Mukti Foundation

CONTINGENCY PLAN
MUKTI FOUNDATION

Contingency Plan

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Acronyms

BNSB	Bangladesh National Society for the Blind
CBR	Community Based Rehabilitation
CEC	Comprehensive Eye Care
DGM	Deputy General Manager
DGHS	Directorate General of Health Services (DGHS)
EU	European Union
GO	Government
IPD	In-Patient Department
MEAL	Monitoring, Evaluation, Accountability and Learning
MEH	Marium Eye Hospital
MIS	Management Information System
NGO	Non-Government Organization
NGOAB	Non-Government OrganizationAffairs Bureau
NIO	National Institution of Ophthalmology
NEC	National Eye Care
OT	Operation Theatre
OPD	Out-Patient Department
OSB	Ophthalmological Society of Bangladesh
PSP	Patient Screening Program
PESTEL	Political Economic Social Technological Legal and Environmental
QF	Quasem Foundation
SMS	Short Message Service
SOP	Standard Operating Procedure
SDGs	Sustainable Development Goals
UK	United Kingdom
USAID	United States Agency for International Development

CHAPTER-ONE: EXECUTIVE SUMMARY

1.1 Executive Summary:

Bangladesh has been affected by more than 200 natural disasters over the last three decades. The country's geographical location next to the Bay of Bengal, low-lying terrain, monsoons, and significant rivers render the country very vulnerable to natural hazards. From 1970-2019, storms have been the most frequent disaster to affect Bangladesh at 52%, followed by floods at 31%, with the remaining disasters being epidemics, earthquakes, droughts, and landslides. In addition, Bangladesh is one of the countries in the world most at risk from the negative impacts of climate change including increases in incidence and intensity of extreme weather events and hazards such as soil salinization, rising sea levels and riverbank erosion. Moreover, Bangladesh is also affected by human-made disasters (e.g. protracted Rohingya refugee crisis and 2013 Rana Plaza disaster). The most devastated and unexpected natural disaster that Bangladesh like other countries in the world, has experienced and still been experiencing, is global pandemic COVID-19.

Even though, over the years, Bangladesh's ability to cope with climate-related disasters has increased, however, it still needs due attention for humanitarian services from the humanitarian agencies in the areas of prevention, preparedness, recovery and response for the disaster affected society/community. As a non-government voluntary organization, Mukti Foundation, a non-profit, non-political, and non-governmental voluntary organization, having head office at Tala Upazila under Satkhira district is constitutionally mandated to extend its humanitarian services to the people affected during emergency/crisis caused by the disasters and thus this Contingency Plan is developed.

The legal basis for preparing contingency plan includes Disaster Management Act, 2012 and Standing Orders on Disasters, 2010 of the Government of Bangladesh. The goal of the contingency plan is: MF seeks to become the emergency response actor to anticipate, plan for the emergency situations, and carry out humanitarian response interventions to mitigate the impacts of disasters and reduce the sufferings of the affected people rapidly and efficiently. The specific objectives of the contingency plan is:
To facilitate effective and timely humanitarian assistance to people in need, and early recovery activities to promote disaster affected population's rights in emergencies.

To draw up the framework for a coordinated approach to work in emergency situation and to support a timely response with optimal use of available resources and logistical strength.

MF will be guided by the principles of Humanitarian Charter and Minimum Standards;the Red Cross Code of Conduct; and some operational principles such as devoting special attention to the context specific vulnerable populations, jointly planned and implemented strategic and operational responses, safety and security of humanitarian workers, etc.

The major components of the contingency plan include: Vulnerability and Risk Analysis, Prepositioning of the Emergency Relief, Information Management, Local Preparedness and Resource Mobilization

The structure of the Contingency plan will include: Disaster Management Core Team, Organizational Preparedness (Mobilize Material/structural Resources), Emergency transport, Stockpiling or ensuring supply of emergency relief goods, Warehouse, Vendor enlistment, Monitorial Resources, Human Resources, Community Level Emergency Preparedness, Coordination (Internal and External), Emergency Needs Assessment, etc. The contingency plan will be implemented following two types of plans which include – (1) Plan to prepare for emergencies (Normal Time), and (2) Plan to prepare for emergencies (immediate before disaster time). In order to assess the progress and impacts of the interventions of the contingency plan, MF will follow the Monitoring, Evaluation, Accountability and Learning approach.

CHAPTER-TWO: INTRODDUCTION

2.1 Background

Bangladesh is a country of approximately 165 million people residing in 148,460 sq. km of land. This represents a population density of about 1000 persons/per sq. km. Since independence in 1971, Bangladesh has achieved substantial improvements in some social indicators like decrease in infant and maternal mortality, illiteracy, increase in life expectancy, access to safe water and sanitation, however; approximately 44% of the population still continues to live below poverty line.

Bangladesh's geographical location next to the Bay of Bengal, low-lying terrain, monsoons, and significant rivers render the country very vulnerable to climate-related disasters. The geophysical situation, land characteristics, multiplicity of rivers, and monsoon climate render Bangladesh highly vulnerable to natural hazards. The coastal morphology of Bangladesh influences the impact of natural hazards on the area. In the south eastern area especially, natural hazards increase the vulnerability of the coastal dwellers and slow down the process of social and economic development. Bangladesh is currently ranked as one of the world's most disaster-prone countries.

Bangladesh experiences multiple natural hazards including cyclone, storm surge, tsunami, landslide, floods, flash-flood, drought, hailstorms, fire-in-human settlements, and man-madedisasters like waterlogging, road accident, civil unrest, conflict and violence, killing, terrorist attack, oil spill, etc. Moreover, Bangladesh is also affected by human-made disasters (e.g. protracted Rohingya refugee crisis and 2013 Rana Plaza disaster).

Like other countries in the world, Bangladesh also terribly experienced with the emergence of global pandemic COVID-19 on 11 March 2020. The first case of COVID-19 in Bangladesh was detected on 8 March 2020. Bangladesh Government declared a general holiday for all sectors and banned all inter district public transports and travel of people except the emergency and essential services since 26 March 2020, and most of the economic activities were retrained to reduce the transmission of COVID-19. The new cases of COVID-19 positive are still being reported according to the Directorate General of Health Services (DGHS), fortunately no death case was reported December 30, 2023[1] during 24 hours.

As per the definition of the disaster by UNDRO[2] "a serious disruption of the functioning of a society, causing widespread human, material, or environmental losses which exceed the ability of the affected society to cope using its own resources." Even though, over the years, Bangladesh's ability to cope with climate-related disasters has increased, however, it still needs urgent attention for humanitarian services from the humanitarian agencies in the areas of prevention, preparedness, recovery and response for the disaster affected society/community. As a non-government voluntary organization, Mukti Foundation is mandated to extend its humanitarian services the people affected during emergency/crisis caused by the disasters. Accordingly, MF has developed this Contingency Plan.

This contingency plan outlines a course of action for the mobilization of personnel and equipment that may be required to handle a critical emergency. The contingency plan for its success depends on the complete, prompt and willing co-operation and coordination of all designated persons involved. In carrying out these procedures, all staff should bear in mind that the objective is to secure a speedy return to safe and normal operations. In order to achieve this, normal chains of command may be disrupted and unusual working conditions be accepted.

[1] https://www.observerbd.com/news.php?id=453032

[2] UNDRO-United Nations Disaster Relief Coordinator

CHAPTER-THREE: ABOUT MUKTI FOUNDATION

3.1 Overview

Mukti Foundation (MF) is a non-profit, non-political, and non-governmental voluntary organization formed with the initiatives of a few committed and dedicated social workers and philanthropists in 1996. Since establishment, Mukti Foundation has been striving to promote human and socio-economic development for the people who are living in poverty, and underprivileged and unreached section of the community irrespective of caste, race and religion in the coastal area organizing them into collectives. Since the inception, the organization has implemented various projects and programs for Humanitarian Response, Community Development, Skills Training, Renewable Energy, Microfinance and more.

3.2 Legal Entity

MF came into being legal entity after obtaining registrations from different Government Authorities to serve the people in need. The registrations include: (i) NGO Affairs Bureau under Registration memo FDR No. 1391 dated 08.06.1999; (ii) Joint Stock Company under Society Act Khulna-124 dated 11.04.2005; (iii) Micro Credit Regulatory under Registration No. 0000381 dated 23.02.2009; and (iv) Department of Social Services under Registration No. Satkhira-1092 dated 10.11.2010. These accreditations pave the ways for MF to access to funding and resources, building partnership and collaborations, protection of liabilities and assets, and representing accountability and transparency of the organization.

Vision

Mukti Foundations envisions an empowered, resilient and just society where poor, disadvantaged and vulnerable community people enjoy their full rights and live in dignity.

3.3 Mission

MF works with the underprivileged and vulnerable communities and their organizations (primary groups and federations) in partnership and collaboration with different stakeholders to realize their rights, to make them empowered, to advance sustainable development, and to build more peaceful, inclusive and resilient communities to live with dignity.

3.4 Core Values

MF has identified the following core values that set standards of acceptable behavior; organizational judgement of what is important and fundamental beliefs of the organization:

- Social Justice: MF strongly believes in an equal and just society where people live in peace and dignity and have access to the necessary resources and opportunities for sustainable growth.
- Committed to Equality and Non-discrimination: MF strongly believes in gender equality and seeks to address the discriminative practices inhibiting women's potential in economic production and social rights in the community.
- Community Engagement: MF values community engagement and participation in all respects of community development processes and recognizes the needs and interests of all participants including their decisions.
- Respect for Diversity and Inclusion: MF fervently embraces diversity and inclusion, respect for fundamental human rights, and diversity in humanity regardless of gender, ethnicity, disability, religion, socio-economic background, cultural perspectives, etc. and strive to ensure all voices are heard.
- Mutual Respect & Trust and Confidence: MF values a work climate of mutual respect and trust to enable collaboration and the fulfilment of human potential. It believes in self-confidence to bring about successes facing the challenges.
- Integrity, accountability and transparency: MF is committed to integrity, accountability and transparency in all its functions. MF agrees to be honest, trustworthy, accountable and transparent to all level of stakeholders both internal and external (Executive Committee, General Body, Government, Donors to Community People) for its funding sources, utilization of funds/resources, operations, and decision-making processes that fosters management excellence in achieving results. It agrees that rules and regulations are equally applied to all and fully transparent ensuring complete accountability both internally and externally.
- Networks & alliances, and mutual partnership:MF believes in networks & alliances, and diverse collaboration and partnerships including government, non-government organizations, civil societies, human rights organizations, international organizations which is key for opening up new opportunities, innovations and development to change unjust situations in the society.
- Environmental Justice:MF believes in the respect for nature and care for protection of environment, and is committed to fight against climate injustices for future generations.

3.5 Programming Approaches

Target Group: In order to fostering the consciousness and empowering rights holders especially the resource poor and disadvantaged people with knowledge and skills to be able to develop agency and exercise collective power over duty bearers, MF facilitates target groups (primary groups) of landless people, fisher folks, forest workers, women, youth and children, and vulnerable communities to promote transformative change. This can only come about when rights holders are fully aware of their rights and attain collective ability to create change.

People-led Development: Community people organized under the primary groups and federations work together to identify problems, develop and implement plans to achieve common goals through mobilizing public and private resources. MF plays just a 'facilitating role' in organizing primary groups and their federations towards their development efforts.

Participation: MF emphasizes on bottom-up and participatory in achieving its Vision and ensures people's participation. MF facilitates the participation of the community people in planning, implementation, monitoring and evaluation of its interventions.

Women and Child centric development: MF puts the women and children at the core of integrated development framework basing on target group development.

Gender Equality: MF upholds gender equity in the arena of everyday management decisions, policy making and program designing & interventions. MF tries to ensure maintaining gender balance in all its programme, projects and organizational decision making.

Alliance and Partnership Building: MF believes in alliance and partnerships for overcoming problems, resource exchange, cooperation, coordination and coalition building. It forges partnership with public and private organizations in order to extract benefit for the people that it serves.

Advocacy, Lobbying and Networking: MF facilitates advocacy programs with the aim to influence public-policy and resource allocation decisions within political, economic, and social systems and institutions. Advocacy program includes campaigns including media, public speaking, commissioning and publishing research reports, etc. Lobbying is done to influence decisions made by officials in the government, legislators or members of regulatory agencies. MF will also continue with the engagement of traditional leaders, as they are influential in addressing the customs and traditions that perpetuate gender inequality, violate human rights, especially of women and girls; and inhibit women's access to productive resources.

Monitoring, Evaluation, Accountability and Learning (MEAL): MEAL (Monitoring, Evaluation, Accountability and Learning) is essential to ensure the quality of programs by both capturing and understanding progress toward goals and objectives, to promote a learning environment and to support adaptive management through the use of reliable and real-time data. MF aims to enhance the basis for the management to take appropriate decisions for improvement of the performance of the programs through strengthening of the operational, coordinated, and cost-effective interventions and use of data on implementation and results of its policies and programs.

3.6 Geographicalcoverage.

MF has programme in six districts, 26 upazilas under Khulna Division. The Table below shows present coverage of geographical area of MF.

Districts	Upazila	Union	Total Primary groups	Female groups	Male groups	Female members	Male members	HH covered
Khulna	2	9	189	153	36	3519	828	4347
Satkhira	3	16	48	36	12	845	277	1122
Jashore	8	92	221	195	26	4485	598	5083
Narrail	3	37	178	155	23	3567	483	4050
Magura	4	36	210	182	28	4187	618	4805
Jhenaidha	6	67	234	197	37	4536	778	5314
6	26	257	1,080	918	162	21,139	3,582	24,721

3.7 Major Programme interventions

a. **Humanitarian Response**:

Towards Greater Effectiveness and Timeliness in Humanitarian Emergency Response (ToGETHER) Project: This project started in 2021 and will come to an end in April 2024. ToGETHER project is implemented in Koyra and Paikgachha upazillas of Khulna district and Tala upazilla of Satkhira district. These upazilas are coastal areas and highly prone to cyclone, tidal surge, river erosion and flooding. Objective of this project is to organize and facilitate local communities to strengthen their capacities in humanitarian response, preparedness, coordination and advocacy so that they take responsibilities and actions in the humanitarian system at local level for an effective and timely, accountable, and principled humanitarian action. Under this project MF implemented Relief and Recovery Support to Flood and Cyclone Affected Families including installation of salt filter plant (Reverse Osmosis) to ensure safe drinking water at Shyamnagar, Satkhira. Trough this project Mukti Foundation provided multipurpose cash support to 200 HH, water container (Gazi Tank of 200liter capacity) to 177 HH and installed 2 salt filter (RO) plant at word 5 and 6 of Burigoalini union, Shyamnagar, Satkhira in 2023.

*Covid-19 Response:*During Covid-19, MF arranged awareness rising discussion meeting among 2605 group members, provided 2200 hand wash soap, distributed 8000 awareness rising leaflet and 200 posters, myking in 25 unions under Koyra, Paikgacha and Tala upazillas of Khulna and Satkhira districts, provided cash for food support to 290 and cash for livelihood support to 472 group beneficiaries in Khulna and Satkhira districts with the financial assistance of MJF-DFID. Mukti Foundation distributed 26900 musk to the people living in Tala upazilla with the support of BRAC-CSO Coalition and distributed total 46800 non-medical items of which 600 hand sanitizer, 1000 liquid hand wash 200ml bottle, 2700 washing wheel soap 130gm, 2000 antiseptic soap, 10000 surgical face mask, 30000 cloth face mask and 500 alcohol hand rub 200ml bottle with the support of ToGETHER CPU funded by Malteser International.The awareness rising regarding Covid-19 is an ongoing activity of Mukti Foundation. Moreover Mukti Foundation attended several meeting at upazilla and district level chaired by UNO and DC respectively and extended cooperation to people for registration and getting vaccine of Covid-19 from Government health department.

b. Community Empowerment and Development

*Empowering the Marginalized to Access Resources and Livelihood Development (EMARALD) Project:*This project aims to improve the lives of the marginalized women and men living in the coastal zone through empowerment, access to public resources, and livelihood development. Target beneficiaries of this project are- landless women and men, fishermen, Dalit community and persons with disabilities. Through project intervention MF formed 122 landless and Fisher folk groups, arranged 8972 rights based weekly group meeting with beneficiaries; formed 13 Federation at Union level, 3 Federation at Upazila level and 1 Federation at project level involving of the representatives of group members. MF also provided support and processed for the access to khas land and water-bodies to 262 HH and mitigate 10 of local dispute & Salish.

