations working at City Corporation level who have development programmes and who are providing services to take decisions for the implementation of short, medium and long term action plans and to review the progress.
- Establish local fund for the implementation of risk reduction action plans.
- Inform the Disaster Management Bureau on the progress of implementation of the action plans
- Prepare a comprehensive disaster management action plan, which will enable the local community, authority of the City Corporation and local organizations to support the poor and vulnerable community for increasing their income and other abilities for risk reduction and for taking necessary security measures against any impending warnings and disaster:

Managing the Risk Environment

- Ensure that the local people are kept informed and capable of taking practical measures for the reduction of risk at household and community levels and also disseminate widely the success stories among the local people about reducing risks at household and community levels.
- Arrange speedy and earthquake effective dissemination of forecasts relating to disasters (cyclone, tidal surge, tsunami, heavy rainfall, flood, water logging, high tide, cold wave, etc.) among individuals, volunteers and target organizations and make them able to take effective roles to save their lives and property during disaster.
- Build the capacity of local institution, volunteers, and the community to adopt disaster (cyclone, tidal surge, tsunami, earthquake, tornado, flood, water logging, salinity, high tide, cold wave) resistant housing features.

- Build the capacity of the local institution, volunteers, and the community to adapt with disaster resistant agriculture and other livelihood options.
- Determine specific safe centre/shelter where the people of particular area will go at the time of disaster and assign responsibilities to different individuals and organizations – for providing various services and securities at the shelters.
- Ensure supply of safe drinking water and if necessary, other services from specific points near the shelter/centre.
- Train the students, youth, local club members and volunteers on community based water purification techniques so that during disaster, they can supply safe drinking water in their own community during emergencies.
- Keep stock of emergency life saving drugs at City Corporation and Ward level for use during disaster.
- Prepare relevant plans for rescue, primary relief operation, and local arrangement for rehabilitation of severely affected families.
- Arrange for rehearsals or drills on the dissemination of warnings/forecasts, evacuation, rescue and primary relief operations (if necessary, committee can seek assistance from Disaster Management Bureau).

Responding to the Threat Environment

Warning Period

- Disseminate warnings/forecasts, evacuate the vulnerable people as per evacuation plan, check the overall preparation for rescue operation and prepare the rescue team.
- Engage trained institutions, volunteers and people in the field for effective and speedy dissemination of early warnings/forecasts and to coordinate and monitor the whole warnings/forecasts dissemination system.
- Visit the pre-selected emergency safe centers/shelter and ensure that different organizations and individuals are alert and ready to provide essential services and security at the centres.
- Review and take alternative measures to ensure the supply of safe drinking water from the selected places nearby the shelter centre.
- Take emergency measures to fill up the stock of life saving drugs after careful scrutiny of the stock of life saving drugs at City Corporation and Ward level.
- Prepare a checklist of emergency activities during disaster including the time schedule of the assigned personnel.

During Hazard Onset

- Operate emergency rescue work with the facilities locally available and if directed, provide support services to other rescue teams.
- Take emergency measures to prevent diarrhoea and other water borne diseases by preparing oral-saline and water purification tablets by the trained students, youths, club members and volunteers using local resources or emergency assistance.
- Coordinate all relief activities (GO-NGO) in the City Corporation so that relief materials are distributed impartially.

- Ensure dissemination of correct information for protecting the people from being upset by rumour related to disaster.
- Take necessary measures for ensuring the security of the local and outside relief workers during disaster.
- Ensure the overall security of women, children and persons with disability during disaster residing in safe centres/shelters and other places.
- Take necessary measures to protect environmental degradation by arranging quick funeral ceremonies of dead bodies and quick disposal of dead domestic animals.
- Assist people to transfer their essential resources (livestock, poultry, essential food, kerosene, candle, matches, fuel, radio, etc.) to safe places.

Post Hazard Period

- Collect and submit statistics regarding loss due to disaster according to directives from Disaster Management Bureau.
- Allocate and distribute on the basis of actual needs, the materials received from local source or Relief Directorate/other sources for relief and rehabilitation work according to the directives of Disaster Management Bureau or district authority.
- Submit accounts of materials received to Disaster Management Bureau and donor agency (if the donor provided relief fund).
- Take necessary measures so that people can come back to their previous place after the disaster is over. In such cases, if there is any dispute regarding the legality of the land, which should not be an obstacle to come back to the previous place after the disaster.
- Arrange counselling for the psycho-traumatic people due to disaster with the collaborative support of experts and community elites.
- Instruct the health related personnel to provide appropriate and adequate care to disaster affected people and if needed, request the district health authority for assistance.
- Arrange workshop with the participation of concern institutions and individuals on the lessons learned during and after the disaster.
- In addition, follow Standing Orders on disaster management and comply with instant orders of appropriate authority.

Pourashava Disaster Management Committee

Responsibilities of the Pourashava Disaster Management Committee:

Defining the Risk Environment

- Ensure that the local people are kept informed and capable of taking practical measures for the reduction of risk at household and community levels and also disseminate widely the success stories among the local people about reducing risks at household and community levels.

- Arrange regular training and workshops on disaster issues by keeping the District Disaster Management Committee (in case of 'A' grade Pourashava) and Upazila Disaster Management Committee (in case of 'B' and "C" grade Pourashava) informed.
- Hold a hazard, vulnerability and risk analysis at Pourashava level.
- Identify community at risk based on age, sex, physical fitness, social status, profession and economic condition.
- Prepare short, medium and long-term vulnerability reduction and capacity building action plan for the high-risk people with the active participation of the community at risk
- Organize regular meetings on developmental issues with organizations working at Pourashava level who have development programmes and who are providing services to take decisions for the implementation of short, medium and long term action plans and to review the progress.
- Establish local fund for the implementation of risk reduction action plans.
- Inform the District/Upazila Disaster Management Committee on the progress of implementation of the action plans (in case of 'A' grade Pourashava to District DMCs and in case of 'B' and "C" grade Pourashava to Upazila DMCs)

Managing the Risk Environment

- Prepare a comprehensive disaster management action plan, which will enable the local community, authority of the Pourashava and local organizations to support the poor and vulnerable community for increasing their income and other abilities for risk reduction and for taking necessary security measures against any impending warnings and disaster:
- Arrange speedy and effective dissemination of forecasts relating to disasters (tornado, cyclone, tidal surge, earthquake, landslide, river erosion, tsunami, heavy rainfall, no rainfall, drought, flood, water logging, high tide, cold wave, etc.) among individuals, volunteers and target organizations and make them able to take effective roles to save their lives and properties during disaster.
- Build the capacity of local institutions, volunteers, and the community to adapt disaster (cyclone, tidal surge, tsunami, earthquake, tornado, flood, water logging, salinity, high tide, cold wave) resistant features.
- Build the capacity of the local institution, volunteers, and the community to adopt with disaster resistant agriculture and other livelihood options.
- Determine specific safe centre/shelter where the people of particular area will go at the time of disaster and assign responsibilities to different individuals and organizations – for providing various services and securities at the shelters.
- Ensure supply of safe drinking water and if necessary, other services from specific points near the shelter/centre with the help of district authority (in case of category A Pourashava) and Upazila authority (in case of B & C category Pourashava).
- Train the students, youth, local club members and volunteers on community based water purification techniques so that during disaster, they can supply safe drinking water in their own community during emergencies until external support reaches the area.

- Plan to prepare some high land based on government, non-government and individual donation, which can be used as shelter during the disaster period where livestock, poultry, emergency, food, kerosene, lamp, candle, matches, firewood, radio, and other important resources can be shifted along with the community people.
- Keep stock of emergency life saving drugs at Pourashava level (Pourashava health centres/dispensary) for use during disaster.
- Prepare relevant plans for rescue, primary relief operation, restoration of communication with District/Upazila headquarters and local arrangement for rehabilitation of severely affected families.
- Arrange for rehearsals or drills on the dissemination of warnings/forecasts, evacuation, rescue and primary relief operations (if necessary, committee can seek assistance from District/Upazila authority).

Responding to the Threat Environment

Warning Period

- Disseminate warnings/forecasts, evacuate the vulnerable people as per evacuation plan, check the overall preparation for rescue operation and prepare the rescue team.
- Engage trained institutions, volunteers and people in the field for effective and speedy dissemination of early warnings/forecasts and to coordinate and monitor the whole warnings/forecasts dissemination system.
- Visit the pre-selected emergency safe centers/shelter and ensure that different organizations and individuals are alert and ready to provide essential services and security at the centres.
- Review and take alternative measures to ensure the supply of safe drinking water from the selected places nearby the shelter centre.
- Conduct a mock or drill, on a small scale, with the trained students, youths, club members and volunteers on the community based water-purification techniques and ensure all the relevant preparatory measures for speedy supply of water after proper purification.
- Take emergency measures to fill up the stock of life saving drugs after careful scrutiny of the stock of life saving drug at Pourashava level.
- Prepare a checklist of emergency activities during disaster including the time schedule of the assigned personnel.

During Hazard Onset

- Operate emergency rescue work with the facilities locally available and if directed, provide support services to other rescue teams.
- Take emergency measures to prevent diarrhea and other water borne diseases by preparing saline and water purification tablets by the trained students, youths, club members and volunteers using local resources or emergency assistance.
- Coordinate all relief activities (GO-NGO) in the Pourashava so that relief materials are distributed impartially.

- Ensure dissemination of correct information for protecting the people from being upset by rumour related to disaster.
- Take necessary measures for ensuring the security of the local and outside relief workers during disaster.
- Ensure the overall security of women, children and persons with disability during disaster residing in safe centres/shelters and other places.
- Take necessary measures to protect environmental degradation by arranging quick memorial services of dead bodies and quick disposal of dead domestic animals.
- Assist people to transfer their essential resources (livestock, poultry, essential food, kerosene, candle, matches, fuel, radio, etc.) to safe places.

Post Hazard Period

- Collect and submit statistics regarding loss due to disaster according to directives from Disaster Management Bureau to district authority (in case of category A Pourashava) and Upazila authority (in case of B & C category Pourashava).
- Allocate and distribute on the basis of actual needs, the materials received from local source or Relief Directorate/other sources for relief and rehabilitation work according to the directives of Disaster Management Bureau and District/Upazila authority.
- Submit accounts of materials received to Upazila Disaster Management Committee and donor agency (if the donor provided relief fund).
- Take necessary measures so that people can come back to their previous place after the disaster is over. In such cases, if there is any dispute regarding the legality of the land, that should not be an obstacle to come back to the previous place after disaster.
- Arrange counseling for the psycho-traumatic people due to disaster with the collaborative support of experts and community elites.
- Instruct the health related personnel to provide appropriate and adequate care to disaster affected people and if needed, request the district and Upazila health authority for assistance.
- Arrange workshop with the participation of concern institutions and individuals on the lessons learned during and after the disaster.
- In addition, follow Standing Orders on disaster management and comply instant orders of appropriate authority.

Upazila Disaster Management Committee

Responsibilities of Upazila Disaster Management Committee:

Defining the Risk Environment

- Assist union and pourashava disaster management committee to form and activate a comprehensive disaster management committee at Union and Pourashava level, so that the disaster management committees can provide proper guidance, get the right and correct information and can exploit benefits from imparted training.

- Assist Union and Pourashava Disaster Management Committees to increase their efficiency in developing local warning system, risk reduction programming, rescue and recovery strategy and awareness raising strategy.
- Ensure that disaster risk reduction approaches are well considered during planning and implementation of development programmes of union, pourashava and Upazila.
- Arrange training and workshops on regular basis on disaster issues and assist union and pourashava disaster management committees to arrange training and workshop and keep the District Disaster Management Committee informed of progress and constraints.
- Assist union and pourashava disaster management committees to hold a hazard, vulnerability and risk analysis at Union and pourashava level; compile hazard, vulnerability and risk assessment of unions and pourashavas and prepare a hazard, vulnerability and risk assessment report for the Upazila.
- Assist union and pourashava disaster management committees to identify the most vulnerable area or people at high risk by sex, age, physical-ability, social status, occupation and economic status, compile the list of people at high risk at different union and pourashavas and based on the lists prepare a report and locational map of people at risk in the Upazila and to send the report to the district disaster management committees.
- Assist union and pourashava disaster management committees to prepare a short, medium and long term vulnerability reduction and capacity building action plan for the identified high-risk people with active participation of the people at risk; compile the action plans and prepare a Upazila level action plan and send a copy to district disaster management committee.

Managing the Risk Environment

- Facilitate coordination among the development agencies and service providers through
- Quarterly coordination meeting and take decision about implementation of the short, medium and long term action plan for risk reduction as well as review the progress of the implementation of the risk reduction action plans.
- Assist union and pourashava disaster management committees to raise fund in legal way at local level to implement the risk reduction action plan.
- Update the progress of implementation of Upazila level action plan and other related activities and report to the District Disaster Management Committee
- Prepare a Comprehensive Disaster Management Action Plan with a view to enabling local people, Union, Pourashava and Upazila authority and local organizations to increase the capacity of the poor and vulnerable people to enhance their income and other assets for risk reduction and also to take up security arrangement in the perspective of imminent danger related warnings or occurrence of disaster including the issues already mentioned under this paragraph.
- Take steps for capacity building of Upazila officers, relevant persons and institutions, union and pourashava authorities, volunteers and other people so that they can forecast and publicize warnings relating to hazards (cyclones, storms, floods, droughts, tidal surge, tsunami, over-rainfall, under-rainfall,

water logging, high tide, cold waves etc.) in the quickest possible way and also inform people about their responsibilities of saving their lives and properties from disaster.

- Building the capacity of union and pourashava disaster management committees, local institutions, volunteers and people in a way that they can help and motivate people to adopt disaster (cyclone/ tidal surge/ Tsunami/ Earthquake/ Tornado/ Flood/ Water/Logging/ Salinity/ High Tide/ Cold Wave) resistant housing features.
- Building the capacity of union and pourashava disaster management committees, local institutions, volunteers and people in a way that they can help and motivate people to adapt with disaster resistant agriculture and other livelihood options.
- Determine specific safe center/shelter where the population of certain areas will go at the time of need and assign responsibilities to different persons for various services and securities at the center/shelter. Assist union and pourashava disaster management committees to be more efficient to do the same work at union and pourashava level.
- Ensure supply of safe water and if necessary other services from specific points near the shelter/centre with the help of Upazila authority. Assist union and pourashava disaster management committees to be more efficient to do the same work at union and pourashava level.
- Assist Union and Pourashava Disaster Management Committees to train the students, youths, local clubs and volunteers on community based water purification technology, so that during disaster, they can supply water-purifying technology during emergencies in their community until external support reaches the high-risk people.
- Assist Union and Pourashava Disaster Management Committees to plan for preparing some community Based High land, which can be used as play ground in normal time and can be used as shelter place during disaster period where livestock, poultry, emergency food, kerosene, lamp, candle, matches, fuel wood, radio and other important resources could be shifted along with the people.
- Assist Union and Pourashava Disaster management Committee to stock emergency life-saving medicines at union and pourashava level for use during disaster.
- Prepare relevant plans for rescue, primary relief operation, and restoration of communication with District Headquarters and Union Authorities and local arrangement for rehabilitation of severely affected families.
- Monitor the activities and Progress of Implementation of Action Plans of Union and Pourashava Disaster management Committees and submit a progress report of Upazila Disaster Management Action Plan to the District Disaster Management Committee.
- Arrange for rehearsals or drills on the dissemination of warning signals/forecasts, evacuation, rescue and primary relief operations (if necessary committee can seek assistance from district Authority).

Responding to the Threat Environment

Warning Period

- Disseminate warning and security messages, evacuate the vulnerable people as per evacuation plan, cast an eye on the last moment check of rescue team and its preparation and take effective measure to minimize gap as a high priority.
- Engage trained institutions, volunteers and people in field for effective and rapid dissemination of early warning messages to the vulnerable community and monitor the whole security and warning message dissemination activities.
- Visit the pre-determined emergency shelter center and be sure that for essential services and security different organizations and volunteers are alert and ready to provide services.
- Review the practicality of water supply sources nearby the shelter center and if necessary, fill the gaps that people can get safe water supply during disaster from these water sources.
- Conduct a mock or drill to be ensured that the trained students, youths, with club members and volunteers can prepare water-purification technology at their locality and can supply the victims during emergencies and to monitor that adequate materials are ready to prepare such water-purification technology.
- Review the stock of life saving medicines at union level and evaluate its adequacy to supply victims during disaster.
- Prepare a checklist of emergency works to-do during disaster and be sure that appropriate materials and people are available for use.

During Hazard Onset

- Operate “Emergency Operation Centre (EOC)” at Upazila level to coordinate evacuation, rescue and relief activities.
- Organize emergency rescue work by using locally available facilities in times of need and if directed assist others in rescue works.
- Coordinate all relief activities (GO-NGO) in the Upazila in a manner that social justice (on the basis of who needs, what is needed and how much is needed) is ensured in relief distribution;
- Protect people from upset creating rumour during hazard period by providing them correct and timely information.
- During hazard ensure security of the local and outside relief workers.
- Ensure the security of women, children and person with disability during hazard.
- Take necessary actions to protect environmental degradation by quick funeral of corpses and burying the animal dead bodies.
- Help people to transfer their essential resources (livestock, poultry, essential food, kerosene, candle, matches, fuel, radio, etc.) to safe places.
- Enforce Union and Pourashava Disaster Management Committees to prepare water purification technology (tablet) at local level with the help of trained students, youths, clubs and volunteers; and distribute those products at emergency among the people at risk before being caught by diarrhea or other water borne diseases.

Post-Hazard Period

- Collect statistics of loss incurred in disaster in the light of guidelines of Disaster Management Bureau and District Disaster Management Committee and send the same to District Disaster Management Committee.
- Provide data and statement to the District Disaster Management Committee regarding damage, need, received resources and priority for relief and rehabilitation works.
- Plan the rehabilitation work in a way that essential measures for future risk reduction is well considered.
- Take steps for distribution of articles for rehabilitation received locally or from Relief and Rehabilitation Directorate and from any other source following the guidelines from Disaster Management Bureau and Upazila Disaster Management Committee.
- Supervise and keep accounts of the relief and rehabilitation materials distributed and send it to District Disaster Management Committee and donor agency (if the donor provided relief fund).
- Ensure that due to hazard the people who were displaced can come back to their previous places; in this case, dispute (if there is any) regarding the land of the displaced people should not be an obstacle to come back to the peace after disaster.
- Counsel the psycho-traumatized people due to hazard with the support of the community and experts.
- Ensure that the injured people are getting fair and just treatment from health service providers, if necessary; committee can recommend for Upazila and District level assistance.
- Arrange a lesson learning session with the participation of concern institutions and individuals on learning from during hazard and after hazard.
- Coordinate the disaster relevant activities of different departments at Upazila level.
- In addition to the above follow Standing Orders on disaster management related issues and instant orders of appropriate authority.

Union Disaster Management Committee

Responsibilities of Union Disaster Management Committee:

Defining the Risk Environment

- Ensure that local people are kept informed and capable of taking practical measures for the reduction of risk at household and community level and also disseminate the success stories of reducing disaster risks at household and community level widely among the local people.
- Arrange training and workshops on regular basis on disaster issues and keep the Upazila Disaster Management Committee informed.
- Hold a hazard, vulnerability and risk analysis at Union level.
- Identify the most vulnerable or people at high risk by sex, age, physical ability, social status, occupation and economic status.

- Prepare a short, medium and long term vulnerability reduction and capacity building action plan for the identified high-risk people with active participation of the people at risk.
- Facilitate coordination among the development agencies and service providers through quarterly coordination meeting and take decision about implementation of the action plan for risk reduction as well as review the progress of the risk reduction action plan.
- Raise fund at local level to implement the risk reduction action plan.
- Update the progress of implementation of action plan and other activities and report to the Upazila Disaster Management Committee
- Prepare a Comprehensive Disaster Management Action Plan with a view to enabling local people, Union authority and local organizations to increase the capacity of poor and vulnerable people to enhance their income and other assets for risk reduction and also to take up security arrangement in the perspective of imminent danger related warnings or occurrence of disaster including the issues already mentioned under this paragraph.
- Take steps for capacity building of relevant persons and institutions, union authority, volunteers and people in a way that they can forecast and publicize warnings relating to hazards (cyclones, storms, floods, droughts, tidal surge, tsunami, over-rainfall under-rainfall, water logging, high tide, cold wave etc.) in the quickest possible manner and also inform people about their responsibilities of saving their lives and properties from disaster.
- Build the capacity of local institutions, volunteers and people in a way that they can help and motivate people to adopt disaster (cyclone/ tidal surge/ Tsunami/ Earthquake/ Tornado/ Flood/ Water Logging/ Salinity/ High Tide/ Cold Wave) resistant housing features.
- Build the capacity of local institutions, volunteers and people in a way that they can help and motivate people to adapt with disaster resistant agriculture and other livelihood options.

Managing the Risk Environment

- Determine specific safe centre/shelter where the population of certain areas will go at the time of need and assign responsibilities to different persons for various services and securities at the shelter/centre.
- Ensure supply of safe water and if necessary other services from specific points near the shelter/centre with the help of Upazila authority.
- Train the students, youths, local club members and volunteers on community based water purification technology. So that during disaster, they can supply water-purifying technology during emergencies in their community until external support reaches the high-risk people.
- Plan for preparing some community Based High land, which can be used as play ground in normal time and can be used as shelter place during disaster period and where livestock, poultry, emergency food, kerosene, lamp, candle, matches, fuel wood, radio and other important resources could be shifted along with the people.
- Stock emergency life-saving medicines at union level (Union Health and Family Welfare Center) for use during disaster.

- Prepare relevant plans for rescue, primary relief operation, and restoration of communication with Upazila Headquarters and local arrangement for rehabilitation of severely affected families.
- Arrange for rehearsals or drills on the dissemination of warning signals/forecasts, evacuation, rescue and primary relief operations (if necessary committee can seek assistance from Upazila Authority).

Responding to the Threat Environment

Warning Period

- Disseminate warning and security messages, evacuate the vulnerable people as per evacuation plan, cast an eye on the last moment check of rescue team and its preparation and take effective measure to minimize gap as a high priority.
- Engage trained institutions, volunteers and people in field for effective and rapid dissemination of early warning messages to the vulnerable community and monitor the whole security and warning message dissemination activities.
- Visit the pre-determined emergency shelter center and be sure that for essential services and security different organizations and volunteers are alert and ready to provide services.
- Review the practicality of water supply sources nearby the shelter/center and if necessary, fill the gaps that people can get safe water supply during disaster from these water sources.
- On a minimum scale, conduct a mock or drill to ensure that the trained students, youths, clubs and volunteers can prepare water-purification technology at their locality and can supply to the victims during emergencies and to monitor that adequate materials are ready to prepare such water-purification technology.
- Review the stock of life saving medicines at union level and evaluate its adequacy for supply among the victims during disaster.
- To prepare a checklist of emergency works to-do during disaster and be sure that appropriate materials and people are available for use.

During Hazard Onset

- Organize emergency rescue work by using locally available facilities in times of need and if directed assist others in rescue work.
- Prepare water purification technology (tablet) at local level with the help of trained students, youths, clubs and volunteers; and distribute those products at emergency among the people at risk before being caught by diarrhea or other water borne diseases.
- Coordinate all relief activities (GO-NGO) in the union in a manner that social justice (on the basis of who needs, what is needed and how much is needed) is ensured in relief distribution;
- Protect people from upset creating rumor during hazard period by providing them correct and timely information.
- During hazard ensure security of the local and outside relief workers.

- Ensure the security of women, children and person with disability during hazard.
- Take necessary actions to protect environmental degradation by quick funeral of corpses and burying the animal dead bodies.
- Help people to transfer their essential resources (livestock, poultry, essential food, kerosene, candle, matches, fuel, radio, etc.) to safe places.

Post-Hazard Period

- Collect statistics of loss incurred in disaster in the light of guidelines of Disaster Management Bureau and Upazila Disaster Management Committee and send the same to Upazila Disaster Management Committee.
- Take steps for distribution of articles for rehabilitation received locally or from Relief and Rehabilitation Directorate and from any other source following the guidelines from Disaster Management Bureau and Upazila Disaster Management Committee.
- Send accounts of materials received to Upazila Disaster Management Committee and donor agency (if the donor provided relief fund).
- Ensure that due to hazard the people who were displaced can come back to their previous place; in this case, dispute (if any) regarding the land of the displaced people should not be an obstacle to come back to the place after disaster.
- Counsel the psycho traumatic people due to hazard with the support of community and experts.
- Ensure that the injured people are getting fair and just treatment from health service providers, if necessary; committee can recommend for Upazila and District level assistance.
- Arrange a lesson learning session with the participation of concern institutions and individuals on learning from during hazard and after hazard.
- In addition to the above follow Standing Orders on disaster management related issues and instant orders of appropriate authority

Annex 7

ROLES AND RESPONSIBILITIES OF MINISTRIES/DIVISIONS/ DIRECTORATES/ DEPARTMENTS/ AUTONOMOUS BODIES

General Roles and Responsibilities which are common to all Ministries, Divisions, Directorates, Departments and Autonomous Bodies

(The Following is an indicative list of responsibilities subject to approval of the revised SOD. The provisions of SOD stand valid at any point of time)

Defining the Risk Environment

- Ensure that disaster risk reduction approaches are well considered during planning and implementation of development programmes.
- Mainstream disaster management principles and practices within national development planning processes.
- Coordinate Ministry activities to consider disaster risk reduction issues.
- Monitor risk reduction activities and programs and keep the National Disaster Management Council informed of their progress.
- Develop policy related to disaster risk reduction within the Ministry.
- Develop Ministry programs for research and hazard analysis at national and sub-national levels.
- Nominate a person to act as liaison officer for all matters related to disaster risk management.

Managing the Risk Environment

- Undertake disaster risk analysis processes to identify and assess risks which may affect Ministry services.
- Prepare disaster risk management plans, to include business continuity and operational response relief and recovery.
- Undertake risk reduction activities, consistence with identified risks and treatment options developed from formal hazard and risk analysis processes.
- Develop and maintain an EOC suitable for managing the activities of the Ministry during activation, response, recovery and rehabilitation operations.
- Establish and maintain a system of liaison officers available for contact on a 24 hour/365 day basis.
- Ensure the Ministry is prepared and capable of activation for response, relief and recovery operations.
- Conduct training and awareness for staff on disaster management, and that staff have the appropriate skills and abilities to effectively participate in disaster risk management activities.
- Undertake preparation activities prior to flood/cyclone season to ensure Ministry preparedness systems and procedures are adequate and capable.
- Review Ministry contingency plans periodically but not less than once per year, to ensure adequacy and consistency with lessons learnt from previous response, relief and recovery operations.

- Establish and maintain inter-Ministry communications systems for response, relief and recovery operations, and to develop a system of information reporting and dissemination within the Ministry and to other key external stakeholders.
- Actively participate in committees at national and sub-national levels, including activities and programs related to disaster risk reduction and emergency operations planning.

Responding to the Threat Environment

- Ensure intra-Ministry coordination of support during response, relief and recovery operations.
- Support inter-Ministry coordination, including active participation in committees at all levels.
- Ensure the Ministry has established and maintains communications with the Disaster Management Information Centre (DMIC).
- Activate the Ministry EOC and ensure continuous contact within the Ministry at all levels and with external stakeholders.
- Ensure warnings are disseminated within the Ministry, at all levels
- Take all necessary steps to activate Ministry resources in support of response, relief and recovery operations.
- Undertake specific responsibilities as per these standing orders.
- Ensure staff at sub-national level undertakes actions to support response, relief and recovery operations, including attending disaster management committee meetings as necessary.
- Ensure that information is properly managed, including reporting at various levels, and to the DMIC.
- Ensure the continuous delivery of Ministry services to affected areas.
- Support response, relief and recovery operations as requested.
- Prepare situations reports and ensure that reports are properly disseminated.
- Conduct damage assessment; prepare damage assessment reports including costing of repair and reconstruction of damaged infrastructure and the re-establishment of government services (as appropriate to Ministries).
- Conduct post hazard impact assessment, and where necessary prepare reports on the affects to civil society, industry or vulnerable groups.
- Where necessary, reallocate Ministry resources, including staff, from non affected areas to affected areas to support relief, recovery and rehabilitation operations or to ensure that Ministry services are maintained.

Annex 8

GLOSSARY OF TERMS

Adaptation- means the adjustment in natural or human systems in response to actual or expected climactic stimuli or their effects, which moderates harm and exploits beneficial opportunities.

Climate Change- means a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.

Disaster – means a serious disruption to a community caused by the impact of an event which requires a significant coordinated response by the Government and other entities to help the community to recover from the disruption. Disasters are usually associated with severe damage to infrastructure and utilities, death, injuries and homelessness, and can be widespread or contained within a particular sector or sub sector.

Disaster Area – means a district, city corporation, upazila, municipality, union or any part of Bangladesh declared to be a Disaster Area under this Act.

Disaster Management - means arrangements for managing the potential adverse risks and includes defining the risk environment, managing the risk environment and responding to the threat environment.

Emergency Response Operations – means activities undertaken immediately before, during or after an event which help to reduce loss of life, illness or injury to humans, property loss or damage, or damage to the environment. It may include, for example, planning, co-ordination and implementation of measures to lesson the effects of a disaster upon members of the public or to protect any property of the state.

Hazard – means an event which has the potential to cause a disaster, and can be either natural (e.g. flood, cyclone, tsunami), human induced (e.g. chemical spill, fire) or technological in nature (e.g. nuclear generator failure). Hazards are not by definition disasters.

- a. A cyclone, earthquake, flood, storm tide, tornado, tsunami, river erosion, drought or other natural happening.
- b. An explosion or fire, a chemical, fuel or oil spill, or a gas leak.
- c. An infestation, plague or epidemic.
- d. A failure of, or the disruption to, an essential service or infrastructure.

Mitigation – means the process of implementing measures that eliminate or significantly reduce the risks associated with potential hazards.

Natural Disaster – is a disaster (see definition of disaster) caused by the impact of a natural hazard.

Preparedness – means measures that are designed to ensure that communities will have the knowledge and understanding of their risk environment to enable them to better cope with potential hazard impacts.

Prevention – means activities undertaken to reduce or eliminate risk.

Relief – means money, food, medicine, shelter, clothes or any other assistance public or private provided to people and communities to overcome the effects of a disaster event.

Reconstruction – means the process of restoring affected infrastructure to its pre event condition.

Recovery - means measures that are designed to develop the systems required to support affected communities in the reconstruction of their physical infrastructure and restoration of their emotional, economic and physical well being.

