



Overview of Disaster and National Emergency Management in Bangladesh

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ABSTRACT:

Bangladesh is ranked as one of the most disaster prone countries in the world. Bangladesh is ranked as seventh most affected due to climatic disasters. Peoples are often affected by floods, droughts, cyclone, earthquake etc. The adverse impact of all natural disasters affects socio economic condition. At the same time, it reduces the sustainable development. However, the government of Bangladesh articulated disaster Management plan at national level. An institutional framework was made comprising of national and field level. Disasters management training and awareness are also increased to educate the most people and reduce the vulnerability to a accepted level.

Introduction:

Bangladesh is a disaster prone country. It is highly affected by the climate change and the havoc wrought by natural hazards. Due to geopolitical location, the country is highly vulnerable to flood and cyclone which has increased over the years. Due to this natural calamity Bangladesh suffers a huge loss of life and property. Precautionary measures are taken at national, regional and community level to fight against such adverse situation.

Nature of Disasters in Bangladesh:

Bangladesh is located within a highly seismic region with the Bay of Bengal to the south and the Himalayan range to the north. Its topography comprises of fertile alluvial plains and an extensive network of over 300 rivers which include the Rivers Ganges, Brahmaputra and the Meghna. The convergence of these geographical conditions make Bangladesh vulnerable to floods, cyclone and storm surges, earthquake, landslides, tidal bore, tornado and river erosion amongst others. Man-made disasters such as structural collapses, fire outbreaks and accidents also occur in Bangladesh but at a less devastating level. The most devastating among all disasters occurring in the country are cyclones and floods which leave behind trails of destruction to human lives, property and public infrastructure.

Earthquake:

An earthquake is the result of a sudden release of energy in the earth's crust that creates seismic waves. The seismicity of an area refers to the frequency, type and size of earthquakes experienced over time. About 70 percent of Land area of Bangladesh is vulnerable to earthquake. Earthquakes are caused by movements of earth's crustal plates that make up the thin outer shell of the earth. Bangladesh is located near the junction referred to as between the Indian, Eurasian and Burma tectonic plates which makes it vulnerable to earthquake caused by the plate movements. These fault zones were instrumental to the occurrence of some of the world's severest earthquakes in the past. Records of approximately last 150 years show that Bangladesh and the surrounding regions experienced seven major earthquakes. Recently, a number of tremors of moderate to severe intensity have taken place in and around Bangladesh, causing a lot of destruction to lives and property. In 1997 and 2003 for instance, Chittagong and Rangamati were badly hit by earthquakes with magnitudes of 6.1 and 7.9 respectively.

Floods:

Floods occur when dry land is overwhelmed by large amount of water that comes from an overflowing river, lake, high ocean tide, melting snow or sudden excessive rainfall. In Bangladesh, floods occur annually with severity in July and August. Regular river floods affect 20 percent of the

country increasing up to 68 percent in extreme years. Bangladesh was inundated by exceptionally severe floods between 1987 and 1988. The 1987 flood was caused by heavy rainfall, while the flood of 1988 was by the coincidence of flood peaks on the major rivers Padma and Jamuna. The flood of 1987 inundated 50 districts covering 57270 square kilometer and killed about 1657 persons. The flood of 1988 was also devastating, inundating 68 percent of the land area of Bangladesh covering 52 districts and affected 30 million people with a death toll of 918. The detailed impact of a more recent flood that occurred in 199, as the most devastating flood that hit Bangladesh. The flood had an unprecedented duration of 65 days resulting in economic loss of about 3 billion US Dollars. In spite of the frequent destructions, moderate floods also contribute to fertility of agricultural land which assists in food sufficiency in Bangladesh. Because of this complex phenomenon, flooding is considered a fact of life to the people of Bangladesh and they demonstrate great resilience and skill in coping with it. They have developed agricultural practices with the support of Government of Bangladesh to utilize the floodwater for rice and jute farming as well as fisheries. To further strengthen the people, Government of Bangladesh has adopted flood mitigation plan which includes, Flood Early Warning Systems (FEWS), building of embankments and evacuation routes within its Disaster Management structure. Therefore frequent flood disasters could be turned around for societal benefit provided the resilience of the people and the commitment of the government can be guaranteed.

Types of Floods in Bangladesh

- **Monsoon Floods:**

Monsoon floods are annual floods caused by excessive rainfall which affects about 80 per cent of the country with depth of 0.30-2.0 meters. The duration of flood at maximum water level may exceed a month.