Development of Volunteers: Development of volunteers is another key intervention of MF. So far, MF has developed 122 Volunteers (78% female) in order to serve the community in need such as emergency period (cyclone, floods, tidal surge, etc.), dealing with land and water body rights, violence against women and children, promotion of primary health care, sanitation & hygiene practices, and organizing different issue-based campaigns. They are playing role as change agents.

Resilience strengthening of vulnerable populations in northern, western and eastern Bangladesh through a network approach of 5 partner organizations: This project started from 15 November, 2022 and be continued up to 31 July, 2025. Main objective of this project is to strengthen resilience of 200 extreme poor people from 200 HH. The target beneficiaries are Widow, divorced and extreme poor women, Dalit and Munda community, Persons with disabilities or family members of the person and landless and fisher folk people from the community.

Safe drinking Water, hygiene and Sanitation Program (WASH and WATSAN): Safe drinking water and sanitation is a common problem in the working area of MF. Arsenic is another crucial problem which is very much dangerous for the human being. So far MF has provided training to 825 participants on causes and consequences of arsenic contamination. Mukti Foundation has installed arsenic and iron removal plant (AIRP) at different locations of the working areas.

c. Innovation and sustainable technology development

*Promotion of climate tolerant and disaster resilient technology and livelihoods:*MF has developed capacity of the poor farmers in the areas of climate tolerant and disaster resilient cultivation

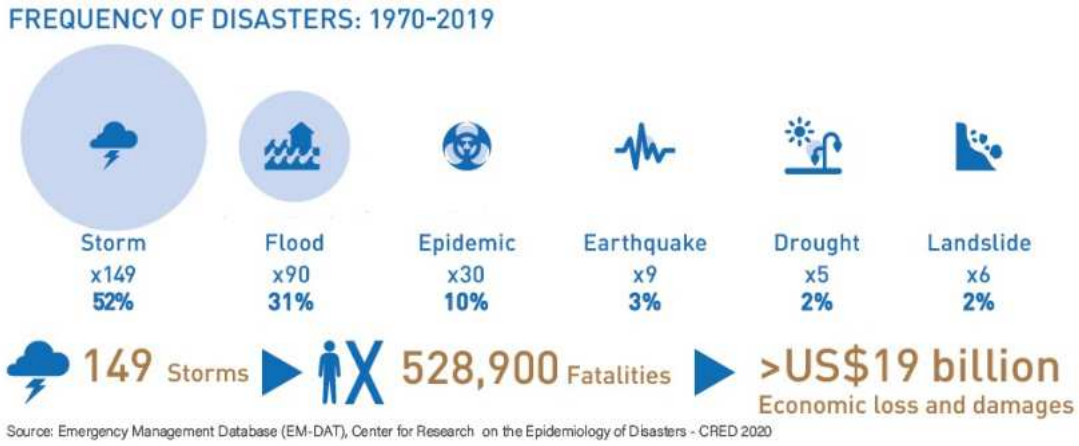
includingrearing of poultry and livestock providing skills training and input support. Total 3882 beneficiaries received capacity development training on saline tolerant paddy cultivation. Most importantly, MF has facilitated establishing Demonstration Farms with 66 Demo Farmers to promote climate tolerant and disaster resilient technology for livelihoods security. Moreover, MF has installed 3 Arsenic-Iron Removal Plant & 10 deep tube-well for safe drinking water, and 2 Pond Sand Filter (PSF) & 2200 Rain Water Harvesting plants for alternative options for drinking water in coaster and arsenic-affected areas.

CHAPTER-FOUR: HAZARDS AND RISKS

4.1 Situation and Context

The South West coastal region of Bangladesh particularly Satkhira district is unique for its environmental characteristics. The southwest coastal belt of Bangladesh is an intricate system of biodiversity which includes the Sundarbans, the largest mangrove forest in the world. The coastal zone spans over 580 km of coastline and is prone to multiple hazards. Cyclones, floods, tidal surges, periodic water-logging and land erosion are common throughout this region significantly shaping the lives and livelihoods of local communities. According to the World Bank (2012), 'Sixty-two percent of coastal land has an elevation of up to three meters and eighty-three percent up to five meters above mean sea level' making this region also extremely vulnerable to sea-level rise. The region constitutes 32% of total land area in Bangladesh and hosts nearly 28% of the population (i.e. nearly 42 million). Cyclone SIDR struck in the coastline of Satkhira in 2007 and cyclone AILA hit the same region in 2009 with 13 feet high waters, damaging embankments and dykes in several places, washing away the lives and livelihoods of communities living along the riverine plain of the district. While natural disasters have significant impact in the coastal district of Satkhira, human-induced slow-onset disasters such as salinity are having an increasingly detrimental effect in particular. It is the combination of both natural and human-induced disasters that perpetuate chronic poverty in this region.

From 1970- 2019, storms have been the most frequent disaster to affect Bangladesh at 52%, followed by flood, at 31% with the remaining disasters being epidemics, earthquakes, droughts, and landslides, 106 as depicted below[3]:



The Inter-governmental Panel on Climate Change (IPCC) 6th assessment report states that "Bangladesh faces severe risks from climate change and could have 13.3 million internal climate migrants by 2050. Average annual losses from tropical cyclones alone are estimated to be approximately US$1 billion (0.7 percent of GDP), although individual cyclone events could result in larger losses. The coastal population, at 27 percent, is exposed to a 100-year coastal flood event, expected to increase to 35 percent with half a meter of sea level rise. Sea level rise will nearly double asset risk, currently about US$300 million per annum, while threatening agricultural production, water supplies, and coastal ecosystems[4]. One-third of agricultural GDP may be lost due to climate variability and extreme events by 2050 and cropland may shrink by 18 percent in Southern Bangladesh by 2040. In the wake of such a grim prediction made by IPCC, the population of South West Bangladesh remains under grave threat as the Bay of Bengal is a perfect breeding ground for tropical cyclones and the coastal areas frequently face one or two severe cyclonic events in each and every year.

In order to reduce disaster related hazards, vulnerabilities and risks the Government of Bangladesh (GoB) has taken a holistic approach towards disaster management, where emphasis has been given to working together with all stakeholders to build strategic, scientific and implementation partnerships with all relevant government departments and agencies, and other key non-government players including NGOs, academic and technical institutions, the private sector and donors. Accordingly, the government has developed National Plan for Disaster Management (2021-2025) with three key core goals. Those are (a) saving lives (b) protecting infrastructure & livelihoods & (c) effective recovery and rebuilding. The plan is

[3] Bangladesh Disaster Management Reference Handbook, May 2020
[4] Country Climate and Development Report: World Bank Group, 2022

built on GoB's past successes in disaster risk reduction by making a paradigm shift from purely emergency response to include measures for building resilience. However, it also critically analyzes disaster risk in the current development context within changing social, political, economic and environmental circumstances. It is developed in line with the Disaster Management Act and other policies of GoB including the 8th Five Year Plan and the Delta Plan. The plan is consistent with GoB's commitment to the Sustainable Development Goals (SDGs), Paris Climate Agreement and Sendai Framework for Disaster Risk Reduction (SFDRR).

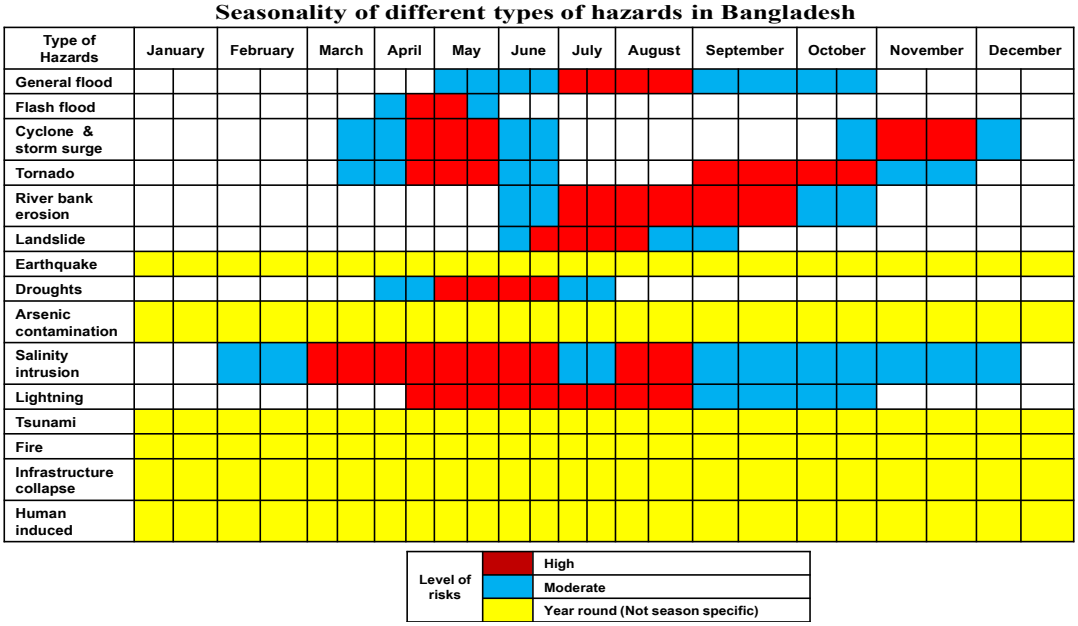
As a local responder to the natural calamities and having involved with disaster risk reduction for over 20 years Mukti Foundation (MF) decided to develop its own contingency plan on Disaster Management In alignment with the National Plan for Disaster Management (2021-2025), 8thfive-year plan of the government including SDG goals and international treaties and protocols associated with Emergency Humanitarian Response.

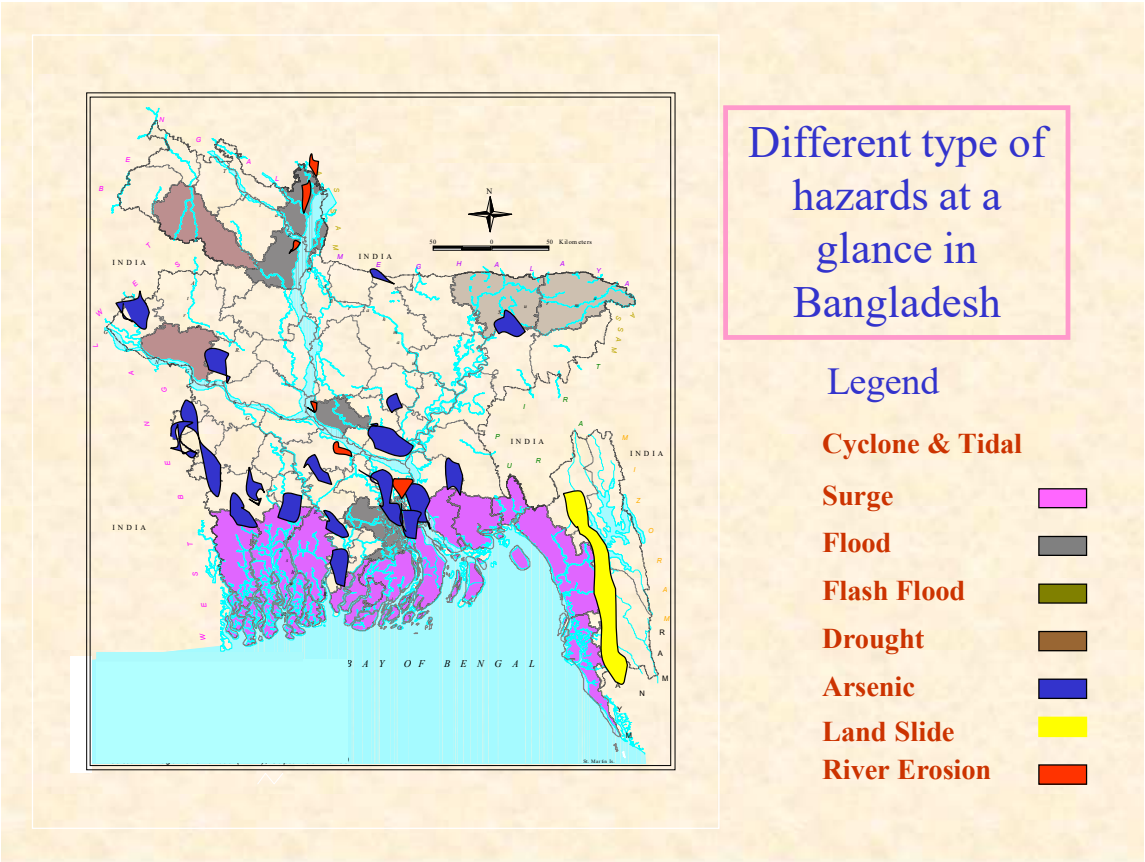
4.2 Major Natural Hazards and Vulnerabilities & Hazard's Seasonality in Bangladesh

The geographical setting and meteorological characteristics of MF working area made the targeted population vulnerable to different geo-hazards and hydro-metrological hazards. Approximately ninety percent of the total land area and all inhabitants are at risk of multiple hazards including tropical cyclones, floods, droughts, riverbank and coastal erosion. The major disasters concerned in the area are -

1. Floods;
2. Cyclone and storm surges;
3. Tornadoes;
4. River bank erosion;
5. Landslide;
6. Earthquakes;
7. Droughts;
8. High arsenic contamination of ground water;
9. Salinity intrusion;
10. Lightning;
11. Tsunami;
12. Fire;
13. Infrastructure collapse;
14. Human induced disasters.

Seasonality of different types of hazards in Bangladesh





4.2.1 Floods: (definition, location, seasonality, major impacts)

Inundation of land by the rise and overflow of a body of water is called flood. Floods are natural occurrences where an area or land that is normally dry unexpectedly becomes submerged in water. In simple terms, flood can be defined as an overflow of large quantities of water onto a normally dry land. "*European Union (EU) Floods Directive defines a flood as a covering by water of land not normally covered by water."* Flooding happens in many ways due to overflow of streams, rivers, lakes or oceans or as a result of excessive rain. When banks are overtopped, water spreads over the floodplain and generally causes problems for inhabitants, crops and vegetation. During the rainy season water flow exceeds the holding capacity of rivers, canals (*khals*), beels, haors, low-lying areas it inundates the whole area causing damage to crops, homesteads, roads and other properties. Every year near about one-fifth of Bangladesh undergoes flood during the monsoon season.

*Seasonality of Floods:*Floods are a common annual phenomenon in Bangladesh. It usually occurs during the monsoon season, 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 of properties and loss of lives.

Types of flooding:
- 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.

Factors causing floods: The factors for causing floods in Bangladesh are:
- Locally heavy rainfall;
- Due to land erosion and landslides in upstream the alluvial soil raises the bed of rivers and canals;
- Large-scale tree felling and indiscriminate deforestation in and around source of river, streams and water source;
- Blockade of natural drainage of water due to unplanned population settlement and construction of inappropriate and unplanned embankments;
- Increase of sea level and its effect in low-lying areas.

Flood prone areas of MF: The major flood prone working areas of MF are Jhenidha and Magura. Flood in Satkhira and Khulna districts is caused due to heavy rain, high tide, storme surge, poor drainage conditions, especially in Koboda Haribhanga and Shibsa river catchment areas.