Risk – means the measure of the likelihood of harmful consequences arising from the interaction of hazards, vulnerable elements and the environment.

Risk Reduction – means the systematic process of defining and re-defining risk and managing risk.

Standing Orders on Disaster – means standing orders issued by the National Disaster Management Council under the direction of the Government.

Vulnerability – means a measurement of elements at risk that are exposed to specific hazards both natural or human induced, and that have a low level of resilience to cope with the impacts of that hazard or characteristics of that hazard.

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Government of the People's Republic of Bangladesh
Disaster Management Act
(Act No.- of 2007)

Whereas the Government of the People's Republic of Bangladesh thinks it reasonable and needful to make an Act for the protection of life and property and to manage long term risks from the effect of hazards both natural, technological and human induced, and to respond to and recover from a disaster event,

So an Act is made as below:

The main objectives of this Act are as follows:

- (a) To help communities to:
 - (i) mitigate the potential adverse effects of hazard events,
 - (ii) prepare for managing the effects of a disaster event,
 - (iii) effectively respond to and recover from a disaster or an emergency situation, and,
 - (iv) adapt to adverse effects of climate change.
- (b) To provide for effective disaster management for Bangladesh.
- (c) To establish an institutional framework for disaster management.
- (d) To establish risk reduction as a core element of disaster management.

Part 1: Preliminary

1. Short title, instruction and execution:

- 1) This Act may be called “The Disaster Management Act, 200?”.
- 2) It extends throughout and operates in the whole of Bangladesh.
- 3) It shall come into force on such date as the Government may, by notification in the official gazette, appoint.
- 4) Notwithstanding anything contained to the contrary in any other law for the time being in force, the provisions of this Act shall have effect.

2. Definitions:

Definitions define particular words used in this Act.

- I. **Approved form** – means the form prescribed by the Government of the People’s Republic of Bangladesh with a gazette of notification.
- II. **Adaptation**- means the adjustment in natural or human systems in response to actual or expected climactic stimuli or their effects, which moderates harm and exploits beneficial opportunities.
- III. **Body** – means Government office, Statutory Authority, Non-Government Organisation, Development Agency, Development Aide Agency, Voluntary Organization, Professional Organization, Local Government, Committee or any other properly constituted group.
- IV. **Chairperson** – means the person appointed as chairperson of a committee or council constituted under this Act and may, include but not limited to;
 - a. National Disaster Management Council
 - b. Inter-Ministerial Disaster Management Co-Ordination Committee
 - c. District Disaster Management Committee
 - d. City Corporation Disaster Management Committee
 - e. Upazila Disaster Management Committee
 - f. Pourashava Disaster Management Committee
 - g. Union Disaster Management Committee
- V. **Climate Change**- means a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.
- VI. **Committee** – means a body formed under this Act for the purpose of undertaking certain tasks of disaster management. Such bodies may include, but are not limited to;
 - a. Inter-Ministerial Disaster Management Co-ordination Committee (IDMCC)
 - b. Disaster Management Advisory Committee (DMAC)
 - c. District Disaster Management Committee (DDMC)
 - d. City Corporation Disaster Management Committee (CCDMC)
 - e. Upazila Disaster Management Committee (UpDMC)
 - f. Pourashave Disaster Management Committee (PDMC)
 - g. Union Council Disaster Management Committee (UnDMC)
 - h. any other committee formed by the Government in this context
- VII. **Council** – means the National Disaster Management Council.
- VIII. **DM/DC** – means the District Magistrate/Deputy Commissioner within the meaning of the section 10 of the Code of Criminal Procedure, 1898.
- IX. **Disaster** – means a serious disruption to a community caused by the impact of an event which requires a significant coordinated response by the Government and other entities

to help the community to recover from the disruption. Disasters are usually associated with severe damage to infrastructure and utilities, death, injuries and homelessness, and can be widespread or contained within a particular sector or sub sector.

- X. **Disaster Area** – means a district, city corporation, upazila, municipality, union or any part of Bangladesh declared to be a Disaster Area under this Act.
- XI. **Disaster Management** - means arrangements for managing the potential adverse risks and includes defining the risk environment, managing the risk environment and responding to the threat environment.
- XII. **Emergency Response Operations** – means activities undertaken immediately before, during or after an event which help to reduce loss of life, illness or injury to humans, property loss or damage, or damage to the environment. It may include, for example, planning, co-ordination and implementation of measures to lesson the effects of a disaster upon members of the public or to protect any property of the state.
- XIII. **Essential Services** – means the services declared essential by the Government and may include but is not limited to electricity supply, water, telecommunications, sewerage, fuel, gas and transportation.
- XIV. **Event** - means any of the following hazards impacting on a community or elements of a community:
 - a. A cyclone, earthquake, flood, storm tide, tornado, tsunami, river erosion, drought or other natural happening.
 - b. An explosion or fire, a chemical, fuel or oil spill, or a gas leak.
 - c. An infestation, plague or epidemic.
 - d. A failure of, or the disruption to, an essential service or infrastructure.
 - e. Another event similar to an event mentioned in paragraphs (a) to (d).

The event may be natural, technological or caused by human acts or omissions.
- XV. **Government** –means the Government of the People’s Republic of Bangladesh.
- XVI. **Hazard** – means an event which has the potential to cause a disaster, and can be either natural (e.g. flood, cyclone, tsunami), human induced (e.g. chemical spill, fire) or technological in nature (e.g. nuclear generator failure). Hazards are not by definition disasters.
- XVII. **Mitigation** – means the process of implementing measures that eliminate or significantly reduce the risks associated with potential hazards.
- XVIII. **Natural Disaster** –is a disaster (see definition of disaster) caused by the impact of a natural hazard.

- XIX. **Prime Minister** – means the Prime Minister of the People’s Republic of Bangladesh.
- XX. **Preparedness** – means measures that are designed to ensure that communities will have the knowledge and understanding of their risk environment to enable them to better cope with potential hazard impacts.
- XXI. **President** – means the president of the People’s Republic of Bangladesh.
- XXII. **Prevention** – means activities undertaken to reduce or eliminate risk.
- XXIII. **Relief** – means money, food, medicine, shelter, clothes or any other assistance public or private provided to people and communities to overcome the effects of a disaster event.
- XXIV. **Reconstruction** – means the process of restoring affected infrastructure to its pre event condition.
- XXV. **Recovery** - means measures that are designed to develop the systems required to support affected communities in the reconstruction of their physical infrastructure and restoration of their emotional, economic and physical well being.
- XXVI. **Resources** –means but is not limited to food, manpower, vehicles, machinery, plant, equipment, aircraft, transport, seeds and other agricultural supplies, live-stock, medicines and medical equipment, water, construction material, shelter, accommodation, and any other goods, materials services or technical skills needed for the effective functioning of a community.
- XXVII. **Risk** – means the measure of the likelihood of harmful consequences arising from the interaction of hazards, vulnerable elements and the environment.
- XXVIII. **Risk Reduction** – means the systematic process of defining and re-defining risk and managing risk.
- XXIX. **Standing Orders for Disaster Management** – means standing orders issued by the National Disaster Management Council under the direction of the Government.
- XXX. **Statutory Service** – means a body constituted by or under an Act of the State and whose role usually includes disaster management functions.
- XXXI. **Vulnerability** – means an measurement of elements at risk that are exposed to specific hazards both natural or human induced, and that have a low level of resilience to cope with the impacts of that hazard or characteristics of that hazard.
- XXXII. **Water Vessel** – means any type of ship, boat, tug-boat, ferry, launch, speed-boat, fishing boat or other vessel used for transportation of passengers or cargo and goods.

Part 2: Administration

3. **Administration of Act:** This Act will be administered by the Government or by authorized bodies constituted or officers appointed by the Government under this Act.

Part 3: Organization /Committee

4. National Level Committees:

- 1) There shall be established a national council and national committees for the purpose of formulating strategic policy, and for the guidance, supervision and control of field level committees. While such committees are permanently established under this Act, the Government may if need be constitute other committees by official Gazette Notification. The Council and Committees formed under this Act include the following:
 - a. **National Disaster Management Council:** There shall be a National Disaster Management Council at the national level.
 - b. **Inter-ministerial Disaster Management Co-ordination Committee:** There shall be an Inter-ministerial Disaster Management Co-ordination Committee at the national level.
 - c. **Disaster Management Advisory Committee:** There shall be a Disaster Management Advisory Committee at the national level.

5 Functions of the National Level Committees:

- 1) The functions of the national level council and committees shall be prescribed in Standing Orders for Disaster Management.
- 2) While the specific functions of committees shall be prescribed in Standing Orders, the general functions of the council and committees at the National level shall include;
 - a. to develop strategic policy directions for disaster management.
 - b. to ensure that effective risk reduction is implemented.
 - c. to ensure that arrangements between the national and field levels for matters relating to effective risk reduction and emergency operations are established and maintained.
 - d. to identify resources that may be used for emergency operations.
 - e. to ensure effective coordination across government, Non Government Organisations, civil society and private in activities and programs related to risk reduction and during emergency operations.
 - f. to provide reports and make recommendations to the Government about matters relating to risk reduction and emergency operations.

- g. to prepare documents pertaining to risk reduction and emergency operations which should include but are not limited to a National Disaster Risk Management Policy, a National Disaster Management Plan and Standing Orders for Disaster Management and other documents deemed necessary within the strategic policy directions as described in paragraph (a), and.
- h. to perform other functions as directed by the Government.

6 Membership:

- 1) The Government will appoint appropriately qualified persons to act as members of the council and committees. The council and committees shall consist of;
 - a. A member duly appointed as chairperson.
 - b. A member to act as deputy chairperson.
 - c. A number of persons as members of the committee by nature of their position or appointment, and.
 - d. A person appointed to perform the function of Member-Secretary to the committee.
- 2) Membership of each council or committees will be prescribed in Standing Orders for Disaster Management.

7 Chairperson and Deputy Chairperson:

- 1) For each council and committee, the following are to be appointed;
 - a. a person as chairperson of the Committee or Council, and.
 - b. a person as deputy chairperson of the Committee or Council
- 2) A person may be appointed as the chairperson or deputy chairperson at the same time the person is a member of the committee.
- 3) The deputy chairperson is to act as the chairperson;
 - a. during a vacancy in the office of chairperson, and.
 - b. during all periods when the chairperson is absent from duty or for another reason cannot perform the functions of the office.

8 Functions of Member-Secretary:

- 1) A member of the council or committee shall act as the Member-Secretary for the council or committee and shall manage and coordinate the business of the council or committee, and shall support the council or committee in the performance of their functions. The Member-Secretary shall have the following functions;

- a. to ensure the functioning of the council or committee is effective and efficient.
- b. to ensure regular meetings of the council or committee are conducted.
- c. to ensure directions and policies of the council or committee are carried out.
- d. to provide secretarial and administrative support for the efficient functioning of the council or committee.
- e. to ensure proper records of proceedings are maintained for all council or committee meetings, to issue notice of meetings, meeting agenda and to ensure the provision of papers or supporting documentation for consideration by members prior to the conduct of a meeting.
- f. to support the chairperson in the conduct of meetings.
- g. to prepare agenda items and documentation for consideration by the members, and.
- h. to undertake other duties as directed by the chairperson.

9 **Field Level Management Committees:**

- 1) There shall be established at District, City Corporation, Upazila, Pourashava and Union level disaster management committees for the implementation of risk reduction and emergency operations policy and practice at the field level. While such committees are permanently established under this Act, the Government may constitute by official gazette notification, other committees or bodies as it sees necessary for effective disaster management at the field level. The following committees are established;
 - a. **District Disaster Management Committee:**
The Government may constitute District Disaster Management Committees at District level.
 - b. **City Corporation Disaster Management Committee:**
The Government may constitute City Corporation Disaster Management Committees at city corporation level.
 - c. **Upazila Disaster Management Committee:**
The Government may constitute Upazila Disaster Management Committees at Upazila level.
 - d. **Pourashava Disaster Management Committee:**
The Government may constitute Pourashava Disaster Management Committees at Pourashava level.
 - e. **Union Disaster Management Committee:**
The Government may constitute Union Disaster Management Committees at Union level.

10. Functions of Field Level Committees:

- 1) The functions of field level committees shall be prescribed in Standing Orders for Disaster Management.
- 2) Notwithstanding specific roles and responsibilities for field level committees established in Standing Orders for Disaster Management, the following are the general functions of Field level committees;
 - a. to ensure that risk reduction and emergency operations at the Field level are consistent with national strategic policy.
 - b. to undertake effective risk reduction within the committee's particular area of responsibility including the preparation of community risk assessments and risk reduction plans, and to regularly review and assess the effectiveness of plans.
 - c. to ensure that any relevant decisions and policies made by the National committees are implemented.
 - d. to ensure that the community is aware of ways of mitigating the adverse effects of an event, and preparing for, responding to and recovering from a disaster.
 - e. To ensure the community is aware of long term risks of climate change and to be able to adapt to the adverse effects.
 - f. to manage emergency operations in the area under policies and procedures determined by National level committees.
 - g. to coordinate resources and services to disaster affected communities.
 - h. to identify local level resources that may be used during emergency operations.
 - i. to make plans for the allocation and coordination for the use of resources mentioned in paragraph (f) and (g).
 - j. to establish and maintain communications systems for use during emergency operations.
 - k. to ensure that information about the event or a disaster is promptly communicated to the National level and within the field level, and.
 - l. to perform any other function as given from the National level committee or other body constituted under this Act.

11. Membership:

- 1) Field level committees established under this Act shall be constituted within the following general guidelines for membership;
 - a. Chairperson.

- b. Deputy chairperson.
- c. Where appropriate representation from Government Ministries or Divisions.
- d. Where appropriate representation from the community.
- e. Where appropriate representation from Non Government Organisations.
- f. Where appropriate representation from community groups or institutions, and.
- g. Member-Secretary.

12. Functions of Member-Secretary:

- 1) The Member-Secretary shall manage and coordinate the business of the committee and support the committee members in the performance of the committee' functions. The Member-Secretary shall have the following functions;
 - a. to advise the committee about matters relating to disaster management that are relevant to the committee.
 - b. to regularly review and assess disaster management plans and to ensure the plans are consistent with any policy or guidelines.
 - c. to advise the Chairperson and committee during emergency operations.
 - d. to ensure the effectiveness and efficiency of the committee.
 - e. to provide secretarial and administrative support for the efficient functioning of the committee.
 - f. to ensure proper records of proceedings are maintained for all committee meetings, to issue notice of meetings, meeting agenda and to ensure the provision of papers or supporting documentation for consideration by members prior to the conduct of a meeting.
 - g. to verify that decisions of the committee are executed in a timely and effective manner.
 - h. to support the chairperson in the conduct of meetings.
 - i. to prepare agenda items and documentation for consideration by the members, and.
 - j. to undertake other duties as directed by the chairperson.

13. Business and Meetings of Committees:

1) Conduct of business

A disaster management council or committee, subject to any other direction or condition made under this Act, may conduct its business, including its meetings, in the way it considers appropriate.

2) Times and places of meetings

- a. Disaster management committees and councils meetings, at the national and field level, shall be held as prescribed through the Standing Orders for

Disaster Management, but shall be at least once in every six months at a time and place decided by the chairperson of the council or committee.

- b. However, the chairperson of committees shall call a meeting if directed to do so by the President, or the Government, or if requested by at least one half of the members of the committee.

3) Presiding over meetings

- a. The chairperson of the council or committee is to preside at all meetings of the council or committee at which the chairperson is present, or;
- b. If the chairperson is absent from a meeting of the council or committee, but the deputy chairperson is present, the deputy chairperson is to preside.
- c. If the chairperson and deputy chairperson are both absent from a meeting then a member of the council or committee nominated by the chairperson is to preside, or;
- d. If the chairperson does not nominate a member under paragraph(c) a member nominated by the deputy chairperson is to preside, or;
- e. If the offices of chairperson and deputy chairperson are vacant, the member of the council or committee chosen by the government is to preside.

4) Conduct of meetings

- a. The council or committee may hold meetings, or allow members of the council or committee to take part in its meetings, by using any method that reasonably allows members to hear and take part in discussions as they happen.
- b. A member who takes part in a meeting of the council or committee under subsection (a) is to be taken as present at the meeting.
- c. A resolution is validly made by the council or committee, even if it is not passed at a meeting of the council or committee, if;
 - i. A majority of the members at the council or committee gives written agreement to the resolution, and.
 - ii. Notice of the resolution is given under procedures approved by the council or committee.

5) Record of meetings

- a. The council or committees shall keep minutes of its meetings, properly recorded and accepted by resolution by a majority of members.
- b. Minutes of meetings shall be made available to persons duly authorized to inspect and assess the functions and proceedings of the council or committees.
- c. Minutes of the meetings of the council or committees shall be authorized by written signature by the chairperson, deputy chairperson and executive officer of the council or committee.
- d. Minutes of the meeting shall contain an accurate record of the conduct of the meeting, including but not limited to the resolutions of the meeting and assigned actions and timeframes for the completion of such actions.

14. Annual report:

- 1) As soon as practicable at the end of each financial year, each committee shall prepare and provide to the next higher committee a written report about disaster management within the committee's area of responsibility, and generally about the functions and activities of the committee.
- 2) The report shall include at least the following information;
 - a. Information about activities undertaken during the financial year to maintain or enhance risk reduction within the committee's area of responsibility.
 - b. Details about emergency operations performed during the financial year.
 - c. Information about the conduct of meetings and functions of the committee
 - d. Information about priorities for risk reduction within the committee's area of responsibility, and.
 - e. Other matters about disaster management that the committee considers appropriate.

15. Giving Directions:

1) President may give directions

- a. The President may give the Council or Committees a written direction about the performance of the Council or Committee's functions if satisfied that giving directions is necessary to ensure that the functions are performed appropriately.
- b. The council or committee shall comply with the direction.

- c. However, before giving the direction, the President shall consult with the chairperson of the council or committee.

2) The Chairperson of the Council may give directions

- a. The chairperson of the Council may give a committee, at the national or field level, written direction about the performance of the committee's functions if satisfied that giving direction is necessary to ensure the functions are performed appropriately.
- b. However, before giving the direction, the chairperson may consult with the chairperson of the committee, or committees to which the direction is given.

3) The Deputy Commissioner may give direction

- a. A Deputy Commissioner for a District Disaster Management Committee may give a local level committee (Upazila, Pourashava or Union) within the District a written direction about the performance of the committee's functions if satisfied that giving direction is necessary to ensure the functions are performed appropriately.
- b. The committee or committees to which the written direction is given shall comply with the direction.
- c. However, before giving the direction, the Deputy Commissioner may consult with the chairperson/s of the local level committee/s to which the direction is given.

16. Other Committees Established:

- 1) The Chairperson of the Council may, in consultation with and by agreement of members of the Council, establish committees, other than those constituted under this Act, to perform any of the following functions;
 - a. To help the council or committees perform their functions
 - b. To advise and make recommendations to the Council or any other committee about matters relating to disaster management referred by the Council or a member of the council.
 - c. To perform other functions incidental to a function mentioned in sub paragraph (1) and (2)
- 2) The Chairperson of the Council may, in consultation with and by agreement of members of the Council, appoint an individual to a committee if satisfied the individual has the necessary expertise or experience to assist the committee to perform its functions.

- 3) A committee established under this section may conduct its business, including its meetings, in the way it considers appropriate. However, it shall maintain proper minutes of meetings and conform to the requirements for managing the business of the committee and conducts of meetings as specified in section 13 of this Act

Part 4: Disaster Management Plans and Guidelines

17. Disaster Management Plans:

1) National Plan for Disaster Management

- a. The Council shall approve a plan (“National Disaster Management Plan”) for disaster management in Bangladesh.
- b. The plan shall include matters as required by the Council, but shall make provision for the following;
 - i. The strategic policy for disaster risk management
 - ii. The roles and responsibilities of entities involved in emergency operations and risk reduction
 - iii. The coordination of emergency operations and risk reduction undertaken by entities mentioned in paragraph (b)
 - iv. Priorities for risk reduction
 - v. Matters stated in disaster management guidelines as matters to be included in the plan, and.
 - vi. Other matters about disaster management the Council considers appropriate or are prescribed to the Council.
- c. Requirements to plan

The National Disaster Management Plan shall be considered with the disaster management guidelines prescribed in Section 18.

d. Reviewing and Revision

- i. The Council may review and revise the National Disaster Management Plan when the Council considers it appropriate.
- ii. If the Council revises the National Disaster Management Plan, the chairperson shall provide a copy to each other National level committee, to each Ministry of Government, and to each other District Disaster Management Committee or City Corporation Disaster Management Committee.

- iii. The Chairperson shall also make available the National Disaster Management Plan to civil society, Non Government Organisations, the business sector and regional and international organizations or persons.

2) Field Level Plan for disaster management

- a. Field level committees shall prepare a plan (the “Disaster Management Plan”) for disaster management for the area of responsibility of the committee.
- b. The plan shall include provision for the following-
 - i. The strategic policy framework for disaster management as it applies to disaster management within the area of responsibility of the committee.
 - ii. The roles and responsibilities of entities involved in emergency operations and risk reduction within the area of responsibility of the committee.
 - iii. The coordination of emergency operations and activities relating to disaster management performed by entities mentioned in sub-sub-section (ii).
 - iv. Events that are likely to happen within the area of responsibility of the committee.
 - v. Priorities for risk reduction within the area of responsibility of the committee.
 - vi. Matters stated in the disaster management guidelines as matters to be included in the plan, and.
 - vii. Other matters about disaster management within the area of responsibility of the committee which the committee considers appropriate or are prescribed by a National level committee.
- c. Requirements to plan

The Disaster Management Plan shall be considered with the disaster management guidelines prescribed in Section 18.
- d. Reviewing and Revision
 - i. The committee may review and revise its disaster management plan when the committee considers it appropriate.
 - ii. However, the committee shall review the effectiveness of the plan at least once per year.
 - iii. The Chairperson of the committee shall make available copies of the disaster management plan to the next higher level disaster

management committee, and where appropriate the next lower level disaster management committee, or any other body or entity the chairperson considers appropriate to receive the plan.

- iv. The Chairman shall also make available a copy of the plan for inspection to members of the public and other persons or bodies not mentioned in sub section c.

18. Guidelines for Disaster Management Plans:

- 1) The council may prepare guidelines to inform committees at the national and Field level, and other relevant bodies about matters relating to any of the following;
 - a. the preparation of disaster management plans
 - b. the matters to be included in a disaster management plan
 - c. other matters relating to disaster management, emergency operations or
 - d. other matters about the operation, coordination or functions of committees or other entities or bodies relating to disaster management.

2) Review and Revision

Guidelines prepared under sub section 1) shall be periodically reviewed and where appropriate revised. Review and revision of guidelines is to be when the Council considers it appropriate, or by recommendation of a National level committee to the Council.

3) Guidelines to be made available

The Chairperson of the Council shall make the guidelines available to each National level committee, and as appropriate, field level committees, Non Government Organisations, Ministries and Divisions of Government, and any other body or organization.

Part 5: Declaration of the State of Disaster and Area of Disaster

19 Declaration by the President of a State of Disaster:

- 1) The President shall declare by proclamation a State of Disaster for the whole of the State, or part of the State or area(s) specified in the proclamation, if satisfied;
 - a. An event has happened, is happening or is likely to happen.
 - b. The Inter-Ministerial Disaster Management Co-ordination Committee or its Chairperson conveys that the magnitude or threatened magnitude of the event or impending event is or is likely to be so great in extent or severity in a district or part of a district or more than one district or the whole of

Bangladesh that additional measures are necessary or desirable to enable the community to cope with the event.

- c. That the impact of the event on communities is likely to be beyond the resources or means normally available at the disposal to the statutory services.
- d. That execution of the powers prescribed in this Act is necessary to prevent or minimize any of the following;
 - i. Loss of human life.
 - ii. Illness or injury to humans.
 - iii. Property loss or damage.
 - iv. Damage to the environment.

20 Responsibility of the Chairperson of the Inter-Ministerial Disaster Management Co-ordination Committee:

- 1) If a declaration of a State Of Disaster is made in pursuant to the section 19, the Chairperson of the Inter-Ministerial Disaster Management Co-ordination Committee;
 - a. Shall institute such measures as are in accordance with the National Disaster Management Plan and Standing Orders for Disaster Management.
 - b. May take such other action as the Council considers appropriate to counter the effects of the disaster.
 - c. Direct and coordinate the use of all available resources within such area as the case may be necessary to counter the effects of the disaster.
- 2) Upon declaration of State of Disaster the Government may grant reasonable exemption on revenue, education or any other field or sanction grant for the disaster area for a certain period of time.

21. Form and notice of declaration:

- 1) A declaration of a State of Disaster under section 19 shall be the proclamation in an approved form;
 - a. The approved form shall include provision for;
 - i. The time and date of the declaration, and.
 - ii. The declared area for the State of Disaster.

22. Duration:

- 1) A State of Disaster:
 - a. Starts when it is declared by proclamation under Section 19.

- b. Unless any of the following happens, ends 7 days after the day that it is declared;
 - i. The President ends the declaration of a State of Disaster sooner.
 - ii. The President extends the period of the declaration beyond the end of 7 days.

23. Extending a declaration of a State of Disaster:

A proclamation may extend, or from time to time further extend, the period of a State of Disaster. A proclamation extending the period of the State of Disaster expires 14 days after the State of Disaster is declared unless it is sooner repealed or it expires under Section 22.

24. Ending a declaration of a State of Disaster:

- 1) As soon as the President is satisfied that exercise of the powers that are available under the declaration of a State of Disaster is no longer necessary, the President shall end the State of Disaster. If the President ends the State of Disaster, the President shall;
 - a. Make a written record of the time and date the State of Disaster ended.
 - b. Immediately inform the Chairperson of the Inter-Ministerial Disaster Management Co-ordination Committee and the relevant Deputy Commissioners of the ending of the declaration of the State of Disaster.
- 2) The President shall as soon as practicable give notice of the ending of a State of Disaster by proclamation.

25. Declaration of an Area of Disaster by the Chairperson of the Inter-Ministerial Disaster Management Co-ordination Committee:

- 1) If the magnitude of an event, or an impending event, goes, or may go, beyond the control and limit of a District Disaster Management Committee, the Chairperson of the Inter-Ministerial Disaster Management Co-ordination Committee may constitute temporary disaster area(s) for the purpose of providing the affected Districts with additional resources.
- 2) The declaration of an Area of Disaster is to be made in the approved form and through Gazette Notification under this Act.
- 3) The declaration of an Area of Disaster may assign responsibilities to the area(s) naming them with definite name.
- 4) The Area of Disaster may be constituted with a part or whole of a division or whole or part of one or more areas of local Government.

26. Form and notice of declaration of an Area of Disaster:

- 1) A declaration of an Area of Disaster under section 25 shall be the proclamation in an approved form which makes provision for;
 - a. The time and date of the declaration, and
 - b. The declared area for the Area of Disaster

27. Duration of a Declaration of an Area of Disaster:

- 1) The declaration of an Area of Disaster:
 - a. Starts when it is declared by proclamation under Section 25.
 - b. Unless any of the following happens, ends 7 days after the day that it is declared;
 - i. The Chairperson of the Inter-Ministerial Disaster Management Co-ordination Committee in consultation and agreement of the Council, sooner ends the declaration of an Area of Disaster.
 - ii. The Chairperson of the Inter-Ministerial Disaster Management Co-ordination Committee, in consultation and agreement of the Council, extends the period of the declaration beyond the end of 7 days.

28. Extending a declaration of an Area of Disaster:

- 1) A proclamation may extend, or from time to time further extend, the period of a declaration of an Area of Disaster.
- 2) A proclamation extending the period of the declaration of an Area of Disaster expires 14 days after the Area of Disaster is declared unless it is sooner repealed or it expires under Section 27.

29. Ending a declaration of an Area of Disaster:

- 1) As soon as the Chairperson of the Inter-Ministerial Disaster Management Co-ordination Committee, in consultation and by agreement of the Committee, is satisfied it is no longer necessary to have an area/s declared as an Area of Disaster the Chairperson shall end the declaration of an Area of Disaster.
- 2) If the Chairperson of the Inter-Ministerial Disaster Management Co-ordination Committee ends the declaration of an Area of Disaster, the Chairperson shall;
 - a. Make a written record of the time and date the Area of Disaster is ended.
 - b. Immediately inform the Committee and the relevant Deputy Commissioner/s of the ending of the declaration of the Area of Disaster.

- 3) The Chairperson shall give notice of the ending of a State of Disaster by proclamation as soon as practicable.

30. Responsibility of the Inter-Ministerial Disaster Management Co-ordination Committee:

- 1) If a declaration of an Area of Disaster is made in pursuant to the section 25, the Inter-Ministerial Disaster Management Co-ordination Committee:
 - a. Shall institute such measures as are in accordance with the National Disaster Management Plan, Policy and Standing Orders for Disaster Management.
 - b. May take such other action as the Committee considers appropriate to counter the effects of the disaster.
 - c. Direct and coordinate the use of all available resources within such area as the case may be necessary to counter the effects of the disaster.

31. Overall responsibility for an Area of Disaster:

The over-all responsibility of the declared Area of Disaster may be assigned to an officer of the Ministry of Food and Disaster Management, Divisional Commissioner, Deputy Commissioner, Upazila Nirbahi Officer, Union Parishad Chairman or any other officer.