- **Flash Floods:**

Flash floods may occur any time of the year, except in winter, in the northern and eastern part of Bangladesh. Regions along or near the foothills of Meghalaya and Chittagong hills are prone to flash floods.

- **Coastal or Tidal Floods:**

These floods are tidal surges caused by cyclones and hurricanes. They have severe impacts at low tidal flood plains and estuaries in the coastal regions of the country.

- **Rain Floods:**

Rain floods are local and short and may occur in any part of Bangladesh.

Cyclone and Storm Surges:

Technically, a cyclone is an area of low pressure where strong winds flow around the centre in anticlockwise direction in the northern hemisphere and clockwise direction in the southern hemisphere. Storm surges are the high rise tides which usually accompany cyclone as it moves inland from the sea after propagation. Cyclones occur frequently in the Bay of Bengal. They form as cyclonic depressions immediately before the pre-monsoon and the post-monsoon seasons. Bangladesh has the worst record of cyclones and storm surges in the world. They destroy lives, agricultural crops, homes and vital installations. Unlike moderate floods that assist with soil fertility, cyclones and storm surges destroy agricultural land and farm produce with the extremely salty water from the sea. This phenomenon is called saline intrusion. For instance, on 12th November 1970, Bangladesh was hit by the killer cyclone of the century with its associated storm-surges killing approximately 300,000 people and destroying property worth over a billion US Dollars. Although cyclone and storm surges are unpreventable natural disasters, Government of Bangladesh has employed the use of both traditional and modern technology in its Disaster Management approach to reduce or forecast and warn the people to mitigate its effects. In this regards, Government of Bangladesh has created units and committees within its Disaster Management framework and also planted specialized trees that serve as wind breakers on coastal areas for effective cyclone mitigation. The trees have assisted with the reduction of extend of damage to coastal communities during cyclones and is a very simple and cheap traditional method that could be adopted by any Disaster Management practitioner.

Structural Collapse:

Structural collapses are common disasters in Bangladesh resulting in heavy losses to life and property. The most recent example is the collapse of the Rana Plaza garment factory building in Savar within industrial area of Dhaka on 24th April 2013. The disaster drew loud international

outcry particularly from the developed world that patronise the Ready Made Garment (RMG) products of Bangladesh. A total of 1127 workers died while over 2438 sustained serious injuries of varying degrees. Prior to that incident, Bangladesh had witnessed the collapse of another factory on 11 April 2005, at Palashbari industrial area of Dhaka killing several people and destroying property. The collapse of industrial buildings over the past few years has instigated industrial unrest with attendant decline in the volume of RMG products exported by Bangladesh. Government of Bangladesh is now enforcing the provisions of the national building code to mitigate effects building collapses in Bangladesh.

Landslides:

A landslide, also known as a landslip, is a geological phenomenon which includes a wide range of ground movements such as rock falls, deep failure of slopes and shallow debris flows, which can occur in offshore, coastal and onshore environments. Landslides occur when the stabilization of the slope changes from a stable to an unstable condition. Large and small landslides occur almost every year in nearly all regions of the world. Landslide was not considered a major hazard in Bangladesh until recently. Chittagong Landslide of 2007 showed that it could be a major disaster. Due to heavy rainfall in June 2007, landslide and collapsed walls caused widespread damages in six areas of Chittagong city and in different Upazillas of the District. More than 120 people were reported dead on this account. Landslide is a complex disaster phenomenon that can be caused by earthquakes, volcanic eruptions, heavy and sustained rainfall, heavy snowmelt, mining and unregulated anthropogenic developments among others.

Fire Disasters:

Fire disaster causes huge loss of lives and property in Bangladesh every year. For instance, about 140 fire incidents occurred in 2004 which destroyed property worth more than TK 200 Core. To reduce the incidents of fire disasters, the government has embarked on comprehensive measures which include strengthening its existing legal provisions, environmental laws and urban planning procedures.

Disaster Management Frameworks in Bangladesh:

Evolution of Disaster Management:

Evolution of Disaster Management:

The resilience to confront disaster has historically been part of the Bangladeshi citizenry due to the country's susceptibility to various disasters. However, the current proactive Disaster Management system of the country evolved between the period 1970 and 2010. The evolution started shortly before Bangladesh's War of Liberation. The Framework has institutional and regulatory components.