Major impacts:

- Whenever flooding takes place, there is the possibility of loss of life, hardship to people, and extensive damage to property.
- Flooding also destroys crops and can wipe away trees and other important structures on land. Some floods occur suddenly and recede quickly whereas others take several days or even months to form and to recede because of variation in size, duration, and the area affected.
- The incidence of disease is complicated by frequent flooding, which increases the probability of disease spread. Diseases including cholera, diarrhea, malaria, dengue fever, and TB peak during flood incidents.
- Destroy or hinder the scope of livelihoods especially day laborers in the affected areas.
- Create limited access to or cut off normal communication of affected communities to local markets, educational centers, hospitals etc.

4.2.2 Cyclones and storm surges:

A cyclone is caused by atmospheric disturbances around a low-pressure area and is usually accompanied by violent storms and severe weather conditions. Tropical cyclones are revolving storms that begin in the tropics. Storms of these types are called hurricanes in the North Atlantic and eastern Pacific and typhoons in South East Asia and China. They are called tropical cyclones in the southwest Pacific and Indian Ocean region. A storm surge is a rise in sea level that occurs during tropical cyclones, intense storms also known as typhoons or hurricanes. The storms produce strong winds that push the water into shore, which can lead to flooding. This makes storm surges very dangerous for coastal regions.

Devastating cyclones hit the coastal areas of Bangladesh almost every year usually accompanied by high-speed winds, sometimes reaching 250 km/hr or more and 3-10m high waves/storm surge causing extensive damage to life, property and livestock in coastal communities. Cyclones in the Bay of Bengal occur in two seasons, April-May and October-November - i.e. pre and post the monsoon. A severe tropical cyclone hits Bangladesh, on average, every 3 years.

The storm surges are higher in Satkhira and Khulna than in neighboring countries because the Bay of Bengal narrows towards the north, where Bangladesh is located. In recent years, general cyclonic activity in the Bay of Bengal has become more frequent, causing rougher seas that can make it difficult for fishermen and small craft to put to sea.

South and South-Western Parts of the country have been hit by Tropical Cyclones during the last few years. Most of the damage occurs in the coastal regions of Khulna & Satkhira of the working areas of MF. But the coastal districts of Patuakhali, Barisal, Noakhali and Chittagong and the offshore islands of Bhola, Hatiya, Sandwip, Manpura, Kutubdia, Maheshkhali, NijhumDwip, Urir Char and other newly formed islands are also affected by cyclone.

Considering wind speed, the cyclones are classified into 5 categories, they are as under:

Tropical Cyclone Severity		
Categories	**Winds**	**Typical effects (indicative only)**
Category 1	Strongest gust less than 125 km/h	Negligible house damage. Damage to some crops, trees and caravans. Craft may drag moorings.
Category 2	Strongest gust 125 - 170 km/h	Minor house damage. Significant damage to signs, trees and caravans. Heavy damage to some crops. Risk of power failure. Small craft may break moorings.
Category 3	Strongest gust 170 - 225 km/h	Some roof and structural damage. Some caravans destroyed. Power failure likely.
Category 4	Strongest gust 225 - 280 km/h	The port will experience severe weather from a storm of great intensity that is expected to cross over or near the port. Significant roofing loss and structural damage. Many caravans destroyed and blown away. Dangerous airborne debris. Widespread power failure.
Category 5 (eg. SIDR 2007)	Strongest gust More than 280km/h	Extremely dangerous with widespread destruction

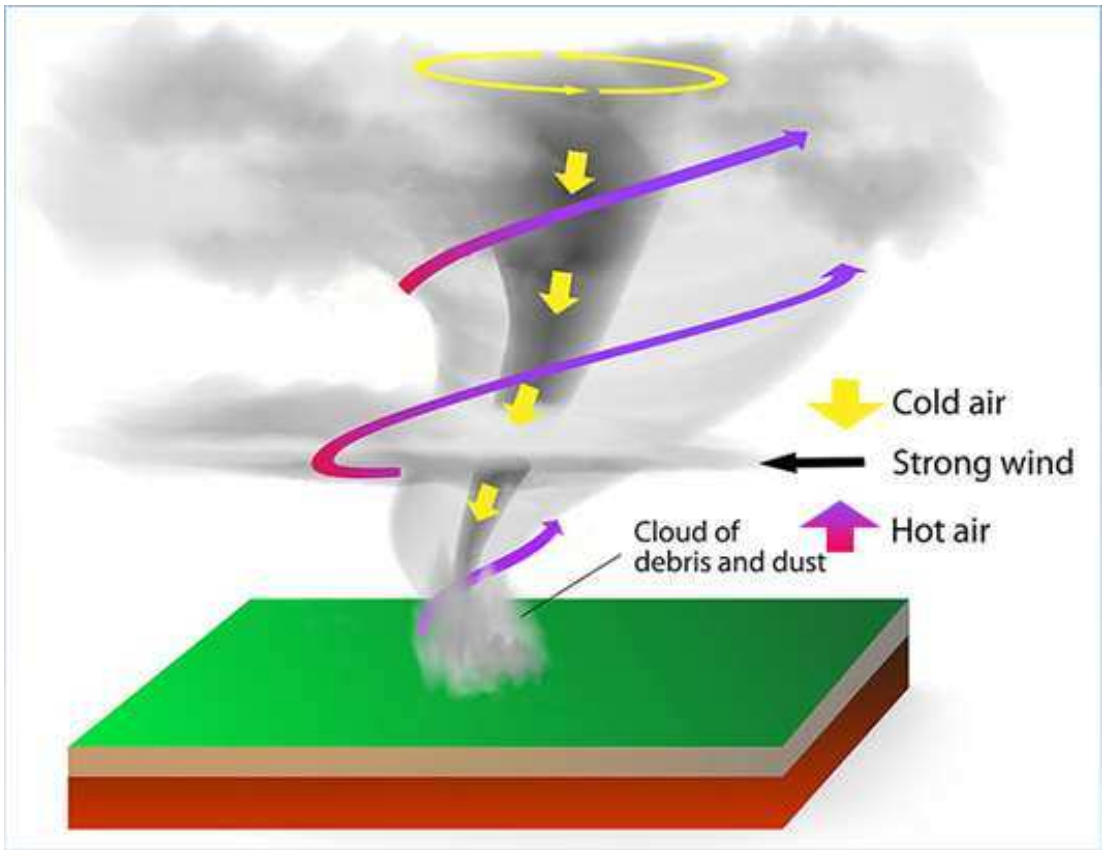
Source: SOD of Bangladesh.

Poor people and their thatched houses, small boats in the river and standing crop in the field are mainly affected by the cyclonic storm category 1 and 2. In that situation almost all the affected people can cope with the situation salvaging from the relics or availing support from their own community or local government institutions. When the severity of cyclone exceeds category 2 and go above, the people are then affected haphazardly and maximum people lost the ability and means to cope up with that situation. Then they need support from the Government and INGO/NGOs in terms of food, shelter, medical treatment, water supply, sanitation, assistance for livelihood, etc. for their survival and restoration to normal life.

4.2.3 Tornadoes:

Tornadoes are violent storms that strike as a powerful rotating mixture of wind and thunderstorm clouds, extending from the clouds to the ground in a funnel shape. They are known to be the most powerful and destructive atmospheric generated wind systems. They occasionally occur in Bangladesh during the pre-monsoon hot season, especially in the month of April-May when the temperature is the highest. Tornadoes occur usually during the daytime, from mid-afternoon till about early evening. Their movement is usually from the southwest to the northeast. Sometimes they move in any direction, and usually accompanied by thunder, lighting, terrifying roaring and heavy rain.

The diameter of a tornado varies from a few meters to about two kilometers. The spinning winds cover an area of about 300 — 400 yards, and can travel300 to 480 km/hr. Tornado is a very short-lived disturbance which may last 10-20 minutes and the length of their travel path may vary from 10 to 15 km. Sometimes tornadoes develop in a very short time frame, leaving very little lead time for warning and preparation.



The formation of Tornado in the graphics. [© whyfiles.org|© weather.gov].

Impacts of Tornado:

Although small in size, wherever they hit, they make a complete devastation with extensive damage to life, shelters, food stocks, property and many other things for their livelihood. Tornado damages are caused by the high wind speed and high difference in atmospheric pressure between the tornado and its surroundings. The rotating winds can knock down weaker structures, and the extremely low pressure

inside the tornado generates strong pressure differences between the inside and outside of buildings. This pressure difference causes roofs to be lifted and removed. The high winds picked up smaller objects including small structures, animals, people, cars, and especially mobile homes, and can carry these objects up to several kilometers (earthsci.org/tornado damage). The rural community people of Bangladesh are one of the most sufferers of the tornado incident due to the poor construction materials in housing. The high pressure of tornado wind easily torn up the poor rural infrastructure made of bamboo, simple wood and corrugated iron, aluminum or copper sheet.

Tornado prone areas of MF:
Central part of Bangladesh is particularly susceptible to tornado. However, with the change in climatic conditions *the* working districts of MF e.g. Narail, Magura and Jhinaidaha are also prone to Tornados. When Tornados hit poor people are severely affected; they loss their houses with many other belongings, which are essential requirement for their life livelihoods.

4.2.4 Riverbankerosion:

As a river flow, the force of its moving water washes away loose soil and pieces of rocks. In this way the river cuts it own channel in the ground. This process is called erosion. The rivers of Bangladesh are very extensive. There are 230 rivers with their numerous tributaries and distributaries. The total length of all rivers, streams, creeks and channels is about 24,140 km. The system can be divided into four major networks: (1) Brahmaputra-Jamuna River system, (2) Ganges-Padma River system, (3) Surma-Meghna River system, and (4) Chittagong region river system. This study mainly focused on Brahmaputra-Jamuna River system.

In a year about 2,400 km of river bank line experience major erosion. It is estimated that about 5% of the total floodplain of Bangladesh is directly affected by riverbank erosion. The rivers and its branches that are highly susceptible to riverbank erosion are Jamuna, Padma and Lower Meghna. Narail district of MF working area is succiptable to river bank erosion. Due to cyclonic water surge some river banks of Satkhira and Khulna districts are also prone to erosion. During monsoon, extensive overbank spills, bank erosion and bank-line shifts have become typical particularly in the coastal areas.

Impacts of river bank erosion:

- Socio-economic consequences: The first and foremost impact is social, i.e. homelessness due to land erosion which compels people to migrate. After forced migration they suffer from economic crisis, namely loss of occupation and loss of property, and they are at the risk of poverty and sometimes involvement in criminal activities. The socio-economic impacts include homelessness, migration, loss of land and productive land, loss of occupation, risk of poverty, create improper care of health, lack of education attainment, criminal activities etc. Lifestyle of people who live near the river banks degrades drastically. It is a big setback for agriculture. Estimated USD 500,000,000 monetary loss annually.

- Human displacement and demographic impact: Every year millions of people of the country are affected by riverbank erosion that destroys standing crops, farmland and homestead land. Estimated 1,000,000 people are affected annually. The unpredictable shifting behavior of the rivers and their encroachments not only affect the rural floodplain population but also the urban growth centres and infrastructures. People, live in the lands by the side of rivers are to always move from one place to another as their dwelling places, farmland, infrastructure and communication system are being eroded one after another in a short period. Due to river bank erosion internal displacement of people happens frequently.

- Biodiversity loss:The most adverse consequences of bank erosion are the “habitat loss” of flora and fauna by disturbing the whole ecosystem chain or safety net. The bank erosion turns the healthy environment into a barren land or vacuum place with only a very few organisms or species. Due to river erosion the following impacts are seen in river banks areas in terms of biodiversity –

  - Loss of fruit varieties;
  - Loss of varieties of lower plants;
  - Loss of aquatic vegetation;
  - Loss of timber yielding plants;
  - Loss of birds;
  - Loss of reptiles and amphibians;
  - Loss of mammals.

- Environmental problem: environmental impacts include loss of drinking water quality, lack of proper sanitation facility, poor management of soil and agricultural land, etc.

4.2.5 Earthquake:

Simply, earthquakes are the rumblings, shaking or rolling of the earth's surface. It is form of energy of wave motion, which originates in a limited region and then spreads out all directions from the source of disturbance. It usually lasts for a few seconds to a minute. The point within the earth where earthquake waves originate is called focus, from where the vibrations spread in all directions.

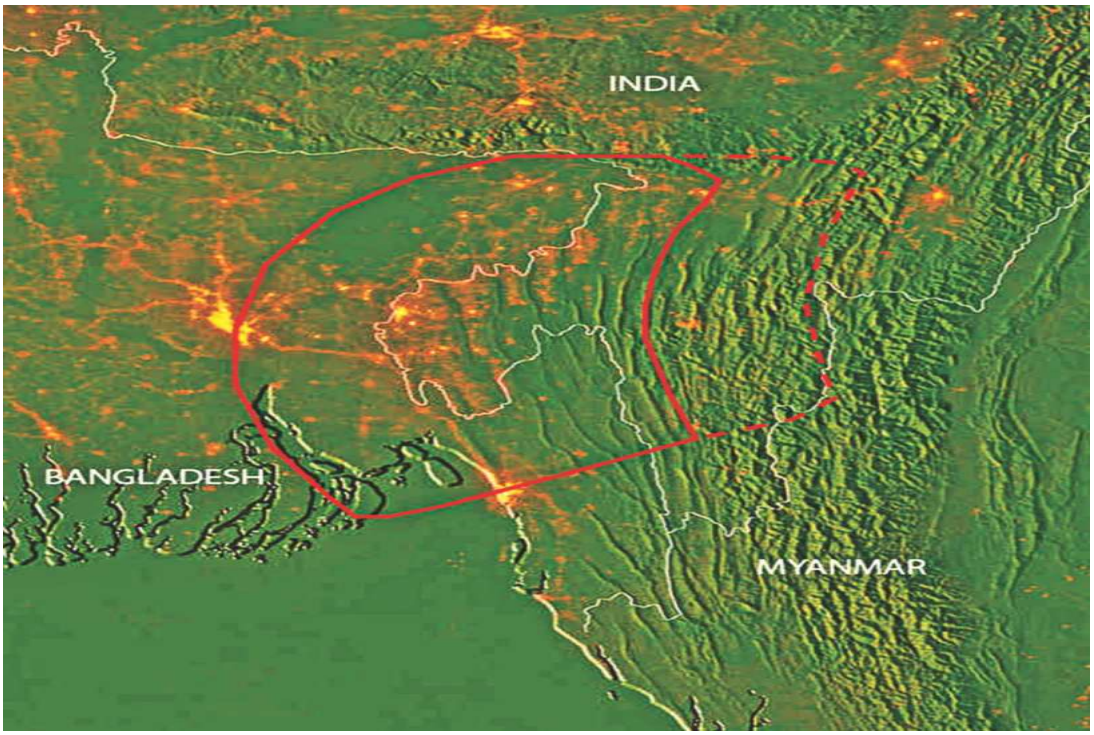
Magnitude and Intensity measure differentcharacteristics of earthquakes. Magnitude is scale of earthquake which expressed by Richter scale. The magnitudes as per Richter scale are as follows-

- Small or minor = below 5 in Richter scale
- Moderate = 5-6 in Richter scale
- Large = 6 -7 in Richter scale
- Major = 7- 7.8
- Great = 7.8 –

Generally, the earthquake counted as danger from large level.

Intensity measures the strength of shaking produced by the earthquake at a certain location. Those are - Violent, Severe, Moderate and Mild.