32. Powers under the declaration of a State of Disaster:

1) General provisions about powers

- a. A relevant Deputy Commissioner/s or other appropriate and suitably qualified person/s for the declaration of a State of Disaster has/have the powers given in this sub division.
- b. The relevant Deputy Commissioner/s of other appropriate and suitably qualified person/s, to whom these powers are allocated, shall be nominated in writing by the Chairperson of the Council.
- c. However the relevant Deputy Commissioner/s or other appropriate and suitably qualified person/s may exercise a power only during the period of a State of Disaster.
- d. To do any of the following;
 - i. ensure public safety or public order
 - ii. prevent or minimize loss of human life, or illness or injury to humans or animals

- iii. prevent or minimize property loss or damage, or damage to the environment

2) General powers

- a. The relevant Deputy Commissioner/s or other persons duly nominated to exercise these powers may do any of the following;
 - i. Control the movement of persons, animals, vessels or vehicles within, into, out of or around the declared area for the State of Disaster.
 - ii. Give a direction to a person to regulate the movement of the person, an animal or a vehicle or vessel within, into, out of or around the declared area for the State of Disaster.
 - iii. Evacuate persons or animals from the declared area or a part of the area.
 - iv. Enter a place in the declared area.
 - v. Take into a place in the declared area the equipment, persons or materials the commissioner reasonably requires for exercising a power.
 - vi. Control an animal or substance within the declared area.
 - vii. Remove or destroy an animal, vegetation or substance within the declared area.
 - viii. Remove, dismantle, demolish, or destroy a vehicle, or a building or other structure, in the declared area.
 - ix. Use, close off or block a facility for drainage.
 - x. Shut off or disconnect a supply of fuel, gas, electricity or water, and take and use the fuel, gas, electricity or water.
 - xi. Turn off, disconnect or shut down any motor or equipment.
 - xii. Open a container or other thing, or dismantle equipment.
 - xiii. Excavate land or form tunnels.
 - xiv. Build earthworks or temporary structures, or erect barriers.
 - xv. Close to traffic any road.
 - xvi. Maintain, restore, or prevent destruction of, essential services.
 - xvii. Require a person to give the relevant Deputy Commissioner reasonable help to exercise the powers under the sub division.
- b. The relevant Deputy Commissioner/s or other relevant person/s may also;
 - i. Enter a place in the declare area without a warrant of entry or the consent of the occupier/ owner of the place.
 - ii. Exercise a power with the help, and using force that is reasonable in the circumstances.
- c. When giving direction or making a requirement mentioned in Section 32, sub-section 1) the relevant Deputy Commissioner/s or person/s shall warn

the person/s it is an offence to fail to comply with the direction or requirements unless the person has a reasonable excuse.

3) Power to give direction about property

- a. A Deputy Commissioner or other authorized person may direct the owner of any property, by notice in an approved form, given to the owner, to put the property under the control, or at the disposal of the person stated in the notice.
- b. When giving direction a Deputy Commissioner or other authorized person shall warn the person it is an offence to fail to comply with the direction unless the person has a reasonable excuse.

4) Requirements for direction about property

The approved form for the direction about property shall include provision for the following:

- a. information about the nature of the disaster.
- b. identifying the property to which the direction relates.
- c. information about the purpose for which the property is to be used.
- d. the provision under this Act under which the direction is given.
- e. that the person to whom the direction is given shall comply with the direction.

Part 6 Powers and Responsibilities of the Deputy Commissioners.

33. Powers of the Chairman of District Disaster Management Committee/Deputy Commissioner during emergency operations :

- 1) The Chairman of the District Disaster Management Committee/D.C or authorized person/persons emergency operations within a declared Area of Disaster shall have the following powers:
 - a. To enter, with the assistance of Civil or Military authorities or both, any place which is believed, on reasonable ground, to be in urgent necessity for such action for the purpose of saving human life and property or the prevention of injury to human life or the prevention of injury to persons or rescuing injured person or persons whose lives are endangered or facilitating the carrying out of other urgent measures with respect to the relief of suffering and distress.
 - b. To evacuate people, property and live-stocks from vulnerable areas.

- c. To close traffic on any road or street, whether public or private for such a duration as becomes necessary for the continuation of counter disaster measures with the assistance of Civil or Military or both, if it is essential to do so.
- d. To remove any obstacle impeding the implementation of emergency operations measures with the assistance of Civil or Military authorities.
- e. To take under requisition of any movable or immovable property which is deemed necessary for the purpose of implementing effective emergency operations and to pay compensation according to law as determined by the concerned Deputy Commissioner under which jurisdiction such property is situated.
- f. To do any other act for the purpose of implementing effective emergency operations or to perform any act preliminary or incidental or essential financial expenditure to carry out the tasks assigned, subject to completion of official formalities later on.
- g. To collect information related to the event and to convey information as required under any Standing Order, rules, instruction, direction or plan made under this Act.
- h. To take requisition of equipments, utensils and services or employees of any department, autonomous or local bodies or agencies.
- i. To take the communication facility of Government, Semi-government, Autonomous bodies or to take requisition of services of any person for the management of risk related to disaster.
- j. To receive priority in use of essential services.
- k. To establish a restricted area to which access shall be restricted or prohibited to any person other than those engaged in emergency operations or to order any person other than those so engaged to leave the area, when an event has occurred or is imminent and when deemed necessary to prevent danger to person.
- l. If deemed necessary, to request assistance from neighboring district/city/town/village. The authority so requested shall not refuse to provide necessary assistance.

34. Responsibilities of persons so directed during emergency operations:

- 1) Person/s as directed by the chairman of District Disaster Management Committee shall undertake the following responsibilities:

- a. Collection and transmission of information concerning the disaster event.
- b. Issue warnings, alarms and signals based on forecasts.
- c. Taking protective and control measures against natural and human induced hazards.
- d. Emergency evacuation of women, children and other vulnerable groups.
- e. Functioning and restoration of critical facilities, lifelines, essential utility services and equipments.
- f. Management of cleanup, epidemic control, public health and sanitation.
- g. Traffic control, maintenance of law and order and crime prevention.
- h. Requisition of communication facilities of Government/Semi-Government/Autonomous/Private bodies or to take requisition of services of any person in respect to emergency operations.
- i. Additional measures for limiting the effects of a hazard on communities including the loss of life and damage or loss of property, or damage to the environment.
- j. Any other matters relating to disaster operation assigned by the government.

35. Responsibility of the Armed Forces during emergency operations:

If the Chairman of the District Disaster Management Committee or Deputy Commissioner does not have sufficient time to inform the Government during the time of an event or any other emergency situation, about the event or emergency situation in such case the local Military authority shall ensure the assistance of the armed forces as per requisition of the local Civil authority.

Part 7 Bar and suits

36. Offences under this Act:

- 1) Whoever contravenes any of the provisions of an authority depicted authorized under this Act will be deemed constitute an offence.
- 2) Any person who ;
 - a. assaults, obstructs, threatens, abuses, insults or intimidates an officer of any rank and status or any other person authorized under this Act, or.
 - b. attempts to do, or.
 - c. fails to discharge necessary duties which the person is directed to do, or.
 - d. does that which the person is forbidden to do, or.
 - e. enhances or causes to enhance prices of essential commodities.
- 3) will be deemed constitute an offence under this Act.

37. Penalties:

The person who shall be guilty of an offence under section 36 of this Act shall on conviction, punishable with the imprisonment, which may extend to 03 (three) months, rigorous or non-rigorous or with fine which may extend to taka 50,000 (fifty thousands) or with both. But if a government officer/employee constitutes such an offence action will be taken according to the Act/ Rules applicable to him.

38. Procedure:

- 1) Notwithstanding any thing contained in the code of criminal procedure 1898 (v of 1898)
 - a. An offence under this Act shall be cognizable and bailable.
 - b. No court other than that of the 1st class Magistrate or a Metropolitan Magistrate shall try an offence under this Act.
 - c. A court trying an offence under this Act shall try this offence summarily in accordance with procedure laid down in the said code for summary trial.

Part 8: Financial Arrangements

39. National Disaster Response, Relief and Rehabilitation Fund:

The Government may constitute a fund called the National Disaster Response, Relief and Rehabilitation Fund from its own resources and donations from home and abroad for the purposes of disaster response, relief and rehabilitation. The fund shall be used for response, relief and rehabilitation. The allocation and utilization of the fund shall be as per rules and guidelines laid down by the Government.

40. National Risk reduction Fund:

The Government may constitute a fund called the National Risk reduction Fund for projects which are designed for the purpose of risk reduction and mitigation. The allocation and utilization of the fund shall be as per rules and guidelines laid down by the Government.

41. Fund for immediate post-disaster relief:

The local government(s) shall as specified by rules establish a disaster fund to meet emergency expenses for disaster relief. The un-utilized fund for relief may be used for rehabilitation purposes.

42. Reporting:

The authority/authorities responsible for the utilization of funds shall submit specific report(s) to the Governments regarding executions of, and expenditures of funds along with an audit certification. The period of time not for such reports shall be as prescribed by the rules and guidelines for the use of funds.

Part 9: Miscellaneous

43. Responsibility of discoverer to report:

Any person having detected an unusual event which may lead to a disaster shall notify without delay the chairman or any other member of the Disaster Management Committee or the nearest Police Station. The concerned authority shall undertake necessary steps instantly.

44 Public servant:

Any person empowered to perform any function under this Act shall be deemed to be a public servant within the meaning of Section 21 of the penal code (Act XLV of 1860)

45. Bar of suits:

No suit or other proceeding shall be permissible against Government or any authority or any person for anything done in good faith and due manner under this Act or under any rules/orders made there under.

46. Power to make Rules/Regulation:

The Government may make Rules/Regulations to give effect to the provisions of this Act.

47. Power to pass order/standing orders:

The Government may issue orders or Standing Orders for Disaster Management in consistence with the provision of this Act to carry out the purpose of this Act.

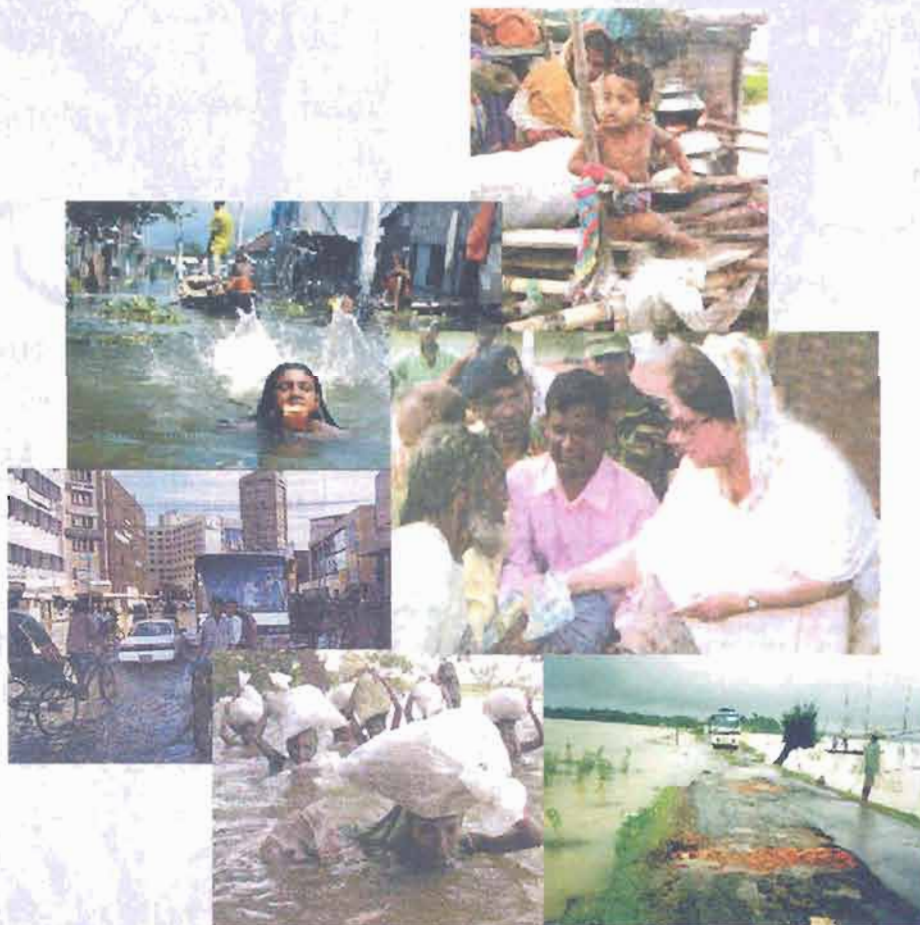
48. Saving:

Any order/orders including Standing Orders for Disaster Management passed on Disaster Management or any action taken or any appointment made shall continue to remain in force and be deemed to have been passed, done, taken or made under the corresponding provision of this Act.

National Workshop on Options for Flood Risks and Damage Reduction in Bangladesh

**7 - 9 September 2004
Bangladesh-China Friendship Centre, Dhaka**

Recommendations



**Organised By
Prime Minister's Office
People's Republic of Bangladesh**

31 October 2004

Foreword

Bangladesh is one of the most disaster prone countries in the world. Flood, drought and cyclone occur here quite frequently. Bangladesh experiences normal flood almost every year. However, the incidence of devastating floods has increased in recent times. During last 16 years, the country experienced four devastating floods - in 1987, 1988, 1998 and the last one in 2004.

As a vast flood plain, the country benefits from the normal floods, but the abnormal ones cause enormous damages to infrastructures, agriculture, non-farm activities, transportation, industries, economy and livelihood. Our government is much concerned with the damage caused by such floods, affecting the economy and sustainability of development efforts. It was in the backdrop of the devastating flood of 2004 that the Hon'ble Prime Minister directed us to hold a National Workshop on Floods in order to develop/design a context based set of policy recommendations for flood management in Bangladesh and evaluate the experiences of flooding and flood management initiatives and lessons learnt from different kinds of interventions in the flood plains. The workshop was also asked to explore the socio-economic aspects of the problem.

The workshop was held on 7, 8 and 9 September 2004 in Dhaka with over 900 participants. The workshop concluded with a set of valuable recommendations on options for flood risks and damage reduction in Bangladesh.

The enthusiastic response from the participants showed an earnest desire among all concerned to find a sustainable solution to the problems resulting from floods in Bangladesh.

I take this opportunity to thank all concerned for making this workshop a success. I am sure, the outcome of this workshop will be of some use to the Government of Bangladesh in adopting a pragmatic strategy for flood mitigation in the country.

As the preparation of the proceedings of the National Workshop will take sometime, without waiting for the publication of the final proceedings, we wish to bring the recommendations of the National Workshop to the notice of the policy/ decision makers as early as possible, so that some actions may start soon. An implementation matrix has also been presented here, identifying the implementing Ministry/ Department/ Organization, resource need, probable development partner, the time frame for implementation and the linkages among the recommendations.

Sd/-

Kamal Uddin Siddiqui

Principal Secretary

Prime Minister's Office

& Convenor

National Workshop Organizing Committee

31 October 2004

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Address by
Begum Khaleda Zia
Hon'ble Prime Minister
People's Republic of Bangladesh



Bismillahir Rahmanir Rahim

Mr. Chairman,
Colleagues,
Members of the diplomatic corps,
Representatives from donor agencies,
Distinguished water experts and environmentalists,
Participants in the workshop,
Ladies and Gentlemen,

Assalamu Alaikum

Today's workshop is both important and timely. All of you participating in this workshop have achieved excellence in your respective fields by dint of your merit. The nation counts on you. I sincerely hope your deliberations will come upto the nation's expectations from you.

I am sure you are aware of the objectives of this workshop. Since time immemorial, Bangladesh has been known as a flood-prone landmass. Flood is now a reality for our country. The people, land and nature here draw benefits from the normal floods in different ways. However, at times these turn devastating, causing colossal loss of life and property. It is now imperative for us to find ways and means to minimize the risks and damages due to such abnormal floods. If we fail to do so, our progress and achievements will be hindered to a great extent.

I firmly believe the participants of this workshop will be able to come up with appropriate recommendations, drawn from brain storming sessions on various aspects of the flood mitigation experiences elsewhere (Huang Ho and Mississippi, for example) and our own ground realities. I also hope that these recommendations will provide us with immediate, mid-term and long-term strategies to face the devastating floods.

Before, I inaugurate this workshop; I would like to raise some issues for your consideration. The origin of the recurrent floods we face is not Bangladesh. Therefore, we do not have all the solutions within our means. We have fifty-four rivers that have their origin outside Bangladesh. We share rivers with India, China, Nepal and Bhutan. Nothing could be better if all these co-riparian countries could sit together and hammer out a pragmatic plan of action for mutual benefits. In other words, you need to come up with recommendations as to what would be the areas of cooperation and how these could be worked out at bilateral, regional and international levels.

It is also imperative for us to work out a strategy for optimum utilization of the existing techniques and the resources for reducing risks and losses due to floods.

There are some internal reasons that accentuate the severity of floods. These include unplanned construction of roads and dykes, putting in place inadequate drainage systems, filling up rivers and water reservoirs for human settlement and such other acts that destroy the environment. We look forward to your suggestions in overcoming these problems.

Ladies and Gentlemen,

During the last two decades, Bangladesh has faced a number of severe floods. The magnitude of loss due to these floods is on a steep increase. So, is the duration of floods; The reasons include building infrastructure and carrying out activities that lead to destruction of ecology and environment, both in and outside the country. A rise in sea level due to Green House Effect is perhaps another reason for worsening the flood situations. In order to solve these problems, we require concrete suggestions from you.

You have also to find out what should be done with regard to improving the flow and direction of rivers and in deepening their beds; the need for canal digging and building water reservoirs; the requirement for constructing barrages; and the necessity of checking river erosion and salinity within our ability and resources. Furthermore, I urge you to come up with innovative and effective means, as distinct from conventional wisdom, to prevent damages to agriculture, fisheries and livestock, roads and railways, small and large industries, house and educational institutions. I would particularly request you to suggest the use of indigenous technology in this regard. At the same time, you also have to tell us how to make the optimum use of ICT and satellite technology in tackling floods.

We also hope to receive well thoughtout ideas from you with regard to building structures in order better cope with floods and adopting suitable measures for reducing the loss of lives and property during the devastating floods.

I have already directed concerned officials to build new government buildings, including educational institutions, in a way that these can be used as flood shelters. We seek your suggestions about what more can be done in this regard.

We expect necessary recommendations from you on how we may be informed about possible floods much earlier through modernization of flood forecasting and developing an early warning system.

I also request you to come up with precise proposals on improved storage and effective distribution of food, medicine and drinking water during the relief stage and updating the existing government standing orders for facing the floods.

Utmost emphasis should be given on averting loss of lives. Children and women are most vulnerable during the floods. You should, therefore, formulate concrete suggestions as to how they may be provided with extra care and security during the disaster period.

Ladies and Gentlemen,

We have been coping with floods for a long time. However, with the passage of time our methods and techniques have undergone some changes. We may now further fine-tune these by reviewing, analysing and summing up our recent experiences and the various initiatives taken at local and national levels. We have successfully conducted relief activities with our own resources during this year's devastating flood. We have just launched a massive rehabilitation programme. I would like to take this opportunity to thank the friendly countries, international organizations, private bodies and NGOs, which have come forward for successful implementation of this rehabilitation programme.

I understand that local people's representatives, professionals, NGOs, development partners, civil and military officials, media experts, women leaders and members of the law enforcing agencies are taking part in different business sessions of this workshop, along with representatives from relevant Ministries and Departments. I am sure their experiences, particularly those gathered from the field, would make special contributions in formulating the recommendations of this workshop. I also sincerely hope that your recommendations would not only modernize Bangladesh's approach to flood mitigation but also act as a model for other flood-prone countries of the world.

Flood is a national problem. Today's workshop has been organized to adopt a work-plan at the national level to face this problem. Initiatives are required at all levels for implementing the recommendations of this workshop. Therefore, I call upon all our citizens, irrespective of their political affiliation and opinion, to join this great effort to face floods effectively.

I declare the workshop open and wish it all success.

Thank you all.

Allah Hafez
Bangladesh Zindabad

A Brief Account of the National Workshop on Options for Flood Risks and Damage Reduction in Bangladesh

In 2004, Bangladesh experienced one of the most devastating floods in nearly 50 years. About 40 % of the country went under water. The damage caused by the flood was to the tune of US\$ 2 billion. Millions people were affected. The most affected were the poor- the most vulnerable in such disasters.

A preliminary assessment of the damage caused by the floods of 2004 shows the following:

Damages caused by the floods of 2004

Affected Districts	39
Affected Upazilas	266
Area Affected	34583 km sq
Affected Families	7,468,128
Affected Population	36,337,944
Human Lives Lost	747
Loss of Livestock	15,143
Crops Destroyed	1,605,958
Crops Damaged (partially)	1,038,176
Houses Destroyed	894,954
Houses damaged (partially)	338,9101
Road Network Destroyed	14,271 km.
Road Network Damaged	45,528 km.
Bridges and Culverts Damaged	5,478
Embankment Damaged	3,158 km.
Schools Destroyed	1,295
Schools Damaged (partially)	24,276

In the backdrop of the devastating flood of 2004, the Hon'ble Prime Minister desired that a National Workshop on Floods be held, in order to develop / design a context based set of policy recommendations for flood management in Bangladesh and evaluate the experiences of flooding and flood management initiatives and lessons learnt from different kinds of interventions in the flood plains. The workshop also explored socio-economic aspects of the problem.

A three day National Workshop on “ Options for Flood Risks and Damage Reduction in Bangladesh ” was held on 7, 8 and 9 September 2004 in Dhaka at the Bangladesh-China Friendship Centre, Agargaon. The Workshop was organised by the Office of the Prime Minister, Peoples' Republic of Bangladesh. More than 900 participants attended the seminar. The participants included scientists, academicians, engineers, government servants, social workers, NGO leaders, defence personnel, businessmen and industrialists, representatives from development partners and the private sector.

On 7 September 2004, the workshop was inaugurated by the Hon'ble Prime Minister of the People's Republic of Bangladesh. Hon'ble Ministers from the ministries concerned were present throughout the seminar. The Workshop started with presentation of three keynote papers from three very eminent experts on water resources, community participation and economy. Thereafter, the workshop broke up into parallel working group sessions along six broad themes. The themes included: (i) Working Group 1: Flood & Disaster Management and Mitigation Options, (ii) Working Group 2: Impact of Flood on National Transportation and Mitigation Options, (iii) Working Group 3: Impact of Flood on Agriculture, Livestock, Fisheries & Industries Sector and Mitigation Options, (iv) Working Group 4:

Impact of Flood on Housing, Urban Planning Utilities (Water Supply, Sanitations) & Environment and Mitigation Options, (v) Working Group 5: Impact of Flood on Social Services and Law & Order and Mitigation Options, (vi) Working Group 6: Impact of Flood on Economy Major Infrastructures and Livelihood and Mitigation Options.

On 9 September 2004, the workshop concluded successfully and came up with a set of recommendations on the Options for Flood Risks and Damage Reduction in Bangladesh. These were presented, debated and adopted at the plenary session, presided over by Dr. Kamal Uddin Siddiqui, Principal Secretary and Convenor of the National Workshop Organizing Committee.

Organising Committee

Dr. Kamal Uddin Siddiqui Principal Secretary, Prime Minister's Office	-	Convenor
Mr. Siddiqur Rahman Secretary, Ministry of Food and Disaster Management	-	Member
Dr. Omar Faruque Khan Secretary-in-Charge, Ministry of Water Resources	-	Member
Mr. Mukhlesuzzaman Director General, Bangladesh Water Development Board	-	Member
Mr. A.N.H. Akhtar Hossain, PEng Honorary Secretary General, The Institution of Engineers, Bangladesh & Managing Director, Dhaka WASA	-	Member
Mr. M. Shahidul Hassan Chief Engineer, Local Government Engineering Department	-	Member
Mr. A.H.M. Shamsul Islam Director General, Disaster Management Bureau	-	Member
Mr. Mahfuzur Rahman Director General, Department of Relief and Rehabilitation	-	Member
Mr. Md. Abdul Matin APS-II to Hon'ble Prime Minister	-	Member Secretary

Recommendations from the Keynote Papers

Keynote Paper 1: An Overview on Impact of Flood in Bangladesh and Options for Mitigation

By

A. N. H. Akhtar Hossain, PEng
Honorary Secretary General, The Institution of Engineers, Bangladesh
& Managing Director, Dhaka WASA

General Recommendations

- **Regional cooperation:** As more than 90% of the flood flow originate from outside the country, Bangladesh alone cannot solve the flood problem. For effective flood management, basin-wide approach with concerted regional participation may be pursued. A regional flood management initiative should be initiated with participation from all co-riparian countries.
- **The Indian River Link Project:** The proposed Indian river link project would be a disaster for the society, economy and ecology of Bangladesh. Immediate actions are required to foster dialogue with the India on this issue. There should also be an initiative from the civil society, academicians, scientists and professionals on both sides of the border to develop awareness regarding the probable adverse effects of the proposed project. Scientific studies may be undertaken to assess all the probable impact of the Indian River Interlink Project. The international community may also be apprised of Bangladesh's points of view.

Flood preparedness

- **Flood zoning and risk mapping:** A comprehensive approach is required to develop flood zoning and risk maps. All development activities in the floodplains should be coordinated accordingly;
- **Rationalization and adequate maintenance of existing FCD projects:** for prevention of any failure of flood protection embankments or infrastructure, mitigate adverse impact on unprotected areas, by making existing infrastructure for drainage (sluices, drainage channels etc.) functional;
- **Flood management modeling:** development options in the floodplains should be studied in an integrated and scientific manner;
- **Erosion prediction and monitoring:** available modeling integrated with remote sensing and GIS technology should be immediately instituted for a nation-wide erosion prediction and monitoring;
- **Drainage Improvement:** The natural drainage need to dredged and made free from encroachment to bring back the original conveyance capacity. Canal Digging program may be strengthened with proper technical guidelines and effective monitoring.
- **Off-take Maintenance:** It is important the off-takes of the rivers are regularly dredged to allow flood flow distribution in wider areas.
- **Integrated Floodplain Management:** It is of utmost importance that all agencies operating in the floodplains should follow an integrated approach on a scientific basis. People of floodplains should be consulted and involved in all phases of development. There should be government guidelines for any development in the floodplains, which would pave the way for Integrated Floodplain Management.
- **Urban Flood Management:** Cities and towns are losing the natural drainage routes and flood retention ponds rapidly. As a result, severe drainage congestion in many of the Towns and Cities has become a common phenomenon. There is a need for immediate actions to free the natural drainage routes from encroachment, and to design and implement sustainable drainage management system for each of the urban areas. Proper urban planning should be undertaken for the growth centres and newly developed urban areas, incorporating provisions for urban drainage.
- **Improvement of Lead-time for Flood Forecast:** The existing flood forecasting technology is able to provide short-term (48 hrs) forecasts, which are not sufficient in taking comprehensive

flood preparedness/response activities. The lead-time of forecasts could be extended using climate forecasts. The CFAB project has paved the way and the developments made through CFAB should be carried forward.

- **Flood Proofing and Shelters:** In many areas of Bangladesh, like the Haor areas, Chalan Beel or the depressions of the south-central region, full flood protection would not be advisable because these kinds of measures are not economically viable and at the same time this could result in destruction of the ecologically sensitive wetland environment. Options for flood mitigation in these areas should focus on saving people's life and property. Various flood proofing measures could be adopted for the purpose. One of the options may be to build clustered habitats with all the civic amenities. This may be undertaken on a pilot basis under Asrayan Project for the poor in the Haor areas.

Flood Response

- Updating and further development of the Standing Orders for Disaster Management should be undertaken.
- An ICT based Flood Response system, including a nation-wide network of flood information database by connecting databases of various agencies involved in flood response activities, should be developed and implemented. Such a system could be developed based on internet and wireless communication technologies;
- Training and capacity building of field officials and community workers, volunteers and NGO staffs in flood fighting and relief activities should be undertaken;
- It is imperative that for implementing a participatory approach in flood disaster management and to make it effective, awareness about any disaster event and the role of all concerned should be clearly understood. For this purposes, the government, NGOs and others concerned should undertake concerted efforts. Together with training and capacity building of field officials and community workers, volunteers and NGO staffs in flood fighting and relief activities, the media has a crucial role to play in all stages of disaster management. The media should play a constructive role by issuing special bulletins about the disaster, and making people aware of their responsibility during and after the floods.

Post Flood Reconstruction and Rehabilitation

- **Methods and tools for damage assessment:** One of the constraints in responding to any disaster and mobilizing resources for reconstruction and rehabilitation is the lack of reliable data on flood damage. Measures should be taken to develop tools and methods for generating such data;
- **Coordination:** The limited resources of the government should be properly mobilized and coordinated. For this, all agencies working for the post-flood rehabilitation and reconstruction should carry out their activities in a transparent and coordinated manner. There should be a central flood rehabilitation body to coordinate such activities.

Keynote Paper 2: Flood Disaster Management and Risk Reduction in Bangladesh

By

Muhammad Saidur Rahman
Director
Bangladesh Disaster Preparedness Centre

Implementation of a proposed project titled as “**Reducing Disaster Risks of the Poorest through Sustainable Livelihood Development**”. This will demonstrate national political commitment to support the poorest households at-risk, living in the most disaster prone areas, to develop capacity to manage livelihoods and thereby address disaster risks.

The objectives of the project are:

- **Reducing Risks** by improving the economic status of the poor who are vulnerable to natural disasters;

- **Reducing Poverty** by enhancing the long-term development capacity of the poor vulnerable to natural disasters;
- **Sustainable Development** by enabling access to development resources and services for long-term resilience of the targeted households.

Keynote Paper 3: The Impact of Floods on the Economy of Bangladesh

By

Prof. Wahiduddin Mahmud
Department of Economics, Dhaka University
& Former Adviser, Caretaker Government

- **Economic Recovery:** To the extent that the increased disbursements meet the genuine short-run needs of working capital and is paid back in time, a moderate expansionary stance in monetary management in the short run may be desirable for the sake of economic recovery, even if it means violating the rigid IMF prescriptions.
- **Poverty Alleviation:** Ensuring food security is an immediate priority in post-flood economic management. Keeping food prices from rising is only one part; another is to know how to generate enough purchasing power in the hands of the flood-affected poor so that widespread starvation can be avoided.

Summary of Recommendations by the Six Working Groups

Recommendations in the Keynote Addresses and from each of the Working Groups have been presented under four main stages of flood mitigation. These are (i) Flood Management and Mitigation, (ii) Flood Preparedness, (iii) Flood Response and (iv) Post flood Reconstruction and Rehabilitation.

The recommendations were further grouped into (i) General Recommendations (ii) Structural Measures and (iii) Non-structural Measures.

The implementation period for each of the recommendations was categorized as follows:

- i. Immediate: within 6 months
- ii. Short-term: within 2 years
- iii. Long-term: Between 3 – 10 years

Recommendations of Working Group 1 Flood and Disaster Management and Mitigation Options

Day 1: Tuesday, September 7, 2004

- Chair: Mr. Chowdhury Kamal Ibne Yusuf, MP, Hon'ble Minister for Food and Disaster Management
- Co-Chair: Major (Retd.) Hafizuddin Ahmed B.B. MP, Hon'ble Minister for Water Resources

Day 2: Wednesday, September 8, 2004

- Chair: Advocate Goutam Chakraborty, MP, Hon'ble State Minister for Water Resources
- Co-Chair: Mr. Asadul Habib Dulu, MP, Hon'ble Deputy Minister for Food & Disaster Management

Papers Presented:

1. Flood Forecasting, Warning and Response System by **Mr. Md. Salim Bhuiyan**
Executive Engineer, FFWC, BWDB
2. Weather Forecasting for Flood Disaster and Mitigation by **Mr. Md. Akram Hossain**
Director, BMD
3. Regional Cooperation on Flood Management by **Mr. Tauhidul Anwar Khan**, Member, JRC,
Ministry of Water Resources
4. BRAC's Experience on Flood Disaster, Risk Management and Reduction **Ms. Nasima Akter,**
PhD, Coordinator, Environmental Research Unit, BRAC
5. Flood Disaster Management in Dhaka City, **Mr. Muhammad Abul Hasnat**, Executive
Engineer, Dhaka City Corporation
6. Flood Disaster Management in the Affected Areas, **Mr. Md. Saeedur Rahman**, Chief
Engineer, BWDB
7. Application of Remote Sensing and GIS in Flood Mapping, **Mr. Abdul Halim Howlader,**
Mr. A. Z. MD. Zahedul Islam, SPARSO
8. Use of Information and Communication Technology (ICT) in Flood Management by **Mr.**
Emaduddin Ahmad, PEng, Executive Director, **Mr. S M Mahbubur Rahman**, Division
Head, WRP, **Mr. Jalaluddin Md. Abdul Hye, PEng**, DED (P&D), IWM
9. Flood Disaster Management, **Mr. Siddiquir Rahman**, Secretary, Ministry of Food and
Disaster Management
10. Emergency Food Storage and Supplies, **Mr. Ilahi Dad Khan**, Additional Director,
Department of Food
11. Impact of Flood on Flood Control and Drainage Infrastructures and Mitigation Measures, **Mr.**
Giasuddin Ahmed Choudhury, Additional Director General (Planning), BWDB
12. Guidelines on Flood Disaster Management, **Major General A. I. M. Mustafa Reza Noor,**
NDC, Armed Forces Division,

Recommendations

Flood Management and Mitigation

General Measures

- G1-001 Set national priorities on comprehensive flood management
- G1-002 Ensure coordinated planning, design and construction of all infrastructure in the floodplains
- G1-003 Ensure required fund for maintenance of physical infrastructure (embankments, regulators, barrages, drainage canals, etc.)
- G1-004 Ensure risk-based design of projects and ancillary structures
- G1-005 Integrate disaster risk management into national development process and introduce Disaster Impact Assessment (DIA) for project approval
- G1-006 Adopt a comprehensive all-risks management programme (initiated through the Comprehensive Disaster Management Programme-CDMP)
- G1-007 Organise a Regional Conference on Flood Management. This issue may be included in the ensuing SAARC and BIMSTEC agenda.
- G1-008 Foster regional cooperation among the co-basin countries such as China, Nepal, India, Bangladesh and Bhutan for collaborative management of water and floods of the Ganges, the Brahmaputra and the Meghna River Basins
- G1-009 Create suitable institutional framework like the River Basin organization (RBO) for the Ganges, the Brahmaputra and the Meghna involving the co-basin countries of respective rivers
- G1-010 Intensify diplomatic efforts to involve the international community to facilitate regional cooperation for flood management and improvement of flood forecasting and warning system.
- G1-011 Urge the co-basin countries to start the process of cooperation by agreeing to establish a mechanism for free flow of all flood related data and information in order to help improve the flood forecasting and warning system in the individual countries
- G1-012 Develop policy guidelines for use of advanced analytical tools like mathematical models and GIS for flood impact assessment in any project to be undertaken in the floodplains

Structural Measures

- G1-013 Rationalise existing Flood Control and Drainage (FCD) infrastructures
- G1-014 Re-excavate and de-silt rivers, khals and oftakes of distributaries, etc.
- G1-015 Ensure safe conveyance of cross-boundary flows by channelising and stabilizing the major rivers.
- G1-016 Ensure flood protection to all towns and cities including Dhaka Eastern Embankment with provision for efficient storm water drainage from city areas.
- G1-017 Construct cluster residential housing above high flood levels, with all necessary facilities and amenities through dredged filling of 2-3 ha of area in the Haor and flood-prone areas. Remodel and redesign existing Asrayan Projects accordingly. In such a situation, relocate one

village in an area of 2-3 ha.

Non-Structural Measures

- G1-018 Create awareness for community participation in embankment maintenance
- G1-019 Promulgate Water Act to regulate all water management activities
- G1-020 Prepare an updated topographic map of the country with all infrastructure in digital cover
- G1-021 Undertake flood risk zoning/flood mapping preferably through updating the Digital Elevation Model (DEM) based on topographic survey data
- G1-022 Develop a distributed flood information base linking the databases of all agencies involved in flood data collection
- G1-023 Establish a Flood Response System (FRS) to support flood response activities
- G1-024 Extend the existing flood-forecasting model in the upstream basins of major rivers in order to increase the lead-time of forecast.
- G1-025 Improve existing weather forecasting (NWP) and climate prediction along with improvement of lead-time of flood forecast in the short-term (5-7 days), medium-term (20-30 days) and long-term (monthly, seasonal) through developing and introducing a Numeric Weather Prediction Model (NWPM). Continue the ongoing programme on Climate Forecast Application in Bangladesh (CFAB).
- G1-026 Strictly follow the practices of Flood Management Models and Erosion Forecast Models for flood impact assessment and erosion monitoring
- G1-027 Develop guidelines for rehabilitation of infrastructures
- G1-028 Develop quick flood damage assessment methods and tools

Flood Preparedness

General Measures

- G1-029 Conduct hazard mapping, vulnerability and capacity assessments.
- G1-030 Intensify public awareness and advocacy in order to enhance capacity to cope with disasters.
- G1-031 Promote family and community level flood preparedness and contingency planning.
- G1-032 Include gender issue in planning and implementation of all aspects related to flood risk management
- G1-033 Conduct “lessons learnt workshops” on 2004 flood at different levels.
- G1-034 Take care of special needs of vulnerable groups, including the disabled, the children and the elderly.
- G1-035 Review the Standing Order on Disaster (SOD) to bring about necessary amendments in the light of lessons learnt from the 2004 floods.
- G1-036 Ensure wide circulation of and strict adherence to Standing Orders on Disasters (SOD) at all levels. Activate all the committees as stated in the SOD and ensure preparation of Action Plans at all levels.
- G1-037 Incorporate the issues and concerns of river erosion and earthquake in the SOD.
- G1-038 Develop a Programme Management Information System (PMIS) with updated and accurate information on vulnerable population
- G1-039 Strengthen the Disaster Management Bureau in terms of manpower and logistics.
- G1-040 Adopt measures to prevent frequent turnover of officials trained and involved in main-stream disaster management.
- G1-041 Consider the option of distributing balanced diet as relief goods instead of rice only, specially take care of pregnant women and babies
- G1-042 Put in place a mechanism for continuous and routine feedback for improvement of forecast and warning.

Structural Measures

- G1-043 Ensure that all structural interventions follow the National Water Policy and National Water Management Plan
- G1-044 Construct high raised multi-purpose flood shelters, (including shelters for cattle and other domestic animals) like the cyclone shelters in the coastal areas.
- G1-045 Ensure that roads and highways are constructed high enough to be used as a temporary refuge to accommodate flood affected people.
- G1-046 Develop at least one flood-proof pond (for drinking water and cooking) in every village.

Non-Structural Measures

- G1-047 Promote and strengthen indigenous coping mechanisms and survival techniques among the vulnerable people.
- G1-048 Implement the project titled “Reduction of Risk through Sustainable Livelihood Support” for the most vulnerable people.
- G1-049 Update flood forecasting data collection system in terms of intensity, frequency, mode of collection and transmission.
- G1-050 Establish Flood Preparedness Programme in line with Cyclone Preparedness Programme, as suggested by a UNDP sponsored study report.
- G1-051 Commission two Meteorological-cum-hydrological Doppler Radars, one in the northeast (Moulvibazar) and other in northwest (Rangpur) for estimating precipitation covering at least 400km of Ganges, Brahmaputra and Meghna River Basins
- G1-052 Improve weather forecasts and warnings by introducing Numerical Weather Prediction (NWP) System together with networking of the existing different observatories in BMD. Transfer the NWP Model of CFAB to BMD with necessary capacity building.
- G1-053 Modernize the existing Meteorological Training Institute of BMD with adequate facilities and carry out R&D programmes for upgrading knowledge-base and developing appropriate tools for weather predictions.
- G1-054 Put in place an operational flood mapping system based on mathematical modeling, remote sensing and GIS techniques.
- G1-055 Ensure that warning messages are made user-friendly and relevant to the local context. Replicate the people- oriented flood warning dissemination procedure piloted by BWDB through BDPC
- G1-056 Ensure storage of emergency material (food, fodder, etc.) near flood risk areas and installations
- G1-057 Designate BWDB as the nodal agency to issue flood forecasts by coordinating the efforts of BMD, BWDB, IWM and SPARRSO
- G1-058 Up-grade the existing GTS Link of BMD from 2400 bps to 64000 bps.
- G1-059 Integrate storm water drainage, sewerage system management and flood prevention in urban areas in the flood prone areas of the country specially for Dhaka Metropolitan City areas.
- G1-060 Prepare Master Plans for proper land use planning of all urban areas, Municipalities and City Corporations.
- G1-061 Ensure availability of equipment, material and manpower prior to the crisis period through effective contingency plans.
- G1-062 Put in place a mechanism for continuous training to improve the capacity and skills of all those who are involved in disaster management

Flood Response

General Measures

- G1-063 Establish effective communication with the media, so that the extent of damage and government responses are correctly reported.

Structural Measures

- G1-064 Undertake sinking and repair of high platform tube-wells in all the flood-prone areas.
- G1-065 Ensure availability of mobile water treatment plant.

Non-Structural Measures

- G1-066 Establish an effective system for Damage and Needs Assessment (DNA)
- G1-067 Ensure effective coordination among GoB agencies and between GoB and other agencies
- G1-068 Monitor flood response activities at all levels under proper guidelines
- G1-069 Ensure IT and telecommunications support for field level offices.

Post-Flood Reconstruction and Rehabilitation

Structural Measures

- G1-070 Ensure safe drinking water and sanitation facilities in flood-prone areas.
- G1-071 Undertake re-engineering of damaged structures according to changed hydrological/morphological scenarios.
- G1-072 Undertake skill development programmes for quick assessment of damage and proper rehabilitation measures before the next monsoon.
- G1-073 Put emphasis on creation of employment and income generation for the flood affected people.

Non-Structural Measures

- G1-074 Undertake comprehensive programmes to prevent deaths from starvation, restore homesteads, rehabilitate agriculture, create employment, prevent epidemics, provide nutritional support to pregnant women and children, and bring back life to normalcy.
- G1-075 Ensure safety of vulnerable groups (women, children, disabled) during the floods.
- G1-076 Establish effective GO-NGO coordination for ensuring better flood risk management before, during and after flood disaster.

Recommendations of Working Group 2

Impact of Flood on National Transportation and Mitigation Options

Day 1: Tuesday, September 7, 2004

Chair: Barrister Nazmul Huda, MP, Hon'ble Minister for Communication

Co-Chair: Lt. Col. (Retd.) Akbar Hossain B.B. MP, Hon'ble Minister for Port, Shipping & IWT

Day 2: Wednesday, September 8, 2004

Chair: Mr. Ziaul Haq Zia, MP, Hon'ble State Minister for Local Govt. Rural Development & Co-operatives

Co-Chair: Mr. Salahuddin Ahmad, MP, Hon'ble State Minister for Communications

Papers Presented:

1. Impact of Flood on Railway & Mitigation Options by **Mr. Yusuf Ali Mridha**, Bangladesh Railways (BR).
2. Impact of Flood on Major Highways & Mitigation Options by Roads and Highways Department by **Mr. AKM Faizur Rahman**, Additional Chief Engineer (ADB Projects), Roads & Highways Department
3. Impact of Flood on Rural Roads and Proposed Mitigation Options, **Mr. Md Shahidul Hassan**, Chief Engineer, Local Government Engineering Department
4. Impact of Flood on Waterways & Mitigation Options by **Mr. Napal Chandra Sarker**, Bangladesh Inland Water Transport Authority (BIWTA)
5. Impact of Flood on Air Transport & Mitigation Options, **Group Captain M. Obaidur Rahman, psc**, Member (Ops & Plan), Civil Aviation Authority
6. Impact of Flood on Urban Transportation & Mitigation Options (Major Cities), by **Mr. Ashraful Alam Sarkar**, Senior Transport Economist, **Mr. A T M Helaluddin Nagari**, Advisor, Support Services & Linkages, Dhaka Transport Coordination Board

Recommendations

Flood Management and Mitigation

General Measures

- G2-001 Consider other water related natural disasters such as erosion, cyclone, etc in drawing up the risk mitigation options
- G2-002 Ensure that planning, implementation and maintenance of roads, highways, railways and cross drainage structures, bridges and flood mitigation embankments and appurtenant structures and water ways are done in an integrated approach with emphasis on unimpeded drainage
- G2-003 Enhance knowledge base and technological capability of monitoring flood vulnerability and real time management of flood hazards by establishing a cell and appropriate institutional linkages with specialist institutions such as BUET, IWM and RRI, etc.
- G2-004 Consider cyclonic surge flood drainage for designing coastal roads with the provision of cross drainage structure and overtopping
- G2-005 For tackling flood and emergency situation, provide the executing agency with authority to procure services through short notice tendering; amend the Public Procurement Regulations (PPR 2003) to include such provisions.
- G2-006 Develop strong public and private sector institutions through inter-organization linkages and sharing responsibilities
- G2-007 For better institutional co-ordination, rename Ministry of Communications as Ministry of Surface Transport

Structural Measures

- G2-008 Construct flood fuses at predetermined locations on roads and embankments and operate these on the basis of real time flood forecasting in order to reduce flood damage
- G2-009 Metal coastal polders crowns to facilitate rescue and relief operations
- G2-0010 Raise railways in flood prone areas above Highest Flood Level on a priority basis
- G2-011 Undertake protection of embankments following guidelines in worst affected locations through stabilisation / slope protection measures e.g. Geo-textile and CC blocks; and in less affected locations through plantation /turfing
- G2-012 Provide adequate opening in the bridges and the drainage structures for quick passage of floodwater.

Non-Structural Measures

- G2-013 Put in place a multi-modal integrated transport policy
- G2-014 Carry out a comprehensive study including drainage modelling and environmental analysis
- G2-015 Prepare a detailed guideline for the studies on assessment of flooding impact of development works in the transportation sector

- G2-017 Extend the present flood forecasting system to cover the transportation network and facilities
- G2-018 Monitoring of hydraulic and morphological conditions of the rivers on which major bridges like Hardinge, Lalan Shah, Bhairab, Meghna and Rupsha were constructed regularly through establishing bridge inspection and flood monitoring unit and having a morphological modelling programme.
- G2-019 Strengthen hydrological data collection network and agency
- G2-020 Formulate a National Policy to protect the waterways and determine fix-up the level of fixed structures (roads, railways).
- G2-021 Redefine navigation headway clearance at different locations
- G2-022 Develop strong public and private sector institutions through inter-organizational linkages and sharing responsibilities.

Flood Preparedness

General Measures

- G2-023 Preserve buffer stock of construction materials and bailey bridges to face emergency
- G2-024 Strengthen coordination among RHD, LGED, BR and other agencies.
- G2-025 Ensure that BRTA acts as a regulatory body; if necessary, privatise fitness and registration process.
- G2-026 Construct bus and launch terminals in such a way that these may be used as flood shelters.
- G2-027 Make more allocations for shipping sector to have ensure maintenance program for river dredging; procure more dredgers
- G2-028 Give the responsibility of dredging/ re-excavation/digging of rural internal navigation channels at local level (included in the master plan) to LGED/BWDB
- G2-029 Ensure private sector participation in route maintenance; ensure total leasing of dredging and route operation
- G2-030 Ensure improvement of drainage system and regular maintenance in each city/town

Structural Measures

- G2-031 Ensure slope protection of approach roads to bridges / culverts using measures such as CC Blocks, geo-textile, mattress gabion and for flood embankment by growing turfs like vetiver (Kashful)
- G2-032 Provide causeways (Irish crossing) in roads in the flash flood areas
- G2-033 Remove obstructions from and stop encroachments in waterways near bridges. Promulgate necessary regulations
- G2-034 For National and Regional Highways, provide asphalt concrete pavement with hard shoulders
- G2-035 Upgrade at least one road to above the flood level in each union with adequate cross-drainage provisions

- G2-036 Provide flood overflow system along submersible roads
- G2-037 For flood free roads, adopt adequate flood flow openings in order to ensure unimpeded drainage
- G2-038 Implement flood shelters/flood refuge along with road construction
- G2-039 Before and during implementation of dredging, carry out impact study for adversities in the river regime
- G2-040 Modernise and improve existing major river port terminals and also construct new ones as required
- G2-041 Encourage and implement river loop cuts; ensure proper study of the impact of loop cuts on other areas and study their long-term sustainability by morphological modelling studies
- G2-042 Undertake Gorai and Kalni-Kushiyara dredging
- G2-043 Unplanned infrastructure quite often deteriorates siltation condition. Undertake measures to prevent siltation. Carry out strategic dredging to prevent siltation of navigation routes
- G2-044 Preserve natural drainage around all airports (Nikunja created obstacle to ZIA drainage).
- G2-045 Keep flood free Tejgaon airport operational along with its surroundings for emergency relief operations; remove unauthorised/ high-rise buildings in adjacent areas.
- G2-046 Construct flood embankments around all the flood prone airports of the country; carry out appropriate drainage impact studies
- G2-047 Complete Patenga Coastal Embankment
- G2-048 Upgrade, improve and maintain Cox's Bazar Airport for disaster management operations
- G2-049 Implement Dhaka Integrated Flood Embankment (Eastern By-Pass) project as a priority project
- G2-050 Re-excavate existing drainage canals – especially khals in and around Dhaka city.
- G2-051 Remove encroachment /constriction of natural drainage
- G2-052 Protect important cities and towns from flood and drainage congestion
- G2-053 Resuscitate drainage canal system within the cities/towns for removing drainage congestion and for navigation if possible

Non-Structural Measures

- G2-054 Ensure that JMBA, RHD and Railway install flood monitoring cell and use JMBA morphological study experience
- G2-055 Monitor regularly the hydraulic and morphological conditions of rivers on which major Bridges like Paksey, Bhairab, Meghna and Rupsha were constructed through establishing bridge inspection and flood monitoring unit and having Morphological modelling programme
- G2-056 Enact regulations/legislations to regulate plying of all types of vehicles over submerged roads

- G2-057 Include appropriate provisions in PCPs for hydraulic, morphological and engineering investigations and studies
- G2-058 Check plying of overloaded vehicles through strong regulations
- G2-059 Regularly undertake pre-flood inspection and preventive repairs.
- G2-060 Carry out comprehensive river morphology study for determining the causes for the deterioration of navigability due to siltation
- G2-061 Monitor and select channel routes in big rivers through appropriate hydraulic study
- G2-062 Develop strategic master plan for navigability improvement through dredging programmes
- G2-063 Reclassify waterways and redistribute responsibilities amongst organisations such as BWDB, IWTA, LGED, etc.
- G2-064 Enact regulations for private dredging and provide authority to an appropriate body to take punitive measures.
- G2-065 Modernise mechanised boats' registrations and regulations
- G2-066 Enhance cargo handling capacity of the international airports for efficient handling of relief goods
- G2-067 Allow handling of Relief Cargo flights by Civil Aviation Authority, with information to Foreign Ministry and PMO (Armed Forces Division)
- G2-068 Computerise operation of drainage system based on Drainage models

Flood Response

General Measures

- G2-069 Delegate administrative and financial power to field officers for quick protection and restoration works during flood emergencies.

Non-Structural Measures

- G2-070 Bring small air-crafts belonging to private sector into the relief net

Recommendations of Working Group 3

Impact of Flood on Agriculture, Livestock, Fisheries & Industries Sectors and Mitigation Options

Day 1: Tuesday, September 7, 2004

Chair: Mr. M.K. Anwar, MP, Hon'ble Minister for Agriculture

Co-Chair: Mr. Abdullah Al Noman, MP, Hon'ble Minister for Fisheries and Livestock

Day 2: Wednesday, September 8, 2004

Chair : Mr. Shahjahan Seraj, Hon'ble Minister for Jute and Textile

Co-Chair: Mr. Md. Abdus Salam Pintu, MP, Hon'ble Deputy Minister for Industries

Papers Presented:

1. 2004 Floods and the Industries of Bangladesh by **Col. M. M. Jahangir psc (rtd)**, The Federation of Bangladesh Chambers of Commerce & Industry (FBCCI)
2. Impact of Flood on Agriculture and Mitigation Options by **Md. Tariq Hassan**, Director General & **Md. Wasiuzzaman Akand**, Director Training, Department of Agricultural Extension
3. Options for Flood Risks and Damage Reduction for Fisheries Sector by **Dr. Md. Giasuddin Khan** & **Mr. Syed Arif Azad**, Department of Fisheries
4. Impact of Flood on Livestock & Mitigation Options by Department of Livestock Services by **Dr. Md. Abul Kalam**, Upazila Livestock Officer, DLS.
5. Impact of Flood on Dairy Farming and Mitigation Options by **Mohammad Younus Miah**, President, Bangladesh Dairy Owners Association
6. Impact of Flood on the Garments Industry and Mitigation Options by Research Cell, BGMEA

Recommendations

Flood Preparedness

General Measures

- G3-001 Continuously monitor major infrastructure, e.g., Jamuna Bridge, to detect adverse effects on erosion and take remedial measures
- G3-002 Facilitate additional investment for flood proofing construction through appropriate credit facilities and construction codes as appropriate; also for build-up of strategic reserve
- G3-003 Facilitate local government & community involvement in flood preparedness activities through participatory process

Structural Measures

- G3-004 Raise mud-built platforms, perimeter of ponds, extra floors in schools (in old and new ones as appropriate) & factory buildings as shelters for livestock, poultry, machineries, inventories, etc. Take extra care of saline zone industries in order to minimize the corrosive action of saline water.
- G3-005 Use nets, cages and bamboo-made 'bana' to prevent fish migration
- G3-006 Construct roads higher than the flood level
- G3-007 Make road, embankment & similar infrastructure environment-friendly in general, and fish-friendly, in particular, through appropriate and adequate appurtenant structures
- G3-008 Use concrete blocks of sand and cement to lower construction costs, minimise sand carpeting and keep rivers more navigable
- G3-009 Plant suitable trees species for preventing soil erosion along roads and embankments
- G3-010 Plant fodder trees to provide fodder and also fuel in times of emergency

Non-Structural Measures

- G3-011 Ensure supply of strategic inputs such as, feed and drugs for livestock, seed and seedlings for crops. To this end, build up strategic reserves of feed, medicines & seeds and maintain these at various admin. levels through DAE, DLS, respective associations, etc.
- G3-012 Undertake R&D on shorter crop cycles, problems of sand carpeting and appropriate crop varieties
- G3-013 Regulate feed and veterinary drugs market in times of floods
- G3-014 Ensure emergency vaccination programmes through mobilisation of veterinary teams
- G3-015 Facilitate communication in times of floods, provide for several mechanised boats at an appropriate admin. level (village/union)
- G3-016 Ensure gender dimensions of production activities and flood proofing
- G3-017 Facilitate land zoning for settlement purposes, resettlement of distressed people, specific production activities, such as dairy farming through appropriate laws, rules and procedures, as necessary
- G3-018 Institute more dependable & flexible Early Warning System (EWS) by incorporating as many relevant factors as possible

- G3-019 Disseminate flood forecast and warning messages in simple and easy language through all national and regional level media
- G3-020 Ensure that flood early warning is as much region and location specific as possible
- G3-021 Involve local government in dissemination of early warning

Post- Flood Reconstruction and Rehabilitation

Non-Structural Measures

- G3-022 Damage assessment is often inaccurate. For rehabilitation purpose, estimate asset loss properly through independent, properly trained assessors, transparent book keeping and validation through sample surveys
- G3-023 Take into account both positive and negative effects of flood during damage assessment
- G3-024 Identify most severely affected - by and large the poor, the weak and the marginal groups. Ensure that they are the main focus of rehabilitation
- G3-025 Ensure methodological improvement in assessing damages to the poor, as benchmarking makes all the difference
- G3-026 Facilitate risk insurance for various sectors. Make settlement of insurance claims easier
- G3-027 Provide credit, if necessary, on easy terms. Use refinancing and rescheduling facilities as necessary. If needed, provide appropriate legal cover
- G3-028 Underwrite provisions for consumption loans in credit operations of financial institutions, if necessary.
- G3-029 Create Risk Management Fund in revenue budget of ministries with stringent conditions of utilisation during disaster emergencies.
- G3-030 Create enabling conditions for voluntary fund creation by community for use only during emergency
- G3-031 No recommendations but questions were raised on how beneficiaries of help/grants/support may pay back to community once production resumes; could be no retrenchment promise by industrialists for a year or farmers paying back seeds or its value in future. Some of this can be part of a community emergency fund that will lessen need for immediate help from government during future crises
- G3-032 Facilitate IGAs and micro credit after flood. If necessary, use central Zakat funds as well as encourage individuals to contribute to Voluntary Community Fund
- G3-033 Lack of coordination is a major impediment. To overcome this, each year within a specific date, inform Local Governments of all public interventions including their budgets under their geographical jurisdiction in order to scrutinize overlapping, remove lack of coordination and finalise through their vetting. Build local government capacity in this regard.
- G3-034 Most policies do not include disaster risk reduction provisions. Revise and make these consistent with one another. Revise PoAs also accordingly. Provide legal cover for these major changes as soon as possible.
- G3-035 Delineate administrative responsibility for crops outside the purview of MoA, and industries outside MoI during emergencies

Recommendations Of Working Group 4

Impact of Flood on Housing, Urban Planning, Utilities (Water Supply, Sanitation) & Environment and Mitigation Options

Day 1: Tuesday, September 7, 2004

Chair: Mr. Tariqul Islam, MP, Hon'ble Minister for Environment & Forest

Co-Chair: Mr. Aman Ullah Aman, MP, Hon'ble State Minister for Labour & Employment

Day 2: Wednesday, September 8, 2004

Chair: Mr. Alamgir Kabir, MP, Hon'ble State Minister for Housing & Works

Co-Chair: Mr. Zafrul Islam Chawdhury, MP, Hon'ble State Minister for Environment & Forest

Papers Presented:

1. Impact of Flood on Water Supply, Sanitation, Drainage of Dhaka City and Mitigation Options by **Mr. A.N.H Akhtar Hossain, PEng.** Managing Director, **Dr. Kazi Ali Azam**, Deputy Managing Director and **Mr. Md. Serajuddin**, Superintending Engineer, Dhaka Water Supply & Sewerage Authority
2. Impact of Flood on Rural Water Supply & Sanitation and Mitigation Options by **Mr. Amanullah-al-Mahmood**, Superintending Engineer, DPHE
3. Impact of Flood on Environment and Mitigation Options by **Mr. Khan M Ibrahim Hossain**, Additional Secretary, Govt. of Bangladesh and **Dr. Mostafa Kamal Farooque**, Director General, Department of Environment (DoE)
4. Global Climate Change and Floods in Bangladesh: Mitigation Options by **Dr Mahfuzul Haque**, Joint Secretary, Ministry of Environment and Forests
5. Impact of Flood on Forest Resources and Mitigation Options by **Mr. M. Anwarul Islam**, Chief Conservator of Forests, Forest Department
6. Impact of Flood On Housing and Flood Shelters and Mitigation Options by **Mr. A. F. M. Manzurul Islam**, Chief Engineer, Public Works Department
7. Flood Impact Mitigation in Cities through Landuse Planning by **Mr. K.M. Maniruzzaman**, Associate Professor and Head, Dept. of Urban and Regional Planning, Bangladesh University of Engineering and Technology
8. Impact of Flood and National Housing Policy by **Mr. ATM Ataur Rahman**, Chairman, National Housing Authority
9. Implications of Flood and Dhaka City Planning by **Md. Shahid Alam**, Chairman, RAJUK

Recommendations

Flood Management and Mitigation

General Measures

- G4-001 Update Water Supply and Sanitation Policy, 1998 through addressing disaster management issues
- G4-002 Ensure integrated planning
- G4-003 Ensure coordination among the concerned agencies for better preparedness and management of floods in urban areas
- G4-004 Ensure that only one organization has the authority & responsibility for developing & maintaining the drainage system of Dhaka. Apply the same principle to other metropolitan cities.
- G4-005 Besides capital investment, ensure non-capital intensive measures
- G4-006 Ensure comprehensive master plan for disaster management for all urban areas, including Dhaka city
- G4-007 Update and integrate the Dhaka city sewerage master plan & drainage master plan
- G4-008 Foster close cooperation between Bangladesh and upper riparian states such as India and Nepal
- G4-009 Seek international cooperation for mitigation of impact due to global climate change
- G4-010 Ensure that EIAs for industries take flood into consideration and are reviewed by an independent committee
- G4-011 Strengthen DOE
- G4-012 Seek increased assistance from Global Environment Facility (GEF) on climate change mitigation and adaptation measures
- G4-013 Conduct a study in order to examine co-relation between the recent floods and climate change
- G4-014 Conduct a full-scale Environmental Impact Assessment (EIA) of the 2004 floods with suggested recommendations to overcome difficulties
- G4-015 Undertake necessary preparatory work in order to enlist in the agenda of the up-coming climate change related meetings, issues related to “environmental refugees” due to climate change and relaxation of immigration laws of the developed countries to accommodate such refugees
- G4-016 Revisit the existing laws and regulations and frame new laws in order to prohibit actions causing climate change
- G4-017 Undertake studies on sector-specific vulnerability and adaptation to climate change and mitigation measures
- G4-018 Implement development projects aimed at promotion of alternate and renewable sources of energy
- G4-019 Establish coordination among all sectoral agencies on climate change related issues

- G4-020 Accelerate activities of the Designated National Authority (DNA) and develop projects under Clean Development Mechanism (CDM)
- G4-021 Raise the most vulnerable nursery sites through earth filling
- G4-022 Monitor NGO activities
- G4-023 Ensure decentralization of urbanization & proper urban planning for rural townships / Growth centres

Flood Preparedness

General Measures

- G4-024 Stop indiscriminate housing in the flood plains, villages. Immediately start planned village programme & regulate rural housing
- G4-025 Consider alternative sources of drinking water, including rain water harvesting and reserve ponds with raised embankment
- G4-026 Stop box culvert construction
- G4-027 Make provision for waste water treatment plant compulsory for industries
- G4-028 Establish new nurseries at heights above the maximum flood height level
- G4-029 Raise more flood-resistant species in the nurseries of flood-prone areas. Similarly plant more flood-resistant and comparatively taller species
- G4-030 Construct floating nurseries
- G4-031 Enhance coastal green belt programmes
- G4-032 Make flood (disaster) risk mitigation through land use planning an integral part of land use planning process
- G4-033 Protect rivers from encroachment
- G4-034 Impose restriction on further industrialization in and around Metro Dhaka
- G4-035 Review and update DMDP plan (structure plan and urban area plan)
- G4-036 Ensure institutional reform and adequate manpower to enhance the capacity of RAJUK

Structural Measures

- G4-037 Develop appropriate technology with local adaptation for raising tube wells and, honour indigenous knowledge
- G4-038 Install at least 2 tube wells in each flood -prone village with raised platforms at feasible strategic location (growth center, educational institute).
- G4-039 Construct immediately a sewerage treatment plant to make the Begunbari khal pollution free
- G4-040 Keep and maintain the existing wetlands in and around the natural canals as retention ponds.