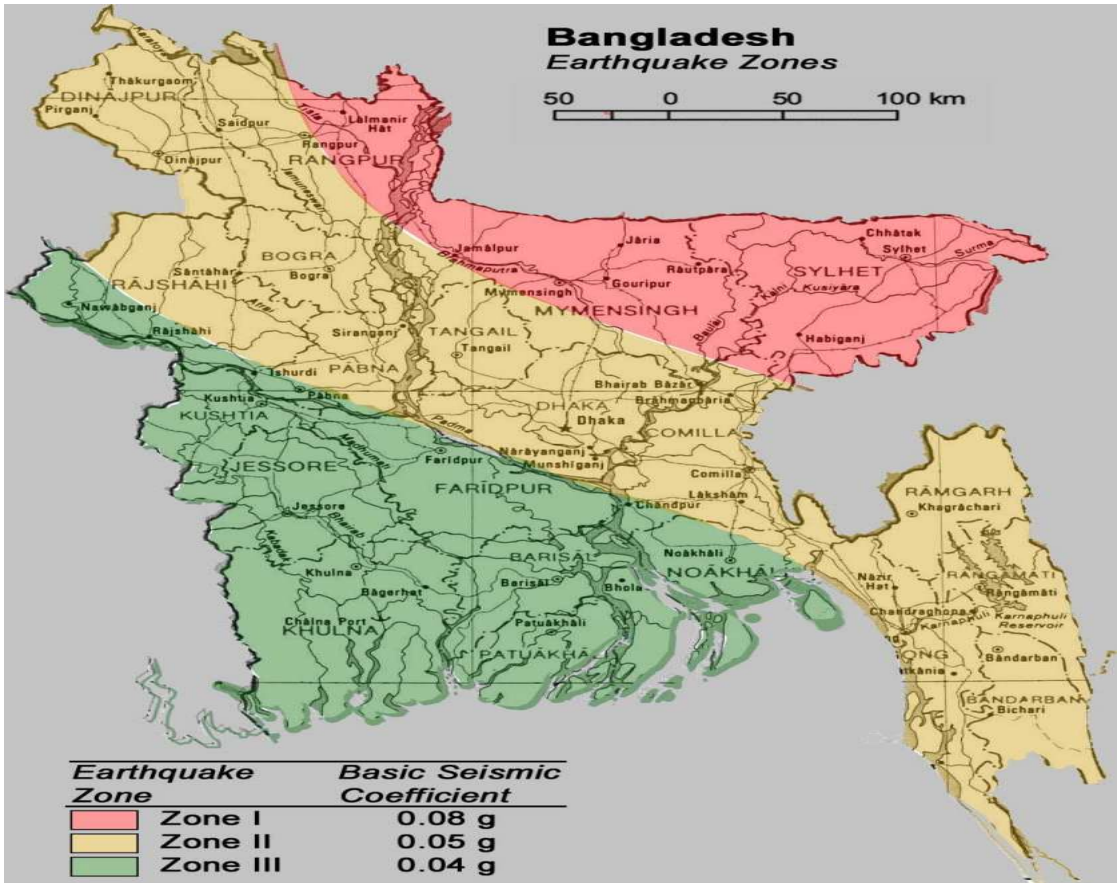
Bangladesh is ill prepared to tackle the aftermath of any strong earthquake. Five geological fault lines run through the country, exposing it to highly vulnerable of a major quake, say experts. They suspect that if an earthquake with a 7.0 magnitude occurred in any large cities, there would be a major human tragedy due to the faulty structures of many buildings. Among the cities, Dhaka is most vulnerable to earthquake. Located on two fault-lines, Dhaka also ranks among the 20 cities most vulnerable to earthquake in the world



According to a government study, some 78,323 buildings will be destroyed completely if a 6-magnitude earthquake shakes Dhaka originating from Madhupur Fault (near Dhaka city), causing havoc in the densely populated capital city. In case of a 7.5-magnitude earthquake originating from Madhupur Fault, some 72,316 buildings in the capital will be damaged totally and 53,166 others partially. "If an 8.5-magnitude tremor from the plate boundary of Fault-2 hits the region, some 238,164 buildings will be destroyed completely across the country," added the study

Major earthquake risky zones in Bangladesh –
In the north and northeast of Bangladesh, there are areas of high seismic activity and some of the major earthquakes originated in these areas in the past have affected the adjacent regions of the country. The whole of Bangladesh is divided into three seismic zones. The northern part of the country that includes the greater districts of Rangpur, Mymensingh, and Sylhet are in the Zone-I where earthquake shock of maximum intensity of IX of the Modified Mercalli Scale is possible. The Zone-II includes the greater districts of Dinajpur, Bogra, Dhaka and Chittagong and the shocks of intensity of VIII are possible. The southern part of the country, the least active region, where the maximum intensity is not likely to exceed VII, is in the Zone-III.

Seismic zone in Bangladesh



Major causes behind earthquake are -
- The most earthquakes are caused by movement of the Earth's tectonic plates;
- Volcanic eruptions;
- Human activity can also produce earthquakes. Four main activities contribute to this phenomenon: Storing large amounts of water behind a dam; Building an extremely heavy building); Drilling and injecting liquid into wells; and bycoal mining and oil drilling.

Major impact of earthquake-
- Shaking and ground rupture
- Landslides and avalanches
- Fire
- Soil liquefaction
- Tsunami
- Floods
- Human impact- loss of life, structure collapse, damage of property

4.2.6 Droughts:

Drought is a lack or shortage of water for an unusually long period of, involving 50% less than the usual rainfall over three months. Droughts in Bangladesh are seasonal and can devastate crops, causing

hardship to poor agricultural laborers and others who cannot find work. Mainly the northern part of the country, especially the Barind Tract fall under Rajshahi and Rangpur Division is vulnerable to drought. Parts of Jheniadha, Magura and Jessore districts are also prone to mild drought.

Drought prone areas are affected by *monga* (unemployment leading to seasonal hunger) is often a problem; especially in the months leading up to the November-December rice harvest. If the crop totally fails because of drought, the situation for poor people can become critical.

Every five years, Bangladesh is affected by the major country-wide droughts. Droughts most commonly affect the northwestern region, which generally has lower rainfall than the rest of the country. Between 1960 and 1991, drought events occurred 19 times in Bangladesh. Very strong droughts hit the country in 1961, 1975, 1981, 1982, 1984, 1989, 1994, and 2000. Past droughts have naturally affected about 53% of the population and 47% of the country.

Major Causes of drought:
Natural causes-
- Global warming;
- Deficiency of rain water;
- Hot and dry weather;
- EL-NINO
- Soil erosion

Human causes-
- Over population;
- Over cultivation;
- Deforestation;
- Over extraction of ground water
- Trans boundary politics

Impacts of drought in Bangladesh
Droughts directly affect crop production. The agricultural drought, linked to soil moisture scarcity, occurs at different stages of crop growth, development and reproduction. Monsoon failure often brings famine to the affected regions and as a result crop production reduces drastically.

Northwestern regions of Bangladesh are particularly exposed to droughts. A strong drought can cause greater than 40% damage to broadcast *Aus*. During the *kharif* season, it causes significant destruction to the *Aman* crop in approximately 2.32 million ha every year. In the *Rabi* season, about 1.2 million ha of agricultural land face droughts of different magnitudes. Apart from the agricultural loss, droughts have important effect on livestock population, land degradation, health and employment.

The associated crop production decline, lower employment opportunities and losses of assets contributed to raise household food insecurity. Consumption of food fell, along with household capability to meet food requirements on a sustainable way. Vegetables and several other pulses varieties are in short supply throughout the drought.

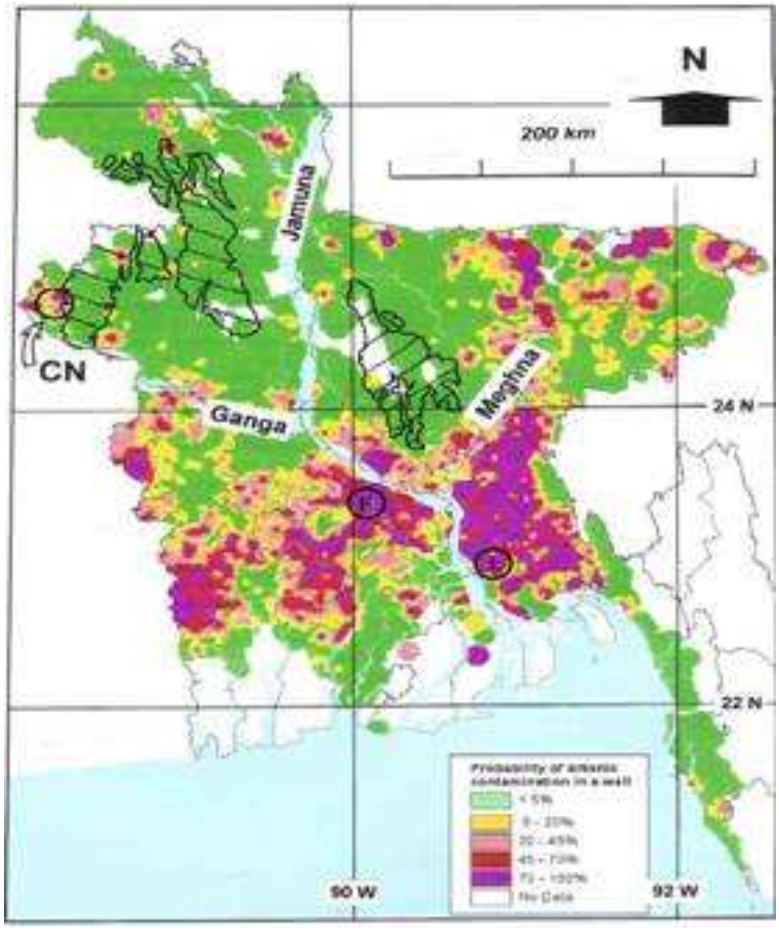
Droughts cause major problem in household health because its subsequent impact of decreasing food consumption leads to significant increases in illnesses. It also causes an increase in chronic energy deficiency among the agricultural workers.

4.2.7 Arsenic contamination:

Arsenic is a ubiquitous element in the nature and widely distributed in air, water, soils, rocks, plants and animals in variable concentrations. But it is usually found combined with one or more other elements such as oxygen, chlorine and sulfur, with the highest mineral concentrations occurring as arsenides of gold, silver, copper, iron, and lead. Major arsenic containing minerals are arsenopyrites (FeAsS), realgar (As4S4), orpimentandarsenic trisulfide (As2S3).

The contamination of groundwater by arsenic in Bangladesh is one of the largest poisonings of a population in the history. The scale of this environmental poisoning disaster is greater than any seen before. Though in 1983, the first arsenic patients seen were from West Bengal, India but it come to consideration and confirmed in 1993 in the Chapai Nawabganj (CN), Bangladesh (DPHE,1993). Thereafter, it slowly penetrated in the area of Jessore, Magura, Jhenaidha & Satkhira. It is estimated

that about 125 million inhabitants of Bangladesh between 35 million and 77 million are at risk of drinking contaminated water (IAEA, 2002).



Arsenic map of Bangladesh (DPHE)

It is estimated that approximately 27% of the wells are contaminated with levels above 50ppb, the current drinking water standard for arsenic in Bangladesh (Mentioned here WHO standard is 10 ppb). Millions of wells are drilled for public water supply in Bangladesh which ensures the pure water supply to the 97% people (Ahmed M.F., 2000) in the country but the arsenic disaster makes tragedy to this success. Still now, there is no determined source of the arsenic or method of contamination which makes it difficult to resolve the problem.

Toxic Effects of Arsenic to Human Health

Arsenic is toxic substance to human health and toxicity depends on the amount of arsenic intake, which is classified into acute, sub-acute and chronic toxicity respectively. It is a silent killer. It is 4 times as poisonous as mercury and its lethal dose (LD) for human is 125 milligrams. Drinking water contamination causes the last variety of toxicity. Undetectable in its early stages, arsenic poisoning takes between 8 and 14 years to impact on health, depending on the amount of arsenic ingested, nutritional status, and immune response of the individual.

Signs of arsenicosis: spots on the hands

Arsenic toxicity is dose dependent, and particularly on the rate of ingestion of arsenic compounds and their excretion from the body but it also accumulates into the body and passes slowly out through hair and nail. Most of the ingested arsenic is excreted from the body through urine, stool, skin, hair, nail and breath. In excessive intake, some amount of arsenic is accumulated in tissues and inhibits cellular enzyme activities. Inhalation, ingestion and skin contact are the primary routes of human exposure to the arsenic. Chronic arsenic ingestion from drinking water is known to cause skin cancer, and there is substantial evidence that it increases risk for cancers of the bladder, lung, kidney, liver, colon, and prostate. Recent studies have also shown that arsenic is associated with a number of non-neoplastic diseases, including cardiac disease, cerebrovascular disease, pulmonary disease, diabetes mellitus and diseases of the arteries, arterioles, and capillaries (Engel, R.R. and Smith, A.H., 2004). Individuals with chronic Hepatitis B infection, protein deficiency or malnutrition may be more sensitive to the effects of arsenic (WHO, 1999). Children and older adults may be other groups at special risk.

The following table shows problems and organ of the human body which is generally affected by arsenicosis.

Organ system	Problems
Skin	Symmetric hyperkeratosis of palms and soles, melanosis or depigmentation, bowen's disease, basal cell carcinoma and squamous cell carcinoma
Liver	Enlargement, Jaundice, cirrhosis, non-cirrhotic portal hypertension
Nervous system	Peripheral neuopathy, hearing loss
Cardiovascular system	Acrocyanosis and Raynaud's phenomenon
Hemopoietic system	Megalobastosis
Respiratory system	Lung cancer
Endocrine system	Diabetes mellitus and goiter

4.2.8 Salinity Intrusion:

Saltwater intrusion is a major concern commonly found in coastal aquifers around the world. Saltwater intrusion is the induced flow of seawater into freshwater aquifers primarily caused by groundwater development near the coast. Where groundwater is being pumped from aquifers that are in hydraulic connection with the sea, induced gradients may cause the migration of salt water from the sea toward a well, making the freshwater well unusable.

Because fresh water is less dense than salt water it floats on top. The boundary between salt water and fresh water is not distinct; the zone of dispersion, transition zone, or salt-water interface is brackish with salt water and fresh water mixing.

Under normal conditions fresh water flows from inland aquifers and recharge areas to coastal discharge areas to the sea. In general, groundwater flows from areas with higher groundwater levels (hydraulic head) to areas with lower groundwater levels. This natural movement of fresh water towards the sea prevents salt water from entering freshwater coastal aquifers (Barlow, 2003).

Increasing salinity is a crucial issue to the people of Khulna & Satkhira. Due to increasing salinity in the water and soil, the people of the region are suffering from scarcity of safe drinking water, irrigation, agriculture and other uses. Ecology of the coastal region especially in the southwest region is greatly

concerned with salinity. A recent study indicates that the salinity affected area has increased from 8330 square km in 1973 to 10560 square km in 2009 (Soil Resource Development Institute, 2010). But it has been observed that all the coastal cultivable lands are not being utilized for crop production, mostly due to soil salinity. Increased soil salinity limits growth of standing crops and affects overall crop production, and also makes the soil unsuitable for many potential crops. Soil salinity has been considered a major constraint to food grain production in coastal areas of the country.

Major factors of salinity intrusion:

Natural system

- Critical geographical location of the country;
- Sedimentation;
- Long-term climate and sea level rise;
- Cyclone and storm surge,
- Tidal flooding;
- Back water effect
- Change in ground water flow.

Socio-economic system

- Continuous shrimp cultivation in agricultural land;
- Weak structure and faulty management of coastal polders

Political system

- Low flow condition of the river by a barrage in the upstream neighboring country,
- Weak water governance system at local level;
- Cross boundary river policy.

Major Impact:

As Khulna and Satkhira belong to the seaside zone, the adverse impact of saltwater intrusion is significant here. Salinity mainly affects land and water in these areas. With the consequence of climate change, it gradually extends towards inland water and soil. This scenario of gradual salinity intrusion is very threatening to the primary production system, coastal biodiversity and human health. Salinity intrusion is spreading into the non-coastal areas as well. Recently, International Rice Research Institute (IRRI)'s Seed Study, funded by USAID, has identified 12 districts of Bangladesh as salinity affected area through GIS mapping.

4.2.9 Lightning strike/Thunder storm:

Lightning is electrostatic discharge that occurs during a thunderstorm. These discharges occur in three ways - Intra-cloud or IC lightning; between two clouds or CC lightning and between a cloud and the ground or CG lightning. In Bangladesh, most lightning deaths usually occur during the warm months i.e. March to July. Recent years Bangladesh has been experiencing high number of deaths from lightning strikes during the above-mentioned period. Since 2010, Bangladesh has been keeping records of damages by lightning. In 2015, the Bangladesh's government has added lightning as country's one of the major disasters.