- G4-041 Construct pumping stations on an emergency basis at Rampura & Janapath with sufficient retention pond area. In particular, maintain Hatir Jheel as a retention pond in front of Rampura Regulator
- G4-042 Restore and maintain all wet lands
- G4-043 Ensure EIA for drainage before communication infrastructure development
- G4-044 Ensure sufficient open space and water bodies in residential area development plans (both private and public)
- G4-045 Restore all Canals/Khals/Lakes in Dhaka City
- G4-046 Undertake regular dredging of rivers around Metro Dhaka
- G4-047 Construct retention ponds by acquiring land and maintain these properly
- G4-048 Construct all structures including shelter, schools, health centers above maximum flood level
- G4-049 Update Building Construction Act 1952, with punitive provision for hill cutting. Implement Wetland Act 2000 and Town Improvement Act 1953
- G4-050 Construct school buildings with vertical expansion for optimum use of land
- G4-051 Ensure that building construction considers all disasters, including flood, cyclone, storm surge, earthquake and land slide
- G4-052 Explore innovative technologies such as floating construction

Non-Structural Measures

- G4-053 Develop an emergency preparedness plan
- G4-054 Increase manpower of DPHE including capacity building
- G4-055 Build awareness through dissemination of IEC materials on water and sanitation
- G4-056 Strengthen information management system of DPHE to ensure prompt emergency mitigation (e-mail, fax, mobile phone, etc at Upazila level)
- G4-057 Activate Dhaka city disaster management committee
- G4-058 Formulate and implement appropriate and comprehensive national land use plan
- G4-059 Make urban land use planning mandatory
- G4-060 Enforce Wetland Act properly. Update the Act to minimize legal loop holes.
- G4-061 Strengthen legal provisions for land use control
- G4-062 Use more local expertise in urban planning and address local situations
- G4-063 Impose restriction on dense industrialization
- G4-064 Ensure sufficient open space and water bodies in residential area development plans (both private and public)

- G4-065 Prepare urban area plan for each city and implement the plan
- G4-066 Ensure comprehensive EIA before any flood control structure is implemented
- G4-067 Streamline update of town plans and monitoring of implementation
- G4-068 Encourage planned growth of small towns as service centres for rural areas
- G4-069 Promote the idea of compact township to reduce haphazard settlement expansion.
- G4-070 Legalise the BNBC 1993.
- G4-071 Approve and enforce the Building Construction Rule, 2004

Recommendations Of Working Group 5

Impact of Flood on Social Services, Law & Order and Mitigation Options

Day 1: Tuesday, September 7, 2004

Chair: Mr. Ziaul Haq Zia, MP, Hon'ble State Minister for Local Govt. Rural Development & Co-operatives

Day 2: Wednesday, September 8, 2004

Chair: Mr. A. N. M. Ehsanul Haq Milon, MP, Hon'ble State Minister for Education

Papers Presented:

1. Impact of Flood on Primary Education and Mitigation Options by **Dr. Aslam Alam**, Project Director, IDEAL Project, Department of Primary Education
2. Impact of Flood on Health and Hygiene in Rural and Urban Areas and Mitigation Options by Professor **Dr. Md. Mizanur Rahman**, Director General of Health Service et al
3. Impact of Flood on Women and Children in Bangladesh by **Ms. Yeameen Akbory**, Project Director, Ministry of Women and Children Affairs
4. Community Participation in Flood Management by **Dr. Riaz Khan, Mr. Ahmadul Hassan, Mr. S.H.M. Fakhruddin**, CEGIS

Recommendations

Flood Preparedness

Structural Measures

- G5-001 Raise the playground of schools above the highest flood level wherever possible
- G5-002 Construct 3/4 storied Cluster Residential Housing above the highest flood level in the flood prone areas having facilities for schooling, health care, market, etc as rural township

Non-Structural Measures

- G5-003 Carryout impact assessment study for flood damage
- G5-004 Prepare guidelines for disaster damage assessment
- G5-005 Undertake vulnerability analysis of different communities, structures, etc
- G5-006 Prepare a standing order on roles and responsibilities of education sector officials/ Management Committee/Governing Body office bearers
- G5-007 Install and maintain an effective information system
- G5-008 Identify schools used as flood shelters
- G5-009 Organise training programmes on disaster management for heads of institutions and chairmen of school management committees
- G5-010 Update disaster education curriculum
- G5-011 Incorporate health education in the curriculum
- G5-012 Develop disaster coping strategies
- G5-013 Create awareness and community participation among the flood-prone people

Flood Response

Structural Measures

- G5-014 Construct new health facilities above flood levels.
- G5-015 Construct innovative latrines to avoid contamination of flood water

Non-Structural Measures

- G5-016 Deploy forces as necessary
- G5-017 Involve the local community and local administration at district and upazila level; coordinate at Union Parishad level
- G5-018 Introduce community police and employ them for maintaining law and order
- G5-019 Develop a code of ethics for the print and electronic media

- G5-020 Develop guidelines for electronic media for disaster preparedness
- G5-021 Ensure regular and timely weather forecasting
- G5-022 Ensure positive information and reporting in the newspapers
- G5-023 Highlight vital instructions in the media for people to follow in areas such as safety of life, health, hygiene, mother & child care & safety, availability of medicines, snake bite, diseases etc.
Publicise crop damages & rehabilitation programme.
- G5-024 Prepare local contingency plan for flood prone zones [**Components:** (a) Early warning and quick dissemination of message, (b) evacuation plan, (c) plan for protection of life, community and household resources including live stock, (d) standard guidelines for flood shelters with respect to space per capita, toilet facility for male and female, privacy, cleaning, sanitation, vector control, water supply, facility for medical services and health education, security, special protection for children; (d) food supply plan with respect to cooking, safety, adequacy, balance, age, sex and vulnerability and distribution method, (d) transportation, (e) continuing availability of basic services (health, family planning, nutrition), (f) communication and coordination within and between departments and with higher levels, (g) post-flood rehabilitation plan including special credits for women entrepreneurs
- G5-025 Provide adequate fund and administrative authority to district and upazila health managers for emergency purchase, repair or rental through Shastha Sheba Unnayan Committee.
- G5-026 Improve inter-sectoral coordination among different departments (viz. with customs)
- G5-027 Provide EPR training to health personnel
- G5-028 Prepare long term appropriate and sustainable solutions for water supply, sewerage system and garbage disposal in urban areas
- G5-029 Provide health education covering flood and disaster related health problems.

Recommendations Of Working Group 6

Impact of Flood on Economy, Major Infrastructures & Livelihood and Mitigation Options

Day 1: Tuesday, September 7, 2004

Chair: Barrister Aminul Haque, MP, Hon'ble Minister for Post & Telecommunication

Co-Chair: Mr. Anwarul Kabir Talukdar, MP, Hon'ble State Minister for Planning & Finance

Day 2: Wednesday, September 8, 2004

Chair: Mr. Iqbal Hassan Mahmud, MP, Hon'ble State Minister for Power, Energy & Mineral Resources

Co-Chair: Mr. Shah Mohammad Abul Hossain, MP, Hon'ble State Minister for Finance & Planning

Papers Presented:

1. Macroeconomic Impact of Flood in Bangladesh: Some Thoughts and Recommendations, by **Dr. Quazi Mesbahuddin Ahmed**, Member, **Dr. M. Ismail Hossain**, Consultant & **Dr. Bazlul Haque Khondoker**, Consultant, General Economics Division, Planning Commission
2. Impact of Flood on Power Sector and Mitigation Options: BPDB's Perspective by **Mr. Md. Abdul Muttalib**, Member, P&D, Bangladesh Power Development Board
3. Impact of Flood on Power Sector & Mitigation Options by **Mr. Syed Sarwar Hussain**, Executive Director, Rural Electrification Board
4. Impact of Flood on Telecommunications & Mitigation Options by BTTB by **Engr. Md. Monwar Hossain**, GM / Project Director, Submarine Cable Project, BTTB, Ministry of Posts & Telecommunications
5. Mobilization of External Resources for Flood Rehabilitation By **Mr. M. A. Muktadir Mazumder**, Joint Chief, Economic Relations Division (ERD), Ministry Of Finance

Recommendations

Flood Preparedness

General Measures

- G6-001 Examine the existing development policies and reformulate them in the context of recent flood. Ensure that the initiative in this regard is taken by the Ministry of Finance & Planning
- G6-002 Make provision for an emergency special fund in the annual budget for disaster management and rehabilitation and reallocate funds from one area to another if this special fund is found inadequate. Also generate additional funds through lottery or any other legal means and in rest the unspent amount of this fund to generate additional fund
- G6-003 Ask Planning Commission to follow simplified project processing mechanism in order to help quick assessment and expeditious implementation of disaster rehabilitation activities
- G6-004 Delegate more administrative and financial power to the local administration and local level officials of different departments through amending the existing Public Procurement Regulation.

Structural Measures

- G6-005 Construct different installations of important utility services e.g. Power, T&T, Gas, Water Supply, etc installations at an elevation higher than the maximum flood level
- G6-006 Revise vertical clearance for distribution lines in the flood prone areas
- G6-007 Connect all Upazilas and Growth Centres with the district H/Q through digital radio links in the flood prone areas

Non-Structural Measures

- G6-008 Develop appropriate expansionary economic policy that incorporates Disaster Risk Management best practices.
- G6-009 Develop in house capacity through BBS for rapid assessment of macroeconomic losses caused by natural disasters. Conduct household income and expenditure surveys as frequently as possible.
- G6-010 Involve private sector in risk analysis and risk reduction studies.
- G6-011 Ensure separate specifications for electrical service connections in the flood prone areas.
- G6-012 Ensure capacity building for emergency infrastructure e.g. Gas, Power, T&T etc. maintenance work.
- G6-013 Ask BTTB mobile network to give priority to flood prone areas.
- G6-014 Allocate funds for emergency restoration and rehabilitation works at the local administrative level.

Flood Response

Non-Structural Measures

- G6-015 Build an effective and timely flood warning and flood forecasting system based on modern technology. Ensure dissemination of Early Warning to all stakeholders.

Post- Flood Reconstruction and Rehabilitation

Non-Structural Measures

- G6-016 Speedily implement rehabilitation projects and ensure transparent use of funds.
- G6-017 For facilitating income generation for the rural poor, start rehabilitation in the rural areas immediately.
- G6-018 Ensure the availability of adequate critical inputs to the farmers such as seeds, fertilizer, agricultural credit, power, diesel and equipments through appropriate institutional mechanism.
- G6-019 Re-introduce of KABIKHA and similar types of programmes during the post-disaster period.

Glimpses of the Workshop



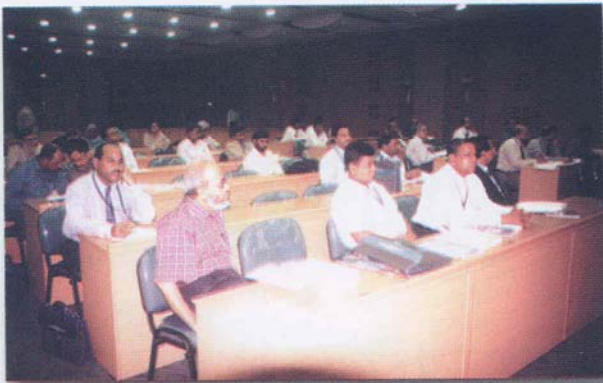
Mr. M. Saifur Rahman, Hon'ble Finance and Planning Minister, Government of Bangladesh, delivering his speech at the inaugural session of the Workshop



Closing session of the workshop









Implementation Matrix

The implementation matrix should be regarded as only preliminary and indicative. The matrix would be finalized after further consultation with concerned Ministries and organizations

Matrix for Implementation of the Recommendation of National Workshop on Flood Risk and Damage Reduction in Bangladesh

Keynote Paper 1: An Overview on Impacts of Flood in Bangladesh and Options for Mitigation

Code No.	Recommendations	Linkage	Time Frame (Month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
Flood Management and Mitigation								
General Measures								
K1-001	Regional cooperation: As more than 90% of the flood flow originate from outside the country, Bangladesh alone cannot solve the flood problem. For effective flood management, basin-wide approach with concerted regional participation may be pursued. A regional flood management initiative should be initiated with participation from all co-riparian countries.	G1-008 G4-008	6	MoWR/MoFA	WARPO/ JRC	1.0	GoB/UNDP/ WB/ADB	SAARC/ BIMTEC forums could be utilised, Track-2 initiative should be further strengthen.
K1-002	The Indian River Link Project: The proposed Indian river link project would be a disaster for the society, economy and ecology of Bangladesh. Immediate actions are required to foster dialogue with the Indian side on this issue. There		6	MoWR/MoFA	WARPO/ JRC	1.0	GoB/WB/ADB	Civil Society should be mobilised to foster people to people contact. Scientific and academic institution should initiate research programmes. Media has

Code No.	Recommendations	Linkage	Time Frame (Month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
	should also be an initiative from the civil society, academicians, scientists and professionals on both sides of the border to develop awareness regarding the probable adverse effects of the proposed project. Scientific studies may be undertaken to assess all the probable impact of the Indian River Interlink Project. The international community may also be apprised of the viewpoints of Bangladesh.							an important role.
Flood Preparedness								
General Measures								
K1-003	Flood zoning and risk mapping: A comprehensive approach is required to develop flood zoning and risk maps. All development activities in the floodplains should be coordinated based on these	G1-021	12	SoB/BWDB/MoL/MoA/SRI	Consultants	2	GoN/GoB/ADB/WB/JICA	This may be included in the on going CDMP
K1-004	Rationalization and adequate maintenance of existing FCD projects: for prevention of any failure of flood protection embankments or infrastructure, mitigate adverse impact on unprotected areas, by making	G1-013	6	BWDB	Planning cell of agency	0.25	GoN/GoB/ADB/WB/JICA	WMIP project would support this initiative

Code No.	Recommendations	Linkage	Time Frame (Month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
	existing infrastructure for drainage (sluices, drainage channels etc.) functional							
K1-005	Flood management modeling: development options in the floodplains should be studied in an integrated and scientific manner.	G1-026		MoWR/ MoLGRDC/ Planning Commission	IWM/ BWDB	On-going	GoN/GoB/ADB /WB/JICA	Existing models to be updated with recent topographic data of flood plains. P C should issue directive.
K1-006	Erosion prediction and monitoring: available modeling integrated with remote sensing and GIS technology for a nation-wide erosion prediction and monitoring should be immediate instituted	G1-026	24	MoWR	IWM	On-going	GoN/GoB/ADB /WB/JICA	On-going project of BWDB. Further expansion of the project is required to cover the entire country.
K1-007	Drainage Improvement: The natural drainage need to dredged and made free from encroachment to bring back the original conveyance capacity. Canal Digging program may be strengthened with proper technical guidelines and effective monitoring.		12	MoWR	Existing Resources of BWDB	700	UNDP/ADB/W B/GoN/GoB	Nation-wide programme with people's participation.
K1-008	Off-take Maintenance: It is		12	MoWR/	BWDB/	1	UNDP/ADB/W	Coordination between

Code No.	Recommendations	Linkage	Time Frame (Month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
	important the offtakes of the rivers are regularly dredged to allow flood flow distribution in wider areas.			MoShipping	BIWTA		B/GoN	BWDB and BIWTA is required.
K1-009	Integrated Floodplain Management: It is of utmost importance that all agencies operating in the floodplains should follow an integrated approach on a scientific basis. People of floodplains should be consulted and involved in all phases of development. There should be government guidelines for any development in the floodplains, which would pave the way for an Integrated Floodplain Management.		12	MoWR/ MoLGRDC	Consultants	2.0	UNDP/ADB/W B/GoN	
K1-010	Urban Flood Management: Cities and towns are losing the natural drainage routes and flood retention ponds rapidly. As a result, severe drainage congestion in many of the Towns and Cities has become a common phenomenon. There is a need for immediate actions to free the natural drainage routes from encroachment, and to design and implement		12	MoWR/ MoLGRDC/MoL/ MoEst	BWDB/ City Corporation/ DWASA/ CWASA/ DC Office	2.0	UNDP/ADB/W B/GoN	Coordination of activities of various agencies and harmonisation of Sectoral policy is the key.

Code No.	Recommendations	Linkage	Time Frame (Month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
	sustainable drainage management system for each of the urban areas. Proper urban planning should be undertaken for the growth centres and newly developed urban areas, incorporating provisions for urban drainage.							
K1-011	Improvement of Lead-time for Flood Forecast: The existing flood forecasting technology is able to provide short-term (48 hrs) forecasts, which are not sufficient in taking comprehensive flood preparedness/response activities. The lead-time of forecasts could be extended using climate forecasts. The CFAB project has paved the way and the developments made through CFAB should be carried forward.	K1-011 G1-052 G1-025	36	MoD/BMD/BWD B/DAE/DMB	Gatech/ADP C/BMD/BW DB/TWM/C EGIS/DAE/ DMB	5	UNDP/ADB/W B/GoN/USAID	USAID funded project CEAB may be extended.
K1-012	Flood Proofing and Shelters: In many areas of Bangladesh, like the Haor areas, Chalan Beel or the depressions of the south-central region, full flood protection would not be advisable because these kinds of	GI-017	24	BWDB/LGED/LGI /MoL	Consultants/ Planning cells of Agencies	10	GoN/GoB/ADB /WB	

Code No.	Recommendations	Linkage	Time Frame (Month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
	measures are not economically viable and at the same time this could result in destruction of the ecologically sensitive wetland environment. Options for flood mitigation in these areas should focus on saving people's life and property. Various flood proofing measures could be adopted for the purpose. One of the options may be to build clustered habitats with all the civic amenities. This may be undertaken on a pilot basis under Asrayan Project for the poor in the Haor areas.							
Flood Response								
K1-013	Updating and further development of the Standing Orders for Disaster Management should be under taken.		12	MoFDM	Consultant	1.0	WB/GoB	CDMP
K1-014	An ICT based Flood Response system, including a nation-wide network of flood information database by connecting databases of various agencies involved in flood response activities should be developed	G1-023	24	MoFDM	Consultant	2.0	WB/ADB/ JICA/UNDP	Include as a component of CDMP

Code No.	Recommendations	Linkage	Time Frame (Month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
	and implemented. Such a system could be developed based on internet and wireless communication technologies;							
K1-015	Training and capacity building of field officials and community workers, volunteers and NGO staffs in flood fighting and relief activities should be under taken.		24	MoFDM/DMB	Consultant	2.0	WB/ADB/UNDP/JICA/GoB	
K1-016	It is imperatives that for implementing a participatory approach in flood disaster management and to make it effective, awareness about any disaster event and the role of all concerned should be clearly understood. For this purposes the government, NGOs and others concerned should undertake concerted efforts. Together with training and capacity building of field officials and community workers, volunteers and NGO staffs in flood fighting and relief activities, the media has a great role to play in all stages of disaster management. The media should play a constructive role by issuing special bulletins			MoIn/MoWR/MoFDM	Existing Resources	1.0	GoB	

Code No.	Recommendations	Linkage	Time Frame (Month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
	about the disaster, and making people aware of their responsibility during and after the floods.							
Post-Flood Reconstruction and Rehabilitation								
K1-017	Methods and tools for damage assessment: One of the constraints in responding to any disaster and mobilizing resources for reconstruction and rehabilitation is reliable data on flood damage. Measures should be taken to develop tools and methods for generating such data.	G1-066	12	MoFDM/DMB	Consultants	2.0	UNDP/ADB/WB/GoB	
K1-018	Coordination: The limited resources of the government should be properly mobilized and coordinated. For this all agencies working for the post-flood rehabilitation and reconstruction should carry out their activities in a transparent and coordinated manner. There should be a central flood rehabilitation body to	G1-002, G4-002	6	RHD/LGED/BWD B	Planning cell of agencies	3.0	GoB	

Code No.	Recommendations	Linkage	Time Frame (Month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
	coordinate such activities.							

Matrix for Implementation of the Recommendation of National Workshop on Flood Risk and Damage Reduction in Bangladesh

Keynote Paper 2: Flood Disaster Management and Risk Reduction in Bangladesh

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
Flood Management and Mitigation								
General Measures								
K2-001	Reducing Risks by improving the economic status of the poor who are vulnerable to natural disasters;	G3-027, G3-028, G3-029	12	MoF&P		2.0	GoB	Appropriate regulations required
K2-002	Reducing Poverty by enhancing the long-term development capacity of the poor vulnerable to natural disasters;			MoF&P		10.0	GoB	Policy directives required
K2-003	Sustainable Development by enabling access to development resources and services for long-term resilience of the targeted households;	G3-027		MoF&P		5.0	GoB	Policy directives required

Matrix for Implementation of the Recommendation of National Workshop on Flood Risk and Damage Reduction in Bangladesh

Keynote Paper 3: The Impact of Flood on the Economy of Bangladesh

Code No.	Recommendations	Linkage	Time Frame (Month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
Flood Management and Mitigation								
General Measures								
K3-001	Economic Recovery: To the extent that the increased disbursements meet the genuine short-run needs of working capital and is paid back in time, a moderate expansionary stance in monetary management in the short run may be desirable for the sake of economic recovery, even if it means violating the rigid IMF prescriptions.		6	MoF&P				
K3-002	Poverty Alleviation: Ensuring food security is an immediate priority in post-flood economic management. Keeping food prices from rising is							

Code No.	Recommendations	Linkage	Time Frame (Month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
	only one part; another is to know how to generate enough purchasing power in the hands of the flood-affected poor so that widespread starvation can be avoided.							

Matrix for Implementation of the Recommendation of National Workshop on Flood Risk and Damage Reduction in Bangladesh

Working Group 1: Flood and Disaster Management and Mitigation Options

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
Flood Management and Mitigation								
General Measures								
G1-001	Set national priorities on comprehensive flood management		6	MoWR/WARPO MoF&P		2.0	GoB/UNDP/ WB/ADB	
G1-002	Ensure coordinated planning, design and construction of all infrastructure in floodplains	G4-002	6	RHD/LGED/ BWDB	Planning Commission /IMED/ Planning Cell of Agencies	3.0	No	A policy directives to be issued by the Planning Commission.
G1-003	Ensure required fund for maintenance of physical infrastructure (Embankments, regulators, barrages, drainage			GoB		-	No.	

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
	canals, etc.)							
G1-004	Ensure risk-based design of projects and ancillary structures		6	MoF&DM/MoWR/MoC	Design Cell of Agencies	1.0	UNDP/WB/ADB	
G1-005	Integrate disaster risk management into national development process and introduce Disaster Impact Assessment (DIA) for project approval		6	MoF&P/MoF&DM	PC, Planning Cell of Agencies	0.5	UNDP/DFID/ADB/CIDA/USAID/JICA	Policy and Guidelines to be issued by the Planning Commission
G1-006	Adopt a comprehensive all-risks management programme (initiated through the Comprehensive Disaster Management Programme-CDMP)		6	MoFDM/DMB	Consultants	2	UNDP/ADB/WB/CIDA/DFID/JICA	CDMP may look into it.
G1-007	Organise a Regional Conference on Flood Management. Include the issue in the ensuing SAARC and BIMSTEC agenda.		6	MoWR/MoFA	JRC/SA Desk of MoFA	1	UNDP/ADB/WB/CIDA/GoN/JICA/USAID (OFDA)/DANIDA	
G1-008	Foster regional cooperation amongst the co-basin countries such as China, Nepal, India, Bangladesh and Bhutan for collaborative management of water and floods of the Ganges, the Brahmaputra and the Meghna River Basins	G4-008	12	MoWR/MoFA	JRC/SA Desk of MoFA	1	UNDP/ADB/WB/CIDA/GoN/JICA/DANIDA/USAID(OFDA)	

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
G1-009	Create suitable institutional framework like River Basin organization (RBO) for the Ganges, the Brahmaputra and the Meghna, involving the co-basin countries of respective rivers		12	MoWR/MoFA	JRC/ SA Desk of MoFA	0.5	GoN/ADB/WB/ CIDA/JICA/US AID	
G1-010	Intensify diplomatic efforts to involve the international community in order to facilitate regional cooperation for flood management and improvement of flood forecasting and warning system.		12	MoWR/MoFA/ MoFDM	JRC/ SA Desk of MoFA		GoN/UNDP/ /WB	
G1-011	Urge the co-basin countries to start the process of cooperation by agreeing to establish a mechanism for free flow of all flood related data and information to help improve the flood forecasting and warning system in the individual countries		6	MoFA/ MoWR	JRC/ SA Desk of MoFA	1	GoN/UNDP/ ADB/WB/JICA /USAID/CIDA/ DANIDA	
G1-012	Develop policy guidelines for use of advanced analytical tools like mathematical models and GIS for flood impact assessment in any project to be undertaken in the floodplains		6	MoF/MoP/MoWR/ IWM	Planning Cell of Agencies/ IWM	2	GoN/UNDP/ ADB/WB/JICA /USAID	On-going EMIN project may take up some pilot area.

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
Structural Measures								
G1-013	Rationalise existing Flood Control and Drainage (FCD) infrastructures		6	BWDB/LGED	Planning Cell of Concerned Agencies	0.25	GDN/WB/ADB	
G1-014	Re-excavate and de-silt rivers, khals and offtakes of distributaries etc.	G2-050, G4-045	24	BWDB/LGED/BIWTA	Planning Cell of Concerned Agencies	20	GoN/GoB/ADB/CIDA/JICA	
G1-015	Ensure safe conveyance of cross-boundary flows by channelising and stabilizing of major rivers.		24	BWDB/JRC		10	GoN/GoB/ADB/WB	
G1-016	Ensure flood protection to all towns and cities including Dhaka Eastern Embankment with provision for efficient storm water drainage from city areas.	G2-049, G2-050	24	BWDB/DWASA/DCC/Municipality	Planning Cell of Agencies/Consultants	10	GoN/GoB/ADB/WB	
G1-017	Construct cluster residential housing above high flood levels with all necessary facilities and amenities through dredged filling of 2-3 ha of area in the Haor and flood prone areas. Remodel and redesign existing Asrayan Projects accordingly. In such a situation, relocate one village in an area of 2-3 ha.		24	BWDB/LGED/LGI / MoL	Planning Cell of Agencies/Consultants	10	GoN/GoB/ADB/WB	

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
Non-Structural Measures								
G1-018	Create awareness for community participation in embankment maintenance		12	BWDB/LGED/LGIs/Disaster Management Committee	Field Offices of Agencies/NGOs	2	GoN/GoB/ADB/WB/DFID/EU	
G1-019	Promulgate Water Act to regulate all water management activities		24	WARPO	Legal Consultants	1.5	GoN/GoB/ADB/WB	
G1-020	Prepare an updated topographic map of the country with all infrastructure in digital cover		48	SOB/BWDB/WARPO/SPARRSO	Outsource to Specialised Organisation /Agency	20	GoN/GoB/ADB/WB/JICA	
G1-021	Undertake flood risk zoning/flood mapping preferably through updating Digital Elevation Model (DEM) based on topographic survey data		12	SOB/BWDB/WARPO/MoL/MoA/ SRI	Consultants	2	GoN/GoB/ADB/WB/JICA	
G1-022	Develop a distributed flood information base linking the databases of all agencies involved in flood data collection		12	BWDB/MoFDM/DMB	Outsource to Specialised Organisation	2	GoN/GoB/ADB/WB/JICA	On going CDMP project may include this component
G1-023	Establish Flood Response System (FRS) to support flood response activities		12	BWDB/CEGIS/IWM/ADPC/BDPC	Outsource to Specialised Organisation	1	GoN/GoB/ADB/WB/JICA/DANIDA/DFID/UNDP	On going project of FFWS of DANIDA may be further extended
G1-024	Extend the existing flood-		24	BWDB/IWM/	Existing	1	GoN/GoB/ADB	

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	forecasting model in the upstream basins of the major rivers to increase the lead-time of forecast.			IWFM	resources		/WB/JICA/ DANIDA	
G1-025	Improve existing weather forecasting (NWP) and climate prediction along with improvement of lead-time of flood forecast in the short-term (5-7 days), medium-term (20-30 days) and long-term (monthly, seasonal) through developing & introduction of Numeric Weather Prediction Model (NWPM). Continue the ongoing programme on Climate Forecast Application in Bangladesh (CFAB).		36	BWDB/DMB/ BMD/ DAE	On going GATECH, ADPC, BMD, BWDB, DAE, DMB, CEGIS, IWM	5	GoN/GoB/ADB /WB/JICA	On going project CFAB of USAID, needs extension and further resource mobilization
G1-026	Strictly follow the practice of using Flood Management Models and Erosion Forecast Models for flood impact assessment and erosion monitoring		24	BWDB/IWM/WA RPO/LGED/RHD	On going	2	GoN/GoB/ADB /WB/JICA	On going project of BWDB, WARPO need better co-ordination
G1-027	Develop guidelines for rehabilitation of infrastructures		24	Planning Commission	Consultants/ Deptt. Resource	2	GoN/GoB/ADB /WB/JICA	
G1-028	Develop quick flood damage assessment methods and tools	G1-072, G3-022	24	Planning Commission	Consultant	1.5	GoN/GoB/ADB /WB/JICA	

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
Flood Preparedness								
General Measures								
G1-029	Conduct hazard mapping, vulnerability and capacity assessments.	G1-020 G1-021	24	BWDB/DMB/ WARPO	Consultants	2	GoN/GoB/ADB /WB/JICA	This may be included in the on going CDMP
G1-030	Intensify public awareness and advocacy in order to enhance people's capacity to cope with disaster.		60	MoF&DM/DMB	NGOs/ Field offices of Agencies	2	GoN/GoB/ADB /WB/JICA/ DFID	This may be included in the on going CDMP
G1-031	Promote family and community level flood preparedness and contingency planning.		60	MoFDM/DMB/ Disaster Management Committees	NGOs/ Field offices of Agencies	2	GoN/GoB/ADB /WB/JICA/ DFID	This may be included in the on going CDMP
G1-032	Include gender issue in planning and implementation of all aspects related to flood risk management	G3-016	24	MoWR	Planning cell of Agencies	2	UNDP/ADB/ WB/GoN/ DFID	This may be included in the on going CDMP
G1-033	Conduct "lessons learnt workshops" on 2004 flood at different levels.		12	BWDB/IWM	Existing Resources	1	UNDP/ADB/ WB/GoN/ DFID	This may be included in the on going CDMP
G1-034	Take care of special needs of vulnerable groups including the disabled, the children and the elderly.		12	MoHFPW/ MoFDM	Planning cells	1	UNDP/ADB/ WB/GoN/ DFID	
G1-035	Review the standing order on		12	MoFDM/DMB	Consultants	0.5	UNDP/ADB/W	This may be

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	disaster to bring about necessary amendments in the light of the lessons learnt from the 2004 floods.						B/GoN	done under on going CDMP
G1-036	Ensure wide circulation of and strict adherence to Standing Orders on Disaster (SOD) at all levels. Activate all the committees as stated in the SOD and ensure preparation of Action Plans at all levels.		12	DMB	Existing resources	0.5	UNDP/ADB/W B/GoN	This may be done under on going CDMP
G1-037	Incorporate the issues and concerns of river erosion and earthquake in the SOD.		12	DMB	Existing resources	0.5	UNDP/ADB/W B/GoN	This may be done under on going CDMP
G1-038	Develop a Program Management Information System (PMIS) with updated and accurate information on vulnerable population		24	DMB	Consultants	1	UNDP/ADB/W B/GoN	
G1-039	Strengthen the Disaster Management Bureau in terms of manpower and logistics.		24	MoFDM	New recruitment	2	UNDP/ADB/W B/GoN	This may be done under on going CDMP
G1-040	Adopt measures to prevent frequent turnover of officials trained and involved in main-stream disaster management.		PM's Office	MoFDM/ Mo Establishment/ DMB	-	0.5	UNDP/ADB/W B/GoN	
G1-041	Consider the option of distributing		24	MoFDM/ MoHFP	-		UNDP/ADB/W	Necessary

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	balanced diet as relief goods instead of rice only.						B/GoN	Policy Directives may be issued by MoF&DM
G1-042	Put in place a mechanism for continuous and routine feedback for improvement of forecast and warning.		24	BWDB/DMB/ Disaster Management Committees	FFWC/ Consultants	2	UNDP/ADB/W B/GoN	This may be included in the on going FFWSP/ CDMP
Structural Measures								
G1-043	Ensure that all structural interventions follow the National Water Policy and National Water Management Plan		12	WARPO/ Planning Commission	Existing resources	0.5	UNDP/ADB/W B/GoN	
G1-044	Construct high raised multi-purpose flood shelters, (including shelters for cattle and other domestic animals) like the cyclone shelters in the coastal areas. <i>Killa/Halipad/Garveyard</i>	G4-047	3	BPWD/ BWDB/ LGED/ LGIs		10	UNDP/ADB/W B/GoN	
G1-045	Ensure that roads and highways are constructed high enough to be used as a temporary refuge for flood affected people.	G2-035, G3-006	24	Planning Commission/ RHD/ LGED		20	GoB	Policy Guidelines may be issued. Pilot project may be taken up.
G1-046	Develop at least one flood-proof pond (for drinking water and		24	UP/ LGIs		10	UNDP/ADB/ WB/GoN/	

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	cooking) in every village.						UNICEF/JICA/GoB	
Non-Structural Measures								
G1-047	Promote and strengthen indigenous coping mechanisms and survival techniques among the vulnerable people.		36	MoFDM/ DMB		2	UNDP/ADB/WB/GoN	May be included in the CDMP
G1-048	Implement the project titled “Reduction of Risk through Sustainable Livelihood Support” for the most vulnerable people.		36	MoFDM/ DMB/ Planning Commission	Consultants	2	UNDP/ADB /WB/GoN/ DFID/GoB	May be included in the CDMP
G1-049	Update flood forecasting data collection system in terms of intensity, frequency, mode of collection and transmission.		24	BWDB	Outsource to Specialised organisations	3	UNDP/ADB/ WB/GoN DANIDA	May be included in the on going project FFWSP
G1-050	Establish Flood Preparedness Programme in line with Cyclone Preparedness Programme, as per a study report sponsored by UNDP.		24	DMB	NGOs/LGIs	2	UNDP/ADB/ WB/GoN/ DFID	CDMP
G1-051	Commission two Meteorological-cum-hydrological Doppler Radars, one in the northeast (Moulvibazar) and other in northwest (Rangpur) for estimating precipitation covering at least 400km of Ganges, Brahmaputra and Meghna		24	BMD	Consultants	20	JICA	This is important for forecasting flash flood.

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	River Basins							
G1-052	Improve weather forecasts and warnings by introducing Numerical Weather Prediction (NWP) System together with networking of the existing different observatories in BMD. Transfer the NWP Model of CFAB to BMD with necessary capacity building.		36	MoD/ BMD/ BWDB/ DAE/ DMB	GaTech, ADPC/ BMD/ BWDB/ IWM/ CEGIS/ DAE/ DMB	5	UNDP/ADB/ WB/GoN/ USAID	USAID funded CFAB project may be extended with resource mobilization for another 5 years
G1-053	Modernize the existing Meteorological Training Institute of BMD with adequate facilities and carry out R&D programmes for upgrading knowledge-base and developing appropriate tools for weather predictions		24	BMD	Consultants	2	UNDP/ADB/ WB/GoN/ USAID	
G1-054	Put in place an operational flood mapping system based on mathematical modeling, remote sensing and GIS techniques.		24	BWDB/ SPARRSO/ WARPO	Consultant IWM/ CEGIS	2	UNDP/ADB/ WB/GoN/ USAID	On going project of CIDA entitled EMIN / USAID FLOOD MAPPING project may be reviewed and redesigned
G1-055	Ensure that warning messages are user-friendly and relevant to the local context. Replicate the people- oriented flood warning	G3-019	24	BWDB/IWM/ CEGIS/ DMB	Consultants	1.5	UNDP/ADB/W B/GoN	This may be included in CDMP/FFWSP

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
	dissemination procedure piloted by BWDB through BDPC							
G1-056	Ensure storage of emergency material (food, fodder, etc.) near flood risk areas and installations		12	MoFDM/ DoF/ DMB/Disaster Management Committee		3	UNDP/ADB/WB/GoN	
G1-057	Designate BWDB as the nodal agency to issue flood forecasts by coordinating the efforts of BMD, BWDB, IWM and SPARRSO		12	BWDB/BMD	Existing resources	0.5	UNDP/ADB/WB/GoN	On going project of DANIDA and JICA may be used
G1-058	Up-grade the existing GTS Link of BMD from 2400 bps to 64000 bps.		24	BMD	Consultants	0.5	UNDP/ADB/WB/GoN	
G1-059	Integrate storm water drainage, sewerage system management and flood prevention in urban areas in the flood prone areas of the country specially for Dhaka Metropolitan City areas.	G4-007	24	DWASA/DCC	Consultants	10	UNDP/ADB/WB/GoN/SIDA	
G1-060	Prepare Master Plan for proper land use planning for all urban areas, Municipalities and City Corporations.		36	LGI/ MoHPW/, MoLGRDC,DoUP, Municipality, City Corporation	Consultant	3	UNDP/ADB/WB/GoN	
G1-061	Ensure availability of equipment, material and manpower prior to crisis period through effective contingency plans.		6	MoFDM		5	UNDP/ADB/WB/GoN/DFID/EU	
G1-062	Put in place a mechanism for continuous training to improve the		6	MoFDM/ DMB/ Disaster	Consultants		UNDP/ADB/WB/GoN/DFID	CDMP project may be used

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	capacity and skills of all those who are involved in disaster management			Management Committees			/JICA/EU	
Flood Response								
General Measures								
G1-063	Establish effective communication with the media so that the extents of damage and government responses are correctly reported.		12	MoI/MoFDM			GoB	
Structural Measures								
G1-064	Undertake sinking and repair of high platform tube-wells in all the flood prone areas	G4-037	12	MoLGRDC/ DPHE	Existing resources	1	WB/GoB	
G1-065	Ensure availability of mobile water treatment plants		12	DWASA/CWASA/ DPHE/ NGO	Existing resources	5	JICA/CIDA/ DFID/DANIDA /SIDA	
Non-Structural Measures								
G1-066	Establish an effective system for Damage and Needs Assessment (DNA)		12	MoFDM/ DMB/ Planning Commission	Consultants	2	UNDP/ADB/W B/GoN	
G1-067	Ensure effective coordination among GoB agencies, and between GoB and other agencies		12	PM's office/Cabinet Div.	Existing resources			Necessary instruction may be issued and effective monitoring necessary
G1-068	Monitor flood response activities		12	MoFDM/ DMB/		0.5	UNDP/DFID/	May be

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	at all levels under proper guidelines			BWDB			DANIDA	conducted under CDMF
G1-069	Ensure IT and telecommunication support for the field level offices.		24	MoTelCom/ T & T Board		2	GoB	
Post-Flood Reconstruction and Rehabilitation								
Structural Measures								
G1-070	Ensure supply of safe drinking water and sanitation facilities in flood-prone areas.		24	DWASA/ CWASA/ / DPHE		5	GoB/ADB/WB/ UNICEF	
G1-071	Undertake re-engineering of damaged structures according to changed hydrological/ morphological scenarios.		24	BWDB/ RHD/ LGED/ PWD	Consultants/ Design cell of agencies	2	GoB	
G1-072	Undertake skill development programmes for quick damage assessment and proper rehabilitation measures before the next monsoon.	G1-031, G3-022	12	Planning Commission and all concerned agencies	Consultants	2	UNDP/ADB/ WB/GoN/DFID /CIDA/JICA	
G1-073	Put emphasis on creation of employment and generation of income for the flood affected people.		12	MoFDM/ DoR & R/ NGO Bureau/BB/PKSF/ SDF		2	ADB/WB/GoB/ JICA/CIDA	
Non-Structural Measures								
G1-074	Undertake comprehensive		24	MoH&PW/	Existing	20	GoB	

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	programmes to prevent deaths from starvation, restore homesteads, rehabilitate agriculture, create employment, prevent epidemics, provide nutritional support to pregnant women and children, and bring back life to normalcy.			MoF&DM/DoHS/ All Disaster Management Committees/LGIs/ DoR&R/WHO/ UNICEF	resources			
G1-075	Ensure safety of vulnerable groups (women, children, disabled) during floods.		24	MoFDM/ MoWCA/ LGIs/NGOs		20	UNDP/ADB/ WB/ILD/UNICEF/WFP	
G1-076	Establish effective GO-NGO coordination for ensuring better flood risk management before, during and after flood disaster.	G4-003, G2-024, G5-024	24	NGO Bureau	Existing resources	2	UNDP/ DFID/ USAID/JICA	May be taken up under CDMP

Matrix for Implementation of the Recommendation of National Workshop on Flood Risk and Damage Reduction in Bangladesh

Working Group 2: Impact of Flood on National Transportation and Mitigation Options

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
Flood Management and Mitigation								
General Measures								
G2-001	Consider other water-related natural disasters such as erosion, flood and cyclone etc in drawing up the risk mitigation options		6	MoF&P/MoFDM/ MoWR/WARPO/ DMB	Existing resources			Policy directives may be issued

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
G2-002	Ensure that planning, implementation and maintenance of roads, highways, railways and cross drainage structures, bridges and flood mitigation embankments, appurtenant structures and water ways are done in an integrated manner with emphasis on unimpeded drainage		12	RHD/BWDB/LGE D/ LGIs/ Planning Commission	Planning cell of agencies			Policy directives may be issued
G2-003	Enhance knowledge base and technological capability of monitoring flood vulnerability and real time management of flood hazards by establishing a cell and appropriate institutional linkages with specialised institutions like BUET, IWFM, IWM and RRI etc.		24	MoF&P/ MoWR/ MoFDM	Existing Resources	0.25	UNDP/ ADB/WB/ GoN/JICA	
G2-004	Consider cyclonic surge flood drainage for designing coastal roads with the provision of cross drainage structures and overtopping		12	BWDB/ RHD/ LGED	Planning cell of agencies			Policy and guidelines formulation
G2-005	For tackling flood and emergency situation, provide the executing agency with authority to procure services through short notice tendering; amend the Public Procurement Regulations (PPR 2003) accordingly.		6	MoF & P/ IMED	Existing resources			Policy and guidelines formulation
G2-006	Develop strong public and private sector institutions through inter-	G2-022	12	MoFDM/ NGO Bureau	Existing resources	1		Institutional Development

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
	organization linkages and sharing responsibilities							
G2-007	For better institutional co-ordination, rename Ministry of Communications as Ministry of Surface Transport		12	Cabinet Division				Policy formulation

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Structural Measures								
G2-008	Construct flood fuses at predetermined locations on the roads and embankments and operate these on the basis of real time flood forecasting to reduce flood damage		12	BWDB/ RHD/ LGED	Planning & Design cell of Deptt.	30.0		Pilot project may be taken up
G2-009	Metal coastal polder crowns to facilitate rescue and relief operations		6	BWDB/LGED/ RHD	Existing resources	30.0		Policy Directives may be issued
G2-010	Raise railways in flood-prone areas above the Highest Flood Level on a priority basis		6	BR/RHD	Existing resources			Policy Directives
G2-011	Undertake protection of embankments following guidelines in worst affected locations through stabilisation / slope protection measures e.g. Geo-textile and CC blocks; and in less affected locations through plantation /turfing		12	BWDB/LGED/ RHD	Consultants /Planning & Design cell of Deptt.		GoB	Planning and design guidelines may be issued. May be taken up under on-going projects
G2-012	Provide adequate opening in the bridges and drainage structures for quick passage of floodwater.		24	BWDB/LGED/ RHD	Consultants /Design cell of Deptt.	30.0	GoB/ADB/ WB	Guidelines may be issued. MAY be taken up under on-going projects

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Non-Structural Measures								
G2-013	Put in place a multi-modal integrated transport policy		24	MoC/ MoSIWT		1.0	UNDP/ WB/ ADB	Policy and Guidelines may be formulated
G2-014	Carry out a comprehensive study including drainage modelling and environmental analysis		36	BWDB/DoE/RHD/ LGED	Existing resources/ IWM/ CEGIS	2.0	WB/ADB/ GoN/CIDA /JICA/ SIDA	
G2-015	Prepare a detailed guideline for assessment of impact of flood on development works in the transportation sector		24	BWDB/ RHD/ LGED	Existing resources	0.1	GoB	Policy and Guidelines may be formulated
G2-016	Prepare assets inventory of each department for risk assessment and risk management		24	MoFP/MoF&DM/ all concerned agencies	Consultants	2.0	GoB/ UNDP/ DFIP/ USAID/ JICA/ CIDA/EU	Development of proper database may be undertaken
G2-017	Extend the present flood forecasting system to cover the transportation network and facilities	G2-055, G3-001	24	BWDB/DMB/MoC /RHD/LGED	Existing resources	1.0	UNDP/WB /ADB/ DANIDA	May be included in an on-going project
G2-018	Monitoring of hydraulic and Morphological conditions of the rivers on which major bridges like Hardinge, LalanShah, Bhairab, Meghna and Rupsha were constructed regularly through establishing bridge inspection and flood monitoring unit and having		12	BWDB/RHD/BR/ LGED	Existing resources	2.0	UNDP/WB /ADB/ GoB/ DANIDA	Develop monitoring system and models and maintain the models. May be included in on-going projects of BWDB and WARPO, RHD

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
	Morphological modelling programme							
G2-019	Strengthen hydrological data collection network and agency		24	BWDB	Existing resources	2.0	UNDP/WB /ADB/ DANIDA/ GoN	Institutional Study and Capacity Building may be included in an on-going project
G2-020	Formulate a National Policy to protect the waterways and to determine the level of fixed structures (roads, railways).		24	BIWTA/BWDB	Consultants	0.5	UNDP/WB /ADB/GoN /DANIDA	Formulation of Guidelines
G2-021	Redefine navigation headway clearance at different locations		12	BIWTA/BWDB/ LGED/ RHD	Consultants	1.0	GoB	Formulation of Guidelines
G2-022	Develop strong public and private sector institutions through inter-organizational linkages and sharing responsibilities.	G2-007		MoC/MoF&DM/ NGO Bureau/LGIs	Existing resources			Institutional Development
Flood Preparedness								
General Measures								
G2-023	Preserve buffer stock of construction materials and bailey bridges to face any emergency		36	RHD/LGED	Existing resources	30.0	UNDP/WB /ADB/GoN /DANIDA	
G2-024	Strengthen coordination among RHD, LGED, BR and other relevant agencies	G1-076, G5-026		RHD/ LGED/ BR etc	Existing resources			Directives may be issued

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
G2-025	Ensure that BRTA acts as regulatory body; if necessary privatise fitness and registration process		12	MoC/ BRTA	consultant	1.0		Institutional Study
G2-026	Construct bus and launch terminals in such a way that these may be used as flood shelters		24	RHD/LGED	Consultants	0.25	UNDP/WB /ADB/GoB	Guide lines for design of terminal
G2-027	Make more allocations for the shipping sector in order to have a proper maintenance programme for river dredging; procure more dredgers		36	BIWTA/BWDB			UNDP/WB /ADB/ GoB	
G2-028	Give the responsibility of dredging/ re-excavating/digging rural internal navigation channels at local level (included in the master plan) to LGED/BWDB		24	BWDB/LGED/ LGIs/ Peoples' participation	Existing resources		GoB	Directives may be issued
G2-029	Ensure private sector participation in route maintenance; ensure total leasing of dredging and route operation		36	BIWTA/BWDB/ LGED	Existing resources	1.0	GoB/NGOs	May be studied and pilot project may be taken up
G2-030	Ensure improvement of drainage system and regular maintenance in each city/town		36	MoLGRD/ DWASA/CWASA/ City Corporation/ Municipalities	Consultants	10.0	UNDP/WB /ADB/ JICA	New project may be formulated and may be incorporated in on-going projects.

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Structural Measures								
G2-031	Ensure slope protection of approach roads to bridges / culverts using measures such as CC Blocks, geo-textile, mattress gabion and for flood embankment by growing turfs like vetiver (Kashful)		12	BWDB/ LGED/ RHD/RRI/IWFM	Consultants / Research	10	UNDP/WB /ADB/ JICA/GoN	Research programme
G2-032	Provide causeways (Irish crossing) in roads in the flash flood areas		24	RHD/LGED	Consultants	2.0	UNDP/WB /ADB	Pilot Study may be taken up
G2-033	Remove obstructions from and stop encroachments in waterways near bridges; promulgate necessary regulations	G2-051, G4-032	36	MoL/District Admn/ BIWTA/ BWDB/ RHD/LGED	Existing resources	0.1		Policy guidelines should be formulated and implementation of existing laws
G2-034	For National and Regional Highways, provide asphalt concrete pavement with hard shoulders		12	RHD	Existing resources	5.0		Pilot Project may be taken up
G2-035	Upgrade at least one road to above the flood level in each union with adequate cross-drainage provisions	G1-045	36	RHD/LGED	Existing resources	5.0	UNDP/ ADB/WB	Pilot project may be undertaken
G2-036	Provide flood overflow system along submersible roads		24	MoC/MoLGRD/ LGED/ RHD/	Consultants	10.0	GoB	Pilot Project may be taken up
G2-037	For flood free roads, adopt adequate flood flow openings to		24	RHD/LGED/ BWDB/Research	Consultants	2.0	GoB/ GoN	Formulation of Design standards

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
	ensure unimpeded drainage			Organiasation				and guidelines
G2-038	Implement flood shelters/flood refuge along with road and embankment construction		24	RHD/LGED/BWDB	Consultants	20.0	WB/ADB/GoB/JICA/DFID	Pilot Project may be taken up identifying vulnerable points on priority basis
G2-039	Before and during implementation of dredging, carry out impact study for adverse impact on the river regime		24	BIWTA/BWDB	Consultants	1	GoB/GoN/JICA	Action research
G2-040	Modernise and improve existing major river port terminals and also construct new ones as required		36	BIWTA/BWDB/LGED	Consultants/Contractor	15	UNDP/GoN/WB/ADB	Study and implementation
G2-041	Encourage and implement river loop cuts; ensure proper study of impacts of loop cuts on other areas and study their long-term sustainability through morphological modelling studies		36	BWDB/BIWTA	Consultants/Contractors	20	UNDP/GoN/WB/ADB	Study and implementation
G2-042	Undertake Gorai and Kalni-Kushiyara dredging		36	BWDB	Existing resources and consultants	50	WB/ADB/CIDA	Renewal of project
G2-043	Unplanned infrastructure quite often deteriorates siltation condition; undertake measures to prevent siltation; carry out strategic dredging to prevent siltation of navigation routes		36	BWDB/RRI/BIWTA	Consultants/Research	5	UNDP/GoN/WB/ADB	Action Research and Study

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
G2-044	Preserve natural drainage around all airports (Nikunja created obstacle to ZIA drainage)		36	MoL/DWASA/ Dhaka Dist. Admn/ RAJUK	Existing resources	2	GoB	
G2-045	Keep Tejgaon airport flood free and operational along with its surroundings for emergency relief operations; remove unauthorised/ high-rise buildings in adjacent areas.		36	MoCA/MoL/ RAJUK/ CAAB				Policy directives to be issued
G2-046	Construct flood embankments around all the flood-prone airports of the country or raise the existing Air ports above 100 years Frequency Flood Level; carry out appropriate drainage impact studies		24	MoCA/ CAAB/ BWDB		15	GoB	Policy directives required
G2-047	Complete Patenga Coastal Embankment		36	BWDB	Existing resources	15	ADB/WB/ GoB	
G2-048	Upgrade, improve and maintain Cox's Bazar Airport for disaster management operations		36	MoCA/CAAB		5	GoB/JBIC	
G2-049	Implement Dhaka Integrated Flood Embankment (Eastern By-Pass) project as a priority project		48	BWDB/RHD/ DWASA/ RAJUK/ DCC	Consultants	400	GoB/ADB/ WB/ JBIC	
G2-050	Re-excavate existing drainage canals – especially khals in and	G1-014, G4-045	36	BWDB/BIWTA/ DWASA	Existing resources	10	WB/GoB/ ADB/ JBIC/	

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
	around Dhaka city.						JICA	
G2-051	Remove encroachments /constrictions of natural drainage	G2-033, G4-032	24	MoL/All Agencies	Existing resources	2	GoB	Enforcement of existing Law
G2-052	Protect important cities and towns from flood and drainage congestion	G1-016, G2-049	24	MoLGRDC/ MoWR/ BWDB/ City Corporation/ Municipalities	Consultants		WB/ ADB/GoB	
G2-053	Resuscitate drainage canal system within the cities/towns for removing drainage congestion and for navigation, if possible		24	DWASA/ City Corporation/ Municipalities	Consultants	30.0	ADB/WB/ GoN/ DANIDA	An early assessment all over the country may be undertaken
Structural Measures								
G2-054	Ensure that JMBA, RHD and Railway put in place flood monitoring cells and use JMBA morphological study experience		12	RHD/JMBA/BR/ BWDB	Consultants	0.1	DANIDA/ GoB	FFWC may be provide necessary help
G2-055	Monitor regularly the hydraulic and morphological conditions of rivers on which major bridges like Paksey, Bhairab, Meghna and Rupsha were constructed through establishing bridge inspection and flood monitoring unit and having a Morphological modelling programme	G3-001	12	RHD/JMBA/BR/ BWDB	Consultants	2	GoB	Concerned organizations may develop monitoring model with the assistance of IWM and CEGIS

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
G2-056	Enact regulations/legislations to regulate plying of all types of vehicles over submerged roads		12	MoC/MoLGRD	Consultants	0.1		Policy directives may be issued
G2-057	Include appropriate provisions in PCPs for hydraulic, morphological and engineering investigations and studies		12	MoFP/ Planning Commission				Policy guidelines and Implementation
G2-058	Check plying of overloaded vehicles through strong regulations		12	MoC/ BRTA/ RHD/ LGED				Necessary rules may be adopted and public awareness to be created
G2-059	Regularly undertake pre-flood inspection and preventive repairs.		12	All Agencies				Necessary instruction may be used and monitored
G2-060	Carry out comprehensive river morphology study for determining problems during the deterioration of navigability due to siltation		24	BWDB/ BIWTA	Consultants	2	UNDP/AD B/WB	
G2-061	Monitor and select channel routes in big rivers through appropriate hydraulic study		24	BIWTA/BWDB/ RRI	Consultants	2	UNDP/AD B/WB	Action Research may be undertaken
G2-062	Develop a strategic master plan for navigability improvement through dredging programmes		36	BIWTA/BWDB/ RRI	Consultants	2	UNDP/AD B/WB	
G2-063	Reclassify waterways and redistribute responsibilities amongst organisations such as		24	MoPSIWT/ MoWR/IWTA	Consultants	1	UNDP/AD B/WB	Study and recommendation

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
	BWDB, IWTA, LGED, etc							
G2-064	Enact regulations for private dredging and provide authority to appropriate body to take punitive measures		24	BIWTA/ MoL/ Dist admn	Consultants	0.50		Policy Guidelines to be prepared
G2-065	Modernise registrations and regulations mechanised boats		24	MoSIWT/				Necessary Act may be promulgated and rules may be framed
G2-066	Enhance cargo handling capacity of the international airports for efficient handling of relief goods		24	MoCA/ CAAB		10.0	GoB	
G2-067	Allow Civil Aviation Authority to handle relief cargo flights with information to Foreign Ministry and PMO (Armed Forces Division)		6	MoCA/ CAAB		0.1		Necessary rule may be framed
G2-068	Operation of drainage system based on drainage models for Dhaka City and Realtime forecasting on drainage congestion and Urban flooding		24	DWASA		2	UNDP/WB /ADB/ DANIDA	
Flood Response								
General Measures								
G2-069	During flood emergencies, delegate administrative and financial power to field officers for quick protection and restoration works		12	MoF&P/ IMED				Review of existing delegation of financial & administrative powers

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
Non Structural Measures								
G2-070	Bring small air-crafts belonging to private sector into the relief net		12	MoCA/CAAB				Necessary Act may be promulgated and rules may be framed

Matrix for Implementation of the Recommendation of National Workshop on Flood Risk and Damage Reduction in Bangladesh

Working Group 3: Impact of Flood on Agriculture, Livestock, Fisheries & Industries Sector and Mitigation Options

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
Flood Preparedness								
General Measures								
G3-001	Continuously monitor major infrastructure, e.g., Jamuna Bridge, to detect adverse effects on erosion and take remedial measures	G2-054	12	MoWR/ MoC/BWDB/ RHD/ JMBA/ RRI			GoB	Necessary assistance may be obtained from IWM & CEGIS
G3-002	Facilitate additional investment for flood proofing construction through appropriate credit facilities and construction codes as appropriate; also for build-up of strategic reserve	G3-027	12	MoFP/MoFDM/ HBFC/Banks/ MoH & PW				Necessary regulations may be issued.
G3-003	Facilitate local government & community involvement in flood preparedness activities through a participatory process		12	MoFDM/DMB/ NGO Bureau	Consultant	1.0	DFID/SID A/UNDP/C IDA	May be undertaken under CDMP

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
Structural Measures								
G3-004	Raise mud-built platforms, perimeter of ponds, extra floors in schools (in old and new ones as appropriate) & factory buildings as shelters for livestock, poultry, machineries, inventories, etc. Take extra care for saline zone industries in order to minimise corrosive action of saline water.		6	MoFP/MoFDM/ MoLGDR/ LGIs/ DMB/ Disaster Management Committees/ LGED	Consultant	5.0	UNDP/ DFID/ CIDA/ USAID/ JICA	Policy guidelines may be issued. Pilot project may be taken up.
G3-005	Use nets, cages and bamboo-made 'bana's to prevent fish migration		6	DoF				Awareness on to be built among all the stakeholders
G3-006	Construct roads higher than the flood level	G1-045, G2-035	12	RHD/LGED	Consultant	1.0	UNDP/WB/ ADB	Policy directives to be issued
G3-007	Make roads, embankments & similar infrastructures environment-friendly in general, and fish-friendly in particular, through appropriate fish adequate appurtenant structures		12	BWDB/RHD/ LGED	Consultant	0.5	UNDP/WB/ ADB/CFDA	Necessary guidelines to be prepared and circulated
G3-008	Use concrete blocks of sand and cement to lower construction costs, minimise sand carpeting and keep rivers more navigable		12	BIWTA/BWDB/ RRI		0.25	GoB	Application Research
G3-009	Plant suitable tree species for		3	MoFE			GoB	Policy directives to

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
	preventing soil erosion along roads and embankments							be issued
G3-010	Plant fodder trees to provide fodder and also fuel in times of emergency		3	MoFE				Policy directives to be issued
Non Structural Measures								
G3-011	Ensure supply of strategic inputs such as feed and drugs for livestock, seed and seedlings for crops. Towards this end, build strategic reserves of feed, medicines & seeds and maintain these at various admin. levels by DAE, DLS, respective associations , etc.		12	MoFDM/ DMB Disaster Management Committee			UNDP/ DFID/ JICA/ CIDA	SOD may be updated under CDMP
G3-012	Undertake R&D on shorter crop cycles, problems of sand carpeting and suitable crop varieties		24	DAE/ BRRI/ BARC	BRRI/ BARC	1.5	GoB/USAID/ CIDA	Application Research
G3-013	Regulate feed and veterinary drugs market in times of floods		3	MoFDM/ MoFLS/ DMB/ DLS				May be included in the SOD
G3-014	Ensure emergency vaccination programmes through mobilisation of veterinary teams		3	MoFDM/ MoFLS/ DMB/ DLS				May be included in the SOD
G3-015	Facilitate communication in times of floods, provide for several			MoFDM/ DMB/ Dist Admn.				May be incorporated in SOD