Lightning stricken areas in Bangladesh:

According to recent records *Haor* areas (Sunamgonj, Kishoregonj, Brahmonbaria, Hobigopnj and Netrokona districts); *Beel* areas (Satkhira and Jessore districts); northern areas (Dinajpur, Nowgaon, Thakurgaonand Chanpainawabgonj districts); Coastal areas (Patuakhali, Bagerhat and Chittagong districs); Chittagong Hill Districts (Rangamati, Khagrachari and Bandarban districts) and Kishoregonjare highly lightning prone areas in Bangladesh.

Major impacts of lightning:

Lightning most often strikes people who work outside or engage in outdoor activities. Farming and field labor, construction and building maintenance activities, heavy equipment operational works, pipefitting or plumbing, telecommunications field repairing works and power utility field repairing activities are the highest risky occupations in Bangladesh during the lightning strikes.

- Loss of lives and injuries: Most of the diseased by lightning strikes were key earning persons of their families. Injuries include burns, paralysis and trauma. There is yet to be established the standard treatment protocol/policy for injured persons of lightning in Bangladesh. As result every year hundreds of injured by lightning have to suffer for long time. Many of them became disabled permanently.

- Loss of properties: Every year a lot of electrical machineries and equipment e.g. televisions, refrigerators, air conditioners, fans, micro-ovens etc. damaged by lightning strikes.

Major causes of lightning:
Experts say that indiscriminate falling of trees in both rural and urban areas, lack of awareness among the people, lack of initiatives of government and NGOs are the main reasons for high frequency of lightning and losses of lives and properties by it. Scientists also say warmer conditions associated with climate change are causing more water evaporation from the land and ocean, increasing clouds and rainfall and the potential for lightning storms. However, the government of Bangladesh now compensates lightning strike victims or their families with sums between BDT 7,500 and 25,000.

4.2.10 Tsunami:

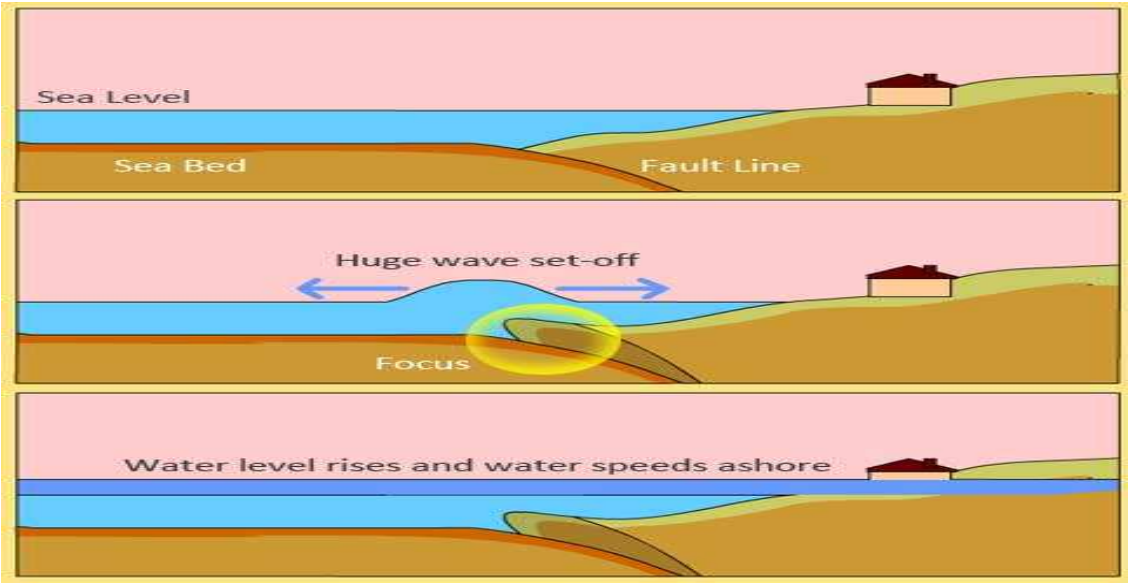
The term "tsunami" originates from the Japanese *tsunami*, meaning "harbor wave". It is also known as a seismic sea wave. This is simply a series of massive ocean waves, triggered by an earthquake that has occurred in the sea (or ocean). The displaced water then runs ashore and into the land. This happens when the plates underneath the Earth's surface move (focus) so that one slips under another. Tsunamis may also be caused by underwater landslides or volcanic eruptions.

Water level can rise as high as 100ft, even though it can look like only a foot or two from above. The water moves at incredible speed (500 miles per hour) towards land, with phenomenal destructive power. The speed of the water picks up as it travels. Tidal waves differ from tsunamis. Tidal waves are usually in circular motion. Tsunamis are a lot different. The water moves with a flat surface and has a lot of speed and power.

Researchers believe that most tsunamis, (80%), happen within the Pacific Ocean's "Ring of Fire," a geologically active area where tectonic shifts make volcanoes and earthquakes common.

The 2004 Indian Ocean Tsunami has already challenged the level of regional risk, rupturing around 1300 km of seafloor from Sumatra to the Andaman Island. During the 2004 Indian Ocean Tsunami, the tsunami reached the coast of Bangladesh within 2.2 hours. The largest wave amplitude was 31 cm inland of the most southern coast of Bangladesh. Officially, two human deaths occurred in Bangladesh.

Tsunamis can cause great destruction and loss of life within a minute on shores near their source. They are capable of obliterating coastal settlements, and may cause severe coastal flooding and ecological disruption of coastal areas. It is very hard to escape violent disasters caused by tsunami.



4.2.11 Fire incidents:

Fire incident, as a disastrous event, can have its origin either in nature or in human activities. Whatever the case, it is a phenomenon that usually involves a process of occurrence, spreading, human countermeasures and then disappearance. Fire usually occurs due to improper use of utilities or unaware human behaviour. It can spread in any direction depending on the presence of inflammable

materials and sustain itself for any period varying from a few minutes to days or weeks depending on the fire load and effective countermeasures [18]. And the loss of human life and property is proportionate with the severity of the incidents.

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. 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 (Tk. 2,000 million).

4.2.12 Infrastructure Collapse:

When internal load bearing structural elements fail, a building will collapse into itself and exterior walls are pulled into the falling structure. This scenario may be caused by construction activity, an earthquake, or fire, and may result in a dense debris field with a small footprint. Alternatively, if the structural failure is caused by an explosion or natural forces such as weather, the building may collapse in an outward direction, resulting in a less dense and more scattered debris field.

Major structure collapse in Bangladesh-

- A nine storied building Spectrum garment factory collapse on 11 April 2005 in the Savarupazila of Dhaka in Bangladesh killed 73 people. The explosion of a boiler on the ground floor triggered the collapse.
- A five-story commercial building Rana Plaza collapse in the Savarupazila of Dhaka in Bangladesh that occurred on 24 April 2013 killed a total of 1,134. Approximately 2,500 injured people were rescued from the building alive. It is considered the deadliest structural failure accident in modern human history, and therefore also the deadliest garment factory accident in history.
- Bahddarhat flyover collapse in Chittagong of Bangladesh on 24 November 2012 killed seven pedestrians.

4.3 Human induced disasters:

Disasters also can be caused by humans. Bangladesh has born amidst the history of human made disaster. Almost one third of the population was dislocated during the liberation war of 1971. Bangladesh has witnessed a rapid growth in the number of IDPs in Chittagong Hill Tracts due to Kaptai Dam and ethnic conflict. Moreover, religious minorities and even slum dwellers have often found themselves to be displaced due to economic or political reasons.

Human induced disasters are the disastrous events caused directly and principally by one or more identifiable deliberate or negligent human actions. Human-made or induced hazards are threats having elements of human intent, negligence, error and involving a failure of a system. The types and dimensions of human induced disasters are as follows-

a. **Intentionally and unintentionally accident:** Killing and being significant harm to a large number of humans or cause great damage to human –made and natural structure or the biosphere by nuclear, radiological, chemical, biological or other weapon is called WMD.

b. **Civil unrest:** Disagreement and protest of civilians or political parties against government's policies, decisions or acts. Bangladesh has experienced such unrest particularly during national parliamentary elections.

c. **Conflict and violence:** Communal, religious or ethnic conflicts also occurs in Bangladesh. Religious minorities are worse suffers of such violence. Satkhira, Khulna & Jessore districts have experienced such violence in the post-election period. Aarson attack to religious minorities as reference: Nearly 200,000 Hindu and Buddhist minorities were forced to move to safer places or to migrate to India due to a series of violent incidents against the Hindu and Buddhist minorities in 1990, 2001, 2012, 2014.

d. **Terrorist Attack:** Communities are also vulnerable to threats posed by extremist groups who use violence against both people and property. Military and civilian government facilities, international airports, large cities and high-profile landmarks etc. are at high risk of terrorist attack. Bomb attack on 14 April 2001 at Ramna Batamul killing 10 people, bomb attack on 1 June 2001 at Gopalgonj Catholic church killing 10, Grenade attack on 21 August 2004 in Awami league rally at Bangabandhu Avenue killing 24 people and killing 29 people including 18 foreigners and two police officers by Islamist militants in Holy Artisan of Gulshan, Dhaka were remarkable deadliest terrorist attacks in history of Bangladesh.

e. **Trans border refugee influx:** Very recently Two-third the Rohingya population of Rakhine state in Myanmar forcibly displaced – more than 15 million as refugees (Bangladesh 955,500; Saudi Arabia 400,000; Pakistan 200,000; Thailand 100,000; Malaysia 40,070; India 40,070, USA 12,000; Indonesia 11,941; Nepal 200 and Canada 200).There are also millions of internally displaced peoples (IDPs) in Syria (6.3 million), Iraq (5.4 millions since 2014), Yemen (2 million), and over 300,000 in Libya.

f. **Road accident:** According to the record of government of Bangladesh since 2009 to 2017, at least 24,784 people were killed and 30,837 others injured in 24,431 road accidents across Bangladesh. Since 1977 to 2000 there were 248motor launch accidents recorded by BIWTA (Bangladesh Inland Water Transport Authority) with a loss of 2,309 1ives, 374 persons injured and 208persons missing.

g. **Waterlogging:** Water logging in Bangladesh is a phenomenal human induced disaster. Riverbed siltation along with back water effect due to sea-level rise and high tide led to prolonged water-logging in many areas of Bangladesh particularly in south-west Bangladesh. Gradual siltation is the main source of the problem on the riverbed triggered by inadequate runoffs in the southern reaches caused by the polders constructed under the Coastal Embankment Project (CEP) during the sixties. The consequent losses in agricultural production due to the inundation of about 128-thousand-hectare crop land were noticed in Jessore, Satkhira and Khulna districts that directly affects the life and livelihood of about more than one million people. Continuous climate change put extra burdens on the social and economic challenges that the poorest already face, emphasizing and increasing their vulnerabilities due to the dependence of their livelihoods on climate sensitive natural resources and their weak social protection structures.

h. **Oil spill in the Sundarbans:** The 2014 Sundarbans oil spill was an oil spill that occurred on 9 December 2014 at the Shela River in Sundarbans, Bangladesh. The spill occurred when an oil-tanker named *Southern* Star *VII*,[1]carrying 350,000 litres of furnace oil, was in collision with a cargo vessel and sank in the river. By December 17, the oil had spread over a 350 km^2 (140 sq mi) area. The oil spread to a second river and a network of canals in Sundarbans, which blackened the shoreline. The spill threatened trees, plankton, and vast populations of small fish and dolphins. The spill occurred at a protected mangrove area, home to rare Irrawaddy and Ganges dolphins. Experts estimated that Tk. 1,000,000,000 was lost as a result of the sinking of the oil-tanker. The residents of the surrounding area were at a health risk.

CHAPTER-FIVE: CONTINGENCY PLAN OF MF

5.1 Definition of Contingency Plan:

Contingency Planning is a forward planning process, in a state of uncertainty, in which scenarios and objectives are agreed, managerial and technical actions defined, and potential response systems put in place in order to prevent, or better respond to, an emergency or critical situation. Contingency plan on disaster risk reduction is a comprehensive and proactive strategy designed to anticipate, respond to, and mitigate the impact of potential disasters on the organization's mission, stakeholders, and the communities it serves. This plan outlines specific actions, protocols, and resources that Mukti Foundation will implement in the event of a disaster to ensure the effective continuation of its operations and the delivery of critical services.

Contingency plan ensures the deployment of resources and personnel as well as the systems and tools to respond quickly and smartly to any disaster occurrences. The plan articulates the types of disasters, its nature and type, its seriousness as well as the how to respond to them when they do strike. The plan lays out the processes and procedures to determine the gaps, so that the resources and the personnel can be deployed smartly, effectively and efficiently address the same. Other, complementary elements include considering up-to-date baseline data on the areas and populations disaggregated by gender, age, ethnicity and their relevant variables likely to be affected, and on logistic and other resources, capacities and constraints; links with relevant early warning systems at local level; clear policies, procedures and guidelines for action in response to early warnings; clear definitions of responsibilities and authorities for action to meet emergency needs; clear policies and procedures, agreed upon with potential partners, for the provision and distribution of emergency assistance; arrangements and capacity to undertake rapid assessments of the food security situation and possible food needs, and to update logistics capacity assessments, when a crisis occurs; access to and/or mechanisms to rapidly mobilize and deliver the relief, other material and human resources.

5.2 Legal Framework:

The legal basis for preparing contingency plan includes Disaster Management Act, 2012 and Standing Orders on Disasters, 2010 of the Government of Bangladesh.

Disaster Management Act, 2012: According to sub-section (2) of section 20 of the Disaster Management Act, 2012, there is provision for making/preparing contingency plan at the Upazila level. In accordance with the plan described in sub-section (2) (1), the local disaster management committees shall formulate local disaster management plan considering their own locality and local disaster.

Standing Orders on Disasters, 2010: According to sub-section 3.3.5.1.11 and 3.3.5.1.20 of section 3.5.4 of the Standing Orders on Disasters (2010), there is a provision for making/preparing the contingency plan.

5.3 Objectives of the Contingency Plan

Goal: MF seeks to become the emergency response actor to anticipate, plan for the emergency situations, and carry out humanitarian response interventions to mitigate the impacts of disasters and reduce the sufferings of the affected people rapidly and efficiently.

Objectives: The specific objectives of the contingency plan is:

- To facilitate effective and timely humanitarian assistance to people in need, and early recovery activities to promote disaster affected population's rights in emergencies.
- To draw up the framework for a coordinated approach to work in emergency situation and to support a timely response with optimal use of available resources and logistical strength.

5.4 Principles:

Having mandated by the Constitution, MF will carry out the humanitarian response interventions taking into account of the following principles:

Basic Principles:

a. MF will strive towards the internationally accepted Humanitarian Charter and Minimum Standards;
b. MF also commits itself to the observance of internationally agreed protocols and the Red Cross Code of Conduct;
c. Underlying factors of quality and accountability in aid delivery will be considered and implemented to the extent possible.

d. Emergency response will ensure mainstreaming of disaster risk reduction, gender, age, protection and HIV/AIDS

Operational Principles

a. Special attention will be devoted to particularly vulnerable populations specific to each context and to those who help others.
b. Strategic and operational responses will be jointly planned and implemented by all concerned stakeholders.
c. A specific set of recommended actions will be developed to assist host communities in coping with the emergency, and protected from abuse and any other form of exploitation.
d. Safety and security of humanitarian workers will be of the utmost concern of MF.

5.5 Major components of MFs contingency plan

The following components will be treated as the major components of the contingency plan.

- Vulnerability and Risk Analysis
- Prepositioning of the Emergency Relief
- Information Management
- Local Preparedness
- Resource Mobilization

5.6 Strategy/Criteria to responding to emergencies

MF will determine to respond during the first 72 hours after an emergency. If the disaster occurs in an area where MF is currently operational, an assessment is definite but if the disaster occurs in area where MF is not operational, the executive director will decide whether a team should be sent. The Executive Director will take necessary initiative based on the report and discussion. The overall principle is that MF will respond to any emergency that puts at great risk the survival, protection and wellbeing of significant number of people including women and children, where addressing the needs and wellbeing of people is beyond the indigenous coping capacity and MF is able to mobilize the financial and human resources to take action on their behalf. MF will respond to any emergencies in its program areas, at the very least an initial assessment will be undertaken. MF will then determine whether or not to respond.

5.7 Priority (Area/Location) in Emergency Response

The following criteria will be used to determine when MF will implement an emergency response.

Priority 1: *Within present working Area:* The Project Office must undertake emergency program activities

Priority 2: *Outside the MF Working Area:* The Executive Director has the authority to decide how to response in close collaboration with other stakeholders.

MF's Priority in Sectoral Response In any emergency response after the disaster MFwill focus on the following areas for humanitarian assistance: Sector cover in Emergency Response

- Immediate life-saving needs
- Shelter &Non-Food Items
- Agriculture & Livelihood
- Water, Sanitation and Hygiene
- Health and nutrition
- Education

5.8 Structure of the Contingency plan:

There are a number of ways in which MF engages before an emergency. Implementation of disaster risk reduction, mitigation or preparedness programs are one of the big initiatives of MF where community based or national advocacy programs are being undertaken to reduce the risk of disasters, to mitigate its impact or to be ready for it when it strikes. In addition, MF has been implementing a good number of development projects where the disaster vulnerable communities are organized for better transformation of their social and economic development activities. Based on an understanding of the risks, vulnerabilities and capacities of the working areas of MF, the organization aims to prepare to respond, for example by putting in place the management systems for a rapid response, by training staff and by tracking early warning indicators. Following section briefly sets out some of the steps that can be taken by MF to increase the organizational preparedness for emergency response.

A. Disaster Management Core Team

A.1: Formation: Purpose of Disaster Management Core Team (DM Core Team) formation is to provide a basic operational readiness of MF (Project office to field office) to response to an emergency situation. The activities of DM Core Team shall include:

1. Observation, communication and monitoring of early warning/ pre-cautionary signals forecasting for imminent onset disasters with necessary follow-up.
2. Get involved in evacuation, search and rescue work done immediate before and after disaster as early as possible in partnership with the local government and Bangladesh Red Crescent Society (BDRCS).
3. Extend possibly help the dislocated disaster affected people with safe shelter, First-Aid, medical care, emergency food, water and sanitation.
4. Gather information from secondary sources and conducting Emergency Need Assessment, Joint Need Assessment during or immediate after disaster and transmit the situation/assessment reports (using Annex – A and Annex - B) within 24 hours to Central offices.
5. DM Core Team will use the situation/assessment reports for raising Alert Note to its donors and local government officials

A.2: Structure of DM CORE TEAM: Disaster Management Core Team will be formed or updated at Project Office levels in the month of January of each calendar year. The team members will be selected irrespective of departments or sectors including finance. Team shall be formed as follows:

Level	Members	Convener	Accountable to
Project Office	7-9	Program Coordinator	Director/Program Coordinator
Field Office	7-10	Field Supervisors	Program Heads

At least 40% of the Core Team Members will be women. Program Coordinator will constantly monitor the activities of regional team and provide them necessary back up support.

A.3: Criteria for the selection of Core Team Members:

a) Only the regular staff of MF will be the members;
b) Staff members should have training on disaster management or took part in the disaster response program in the near past;
c) The members should be physically and mentally sound to work under pressure and stressful condition during emergencies.
d) Members are expected ride bicycle and motor-cycles. Valid motor-cycle driving license is a must for who drive motor cycle.
e) Able to operate computer independently.

A.4: Specific responsibilities of Disaster Management Core Team:

- **Hazard Monitoring:** The Project Office team will be responsible for monitoring the hazards. The DM Core team members may form a separate subcommittee comprising 5 members with responsibilities for hazard monitoring. That committee will monitor the hazard and make situation report based on DDROs, BMD, CPP, BWDB, FFWC forecasting. Accordingly, blank tracking sheet needs to be developed and kept ready based on the type of disaster.
- **Collection of Secondary Data and Analysis:** The Project Office level DM core team will collect data on hazard situation from the secondary sources like- Print and Electronic Media, D-form of *Upazila* and district, DDM website, Church Network, DDROs, BMD, CPP, BWDB, FFWC, local institution and organization. The data will be analyzed, develop a report and send the same to central office.
- **Disaster Preparedness activities:** As a part of preparedness, the core team will do the following activities-

B. Organizational Preparedness:

Mobilize Material/structural Resources: The core team will be verifying, checking the field stock and mobilizing the material resources mainly needed on urgent basis to keep ready to launch emergency response operation. Rescue equipment is required to be kept ready in all the offices, including *Upazila*, for the use of Advance Team rush to the disaster affected area. A set of essential rescues equipment like Hell-met, Life-jacket, Rain coat, Axe with handle, Shovel (Belcha), Spade, Spud/crowbar

(Khonta/Safol, Kodal), Rope, Torch light (with batteries), Hand saw, Chopper (Dao), Gum Boot, First Aid Box to be preserved in the offices.

Emergency transport: Own transport to be kept ready. On the other hand, the DM core team will have the contact number of the secured vehicle owners e.g. micro, truck, van, boat owner etc. to avail their services on emergency basis.

Stockpiling or ensuring supply of emergency relief goods: The DM core team will ensure stockpiling; such as food, medicines, water or water purification tablets, emergency shelter materials, blankets, cooking utensils, etc. Wherever possible, supplies and stockpiles of relief materials except medicine should be purchased locally considering beneficiaries' actual needs with special attention to the point of their sanctity and cultural acceptance.

Warehouse: The Project office as well as field offices will keep ready or have information about the ware house available on rent closed to the identified vulnerable areas to store emergency relief materials safely.

Vendor enlistment: For purchasing the food items and non-food items from the regional or local market in any emergency response, the DM core Team will make enlistment of the food and NFI suppliers or vendors. Two types of vendor list (one for disaster prone area and another for regional level) will be made by the DM core team. Moreover, all DM core team will be oriented on MF Procurement Policy.

Monitorial Resources: Systems will be in place that ensure adequate fund is ready in hand to pay for emergency response operation.

Human Resources: DM Core Team members at Project office and field office will remain ready and in touch with Regional/Central Administration to provide emergency services.

Community Level Emergency Preparedness: DM core team will keep contact with Cyclone Shelter Management Committee, Flood Shelter and Local Educational Institutions will be ensured for evacuation and sheltering. Moreover, local level rescue team, volunteer groups should be kept ready for rescue of the disaster victims if needed.

Coordination (Internal and External): For Planning and preparation for emergencies, two types coordination mechanism will be maintained as given below-

(i) Internal coordination mechanism: During taking preparation for emergency, it is mandatory to make coordination with Field office, Unit office, Project Office and affiliated networks. At the same time, it is needed to coordinate between and among the staff members.

(ii) External mechanism: The DM core Team will keep close coordination with government agencies like- Ministry of Disaster Management and Rehabilitation, DDM, Deputy Commission, UNO, CSO, Humanitarian platform and UN Charter / Red Cross. As a part of external coordination, the concern DM core Team member will attend in the coordination meeting at *upazila* and district level. After meeting he / she will make report to respective supervisor. The Core team will also maintain liaison with donor and other relevant stakeholders.

Emergency Needs Assessment: The DM core team will form a Need Assessment Team/Joint Need Assessment Team comprising 3- 5 members following the Man- Woman ratio. Using the prescribe format (Annexure—C), the assessment team will conduct the Emergency Needs Assessment. Based on the assessment, a report will be made and send the same to the central office.

Activation of Emergency Operation Centre (EOC): When the situation gets worse, then DM CORE TEAM members will convene a meeting to open Emergency Operation Centre (EOC). The DM CORE TEAM members will remain standby for situation monitoring, coordination and emergency communication for round the clock. In this regard the groups may be divided into 3 or four groups that they can provide continuous service introducing shifting duties. As such the DM CORE TEAM at Project office and Field Office remain operative till the situation become normal. The Project office authority will arrange food and rest room for all the DM CORE TEAM members.

Evacuation, Search and Rescue operation: The DM core Team will make a plan to engage in Search and Rescue operation, which is one of the most emergent needs immediate before, during disaster and immediate after the disaster to save and protect the lives of people in danger. Immediate before the disaster evacuation of the people living in highly vulnerable area may be rescued and placed in safe shelter activating the local Red Crescent or village level volunteers in persuasion of the local Union/*Upazila* Disaster Management Committees. During disaster or immediate after disaster the situation is as deteriorated as it is difficult to approach the area for the people volunteered or assigned to be involved with rescue services and they also confront so much embargo to reach the people need urgent help to be rescued. In that situation cooperation may be sought to specialized service provider units like Bangladesh Red Crescent Society, Bangladesh Fire brigade and civil defence, Bangladesh Army. To get these activities performed early a sub-group may be formed in DM CORE TEAM and they will try their best to keep in touch with them so that personnel from those units are available at a short notice.

Carry out emergency relief operation in disaster-stricken area: Primarily EOC members of respective field offices and Project office will be kept ready to carry out the relief phase during most emergency period to protect the disaster victims. More people may be added from the existing staff members or recruiting casual staffs to handle the devastated situation considering its magnitude and extent of impacts on lives, communication system, property and environment.

C. Plan to prepare for emergencies (Normal Time)

MF works for disaster preparedness/risk management in the normal time during which its development projects are being implemented. MF perceives that disaster loss depends on the level of its preparedness. Any development work may be threatened by disaster if the potential impact of disaster is not adequately considered in it. The role of MF for disaster preparedness works are:

1. Awareness Raising on Disaster Preparedness and Management;
2. Capacity building of the Staff, Partner Groups, Community Leaders, Local Disaster Management Committees and Civil Society Members;
3. Facilitating Community-Based Disaster Risk Management (CBDRM) program;
4. Supply of Equipment for Support in Emergency Situations;
5. Implementation of Structural Support Projects for Disaster Preparedness and Mitigation;
6. Networking and Advocacy;
7. Research, Documentation and Dissemination of Good Practices on Disaster Risk Management

1) Awareness Raising on Disaster Preparedness and Management

Disaster is not an isolated reality of the community people in Bangladesh. In the past people had backed many disaster situations and they have developed coping strategies for living with the disasters. A large number of community people are poor and they are usually busy collecting their daily food. In the past, the disaster history shows that the poor are the main victims of disaster. Their vulnerability to disaster is very high and they possess a very low capacity (physically, economically, and socially) to respond. However, though they have faced disasters for a long time still many are not adapted to think and practice disaster management issues in their daily lives and disaster has not been seen as a priority to them. They become victims of disaster situations. MF involves the community people for mass awareness raising on disaster preparedness. The following are the ways for this work:

Discussion Meeting: Facilitate the periodic partner group meeting on disaster risk management.

Development and Dissemination of the Educational Materials: Developing and displaying disaster-related educational materials or good practices that can be used for awareness raising of the community people living in disaster-prone areas.

Message/Information Dissemination through Cultural Approach: Disseminate the Potential and Important message or Information on disaster risk management through various local cultural activities such as folk song, drama in the disaster-prone area.

Observation of National Disaster Preparedness Day and International Day for Disaster Risk Reduction:
Observing the National Disaster Preparedness Day (NDPD) and International Day for Disaster Risk Reduction with local Government and civil society members and school student. Discussions, rallies, drawings and essay competitions on DRM may be organized on this occasion.

Organize Simulations for Task Forces: Organizing simulation of task forces on their specific tasks for keeping ready their skills, equipment as well as education and awareness raising of the community people on disaster preparedness.

2) **Capacity Building of MF Staff, Partner Groups, Community Leaders, Local Disaster Management Committees and Civil Society Members;**
Human capacities are basic for survival as well as facilitating the community people for facing disasters. MF put emphasis on capacity building of its Staff Members, DM Committees of Local Government, Volunteers, Task Force Members, Community Leaders and Community People. Training, Seminar, Workshop, Exposure Visits to be organized for capacity building on disaster management at various levels:

- Community Level – MF Partner Group Leaders, DM Committees of Local Government, Development Allies and Civil Society Members;
- MF, Local Non-Government Organizations and Local Government Staff Members.
- All MF Field Level Staff Members who work in disaster-vulnerable areas.

Capacity Building Activities:

- Basic Disaster Risk Management Training (conceptual) – MF will organize basic training on disaster management for community leaders, government and non-government staff on various hazards, vulnerability and capacity analysis, preparedness, emergency response, crisis management, recovery, relationships disaster, development and environment, climate change, human rights, etc. for a clear understanding of disaster and its impact. The targeted participants will use their learning in their social development work (in group meetings, during the planning of development projects at community level, family level development and livelihood projects through micro-credit, etc.)

- Skill Development Training for Task Forces – MF will train for specific skill development of volunteers/ persons who are selected by the community for emergency operations center, rescue, first aid, emergency feeding and welfare, communication, needs and damage assessment for disaster. The ultimate objective of this training is that the need-based task forces at community level will be more capable to perform their duties and responsibilities during disaster situations.

- Training/Workshops/Seminars – The persons who get involves for disaster preparedness and emergency response work from MF, Local NGOs and Local Government at Union and *Upazila* levels are to be covered by the capacity building program on disaster preparedness and emergency response work. The objective of these activities is that if these stakeholders are more capable to undertake improved disaster management plans, then, the loss and damage of recurrent disaster will be reduced.

- Exposure Visits Inside and Outside the Country – In necessary cases MF may organize exposure visits inside and outside of the country in order to learn of good practices on disaster management.

3) **Community-Based Disaster Risk Management (CBDRM):**
MF may undertake CBDRM projects for the vulnerable community, if necessary. Needs assessments and baseline data of multi-hazards, vulnerabilities and capacities of the community people will follow CBDRM. The Need Assessment Formats will be used for CBDRM. The following basic data for planning of the CBDRM will be collected by using PRA/PLA tools and secondary sources:

(a) **Hazard Analysis:** specific hazard(s) likely to hit the specific areas/people/livelihood, the nature, severity, magnitude, frequency, time, duration of it may be collected through historical mapping, problem identification, seasonal mapping, experience sharing and other secondary records.

(b) **Vulnerability Analysis:** Transect Walk, Social and Resource Mapping, Institutional Mapping, Seasonal Mapping, Vulnerability Mapping, Probability Mapping can be used to get information on probability/susceptibility of physical, social, economic, cultural and environmental sectors which can be negatively influenced/affected/accentuated by the hazard (s) and or hazard(s) impacts for creating disaster situations;

(c) **Capacity Analysis:** The above tools can also be used to collect information on the positive factors/actors of physical, social, economic, cultural and environmental sectors, which can reduce the hazard (s) and or hazard(s) impacts for not creating disaster situations.

Based on the information, if the area reflects the high level of hazard impacts and vulnerability and low capacity to cope with the situation it may be included as MF working area to intervene with CBDRM.

4) Supply of Equipment for Support in Emergency Situations

MF may be involved in supply with various educational materials, like transistor radio, signal flags, hand siren, raincoat, gumboots, hardhat and bags for carrying and storage of materials, posters, leaflets and booklets and rescue equipment like axes, saws, choppers, spades, shovels, buckets, coils of ropes, first aid boxes with necessary medicines, jackets, torch light, cap, apron, etc. to the community people for the support of emergency task forces comprised of community people in its project intervention areas. The community people will use this educational and rescue equipment for disaster. This rescue equipment and educational materials will be the community assets and they will take the responsibility and maintenance for rescue equipment and educational materials by themselves.