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
	mechanised boats at an appropriate admin. level (village/union)							
G3-016	Ensure gender dimensions in production activities and flood proofing	G1-032	12	MoWCA/ /MoFDM	Consultant	1.0	DFID/USAID /CIDA/ UNDP	May be included in the CDMP
G3-017	Facilitate land zoning for settlement purposes, resettlement of distressed people, specific production activities, such as dairy farming through appropriate laws, rules and procedures, as necessary	G1-020	24	MoL/BWDB/SoB/ SRI/SPARRSO/ LGIs/LGED	Consultant	2.0	DFID/USAID /ADB/WB/U NDP	
G3-018	Institute more dependable & flexible Early Warning System (EWS) by incorporating as many relevant factors as possible		6	BWDB/ BMD/ DMB/DAE	Consultant	1.0	DFID/USAID /ADB/WB/U NDP	May be undertaken under CDMP on pilot basis
G3-019	Disseminate flood forecast and warning messages in simple and easy language through all national and regional level media	G1-055	12	MoF&DM/BWDB/ Disaster Management Committees		0.5	DFID//ADB	May be undertaken under CDMP, FFWSP & EMIN
G3-020	Ensure that flood early warning is as much region & location specific as possible	G1-055	12	BWDB/BMD/DAE /DMB	ADPC, IWM, CEGIS	0.5	DFID/USAID /ADB/WB/U NDP	May be undertaken under CDMP, FFWSP & EMIN
G3-021	Involve local government in dissemination of early warning	G1-055		MoLGRD/CDMP/ All agencies				May be undertaken under CDMP & updating of SOD

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
Post-Flood Reconstruction and Rehabilitation								
Non Structural Measures								
G3-022	Damage assessment is often inaccurate. For rehabilitation purpose, estimate asset loss properly through independent, properly trained assessors, transparent book keeping and validation through sample surveys	G1-028, G1-072	24	MoFP/ MoFDM/ DMB	Consultant	2.0	UNDP/WB/A DB/DFID	Separate study may be undertaken to establish methodology & testing. Finally it may be included in the SOD
G3-023	Take into account both positive and negative effects of flood during damage assessment			MoFP/Planning Commission/ BIDS/BARC/ WARPO	Research	2.0		Separate study may be undertaken to establish methodology & testing. Finally it may be included in the SOD
G3-024	Identify the most severely affected - by and large the poor, weak and marginal group. Ensure that they are the main focus of rehabilitation		12	MoFDM/ MoLGDR/ LGIs/ UPs	Consultant/ NGO	5.0	UNDP/DFID/ USAID/ CIDA/ JICA	Village wise database may be prepared
G3-025	Ensure methodological improvement in assessing damages to the poor, as benchmarking makes all the difference	G1-072	12	MoFDM/ DMB/ All agencies				A database may be prepared
G3-026	Facilitate risk insurance for various sectors. Make settlement of insurance claims easier		12	MoFDM/ MoFP/ BB				Necessary law may be enacted & rules may be framed

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
G3-027	Provide credit, if necessary, on easy terms. Use refinancing and rescheduling facilities as necessary. If needed, provide appropriate legal cover		12	MoFP/ BB/ PKSP/ SDF/NOGs				Appropriate regulations need to be prepared
G3-028	Underwrite provisions for consumption loans in credit operations of financial institutions, if necessary.			MoFP/ BB				Necessary law and rules may be promulgated
G3-029	Create Risk Management Fund in revenue budgets of relevant ministries, with stringent conditions of utilisation during disaster emergencies.		12	MoFP/ MoFDM			GoB	Necessary act & rules may promulgated
G3-030	Create enabling conditions for voluntary fund creation by the community for use only during the emergency		24	MoFDM/ PKSf/ MoLGRDC/ NGO/ UPs / Gram Sarkar/ SDF			UNDP/ WB/ ADB/ DFID/ JICA	Initially Pilot project may be under taken
G3-031	No recommendations but questions were raised on how beneficiaries of help/grants/support may pay back to community once production resumes; could be no retrenchment promise by industrialists for a year or farmers paying back seeds or its value in future. Some of this can be part of a community emergency		24	MoFP/ MoFDM/ MoI/ BB/ Banks				Initially Pilot project may be under taken in the most vulnerable groups, e.g marginal farmers, Hand looms owner, small & medium Businessmen

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
	fund that will lessen need for immediate help from Govt during future crises							
G3-032	Facilitate IGAs and micro credit after flood. If necessary, use central zakat funds as well as encourage individuals to contribute to Voluntary Community Fund		12	MoFP/BB				Policy guidelines required
G3-033	Lack of coordination is a major impediment. To overcome this, each year within a specific date, inform Local Governments of all public interventions including their budgets under their geographical jurisdiction for scrutinising overlapping, removing, lack of coordination and finalising through their vetting. Build local government capacity in this regard.		12	MoLGRDC/ LGIs/ Gram Sarkars				Pilot project may be undertaken
G3-034	Most policies do not include disaster risk reduction provisions. Revise and make these consistent with one another. Revise PoAs also accordingly. Provide legal cover for these major changes as soon as possible.		12	MoFP/ Planning Commission				Policy guidelines to be issued

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
G3-035	Delineate administrative responsibility for crops outside the purview of MoA, and industries outside MoI during emergencies			MoFDM/ MOI/ MOA/LGIs				Policy directives to be issued

Matrix for Implementation of the Recommendation of National Workshop on Flood Risk and Damage Reduction in Bangladesh

Working Group 4: Impact of Flood on Housing, Urban Planning, Utilities (Water Supply, Sanitation) & Environment and Mitigation Options

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Resource	Fund Million US\$	Probable Dev. Partners	Remarks
Flood Management and Mitigation								
General Measures								
G4-001	Update Water Supply and Sanitation Policy 1998 through incorporation of disaster management issues		12	MoLGRDC	Consultant	0.25	DANIDA	Policy guidelines to be revised under Sector Development Framework Study
G4-002	Ensure integrated planning	G1-002	12	MoFP/Planning Commission				Concerned Agencies/ Department can implement it.
G4-003	Ensure coordination among the concerned agencies for better preparedness and management of floods in the urban areas		6	MoLGRDC/DCC/ DWASA/RAJUK/ Municipalities				SOD must include Urban Disaster Management issue
G4-004	Ensure that only one organization has the authority & responsibility for developing & maintaining the drainage system of Dhaka and		6	MoLGRDC/ DWASA/DCC				Policy decision & guidelines required

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Resource	Fund Million US\$	Probable Dev. Partners	Remarks
	other metropolitan cities.							
G4-005	Besides capital investment, ensure non-capital intensive measures		12	MoLGRDC/ DWASA/ MoFCDM			GoB	Policy guideline required
G4-006	Ensure comprehensive master plan for disaster management for all urban areas, including Dhaka city		24	MoLGRDC/ DWASA/DCC/ Municipalities/ City Corporations	Consultants	2.0	WB/UNDP /ADB/SID A/DFID/ JICA	SOD may be revised and updated
G4-007	Update and integrate the Dhaka city sewerage master plan & drainage master plan	G1-059	12	MoLGRD/ DWASA	Consultants	2.0	WB/ADB/ SIDA/ JICA/JBIC	Study may be undertaken
G4-008	Foster close cooperation between Bangladesh and upper riparian countries, such as India and Nepal	G1-088	12	MoFA/MoWR			GoB	
G4-009	Seek international cooperation for mitigation of adverse impact due to global climate change		12	MoFE/MoWR/ MoFA/DoE/ WARPO			GoB	Concerned Agencies need to take initiatives
G4-010	Ensure that EIA for industries take flood into consideration and are reviewed by an independent committee		12	MoI/ MoWR/Planning Commission/BB	Consultants	1.5	WB/UNDP /ADB/DFI D	Necessary rules may prepared
G4-011	Strengthen DOE		12	MoFE/DoE	Consultants	2.0		Institutional Development and Capacity Building

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Resource	Fund Million US\$	Probable Dev. Partners	Remarks
								are required
G4-012	Seek increasing assistance from Global Environment Facility (GEF) on climate change mitigation and adaptation measures		12	MoFA/MoFE/DoE				Concern Agencies need to take initiatives
G4-013	Conduct a study in order to examine co-relation between recent floods and climate change		24	MoWR/BMD/BWDB/WARPO	CEGIS, IWM	0.5	UNDP/US AID/ADB/EU	
G4-014	Conduct a full-scale Environmental Impact Assessment (EIA) of the 2004 floods with suggested recommendations in order to overcome difficulties		12	MoWR/MoFE/BWDB/BMD/WARPO/DoE	CEGIS and other NGO's	1.0	UNDP/US AID/ADB/EU	
G4-015	Undertake necessary preparatory work in order to enlist in the agenda of the up-coming climate change related meetings, issues related to "environmental refugees" due to climate change and relaxation of immigration laws of the developed countries to accommodate the refugees		12	MoFA/MoFE/MoWR/BMD				Necessary instruction to be issued

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Resource	Fund Million US\$	Probable Dev. Partners	Remarks
G4-016	Revisit the existing laws and regulations and frame new laws in order to prohibit actions causing climate change							Environmental Protection Act and Rules need to be updated
G4-017	Undertake studies on sector-specific vulnerability and adaptation to climate change and mitigation measures		6	MoFE/DoE/ MoFDM/DMB/ BMD/MoWR/ BWDB/WARPO				Necessary instruction need to be issued
G4-018	Implement development projects aimed at promotion of alternate and renewable sources of energy		12	MoE	Research Organization	2.0	WB/UNDP /ADB/EU/ FAO	Action Research may be undertaken
G4-019	Establish coordination among all sectoral agencies on climate change related issues		6	MoFE/DoE/ Concerned agencies				Necessary instruction may be issued
G4-020	Accelerate activities of the Designated National Authority (DNA) and develop projects under Clean Development Mechanism (CDM)		12	MoFE/DoE Planning Commission	Consultant	1.0	UNDP/WB /ADB/EU/ JICA/JBIC	Necessary instruction should be issued
G4-021	Raise the most vulnerable nursery sites through earth filling		6	All Concerned agency/ LGI's				Appropriate guidelines may be issued

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Resource	Fund Million US\$	Probable Dev. Partners	Remarks
G4-022	Monitor NGO activities			NGO Bureau				
G4-023	Ensure decentralization of urbanization and proper urban planning for rural townships/Growth Centres			MoHPW/DUP/ MoLGRDC/LGIs				Law & Necessary regulation may promulgated
G4-024	Stop indiscriminate habitat building in the Flood Plains, e.g. in villages. Immediately start planned village programme and regulate rural housing & settlement activities		24	MoLGRDC/LGIs/ LGED/ MoH&PW/ DoUP		10	UNDP/WB /ADB/ JICA/JBIC	Initiate pilot project in the most flood-prone areas to build clustered housing
Flood Preparedness								
General Measures								
G4-025	Consider alternative sources of drinking water including rain water harvesting and reserve ponds with raised embankment			DWASA/CWASA/ DPHE/ Other agency	Consultants	2.0	WB/UNDP /ADB/GoN /JICA/ DANIDA	Pilot project may be taken up
G4-026	Stop box culvert construction			MoLGRD/ DWASA/DCC				Policy guideline required
G4-027	Make provision for waste water			MoI/ MoFE/DoE/				Necessary rules

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Resource	Fund Million US\$	Probable Dev. Partners	Remarks
	treatment plant compulsory for industries			DWASA/CWASA/ City Corporations				should be implemented
G4-028	Establish new nurseries at heights above the maximum flood level	G4-021		MoA/MoFE/DAE/ DoF				Necessary Guidelines should be issued
G4-029	Raise more flood-resistant species in the nurseries of flood-prone areas. Similarly, plant more flood-resistant and comparatively taller species in such areas			MoA/DAE	Agriculture Research Organization		GoB/CIDA /JICA/ USAID/ FAO	Action Research may be initiated
G4-030	Construct floating nurseries		12	MoE&F/DoE/DoF		0.5	GoB/FAO/ JICA	
G4-031	Take up more coastal green belt programmes		24	MoE&F/DoE/DoF/ BWDB/LGED			EU/WB/ ADB	Necessary rules may be framed & implemented
G4-032	Make flood (disaster) risk mitigation through land use planning an integral part of land use planning process		24	MoL/SoB/SRI/ MoLGRDC/LGIs/ LGED				Necessary guidelines may be formulated
G4-033	Protect rivers from encroachment	G2-033, G2-051		MoWR/BWDB				Appropriate act & regulations may be promulgated
G4-034	Impose restriction on further industrialization in and around Metro Dhaka			MoI/MoL/DoE/BB				Policy guidelines needed
G4-035	Review and update DMDP plan (structure plan and urban area		36	MoHPW/RAJUK/ DCC/DWASA	Consultants	2.0	UNDP/WB /ADB	May be considered during ongoing

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Resource	Fund Million US\$	Probable Dev. Partners	Remarks
	plan)							activities of detailed area plan
G4-036	Ensure institutional reform and adequate manpower to enhance the capacity of RAJUK		24	MoHPW/RAJUK	Consultants	1.0	Capacity building	Institutional Development and Capacity building programme needed
Structural Measures								
G4-037	Develop appropriate technology with local adaptation for raising tube wells and take due note of indigenous knowledge		12	MoLGRDC/DPHE /LGED			GoB	Guidelines may be issued
G4-038	Install at least 2 tube wells in each flood-prone village with raised platforms at feasible strategic location (growth center, educational institute).		24	DPHE/LGED		0.50	ADB/WB/ UNICEF	Instructions may be issued
G4-039	Immediately construct a sewerage treatment plant to make the Begunbari khal pollution free		36	DWASA/ Planning Commission/ ERD	Consultants/ Contractor	150	ADB/WB/ SIDA	This project may be undertaken as a fast track project

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Resource	Fund Million US\$	Probable Dev. Partners	Remarks
G4-040	Keep and maintain the existing wetlands in and around the natural canals as retention ponds		12	DoE/BWDB/DoF/DWASA/ Planning Commission	Consultants/ Contractor	20	ADB/WB/ GoB	
G4-041	Construct pumping stations on an emergency basis at Rampura & Janapath with sufficient retention pond area. In particular, maintain Hatir Jheel as a retention pond in front of Rampura Regulator		24	MoLGRDC/ DWASA	Consultants/ Contractor	10	ADB/WB	This project may be included in the emergency FDR project
G4-042	Restore and maintain all wet lands		24	DoE/BWDB/DoF/ DWASA				Formulation of Policy needed
G4-043	Ensure EIA for drainage before communication infrastructure development project is undertaken		12	DoE/DWASA/ MoLGRDC/ DCC/LGED/RHD	Consultant	0.25		Formulation of Guidelines required
G4-044	Provide for adequate open space and water bodies in residential area development plans (both private and public)		12	RAJUK/Minicipal Corporations/LGI/ DWASA	Consultant	0.25		Formulation of Appropriate Guidelines
G4-045	Restore all City Canals/Khals/Lakes in Dhaka City		24	DWASA	Consultant/ Contractor	3.0		Activities may be taken up on urgent basis

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Resource	Fund Million US\$	Probable Dev. Partners	Remarks
G4-046	Undertake regular dredging of rivers around the Metro Dhaka	G1-014, G2-049	24	BWDB/BIWTA		20	ADB/WB/GoB	
G4-047	Construct retention ponds by acquiring land and maintain these properly		48	DWASA/DoE	Consultants/Contractor	30	ADB/WB/GoB/ JBIC	Construction on a pilot basis
G4-048	Construct all structures including shelters, schools, health centres above the maximum flood level	G1-046	12	MoEdu/DoEE/ MoHFW/DoHS/ MoHPW/PWD	Consultant	0.25	GoB	Formulation of area specific Guidelines required
G4-049	Update Building Construction Act 1952 with punitive provision for hill cutting. Implement Wetland Act 2000 and Town Improvement Act 1953		12	PWD				Immediate action needed
G4-050	Construct school buildings with vertical expansion in order to ensure optimum use of land		12	PWD/LGED/MoP EDn/MoEDn/ MoH&PW				Formulation of Guidelines
G4-051	Ensure that building construction considers all disasters, including flood, cyclone, storm surge, earthquake and land slide		12	PWD/ all concerned agencies				Formulation of Guidelines

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Resource	Fund Million US\$	Probable Dev. Partners	Remarks
G4-052	Explore innovative technologies such as floating construction			PWD/HBRI	Consultants/ Contractor	1.0		Research programme
Structural Measures								
G4-053	Develop an emergency preparedness plan		12	MoFDM/DMB	Consultant	0.5	UNDP/ DFID/JICA /USAID	May be incorporated in CDMF
G4-054	Increase manpower of DPHE including capacity building		24	MoE			GoB	Institutional Development and Capacity Building
G4-055	Build awareness through dissemination of IEC materials on water and sanitation		24	DPHE/DWASA/ CWASA	Consultants	2	UNDP/ UNICEF/ WHO	
G4-056	Strengthen information management system of DPHE to ensure prompt emergency mitigation (e-mail, fax, mobile phone, etc at Upazila level)		24	DPHE	Consultants	5	UNDP/ UNICEF/ WB	May be taken up in the Bangladesh Water Supply Programme of WB
G4-057	Activate Dhaka City Disaster Management Committee		6	MoFDM/ MoLGRDC/ DCC/ DMB		0.1	GoB	Immediate steps should be taken

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Resource	Fund Million US\$	Probable Dev. Partners	Remarks
G4-058	Formulate and implement appropriate and comprehensive national land use plan		24	MoL/ MoFP/ Planning Commission	Consultant	2.0	UNDP/ ADB/ WB/ JICA/ SIDA	Immediate action needed
G4-059	Make urban land use planning mandatory		12	MoHPW/ RAJUK/ DUP/ LGRDC/ LGIs			UNDP/ ADB/ WB/ JICA/ SIDA	Enforcement of law necessary
G4-060	Enforce Wetland Act properly. Update the Act in order to minimize legal loop holes.		12	DoFE/ DoE/ and all concerned agencies			UNDP/ ADB/ WB/ JICA/ SIDA	Enforcement necessary
G4-061	Strengthen legal provisions for land use control		12	MoL/RAJUK/Municipalities				Formulation & enforcement of law & regulations
G4-062	Use more local expertise in urban planning and address local situations			MoFP/ MoHPW				Policy Formulation
G4-063	Impose restriction on dense industrialization			MoI/ MoFP/MoFE/ DoE/ BB				Formulation of Guide lines
G4-064	Made adequate provision for open space and water bodies in residential area development plans (both private and public)			City Corporations/Municipalities/ RAJUK/ MoFE/ Planning Commission				Immediate action needed

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Resource	Fund Million US\$	Probable Dev. Partners	Remarks
G4-065	Prepare an urban area plan for each city and implement the plan			MoHPW/ MoFP/DoUP Planning Commission				Immediate action needed
G4-066	Ensure comprehensive EIA before any flood control structure is implemented			DoE				Implementation of Guidelines needed
G4-067	Streamline update of town plans and monitoring of implementation		36	MoHPW/ DoUP/ MoLGRDC/Municipalities	Consultants	5	UNDP/AD B/WB/ JICA/ CIDA	Develop Country wide Master Plan
G4-068	Encourage planned growth of small towns as service centres for the rural areas		24	MoLGRDC/ LGIs/ MoL	Consultants	3	UNDP/ JICA/ WB/ ADB	Promulgation of appropriate Law & Regulation required along with study
G4-069	Promote the idea of compact township in village to reduce indiscriminate & unplanned settlement expansion.		24	MoLGRDC/ LGIs/ MoL	Consultants			Formulation of appropriate law, Regulation needed
G4-070	Legalise the BNBC 1993.			MoHPW/ Cabinet Div.				Necessary Actions may be taken by the Cabinet required
G4-071	Approve and enforce Building Construction Rule 2004			MoHPW/ Cabinet Div.				Necessary action required

Matrix for Implementation of the Recommendation of National Workshop on Flood Risk and Damage Reduction in Bangladesh

Working Group 5: Impact of Flood on Social Services, Law & Order and Mitigation Options

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
Flood Preparedness								
Structural Measures								
G5-001	Raise the playground of schools above the highest flood level, wherever possible		12	LGED/LGI/ DoEE/ MoEdu	Consultants			Formulation of Guidelines
G5-002	Construct 3/4 storied Cluster Residential Housing above the highest flood level in flood- prone areas having facilities for schooling, health care, market, etc		36	MoHPW/ MoL / MoLGDRC	Consultants / LGIs	30	GoB/ UNDP/WB /ADB/ CIDA	Existing Ashrayan project may be redesigned and some pilot projects may be taken up
Non-Structural Measures								
G5-003	Carryout impact assessment study for flood damage		12	DMB/BWDB/LGI	Consultants	2	UNDP/AD B/WB	Immediate action needed
G5-004	Prepare guidelines for disaster damage assessment		24	DMB	Consultants	2	UNDP/AD B/WB	Immediate action needed
G5-005	Undertake vulnerability analysis of different communities, structures, etc		24	MoFDM/DMB	Consultants	2	UNDP/AD B/WB	Immediate action needed
G5-006	Prepare a standing order on roles		24	MoFDM/DMB/Mo	Consultants	0.10	UNDP/AD	Policy formulation

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
	and responsibilities of education sector officials/ Management Committee/Governing Body office bearers			Edu			B/WB	and Guidelines
G5-007	Install and maintain an effective information system		24	MoFDM/ DMB/ Disaster Management Committees	Consultants		UNDP/ DFID/ USAID	Development and Maintenance of Information System under CDMF
G5-008	Identify schools to be used as flood shelters		12	Dist Admn/ DMB/MoEdu/MoE	Existing resources	0.1		Formulation of Guidelines
G5-009	Organise training programmes on disaster management for heads of institutions and chairmen of school management committees		12	DMB/ MoEdu	Consultants		UNDP/ DFID/ USAID	May be incorporated in the SOD
G5-010	Update disaster education curriculum		36	MoPEd/ DMB	Consultants	2	UNDP/AD B/WB	May be incorporated in CDMF
G5-011	Include health education in the curriculum	G5-010	36	MoPEd/ MoHFW				May be incorporated in CDMF
G5-012	Develop disaster coping strategies		24	DMB/NGOs	Consultants	1	UNDP/ DFID	May be incorporated in CDMF
G5-013	Create awareness and community participation among the flood-prone people		24	DMB/NGOs	Existing resource	2	UNDP/ DFID/ JICA	May be incorporated in CDMF
Flood Response								
Structural Measures								
G5-014	Construct new health facilities above		36	MoHFW/ PWD		5	UNDP/AD	Implementation on a

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
	the flood levels.						B/WB	pilot basis may be initiated
G5-015	Construct innovative latrines to avoid contamination of flood water		36	DPHE/LGED		5	UNDP/ADB/WB	Implementation on a pilot basis may be initiated
Non-Structural Measures								
G5-016	Deploy forces as necessary		24	MoD		0.5		Policy formulation and guidelines
G1-017	Involve the community and local administration at district and upazila level; coordinate at Union Parishad level		24	MoE	Existing resource	0.5		Policy formulation and guidelines
G5-018	Introduce community police and employ such police for maintaining law and order		24	MoE	Existing resource/ new recruitment	0.5		Policy formulation and guidelines
G5-019	Develop code of ethics for the print and electronic media		12	MoI		0.5		Policy formulation and guidelines
G5-020	Develop guidelines on disaster management for the electronic media	G5-020	12	MoI	Consultants			Policy formulation and guidelines
G5-021	Ensure regular and timely weather forecasting		12	BMD/BWDB	Consultants	1.0	UNDP/GoN/ADB/WB	Necessary instructions may be issued

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
G5-022	Ensure positive information and reporting in the newspapers	G5-018	12	MoI/BFUI/ DUJ/ PIB	PIB	1.0	UNDP/ GoB	Awareness building through training required
G5-023	Highlight vital instructions in the media for people to follow: safety of life, health, hygiene, mother & child care & safety, availability of medicines, snake bite, diseases etc. Publicise crop damages & rehabilitation programme.	G5-020	12	MoI/BFUI/DUJ		1.0	UNDP/ GoN	Documentary films to be prepared
G5-024	Prepare local contingency plan for flood-prone zones [Components: (a) early warning and quick dissemination of message, (b) evacuation plan, (c) plan for protection of life, community and household resources including live stock, (d) standard guidelines for flood shelters with respect to space per capita, toilet facility for male and female, privacy, cleaning, sanitation, vector control, water supply, facility for medical services and health education, security, special protection for children; (e) food supply plan with respect to cooking, safety, adequacy, balance, age, sex and vulnerability and distribution method, (f) transportation, (g) continuing availability of basic		24	DMB/BMD/BWD B/MoI/LGI/NGOs	Consultants	2	UNDP/ DFID/JICA /UNICEF/ WHO	Immediate actions needed. May be included in SOD

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Human Resource	Fund Million US\$	Probable Dev. Partners	Remarks
	services (health, family planning, nutrition), (h) communication and coordination within and between departments and with higher levels, (i) post-flood rehabilitation plan including special credits for women entrepreneurs							
G5-025	Provide adequate fund and administrative authority to district and upazila health managers for emergency purchase, repair or rental through Shastha Sheba Unnayan Committee.		24	MoHFW		5	UNDP/AD B/WB	Policy formulation and provision of fund reserve
G5-026	Improve inter-sectoral coordination among different departments (viz. with customs)	G1-078, G2-023, G4-033	24	MoFDM			GoB	Policy formulation and Institutional Development
G5-027	Provide EPR training to health personnel		24	MoHFW	Consultants	2	UNDP/AD B/WB	Immediate action needed
G5-028	Prepare long-term appropriate and sustainable solutions for water supply, sewerage system and garbage disposal for urban areas		24	DWASA/CWASA/ City Corporations/ Municipalities/	Consultants	5	ADB/WB/ JBIC	Study may be included in the on-going SDF Study
G5-029	Provide health education covering flood and disaster related health problems.	G5-011		MoHFW/MoPEdu/ MoEdu/MoFDM/D MB				Immediate action needed

Matrix for Implementation of the Recommendation
National Workshop on Flood Risk and Damage Reduction in Bangladesh

Working Group 6: Impact of Flood on Economy, Major Infrastructures & Livelihood and Mitigation Options

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Resource	Fund Million US\$	Probable Dev. Partners	Remarks
Flood Preparedness								
General Measures								
G6-001	Examine the existing development policies and reformulate them in the context of recent flood. Ensure that the initiative is taken by the Ministry of Finance & Planning		6	MoF/MoP	Consultant	2	UNDP/WB /ADB	Immediate action needed
G6-002	Make provision for an emergency special fund in the annual budget for disaster management and rehabilitation and reallocate funds from one area to another if this special fund is found inadequate. Also generate additional funds through lottery or any other legal means and invest the unspent amount of this fund to generate additional fund		12	MoF/MoP	Consultant	0.1		May be implemented from the current years' revised budget or next years' budget
G6-003	Ask Planning Commission to follow simplified project processing mechanism in order to help quick assessment and		24	MoP	Consultant	0.50		May be formulated by the Planning Commission

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Resource	Fund Million US\$	Probable Dev. Partners	Remarks
	expeditious implementation of disaster rehabilitation activities							
G6-004	Delegate more administrative and financial powers to the local administration and local level officials of different departments through amending the existing Public Procurement Regulation in order to facilitate emergency disaster management and rehabilitation		12	MoE/MoP	Consultant	0.1		IMED may take immediate action
Structural Measures								
G6-005	Construct different installations of important utility service e.g.Power, T&T, Gas, Water Supply, etc at an elevation higher than the maximum flood level		24	PDB/T&T/All Agency Planning Commission	Consultant	5	UNDP/AD B/WB	Policy directives may be issued
G6-006	Revise vertical clearance for distribution lines in the flood-prone areas		36	All Agency	Consultant	1	UNDP/AD B/WB	Necessary planning and design guidelines may be formulated
G6-007	Connect all Upazilas and Growth Centres in the flood prone areas with the district H/Q through digital radio links		36	MoTC	Consultant	10	UNDP/AD B/WB	May be studied on an urgent basis

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Resource	Fund Million US\$	Probable Dev. Partners	Remarks
Non-Structural Measures								
G6-008	Develop an appropriate economic policy that incorporates Disaster Risk Management best practices.		36	MoFDM/DMB/ Planning Commission	Consultant/ Research Organisations	2	UNDP/ADB/WB	Work may be initiated soon
G6-009	Develop in house capacity through BBS for rapid assessment of macroeconomic losses caused by natural disasters. Conduct household income and expenditure survey as frequently as possible.		12	BBS/BIDS Planning Commission/IMED	Consultant/ Research Organisations	5	UNDP/ADB/WB	Work may be initiated soon
G6-010	Involve private sector in the risk analysis & risk reduction studies.		12	MoI/MoComm/BB	Consultant	1.0		Necessary guidelines may be formulated
G6-011	Ensure separate specifications for electrical service connections in the flood-prone areas.		12	PDB/REB/ MoEnergy	Consultant	0.5		Guidelines may be formulated
G6-012	Ensure capacity building for emergency infrastructure e.g. Gas, Power, T&T etc. maintenance work.		12	PDB/T&T/ Titas Gas/DWASA/ CWASA/DESA	Consultant	0.5		May be taken up under CDMP
G6-013	Ask BTTB mobile network to give priority to flood-prone areas.		24	T&T	Consultant	5	GoB	May be given priority
G6-014	Allocate funds for emergency restoration and rehabilitation works at the local administrative level.		24	MoF&P and all concerned Ministries		10		Provision of fund in the budget may be made

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Resource	Fund Million US\$	Probable Dev. Partners	Remarks
Flood Response								
Non-Structural Measures								
G6-015	Build an effective and timely flood warning and flood forecasting system based on modern technology. Ensure dissemination of Early Warning to all stakeholders		12	MoWR/BWDB/D MB/BMD/NGOs/ Disaster Management Committees		1.0	DANIDA/ UNDP/ DFID/JICA	May be taken up under CDMP and FFWS
Post- Flood Reconstruction and Rehabilitation								
Non-Structural Measures								
G6-016	Speedily implement rehabilitation projects and ensure transparent use of funds.		24	MoF&P		0.1		Formulation of Guidelines urgently necessary
G6-017	For facilitating income generation for the rural poor, start rehabilitation in the rural areas immediately.		24	MoF&P/BB/PKSF/ SDF/NGOs/PC	NGOs/ LGIs	5	UNDP/AD B/WB/JIC A/CIDA/W FP/SIDA	Programme approach needed
G6-018	Ensure the availability of adequate critical inputs to farmers such as seeds, fertilizer, agricultural credit, power, diesel and equipments through appropriate institutional mechanism.		24	MoA/DAE/MoI		0.1		Necessary actions needed
G6-019	Re-introduce of KABIKHA and similar types of programmes		24	MoFDM	NGOs	5	WFP/CID A/JICA	Restoration of programme