5) Implementation of Structural Support Projects for Disaster Preparedness and Mitigation:

MF will undertake implementation of various structural support projects for reducing the loss and damage of properties in short and long-term perspectives. Though structural support projects for disaster prevention/mitigation/preparedness involve high cost and it is mainly the responsibility of government, yet MF will make an effort to undertake these support projects in its post disaster rehabilitation projects, as well as in other sorts of structural development projects like Rural Infrastructure Development and Job Creation Measures (RIDJCM*)*. Besides, MF will strive for integration of disaster-risk management measures at family level (house, WatSan, crop cultivation, fishery and other livelihood development work) and community level (road, school, shelter, embankment, field, WatSan, etc. development work). The objectives for the Structural Support Projects for Disaster Preparedness and Mitigation are:

- It will reduce the sufferings of the disaster-vulnerable people;
- It will reduce the loss and damage of probable disaster(s);
- It will increase the security/safety of the community people;
- It will be used for sheltering the vulnerable people in disaster period and for usual community development work in normal time;
- It will directly reduce the impact of future disaster (s);
- It will be helpful to use in pre and during disaster time;
- It will be helpful for health and environment;
- It will increase the capacity of the existing infrastructure;

Planning Method

The community will identify these projects, prepare the design and budget, search the local resources of the project and apply to the various agencies for supporting their projects, if necessary. Whether the MF Project Office find these projects suitable according to the objectives they may recommend even to Donor for further study and approval.

6) Networking and Advocacy

MF will actively be involved in disaster-related networks and advocacy. Level of such networks will be:

National Level – MF Project Office will be the member of disaster-related networks at national level. MF will share its disaster experiences/learning among the networking partners as and when necessary. Besides, MF will participate in the campaigns/rallies or other kind of peaceful activities such as for the fulfilment of the rights of disaster-affected people, change of law, if necessary, or initiation of new laws on DRM.

Local Level – MF Field Offices (*Upazila* level) will participate in various disaster-related training, seminar, rallies or any other peaceful activities on disaster preparedness and mitigation. MF formed people's organization, such as Union Committees and *Upazila* Committees will mobilize their resources and efforts for issue-based local disaster preparedness and mitigation work. MF field offices will also be involved in the *Upazila* Disaster Management Committees and share MF efforts on DRM with the government and other agencies as and when necessary. They will also be involved for strengthening/building networks of like-minded organizations at local level for the proper planning and implementation of development projects of the government and other agencies on the basic ground of DRM.

7) Research, Documentation and Dissemination of Good Practices on Disaster Risk Management:

Most coping mechanisms with the community people are related to survival strategies during a disaster, especially the reducing of expenditures, the selling of assets, and the borrowing of money from money

lenders or influential persons of the area in Bangladesh. However, several coping mechanisms also exist at the household level in order to reduce risks.

For cyclones or tidal surge trees play a vital role as one of the coping strategies of the rural poor. Though there is risk that a tree itself will break down, yet the trees near the home act as a wind barrier and provides something strong to which people can tie themselves during the storm. The construction of raised earth platforms called *killas* are also used to protect livestock from floodwater due to tidal surges. Of course, their effectiveness depends on the livestock owner having had enough warning time before the cyclone hits. In absence of a nearby *killa,* livestock owners release the animals and let them migrate for any form of shelter they can find.

Portable earthen cooking stoves are seen in different flood-affected areas. These can be easily transported to a raised bamboo platform inside the house, the roof of the house or some high ground such as an embankment, road or *killa*. For those houses that can spare the resources, dry foods are stored in advance (one technique for saving food is to regularly hold back a handful of rice from evening meals in order to accumulate a storage supply). For those that have land, seeds are kept particularly safe. Many people do so without leaving their homes (both to protect assets and often because there are limited places to go to). When the water level gradually rises, they continue to put their bed up on higher and higher levels. Banana stalks play a vital role for the construction of rafts that can support small livestock and other assets.

The above-mentioned are some of the examples of good practices of the community people for flood and cyclone risk reduction work. These coping strategies as well as good practices can be learned from each other. It is sensible to explore the good practices that were developed by the community people, based on their experiences and being used for a long time for disaster situations. There is a need to search and explore this sort of good practices and also research their effectiveness in specific disaster situations. Whether they are found effective, these need to be widely disseminated.

D. Plan to prepare for emergencies (immediate before disaster time)

The vulnerability and capacity of community are two determining factors for creating a disaster situation. During disaster the sufferings and hardship arise from hazards which cause physical loss or damage, social and/ or economic disruption with which the country or community concerned is unable to fully cope alone. The onset of a natural disaster may be either suddenly or slow or gradual. In all these cases, response operation must be carried out under disruptive and sometimes traumatic condition. MF will be engaged in the following activities before or during the disaster period:

1. Dissemination of Warning Signals

MF Staff Members, Volunteers, Group Members and Task Force Members will actively participate for disseminating the early warning signals of impending hazards (floods, cyclones, etc). It is very important time for all concerned to take necessary preparations. In this time MF Staff Members, Volunteers, Group Leaders and Task Force Members will actively be involved for disseminating the warning messages, as well as taking necessary preparations for reducing the loss of lives and damage of properties. The following steps are to be taken for this stage:

(a) Emergency Control Room:An emergency control room may be opened at MF Project office and concerned Field Offices for listening to the warning messages and instructing MF Staff Members, Volunteers, Group Leaders and Task Forces for disseminating the warning messages. The warning message should include the coping strategies for the time. The first time the message will be covered the present status of the upcoming disaster and some advance messages may be applicable for the next time. For disseminating the warning messages the following guidelines will be applicable:

- Priority must be given to the people living in high-risk areas;
- Locally-respected persons will be involved for warning message dissemination;
- The warning message dissemination will be in local languages;
- Locally available means will be used for message dissemination;
- Appropriate picture messages will be used in necessary cases;
- The warning message must be reached to the women, elderly and physically challenged people of the locality;
- Contact with the nearest mosque authority or shops who have loudspeakers that can be used for announcing the danger signals in the area;
- Contact with the CPP/ Red Crescent Volunteers or others who are supportive of warning message dissemination.

(b) MF Staff, Volunteers and Group Members will pay attention to the weather forecasts from the radio/television/CPP and make a roadmap for disseminating them.
(c) Material/Equipment Readiness: The available Rescue Equipment for rescue operations should be checked and kept ready for an emergency. Apart from it, the local boats, vehicles and any other materials should be kept available for emergency work.

2. **Coordination and Communication:** Coordination with government authority together with Bangladesh Red Crescent Society, CPP and other NGOs dealing with disaster management is to be maintained.

Internal Coordination:
Internal coordination will be done in both way (Top Down and bottom up). At the Project office level, Program Coordinator is responsible to coordinate with field offices. The field offices provide necessary information to regional core team. The core team will provide all types of current information, update situation report, D-form, pictorial report for further action to central core team. The central team will coordinate and communicate with different working group and Emergency response support groups.

External Coordination:
- The field office will communicate with the local level committees (UDMC, WDMC, SDMC, UzDMC, CPP, Taskforces) for information disseminate, sharing of disaster situation, local resource mobilization, taking preparation, and install control room.
- Communication will be made with UNO, DRRO, DPH, CPP, MoDM&R, Humanitarian platform. The responsible personnel of MF will attend meeting and collect update information and report produced by government and other agencies.

3. Evacuation and Sheltering:
Evacuation and sheltering of the vulnerable people should be done in close contact with the local government authority. Local government authority must be involved for evacuation and sheltering work. MF Staff, Volunteers and Group Leaders will assist the local government for this work. They will consider the following areas for assistance:

1. Make it clear where the people will be sheltered;
2. Be sure that the shelter is secured and has room for accommodation;
3. Be sure that the shelter has proper communication, water and sanitation facility;
4. Think of public institutions for accommodating the vulnerable people;
5. Choose the nearest place for sheltering the community people where possible;
6. Engage the local people for the evacuation and sheltering work;
7. People live in highrisk area, like area outside/beyond the dyke or char and in low-lying areas, which are usually hit at the onset of disaster, should be taken first for evacuation and sheltering.
8. The women, children, adolescent girls, widows, elderly and physically-challenged people will get priority for evacuation and sheltering;
9. Don’t exceed the capacity of the rescue boat/vehicles;

4. Search and Rescue Operation
This operation mainly involves the services of specialized agencies like the Navy and Air Force, and the Red Crescent Society, who are equipped with helicopter, water and ground transport, ambulances, and wireless communication system, for wide-ranging search, rescue and removal of persons to safe areas or rescue centers. MF-trained Staff, Volunteers and Group Leaders can be mobilized for carrying out the emergency search and rescue operation in their respective area immediately after disaster strikes with the local government and other authorized institutions. During the search and rescue operation the following guidelines may be helpful for the search and rescue operation:

a) Take the equipment for cleaning of roads as well as making initial road communication;
b) Use vehicles/persons as and where it is suitable for carrying the people to the nearby hospitals;
c) Involve trained persons for rescue operation;
d) Include women and medical persons in the rescue teams;
e) Keep emergency medicines and bandages for wounded people;
f) Involve community people in the rescue teams;
g) Search all probable areas;

5. Medical Aid, First Aid and Trauma Counselling

a) Medical & First Aid

Medical aid and health services are required for the treatment of the injured and ill after a disaster or in the case of epidemic. The number of injured is generally high following an earthquake. In our country high intensity and widespread tornadoes and cyclones with storm-surge cause injury and allied illnesses of cold, chest congestion, skin diseases, gastrointestinal problems, etc. Emergency Medical Aid should correspond to the specific needs of the disaster victims.

MF Project Offices including Field offices should make prior contact and arrangement with medical personnel of the area for mobilizing medical teams immediately after any disaster calling for such intervention. A list of physicians, paramedics, and nurses should be made available at short notice. In case of an impending disaster such teams may be activated even earlier. The Charitable Dispensaries/Clinics in the disaster-stricken area may also be provided with necessary supplies and support services to provide assistance to the disaster-affected people.

b) Trauma Counseling

Both disaster those man-made or natural causes may result in gigantic/ enormous loss of lives and huge damage of properties, which not only directly affect the physical life and livelihood of people. They may also affect the psychological reaction survivors who lost their nearest and dearest ones who lost their last resources to live on. In severe and extreme disaster circumstances, the plight of disaster victims is severe and traumatic. Shock, personal injury, bereavement, loss, turmoil and other aspects make the situation aggravated and compounded and those have a severe effect on the capability of the victims to understand their circumstances, to realize what is being done for them in disaster management terms and to cooperate in a meaningful and positive way in their own relief and rehabilitation. In that situation the nature of the counter-disaster task also involves humanitarian considerations. Then the nature of response operations can make heavy physical and mental demands on emergency workers and in fact the heavy pressures of emergency response operations do not usually allow much opportunity for coping in detail with the trauma inflicted upon communities and individuals. Obviously, extreme cases have to be dealt with by a counseling service side-by-side with providing emergency medical assistance. In that situation for restoring those victims to normalcy it needs psychological treatment that is possible through a process of trauma counseling by a highly efficient trauma counselor. For providing this service it needs a group of people, including both man and women with special training on psychology treatment, to provide the victims with trauma counseling.

For ensuring this service to the right people in right time it needs good preparation earlier than the time of any disaster. A group of people with social relations background, e.g. religious leaders (priests, nuns, *imams*, '*thakurs'*), teachers, devoted social workers, etc. should be kept ready, providing them with necessary training and orientation about their task and responsibilities in time.

6. Needs Assessment

MF will conduct need assessment/joint need assessment during or just immediately after a disaster. The Project Office will form a team comprising the trained staff members for the need assessment work. One-third of the team members will be women. The team will conduct need assessment following the guidelines mentioned in Rapid Appraisal (RA) Techniques.

The need assessment report will indicate the needs of people from short, mid-term and long-term perspectives. It is important that the community people first fulfill their basic needs by using positive or negative coping strategies during disaster situations. When the capacity of the disaster-affected people exceeds coping with the situation, then it is the primary responsibility of government to meet the basic needs of the affected people. As a development organization MF's role in providing humanitarian assistance reflects the reality that those with primary responsibility are not always able or willing to perform this role themselves. This is sometimes a matter of capacity. Sometimes it constitutes a willful disregard of fundamental legal and ethical obligations, the result of which is much avoidable human suffering.

It is better to identify all the needs of the people created by a disaster but MF will not respond to all needs. The community can fulfill many needs and the local Government and other agencies can address some of them. MF will also play a role of linking the affected people with government and other agencies for their services.

When conducting rapid assessment (RA) MF will collect necessary information from the women, children, elderly, pregnant and lactating mothers, disabled, ethnic community, and also from Union Council Members, Women Representatives and Chairmen, the civil society members such as teachers, religious leaders, social workers and Government officials to identify the needs of the people in the particular disaster through interview, group interview, focus group discussions, transect walk, social and resource mapping, seasonal mapping, institutional mapping, problem identification and prioritization.

Based on SPHERE, the assessment provides an understanding of a particular disaster situation and a clear analysis of threats to life, dignity, health and livelihood to determine, in consultation with the relevant authorities, whether an external response is required and, if so, the nature of the response.

Differentiation between "needs" and "wants" is very important during the need assessment. Anybody can meet/fulfill the needs of many people but cannot fulfill the wants of one person. Some needs are created by a particular disaster and some needs may be “chronic” in the affected areas. The "chronic" needs are these before a disaster situation. Whether the area suffers from chronic needs/poverty their disaster vulnerability is high and the hazard impact also goes high. In this case emergency response activities only may not be adequate for the people in the long run. Disaster Risk Management (DRM) based on the vulnerability and capacity assessment may be needed for the long-term development of the community people.

7. Monitoring, Evaluation, Accountability and Learning:

Monitoring:
Monitoring is a continuous process of collecting, analyzing, and documenting information in order to report on progress towards achieving the objectives of the intervention. It enables timely decision-making; ensures accountability, and provides the basis for evaluation and learning. Monitoring provides early indications of change to ensure intervention success. The following monitoring system will be used by MF during any emergency response or recovery programme:

Input Monitoring: Input monitoring entails collecting & analyzing financial Budgets with Activity Plans and verify the total goods and financial resources planned and absorbed in accomplishing the emergency response. MF will conduct input monitoring of humanitarian response pre, during and post emergency period.

Output Monitoring: Output monitoring is conducted to measure achievements against activity plans in terms of outputs, budget utilization patterns and the broad output that the response generates. MF will conduct output monitoring at an agreed interval of the humanitarian response.

Process Monitoring: Program and finance monitoring at the end of 30-day window.

Post distribution monitoring: MF will undertake quick survey on the effectiveness and appropriateness of the response with the affected beneficiaries to generate critical learning on the response. This will be done within the same day or next day to capture the opinion, insights from the beneficiaries.

MF management team and senior staffs will make frequent visit in the intervention areas to monitor each activity very closely and report to management and also shared to administration for getting feedback taken actions in implementation. After each distribution, post distribution monitoring will be conduct to find out any discrimination in distribution. The project team will keep focus on project results in coordination with the community people, share the learning and identify the best solution for taken actions as per feedbacks. The project team/ staffs will always inform the local government bodies and local administration for their concerns. The end line survey will be conduct to understand the impact of project. Even the MF management staff will participate in the community consultation meetings and inception workshops to develop a clear understanding about the project to the community and local government to ensure the quality of the field activity at the ground and necessary suggestions of the program. The process of the community consultation will be observed closely and participation of the excluded groups will be emphasized. MF management staffs will also continue distance monitoring through keeping track of day-to-day activities.

- Checking process of Community Consultation Meetings
- Cross checking beneficiaries list
- Checking beneficiary card/voucher distribution

- Checking beneficiaries and nominee's photo, IDs attachment in beneficiary cards/vouchers.
- Verification household survey of some HH by survey team in a village for double entry/ fake beneficiary.
- Visiting the project field including senior staff member
- Closely monitor Complaint Response Mechanism along with feedback mechanism at community level
- Checking cash distribution if such intervention is undertaken
- Checking Muster roll
- Checking Post Distribution Monitoring data and process

Evaluation:
Evaluation is a periodic, systematic assessment of a project's relevance, efficiency, effectiveness, impact and sustainability on a defined population. Evaluation draws from data collected via the monitoring system, as well as any other more detailed data (e.g., from additional surveys or studies) gathered to understand specific aspects of the project in greater depth. It verifies and demonstrates accountability, and provides the basis for institutional learning.

Evaluation is intended to determine the extent to which the humanitarian response program was implemented to meet the planned the objectives and what results were actually achieved. MF is accountable to both donors and the intended beneficiaries for sharing the outcome realized and to take decisions to undertake or changes required for the next phase of the program. Lessons learned from the evaluation will continuously be used for the design and implementation of the future program. For emergency response program MF will use the following two types of evaluation:

1. Real time Evaluation.
2. External evaluation.

Real time Evaluation (RTE):
Real time evaluation is an early evaluation that used normal evaluation criteria quickly as snapshot of current situation and immediate actions. It is qualitative in nature and good enough (i.e. not statistically significant). It captures the experience of the first phase of the project, collects beneficiaries' feedback and their perception of the delivery aid process. It also provides MF will undertake RTE to have an overview and insights into the emergency response, especially MF's program impact at a field level and enables the agency to use the output of the RTE as immediate learning to inform their ongoing response.

External Evaluation:
MF has mandate to conduct an External Evaluation for any intervention at the end of the life cycle of the intervention. Terms of Reference for External Evaluation will be jointly developed and executed after the emergency response it over.

Some key tasks in regard to evaluation are furnished as below:
- As with an audit, the planning for an external evaluation will be planned well in advance, with the development of the ToR and advertising recommended to take place three months before the end of the intervention.
- Similarly, project documents (proposal, interim reports, monitoring forms and data, RTE report, etc.) will be made accessible to the evaluation team.
- MF staff will be available for interviews, and preparations will be made so that the team can visit project areas and talk to beneficiaries and stakeholders.
- Verbal debrief and presentation of preliminary findings will be shared with project staff, in order to incorporate analysis, feedback and learning in the final evaluation report.
- MF considers final evaluation as an investment in learning, and opportunities and it is taken to foster the desire to improvement through participatory and transparent engagement in the evaluation process.
- MF encourage to reflect on what was achieved and how, what was less successful and why, and to share their thoughts openly and constructively.
- MF attaches high value to evaluation therefore, it will draft an action plan to implement recommendations from the final evaluation so that learning is integrated into everyday practice.

Accountability:
'Accountability' is all about how an organization balances the needs of different groups in its decision-making and activities. Accountability means making sure that the people affected by an emergency

are involved in planning, implementation, and judging out response to their emergency. All staff of MF engaged in emergency response work will be give orientation about beneficiary accountability and the importance of information sharing and listening to beneficiaries and using their input to inform program decision making. In this regard, steps to be taken are as follows:

- **Project Information sharing:** Efforts will be made to make the project committee, beneficiaries' forum and beneficiaries aware about the project/program purpose, objectives, probable result and strategies at the beginning of the project implementation. Notice board/signboard with description about particulars of work, budget, quantity of materials or amount of money receivable by the individual beneficiaries, measurement of the work (if it is structural work) estimated number of beneficiaries, date of work starting and ending, name, address, telephone number the responsible person from MF and the Project Committee members with clear instruction will be displayed at public places to make complain by anyone if standard is not maintained to perform the work.

- **Beneficiaries' selection:** MF will allow the area people to select beneficiaries holding village/hamlet wise meeting based on the criteria, which will be shared with them prior to go for beneficiaries' selection.

- **Complain handling mechanism:** MF will ensure placing complain box at the site with instruction to drop their written complain into the box which shall be open every day at a certain time. Complain will be recorded in a register, staff will be assigned to investigate and report on the same so that steps shall be taken to address the same. Feedback channels such as a telephone hotline to Executive Director and Program Coordinator will also be established, providing people with a range of ways in which to communicate questions or concerns about the project. Systems to be in place to record and respond to feedback as those are collected. Complaints about sexual exploitation and abuse also to be handled separately and maintaining confidentiality in alignment with MFs protection and safeguarding policy.

- **Report sharing:** MF will communicate report with different groups in the field like Project Implementation Committee members, Beneficiaries forum members, concerned local Union Parishad leaders in the way it is felt most appropriate and easily comprehensible to them.

Staff, engaged in emergency response will be oriented about beneficiary accountability and the importance of information sharing and listening to beneficiaries and using their input to inform program decision making. In this regard, steps to be taken are as follows:

Information dissemination: MF will ensure to make the project committee, beneficiaries' forum and beneficiaries aware about the project/program purpose, objectives, probable result and strategies at the beginning of the project implementation. Copy of work order will be shared with the Project Committee and notice board/signboard with description about particulars of work, budget, quantity of materials or amount of money receivable by the individual beneficiaries, measurement of the work (if it is structural work) estimated number of beneficiaries, date of work starting and ending, name, address, telephone number the Executive Director and the Program Coordinator with clear instruction to make complain by anyone if standard is not maintained to perform the work. MF will communicate report with different groups in the field like Project Implementation Committee members, Beneficiaries forum members, concerned local Union *Parishad* leaders in the way it is felt most appropriate and easily comprehensible to them.

Feedback mechanism: During the process MF will follow the Humanitarian Accountability benchmark and set up a complaints response mechanism wherein community members having grievance can contact designated person in the partner organization. It will be established through placing complain box at the site with instruction to drop their written complain into the box which shall be open every day at a certain time, complain will be recorded in a register, staff will be assigned to investigate and report on the same so that steps shall be taken to address the same. Additionally, telephone hotline to the Executive Director & Program Coordinator be established, providing people with a range of ways in which to communicate questions or concerns about the project. Systems to be in place to record and respond to feedback as those are collected. Complaints about sexual exploitation and abuse also to be handled separately and maintaining confidentiality in alignment with MFs security and safeguarding policy.

Documentation and investigation: For complaints about suspected cases of fraud or corruption the following channels will be used by MF:

- Suggestions boxes
- Complaint register
- Dedicated phone numbers for registering complains

If the matter needs to be investigated, appropriate people within the organization will be appointed to conduct this confidentiality. Only a limited number of persons who need to know about the complaint will be informed. Investigations will be carried out considering the following issues:

- Count of cases received
- Nature of cases received
- Acceptance of anonymous feedback
- Time taken for corrective action

Communication of remedial action:MF Project and field Office will review and acknowledge the complaint within five working days on receipt of the complaint. Depending on the nature of the complaint, the MF project/field office will identify the appropriate person to provide a response. If the matter can be resolved directly, the designated person will provide a prompt response.

Learning:
Learning is the process of reflecting on and drawing conclusions from the information are gathered about the work performed and its impact. The knowledge gained can then help inform the organization's future choices and decisions. MF is committed to develop a learning culture. Though, putting learning process into a practice at organizational level is time and resources consuming factor, however it is a very useful process for strengthening the capacity of the organization and its staff to improve the quality of the response in future more effectively and timely. It requires a willingness to acknowledge mistakes, and a readiness to change.

MF will set aside time at regular intervals for learning events and this may be in addition to the weekly or monthly staff debriefing meeting. Each of the emergency response team will organize learning event locally and they will focus on identifying immediate problems and challenges and recommending for the next steps to bring about changes in strategies to make the response more effective. Outline of the lesson learning event will be as follows:

- Good practices,
- Challenges/ problems encountered in lunching the emergency response operation
- How they addressed the challenges and what was the result.
- What lessons are learned and how those can be used in the emergency response work in subsequent days of the project/operation.

MF Emergency Response Team will record all the findings as above in black and white, copy of which to be shared onward field office to Project Office.

ANNEXES

Annex-1: List of Members of the MF's Disaster Management Committee

Sl.	Name of the Member	Designation	Responsibility	Contact No.

Annex-2: List of the members of MF's Humanitarian Leadership Team (HLT)

Position in HLT	Name and Designation	Major Tasks	Stationed	Key role	Contact Information

Annex-3: List of MF's Staff strength

Sl.	Name of Staff	Designation	Sex	Working Area	Address of Office	Contact No.

Annex-4: List of MF's Volunteers

Sl.	Name of the Volunteer	Sex	Address	Contact No.

Annex-5: List of Cyclone/Emergency Shelter in MF's Affected Area

Sl.	Cyclone/Emergency Shelter Name	Location (Village, Union, Upazila)	Accommodation Capacity	Current Condition	Responsible Person with Contact No.

Annex-6: List of Trained Needs Assessment Team Members

Sl.	Name of Team Member	Designation	Area of Expertise	Contact No.

Annex-7: List of Vulnerable Individual

Sl.	Name of HH head	Father/Husband Name	Type of Vulnerability (poor/dependent/women headed/widowed/ pregnant/disable, aged, etc.)	Beneficiary under any Safety Net (Yes/No)	If yes, specify (VGD/VGF/ Old Age/ Freedom fighter/ Disability allowance, etc.)	Contact No.

Annex-8: List of Emergency Contact Number (local and district level administration)

Sl.	Name	Designation	Contact No.

Annex-9: List of Humanitarian Actors

Sl.	Name of Stakeholders	Role in the emergency	Relationship to the MF	Actions to Improve Relationship During Preparedness/ Emergency
	GoB Agencies			
	Donor/Development Partner / UN Agencies			

Annex-10: **Networking partners and affiliated bodies:**

Sl.	Stakeholder	Emergency	Relationship to the NGO	Actions to Improve relationship in emergencies
	GoB Agencies			
	Donor/Development Partner / UN Agencies			

Annex-11: Profile of **Expected Target Population for Pre-positioning**

Sl.	Expected Target Population	Number/Percentage
	Total population assumed for pre-prepositioning	
	Number of persons per household	
	Total number of households	
	Total number of men	
	Total number of women	
	Total number of children	

	Number of infants under 1 year	
	Proportion of infants under 1 year (%)	
	Number of children aged 1 year to 5 years	
	Proportion of children aged 1 year to 5 years (%)	
	Number of children aged 6 years to 11 years	
	Proportion of children aged 6 years to 11 years (%)	
	Number of children aged 12 years to 17 years	
	Proportion of children of 12 years to 17 years (%)	
	Number of female children aged 12 years to 17 years	
	Proportion of female children aged 12 years to 17 years (%)	
	Number of male children aged 12 years to 17 years	
	Proportion of male children aged 12 years to 17 years (%)	
	Number of pregnant women	
	Proportion of pregnant women (%)	
	Number of Lactating women	
	Proportion of Lactating women (%)	
	Number of people traumatized	
	Proportion of people traumatized (%)	
	Number of unaccompanied children	
	Proportion of unaccompanied children (%)	
	Number of people with disabilities	
	Proportion of people with disabilities (%)	
	Number of elderly people	
	Proportion of elderly people (%)	

Annex-12: Emergency Needs Assessment

EMERGENCY NEEDS ASSESSMENT

Mukti Foundation (MF)

1. **General Information**

1.1 **Type of Disaster**

1.2 **Date of Incident**

1.3 **Division/District/Sub-district**

1.4 **Affected Population Profile**

Type of Damage	**Number**	**Source**
Dead		
Injured		
Missing		
Displaced		

1.5 **Information on Market Accessibility**

Particulars	Information
Does any group of women, children, seniors, or men of any age, ethnic or religious group face problems of lack of access to markets, supplies, information or lack of decision making powers?	
Who has access to various resources? Who decides how resources are used?	
What is the impact of these issues on a particular group?	

1.6 **Information on Non-Food Items:**

Particulars	Information	Source
Do affected populations have equipment for cooking and eating such as pots, pans, plates, utensils, cups, etc. as per Sphere standards?		
Personal hygiene materials such as shampoo, soap, feminine hygiene products, toothbrush and toothpaste, towels, etc. as per Sphere standards??		

1.7 **Security Situation:**

Particulars	Information	Source
Continuing or emerging threats (i.e. natural/human); political instability; acceptance by communities?		
Which areas are sensitive and why?		
What is the external security network (agencies, embassies, authorities)?		

1.8 **Shelter:**

Particulars	Information	Source
Number of requiring shelter		
Availability of shelter		
Destruction of possible shelters by disaster, type, location		
Current shelter population		
Alternate sources		

Do families have access to bedding materials (blankets, sleeping mats/mattresses?		

1.9 **Food and Nutrition:**

Particulars	**Information**	**Source**
Access?		
Availability?		
Food basket?		
Malnutrition?		

1.10 **Water and Sanitation**

Particulars	**Information**	**Source**
Problems with quality or quantity?		
Where are they getting water?		
Quantity/day for drinking?		
Safe and easy access to water?		
Sufficient sanitation facilities?		
Separate washing/sanitation facilities?		
Receptacles for transporting and storing water?		

1.11 **Health**

Particulars	**Information**	**Source**
Endemic communicable diseases?		
Death rate?		
Types of disaster-related injuries/illness?		
Vaccination coverage rates?		
Local psychosocial capacity (social welfare structure, local NGOs, community support network?		

2. Immediate Needs of Affected Populations

2.1 Non-Food Relief Items (Clothes, blankets, cooking utensils, hygiene kits)

Particulars	Information	Source
What is the customary provision of clothing, blankets and bedding for women, men, children and infants, pregnant and lactating women and older people, and what are the particular social and cultural considerations?		
How many women and men of all ages, children and infants have inadequate or insufficient clothing, blankets or bedding to provide protection from the adverse effects of the climate and to maintain their health, dignity and well-being, and why?		
What is the immediate risk to life of the lack of adequate clothing, blankets or bedding, and how many people are at risk?		
What are the potential risks to the lives, health and personal safety of the affected population through the need for adequate clothing, blankets or bedding?		
Which social groups are most at risk, and why? How can these groups be best supported to empower themselves?		

2.2 Shelter (Type and material requirements: tents, mental roofing, tarpaulins, repair kits as per Sphere Standards):

Particulars	Information	Source
What are the climate factors? Is the current shelter resistant to rain, wind, sun, cold;		
What is the physical status of existing structures and the number of people lacking adequate shelter		

2.3 Tools and Equipment

Particulars	Information	Source
What basic tools to construct, maintain or repair a shelter do the households have access to?		

What livelihood support activities can also utilize the basic tools for shelter construction, maintenance and repair?		
Does the climate or natural environment require a ground covering to maintain appropriate standards of health and dignity, and what appropriate material solutions can be provided?		
What vector control measures, particularly the provision of mosquito nets, are required to ensure the health and well-being of households?		

2.4 **Food & Cooking Materials** (As per Sphere/Govt. set Standards. Type, quantity, ration, for how long, for how many - Ration size should indicate if it is supplementary or full ration and kilocalories requested per person/per day.)

Particulars	**Information**	**Source**
Are staple foods available; which items are missing?		
What cooking and eating utensils did a typical household have access to before the disaster?		
How many households do not have access to sufficient cooking and eating utensils, and why?		
What form of stove for cooking and heating did a typical household have access to, where did the cooking take place in relation to the existing shelter and the surrounding area, and what fuel was typically used?		
How many households do not have access to a stove for cooking and heating, and why?		
How many households do not have access to adequate supplies of fuel for cooking and heating, and why?		
What are the opportunities and constraints, in particular the environmental concerns, of sourcing adequate supplies of fuel for the displaced households as appropriate?		

What is the impact on the women in the displaced community of sourcing adequate supplies of fuel?		
What cultural and customary use and safe practice considerations should be taken into account?		

2.5 Water and Sanitation

Particulars	Information	Source
How many liters of water per person, per day for consumption and sanitation?		

2.6 Health

Particulars	Information	Source
Medical supplies, equipment, facilities, personnel		

3. Response Actions Taken/Planned

3.1 National and Local Authorities

Particulars	Information	Source
Declared emergency?		
Who is authorized to manage response?		
Type of assistance being provided?		

3.2 IFRC, UN Clusters and other International Humanitarian Actors

Particulars	Information	Source

3.3 NGOs/INGOs

Particulars	Information	Source

3.4 Other Government and International Donors

Particulars	Information	Source

3.5 Coordinating Efforts (OCHA, UN Clusters, Government bodies)

Particulars	Information	Source