Code No.	Recommendations	Linkage	Time Frame (month)	Responsible Ministry/Dept/Org.	Resource	Fund Million US\$	Probable Dev. Partners	Remarks
	during the post-disaster period.							necessary

Annex

Acronyms And Abbreviations

ADB	Asian Development Bank
ADPC	Asian Disaster Preparedness Centre
BB	Bangladesh Bank
BDPC	Bangladesh Disaster Preparedness Centre
BGMEA	Bangladesh Garment Manufacturers and Exporters Association
BIDS	Bangladesh Institute of Development Studies
BIMSTEC	Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation
BIWTA	Bangladesh Inland Water Transport Authority
BMD	Bangladesh Meteorological Department
BPDB	Bangladesh Power Development Board
BR	Bangladesh Railways
BRAC	Bangladesh Rural Advancement Committee
BRTA	Bangladesh Road Transport Authority
BSMMU	Bangabandhu Sheikh Mujib Medical University
BUET	Bangladesh University of Engineering and Technology
BUP	Bangladesh Unnayan Parishad
BFUJ	Bangladesh Federal Union of Journalist
BWDB	Bangladesh Water Development Board
CAAB	Civil Aviation Authority of Bangladesh
CDM	Clean Development Mechanism
CDMP	Comprehensive Disaster Management Programme
CEGIS	Center for Environment and Geographical Information System
CFAB	Climate Forecast Application in Bangladesh
CIDA	Canadian International Development Agency
CWASA	Chittagong Water Supply And Sewerage Authority
DEM	Digital Elevation Model
DFID	Department for International Development
DGoF	Director General of Foods
DIA	Disaster Impact Assessment
DLS	Department of Live Stocks
DMB	Disaster Management Bureau
DMDP	Dhaka Metropolitan Development Plan
DNA	Damage Need Assessment
DoE	Department of Environment
DoEdu	Department of Education
DoPEdu	Department of Primary Education
DAE	Department of Agriculture Extension
DCC	Dhaka City Corporation
DoF	Department of Forest
DOHS	Department of Housing and Settlement
DPHE	Department of Public Health Engineering
DUJ	Dhaka Union of Journalist
DTCB	Dhaka Transport Co-ordination Board
DWASA	Dhaka Water Supply And Sewerage Authority
EIA	Environmental Impact Assessment
EU	European Union
EWS	Early Warning System
FAO	Food and Agriculture Organization
FBCCI	Federation of Bangladesh Chamber of Commerce and Industry
FCD	Flood Control and Drainage
FFWC	Flood Forecasting and Warning System

FRS	Flood Response System
GaTech	Georgia Institute of Technology
GEF	Global Environmental Facility
GIS	Geographical Information System
GoB	Government of Bangladesh
GTS	Global Telecommunication System
HBFC	House Building Finance Corporation
HBRI	Housing and Building Research Institute
ICT	Information and Communication Technology
IEC	Information, Education and Communication
IMED	Inspection, Monitoring and Evaluation Department (Planning Commission)
IWM	Institute of Water Modelling
IWFM	Institute of Water and Flood Management
IWT	Inland Water Transport
JBIC	Japan Bank for International Cooperation
JICA	Japan International Cooperation Agency
JMBA	Jamuna Multi purpose Bridge Authority
JRC	Joint Rivers Commission
LGED	Local Government Engineering Department
LGI	Local Government Institutions
MoFE	Ministry of Forest & Environment
MoWR	Ministry of Water Resources
MoA	Ministry of Agriculture
MoC	Ministry of Communication
MoCA	Ministry of Civil Aviation
MoD	Ministry of Defence
MoFDM	Ministry of Flood and Disaster Management
MoI	Ministry of Industries
MoIn	Ministry of Information
MoPEdu	Ministry of Primary Education
MoEdu	Ministry of Education
MoEst	Ministry of Establishment
MoS	Ministry of Social Welfare
MoFA	Ministry of Foreign Affairs
MoF& P	Ministry of Finance & Planning
MoHFW	Ministry of Health and Family Welfare
MoHPW	Ministry of Housing & Public Works
MoL	Ministry of Land
MoLGRDC	Ministry of Local Government, Rural Development and Co-operative
MoSIWT	Ministry of Shipping and Inland Water Transport
MoTelcom	Ministry of Telecommunication
MoWCA	Ministry of Women and Children Affairs
NGO	Non-Government Organization
NIPSOM	National Institute for Preventive and Social Medicine
NWP	National Water Policy
PC	Planning Commission
PMIS	Program Management Information System
PKSF	Palli Karma Shahayak Foundation
PWD	Public Works Department
RAJUK	Rajdhani Unnayan Karttripakkha
RBO	River Basin Organization
REB	Rural Electrification Board
RHD	Roads and Highways Department
RRI	River Research institute
SAARC	South Asian Association for Regional Cooperation
SoB	Survey of Bangladesh

SOD	Standing Orders on Disaster
SPARRSO	Space Research and Remote Sensing Organization
SRI	Soil Research Institute
UNDP	United Nations Development Programme
USAID	US Agency for International Development
WARPO	Water Resources Planning Organization
WB	World Bank

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55. Brig., Gen. Ismat Ahmed Chowdhury, BP, ldmc, psc, Joint Secretary, Ministry of Defence
56. Begum Mahbuba Panna, Sr. Asst. Secretary, Ministry of Defence
57. Mr. Md. Akram Hossain, Director, Bangladesh Meteorological Department
58. Begum Arjumand Habib, Deputy Director, Bangladesh Meteorological Department
59. Mr. Abdul Halim Hawlader, Chairman (In-charge), SPARRSO
60. Mr. A. Z. M. Zahidul Islam, Sr. Scientific Officer, SPARRSO

Ministry of Housing and Public Works

61. Mr. Rafiqul Islam Sarker, Director, HBRI
62. Mr. Md. Abdus Salam, Research Engineer, HBRI
63. Mr. A. T. M. Ataur Rahman, Chairman, National Housing Authority
64. Gazi Naismur Reza, Executive Engineer, National Housing Authority

Ministry of Commerce

65. Mr. Md. Aminur Rahman, Secretary, Ministry of Commerce
66. Mr. Mir Shahabuddin Mohammad, Vice Chairman, Bangladesh Export Promotion Bureau

Ministry of Power, Energy and Mineral Resources Division

67. Mr. Ehsan Shamim, ndc, Secretary (In-charge), Power Division.
68. Mr. K. H. Masud Siddiqi, Deputy Secretary, Power Division
69. Mr. Mokhlesur Rahman Khondaker, Chairman, BPDB

- 70. Mr. M. A. Muttalib, Member, BPDB
- 71. Mr. A.N.M Obaidullah, Sub-Divisional Engineer, BPDB
- 72. Mr. Ziaul Islam Chowdhury, Chairman, REB
- 73. Syed Sarwar Hossain, Executive Director, REB
- 74. Mr. Nazrul Islam, Secretary (In-charge), Energy and Mineral Resources Division
- 75. Mr. A. K. M. Zafor Ullah Khan, Chairman, BPC
- 76. Mr. S. R. Osmani, Chairman, Petrobangla
- 77. Mr. Jalal Ahmed, Joint Secretary, Energy and Mineral Resources Division

Ministry of Civil Aviation and Tourism

- 78. Mr. Akhter Hossain Khan, Secretary (In-charge), Ministry of Civil Aviation and Tourism
- 79. Air Commodore Zahed Quddus, ndu, acsc, Chairman, Civil Aviation Authority
- 80. Mr. Md. Shahab Ullah, Joint Secretary, Ministry of Civil Aviation and Tourism
- 81. Group Capt. M. Obaidur Rahman, psc, Member, Civil Aviation Authority

Ministry of Fisheries and Livestock

- 82. Mr. Iqbal Uddin Ahmed Chowdhury, Secretary (In-charge), Ministry of Fisheries and Livestock
- 83. Mr. Nasimul Gani, Joint Secretary, Ministry of Fisheries and Livestock
- 84. Mr. Md. Nasir Uddin Ahmed, Director General, Department of Fisheries
- 85. Dr. Md. Gias Uddin Khan, District Fisheries Officer, Dhaka.
- 86. Dr. Saleh Uddin Mahmud, Director General, Department of Livestock
- 87. Dr. Abul Kalam Azad, Asst. Director, Department of Livestock
- 88. Dr. M. G. Hossain, Director, Bangladesh Fisheries Research Institute
- 89. Dr. Kazi Md. Imdadul Haque, Director General, Bangladesh Livestock Research Institute.

Ministry of Communication

- 90. Mr. Md. Shafiqul Islam, Secretary, Ministry of Communication
- 91. Mr. Md. Abdul Ohab, Additional Secretary, Ministry of Communication
- 92. Mr. Quamrul Islam Siddique, Executive Director, DTCB.
- 93. Mr. Md. Akhter Hossain, Director, DTCB
- 94. Mr. A.T.M. Helal Uddin Nagari, DTCB
- 95. Mr. Ashraful Alam Sarker, DTCB
- 96. Ms. Shamim Khan, DTCB.
- 97. Mr. SK. Rabiul Islam, Chief Engineer, RHD
- 98. Mr. AKM Faizur Rahman, Additional Chief Engineer, RHD
- 99. Mr. Md. Rafiqul Islam, Additional Project Director, SRNDP, RHD
- 100. Mr. Dilip Kumar Guha, Project Manager (XEN), SRNDP, RHD
- 101. Mr. Md. Golam Mawla, Technical Officer, DDC.
- Mr. A.F.M. Mustafizur Rahman, Director General, Bangladesh Railway
- 102. Mr. Mohammad Abdullah, Additional Director General, Bangladesh Railway
- 103. Mr. Yusuf Ali Mridha, Director, Bangladesh Railway
- 104. Syed Kamrul Hassan, Director, Bangladesh Railway
- 105. Ms. Shirina Delhoor, Deputy Director, Bangladesh Railway
- 106. Mr. Mohammad Habibur Rahman Masum, Deputy Director, Bangladesh Railway

PRIME MINISTER'S OFFICE

- 107. Mr. Khandker Md. Shahidul Islam, Secretary, Prime Minister's Office

BEPZA

- 108. Brig. Gen. Md. Jakir Hossain, psc (retd.), Executive Chairman, BEPZA
- 109. Mr. Abu Reza Khan, Member, BEPZA

Ministry of Primary and Mass Education

- 110.Mr. Md. Rafiqul Islam, Secretary (In-charge), PMED
- 111.Mr. Md. Abdul Matin Chowdhury, Joint Secretary, PMED
- 112.Mr. ABM Abdus Sattar, Director General, DPE
- 113.Dr. M. Aslam Alam, Project Director, IDEAL Project, DPE

NGO Affairs Bureau

- 114.Mr. Md. Mizanur Rahman, Director General, NGO Affairs Bureau
- 115.Mr. Md. Rafiqul Islam, Director, NGO Affairs Bureau

Board of Investment

- 116.Mr. Md. Mahmudur Rahman, Executive Chairman, BOI
- 117.Mr. Md. Nazrul Islam, ndc, Member, Executive Council, BOI

Ministry of Education

- 118.Mr. Faruque Ahmed Siddiqui, Secretary, Ministry of Education
- 119.Mr. Md. Golam Ali Mollah, Joint Chief, Ministry of Education
- 120.Prof. Mohammad Junaid, Director General, DSHE
- 121.Dr. Akhtery Khanam, Director, DSHE
- 122.Prof. Md. Abul Bashar, Director General, DTE
- 123.Dr. Md. Fazlul Karim, Director, DTE
- 124.Mr. Zahidur Rahman, Chief Engineer, EED
- 125.Mr. Ahad Ali, Executive Engineer, EED

Ministry of Water Resources

- 126.Dr. Md. Omar Faruque Khan, Secretary, Ministry of Water Resources
- 127.Mr. Habib Ullah Mazumder, Joint Secretary, Ministry of Water Resources
- 128.Mr. Md. Mokhlesuzzaman, Director General, BWDB
- 129.Mr. Gias Uddin Ahmed Chowdhury, Additional Director General, BWDB
- 130.Mr. Md. Saidur Rahman, Chief Engineer, BWDB
- 131.Mr. Sharif Rafiqul Islam, Chief (Planning), BWDB
- 132.Mr. Amir Khasru, Chief (Monitoring), BWDB
- 133.Mr. Selim Bhuiyan, Executive Engineer, FFWC, BWDB
- 134.Mr. Mozaddad Al Faruque, Director General, WARPO
- 135.Mr. M. Ali Akbar Haider, River Research Institute
- 136.Mr. Touhidul Anwar Khan, Member, Joint River Commission.
- 137.Mr. Emad Uddin Ahmed, Executive Director, IWM.
- 138.Mr. Jalal Uddin Md. Abdul Hye, Divisional Chief, IWM
- 139.Dr. Riaz Khan, Executive Director, CEGIS
- 140.Mr. Mujibul Huq, Director, CEGIS
- 141.Mr. Sultan Ahmed, Program Manager, CEGIS
- 142.Mr. Hasan Ali, GIS Expert, CEGIS
- 143.Mr. Mominul Haque Sarker, Morphologist, CEGIS
- 144.Mr. S.M. Mahbubur Rahman, Head, Water Resources Division, IWM
- 145.Mr. Abu Saleh Khan, Head Flood Management Division, IWM
- 146.Mr. Saad M. Siddique, Water Resources Expert, IWM
- 147.Mr. Minhajuddin Ahmed, Water Resources Expert, IWM
- 148.Mr. Ahmadul Hassan, Senior Expert, CEGIS

- 149.Mr. S.H.M.Fakhruddin, Water Resources Engineer, CEGIS
- 150.Mr. Mir Abdul Matin, GIS Programme Manager, CEGIS
- 151.Ms. Iffat Huque, RS Expert, CEGIS
- 152.Ms. Pia Afreena Khaleda Huq, GIS Expert, CEGIS

Ministry of Home Affairs

- 153.Mr. Muhammad Omar Faruque, Secretary, Ministry of Home Affairs
- 154.Mr. Shahudul Haque, Inspector General of Police.
- 155.Maj. Gen. Manjurul Alam, ndc, psc, Director General, Ansar and VDP
- 156.Maj. Gen. Md. Jahangir Alam, ndc, psc, Director General, Bangladesh Rifles
- 157.Mr. S. M. Zahurul Islam, Additional Secretary, Ministry of Home Affairs.
- 158.Col. Faruque Ahmed, Director, Ansar and VDP
- 159.Col. Abul Kalam Mohammad Humayun Kabir, psc, Director, Bangladesh Rifles.
- 160.Mr. Md. Lutfur Rahman, Deputy Inspector General of Police

Ministry of Health and Family Welfare

- 161.Mr. A. F. M. Sarwar Kamal, Secretary, Ministry of Health and Family Welfare
- 162.Dr. AKM Helaluzzaman, Joint Secretary, Ministry of Health and Family Welfare
- 163.Professor Dr. Mizanur Rahman, Director General, Department of Health
- 164.Prof. M. A. Hadi, Vice Chancellor, BSMMU
- 165.Mr. Md. Fazlur Rahman, Director General, Department of Family Planning
- 166.Professor, Dr. Abul Kalam Azad, Director, IEDCR, Department of Health
- 167.Dr. Syeda Badrun Nahar, Director, Department of Health
- 168.Dr. Roushan Ara, Assistant Director, Department of Health

Ministry of LGRD&C

- 169.Mr. A. H. M. Abul Quasem, Secretary (In-charge), Local Government Division.
- 170.Mr. Sharful Alam, Director General (MEE), Local Govt. Division
- 171.Mr. Azizur Rahman, Director General, NILG
- 172.Mr. Md. Shahidul Hassan, Chief Engineer, LGED
- 173.Mr. Nurul Islam, Superintending Engineer, LGED
- 174.Mr. Md. Wahidur Rahman, Superintending Engineer, LGED
- 175.Mr. Iftekhar Ahmed, Deputy Project Director, LGED
- 176.Mr. A.N.H Akhter Hossain, P.Eng., Managing Director, DWASA
- 177.Dr. Kazi Ali Azam, Deputy Managing Director, DWASA
- 178.Mr. Md. Khorsed Alam, Chief Engineer, DPHE
- 179.Mr. Amanullah Al Mahmud, Superintending Engineer, DPHE
- 180.Mr. Mohammad Abul Kashem, CEO, Sylhet City Corporation
- 181.Alhaj G. K. Gaus, Chairman, Hobiganj Pourashava
- 182.Mr. Shafiqur Rahman Bhuiyan, Chairman, Chandpur Pourashava
- 183.Mr. Faijul Karim Mayun, Chairman, Moulvibazar Pourashava
- 184.Dewan Md. Naziuddin, Chairman, Dhamrai Pourashava
- 185.Mr. Mohd. Shamim Al Raji, Chairman, Singra Pourashava
- 186.Mr. Ahsanul Taiyab Jakir, Administrator, Sonatala Pourashava,
- 187.Mr. Md. Umar Ali, Chairman, Halogram Union, Kurigram.
- 188.Mr. Roushan Khan Sagor, Chairman, Dargapasha Union, Sunamganj.
- 189.Mr. Md. Abdur Jabbar, Chairman. Garadaha Union, Sirajganj
- 190.Dr. Alhaj AKM Mahbubur, Chairman, Digpait Union, Jamalpur
- 191.Mr. Zahiruddin Talukder, Chairman, Rudrakar Union, Shariatpur
- 192.Mr. Misbahul Kadir Fahim, Chairman, Laksmipasha Union, Sylhet
- 193.Mr. Md. Habibur Rahman, CEO, Dhaka City Corporation
- 194.Mr. Md. Abul Hasnat, Executive Engineer, Dhaka City Corporation

- 195.Mr. Md. Mahbub Ahmed, Zonal Executive Officer, Dhaka City Corporation
- 196.Mr. Md. Hedayetul Islam Chowdhury, Secretary (In-charge), Rural Development and Cooperatives Division
- 197.Kh. Mizanur Rahman, Registrar, Department of Cooperatives
- 198.Mr. AF.M. Matiur Rahman, Director General, BRDB
- 199.Mr. Saifuddin, Sr. Asstt. Secretary, Rural Development and Cooperatives Division.

Ministry of Information

- 200.Mr. A.M.M. Nasir Uddin, Secretary (In-charge) Ministry of Information
- 201.Khondaker Abdus Sami, Joint Secretary, Ministry of Information
- 202.Mr. Zafar Ahmed Chowdhury, Director General, BTV.
- 203.Director General, Bangladesh Betar
- 204.Mr. Gaziul Hasan Khan, Managing Director and Chief Editor, BSS

Ministry of Foreign Affairs

- 205.Mr. Shamsheer M Chowdhury, BB, Foreign Secretary, Ministry of Foreign Affairs
- 206.Ms. Ismat Jahan, Director General, Ministry of Foreign Affairs.
- 207.Mr. Zahirul Haque, Director General, Ministry of Foreign Affairs

Ministry of Women and Children Affairs

- 208.Dr. Yamin Akbari, Project Director, Ministry of Women and Children Affairs

Cabinet Division

- 209.Commissioner, Dhaka Division
- 210.Commissioner, Sylhet Division
- 211.Deputy Commissioner, Dhaka.
- 212.Deputy Commissioner, Sunamganj.
- 213.Deputy Commissioner, Chandpur.
- 214.Deputy Commissioner, B. Baria.
- 215.Deputy Commissioner, Hobiganj.
- 216.Deputy Commissioner, Netrakona.
- 217.Deputy Commissioner, Narayanganj.
- 218.Upazila Nirbahi Officer, Nagarpur, Tangail
- 219.Upazila Nirbahi Officer, Tarail, Kishoreganj
- 220.Upazila Nirbahi Officer, Sadar, Narsingdi
- 221.Upazila Nirbahi Officer, Jamalganj, Sunamganj
- 222.Upazila Nirbahi Officer, Ajmiriganj, Hobiganj
- 223.Upazila Nirbahi Officer, Rupganj, Narayanganj
- 224.Upazila Nirbahi Officer, Kajipur, Sirajganj
- 225.Upazila Nirbahi Officer, Fulchhari, Gaibandha

Ministry of Establishment

- 226.Mr. Safar Raj Hossain, Secretary (In-charge), Ministry of Establishment
- 227.Mr. Md. Abdur Rob Hawlader, Joint Secretary, Ministry of Establishment

Non-Government Organizations

- 228.Mr. Md. Akhter Hossain, Deputy General Manager, Grameen Bank
- 229.Mr. T. M. Abdus Salam, Sr. Principal Officer, Grameen Bank
- 230.Dr. Fahmida Khatun, Research Fellow, CPD
- 231.Dr. Ananya Raihan, Research Fellow, CPD

- 232.Dr. Uttam Kumar Deb, Research Fellow, CPD
- 233.Mr. Farhad Mazhar, Managing Director, UBINIG
- 234.Ms. Farida Akhter, Executive Director, UBINIG
- 235.Professor Mahmudur Rahman, Coordinator, Dhaka Community Hospital
- 236.Mr. Md. Javed Yusuf, Director, Dhaka Community Hospital
- 237.Ms. Hasna Moudud, Chairperson, CWEE
- 238.Mr. Zakir Hossain, Director, Water Aid
- 239.Mr. Monzu Morshed, Coordinator, DMP, CARE-Bangladesh
- 240.Mr. Rashiduzzaman Ahmed, IUCN-Bangladesh
- 241.Mr. BMM Mozaharul Haque, Consultant, BDPC
- 242.Ms. Farida Shahnaz, IUCN-Bangladesh
- 243.Mr. Farid Hassan Ahmed, Oxfam GB
- 244.Kazi Rafiqul Alam, Executive Director, Dhaka Ahsania Mission
- 245.Mr. Saidur Rahman, Executive Director, BDPC
- 246.Mr. Moloy Chaki, Programme Coordinator, BDPC
- 247.Dr. M. Anwarul Azim, President, The Institution of Engineers, Bangladesh
- 248.Dr. M. A. Hadi, President, Bangladesh Medical Association.
- 249.Kbd. Rafiq Ahmed, President, Krishibid Institution.
- 250.Mr. Eyakub Hossain Sikder, Institute of Diploma Engineers, Bangladesh.
- 251.Mr. A.K.M.A. Hamid, General Secretary, Institute of Diploma Engineers, Bangladesh.

Professional Bodies

- 252.Colonel M M Jahangir psc (retd.), Secretary General, FBCCI
- 253.Mr. Mizanur Rahman Mukul, Deputy Secretary, FBCCI
- 254.Mr. Shamimur Rahman, Assistant Secretary, FBCCI

Media

- 255.Mr. Rahat Khan, Daily Ittefaq
- 256.Mr. Shafiq Rehman, Jaijaidin
- 257.Mr. Mahfuz Anam, Daily Star
- 258.Mr. Md. Bahauddin, Daily Inqilab
- 259.Barrister Moinul Hossain, Daily Ittefaq
- 260.Mr. Golam Sarwar, Daily Jugantor
- 261.Mr. Matiur Rahman Chowdhury, Manbjamin
- 262.Mr. Sadek Khan, Holiday
- 263.Mr. Enayetullah Khan, UNB
- 264.Mr. Matiur Rahman, Daily Prathom Alo
- 265.Mr. Elahi Newaj Khan. President, DUJ
- 266.Mr. Riaz Uddin Ahmed, President, National Press Club
- 267.Mr. Shawkat Mahmud, General Secretary, National Press Club
- 268.Mr. Kazi Siraj, Daily Dinkal

University/Research Institutions

- 269.Prof. Dr. Ahmed Kamal, Dhaka University
- 270.Prof. Dr. Wahiduddin Mahmood, Dhaka University
- 271.Dr. AKM Zahir Uddin Chowdhury, IWFM, BUET
- 272.Prof. Dr. AMM Shafiullah, BUET
- 273.Prof. Dr. Feroze Ahmed, BUET
- 274.Prof. Dr. M. Mujibar Rahman, BUET
- 275.Dr. M. Asaduzzaman, Director General, BIDS
- 276.Dr. Kazi Shahabuddin, Research Fellow, BIDS

- 277.Dr. K. M. Nabiul Islam, Research Fellow, BIDS
- 278.Mr. M. A. Rahim, Associate Professor, BUET
- 279.Prof. Dr. Sk. Sekendar Ali, BUET
- 280.Prof. Dr. Md. Fazlul Bari, BUET
- 281.Mr. Mohammad Abdullah, Editor, SAARC Agriculture Information Centre
- 282.Ms. Eva Benita A Tuzon, Programme Officer, CIRDAP

Bangladesh Red Crescent Society

- 283.Maj. Gen. Z. A. Khan (Retd.), Chairman, BRCS
- 284.Mr. Anthony Ronald Tony Marion, Head of Delegation, IFRC, BRCS

Development Partners

- 285.Mr. Kees Beemsterboer, Ambassador, The Royal Netherlands Embassy
- 286.Dr. Armand Evers, First Secretary, Water Sector, The Royal Netherlands Embassy
- 287.Mr. Zahir Uddin Ahmad, Adviser, Water Sector, The Royal Netherlands Embassy
- 288.Mr. Zafar Iqbal, Sr. Programme Officer, JBIC
- 289.Dr. Michael Nienhaus, Country Director, GTZ
- 290.Mr. Akio Arai, Resident Representative, JICA
- 291.Mr. Takuya Sugawara, Deputy Resident Representative, JICA
- 292.Ms. Dilruba Haier, Assistant Resident Representative, UNDP
- 293.Mr. Tarik-ul-Islam, Sr. Programme Officer, UNDP
- 294.Mr. Paul Edwards, Chief (Water and Env. Sanitation) UNICEF
- 295.Mr. A.K. Masood Ahmed, Project Officer, UNICEF
- 296.Ms. Annemieke de los Santos, Representative, UNFPA
- 297.3 representatives from World Bank
- 298.2 representatives from ADB

Others

- 299.Mrs. Hasna J. Moudud, Chairperson, CWEE
- 300.Syed Rezwana Chowdhury, BELA
- 301.Mr. Kamrul Islam, BEJF
- 302.Mr. Hasan Khaled, Assistant General Manager, PKSf
- 303.Mr. Abu Taher Khan, General Manager, SDF
- 304.Mr. Nazrul Islam, CEO, IIFC
- 305.Mr. Md. Yunus Miah, President, Bangladesh Dairy Farm Owners Association
- 306.Mr. Afzal H. Khan, Advisor, Bangladesh Dairy Farm Owners Association
- 307.Mr. Mafizul Islam, Organizing Secretary, Bangladesh Dairy Farm Owners Association
- 308.Mr. Jayanta Kumar Basu, Programme Officer, Bangladesh Freedom Foundation
- 309. Prof. Mahbub Ullah, Chairman, Sonali Bank & Prof. Department of Economics, Chittagong University.

Ministries and Organisations Involved in Disaster Management

1. Ministry of Water Resources
 - 1.1. Bangladesh Water Development Board (actions relating to cyclones)
 - 1.2. Field Offices of the Chief Engineer /Superintending Engineer/Executive Engineer/ Assistant Engineer Cyclone related) of the Bangladesh Water Development Board
 - 1.3. Water Development Board (Flood-related activities)
 - 1.4. Field-level offices of the Water Development Board (steps relating to floods)
2. Ministry of Information
 - 2.1. Bangladesh Betar
 - 2.2. Bangladesh Television
 - 2.3. Mass Communications' Department
3. Ministry of Health and Family Welfare
 - 3.1. Directorate of Health
 - 3.1.1. Field Office of the Health Directorate
4. Ministry of Food
 - 4.1. Director General, Directorate of Food
 - 4.1.1. Field offices of the Directorate of Food
5. Ministry of Agriculture
 - 5.1. Director General, Agricultural Extension Directorate
 - 5.1.1. Field offices of the Directorate of Agricultural Extension
 - 5.2. Bangladesh Agricultural Development Corporation.
6. Ministry of Fisheries and Livestock
 - 6.1. Directorate of Livestock
 - 6.1.1. Field offices of the Livestock Directorate
 - 6.2. Directorate of Fisheries
 - 6.2.1. Field Offices of Fisheries Directorate
7. Ministry of Civil Aviation and Tourism
8. Armed Forces Division

- 8.1. Bangladesh Army
- 8.2. Bangladesh Navy
- 8.3. Bangladesh Air Force
- 9. Ministry of Defence
 - 9.1. Meteorological Department
- 10. Ministry of Home Affairs
 - 10.1. Bangladesh Rifles (BDR)
 - 10.2. Bangladesh Police
 - 10.3. Ansar and Village Defence Directorate
 - 10.4. Fire Service and Civil Defence Directorate
- 11. Ministry of Communications
 - 11.1. Road and Railways' Division
 - 11.1.1. Jamuna Bridge Division
 - 11.1.2. Bangladesh Railway Authority
 - 11.1.3. Bangladesh Road Transport Authority
 - 11.1.4. Bangladesh Road and Highways' Directorate
 - 11.1.5. Bangladesh Road Transport Corporation
- 12. Ministry of Shipping
 - 12.1. Bangladesh Inland Water Transport Corporation (BIWTC)
 - 12.2. Bangladesh Inland Water Transport Authority (BFWTA)
 - 12.3. Department of Shipping
- 13. Ministry of Housing and Public Works
 - 13.1. Public Works Directorate
- 14. Ministry of Social Welfare
- 15. Ministry of Local Government, Rural Development & Cooperatives
 - 15.1. Local Government Division
 - 15.2. Local Government Engineering Department (LGED)
 - 15.3. Rural Development and Cooperatives Division
 - 15.4. Public Health Engineering Directorate (DPHE)
- 16. Ministry of Foreign Affairs
- 17. Ministry of Finance

- 17.1. Finance Division
- 17.2. Economic Relations' Division
- 17.3. Internal Resources Division
- 18. Ministry of Industries
- 19. (a) Ministry of Education
 - (b) Primary and Mass Education Division (Prime Minister's Office)
- 20. Ministry of Commerce
- 21. Ministry of Posts and Telecommunication
 - 21.1. Telephone and Telecommunications' Board (T & T Board)
 - 21.2. Director General, Bangladesh Post Offices
- 22. Ministry of Power, Energy and Mineral Resources
 - 22.1. Petroleum and Mineral Resources' Division
- 23. Ministry of Environment and Forests
 - 23.1. Department of Forests
 - 23.2. Department of Environment
- 24. Planning Commission
- 25. Other Ministries
- 26. Divisional Commissioners
- 27. Deputy Commissioners
- 28. 'Thana Nirbahi' Officers
- 29. Chairman, Union Parishad.
- 30. Union Parishad Members
- 31. Bangladesh Red Crescent Society



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