Institutional Framework:

The Government of Bangladesh has developed an effective Disaster Management institutional framework comprising new organs that have been streamlined into governance at all levels in the country. The driving force behind this effort was from the Government's will to meet up with the Hyogo Framework of Action on disaster initiatives earlier agreed to by member nations in 2005 at Kobe, Japan. Government of Bangladesh has established the DMB as the key institution to centrally co-ordinate and oversee Disaster Management activities. Government of Bangladesh also reorganized and renamed its erstwhile Ministry for Disaster Management and Relief (MDM&R) to Ministry of Food and Disaster Management (MoFDM). This has greatly enhanced synergy between risk reduction activities of the government and agricultural support for food sustenance. This arrangement is very effective and unique to only Bangladesh. Specialized agencies have also been created such as the Emergency Operation Centre (EOC) at the MoFDM to enhance central coordination of national emergency operations.

Furthermore, a number of committees have been formed at all levels involving all relevant actors from the Government, NGOs which run from the national through to the field (Upazilla) levels. Thus, the institutional arrangements for disaster management and co-ordination at pre, during, and post disaster periods have been elaborately established at the national, regional (District) and community (Union) levels in Bangladesh.

National Level:

At the National level, the Government of Bangladesh has the following institutional arrangement:

- National Disaster Management Council (NDMC) headed by the Prime Minister to formulate and review the disaster management policies and to issue directives to all concerned.
- Inter-Ministerial Disaster Management Co-ordination Committee (IMDMCC) headed by the Minister in charge of the Ministry of

Food and Disaster Management (DM&RD). This committee is responsible for implementation of disaster management policies and decisions of the NDMC/ Government of Bangladesh.

- National Disaster Management Advisory Committee (NDMAC), headed by an experienced person to be nominated by the Prime Minister.
- National Platform for Disaster Reduction (NPDRR) headed by secretary and DG, DMB (Disaster Management Board) functions as the member secretary. This platform coordinates and provides necessary facilitation to the relevant stakeholders.
- Cyclone Preparedness Programme Implementation Board (CPPIB) headed by the secretary, disaster management and Relief Division to review the preparedness activities and other emergency situation.
- Earthquake Preparedness and Awareness Committee (EPAC) headed by Minister for MoFDM and DG DMB acts as member secretary.
- Cyclone Preparedness Programme (CPP) Policy Committee headed by Minister, MoFDM and Secretary, DM&RD acts as member secretary.
- Disaster Management Training and Public Awareness Building Task Force (DMTATF), headed by the Director General of the Disaster Management Bureau (DMB), to co-ordinate the disaster related training & public awareness activities of the Government NGOs.
- Focal point Operational Coordination Group (FPOCG) on Disaster Management again headed by the Director General of Disaster Management Bureau to review & co-ordinate the activities of various Departments related to disaster management.
- NGO Coordination Committee on Disaster Management (NGOCC) activities headed by the Director General of Disaster Management Bureau to review & co-ordinate the activities of the NGOs involved in disaster management activities.
- Committee for speedy dissemination of warning/signals (CSDDWS), headed by the Director General of Disaster Management Bureau to review & find out the ways & means for the speedy dissemination of Warning/Signal among the people.

Field Level:

At the field level, the following arrangements are in place:

- District Disaster Management Committee (DDMC) headed by the Deputy Commissioner (DC) to co-ordinate & review the disaster management activities of the district concerned.
- Upazila Disaster Management Committee (UZDMC) headed by the Upazila Nirbahi Officer (UNO) to coordinate and review the disaster management activities at the Upazila level.
- Pourashava Disaster Management Committee (PDMC) headed by Chairman of Pourashava to coordinate, review and implement the disaster management activities within its jurisdiction.
- Union Disaster Management Committee (UDMC) headed by the Chairman of the Union Parishad to co-ordinate, review & implement the disaster management activities.
- It could be seen that the committees have been provided to cover all the tiers of government namely District, Upazila, Pourashava and the Union. The tasks and responsibilities of these committees are provided in the Standing Orders on Disasters (SOD) for efficiency.

Regulatory Framework:

The regulatory Framework of Bangladesh Disaster Management system provides for relevant legislations, policy initiatives and best practices under which all Disaster Management activities are conducted. Over the years, Government of Bangladesh has enhanced these aspects of its Disaster Management system by constantly reviewing existing policy documents and producing new ones. The principal documents that guide Disaster Management system include, the Disaster Management Act (DMA), the National Disaster Management Policy (NDMP), the National Plan for Disaster Management (NPD) and the Standing Orders on Disaster (SOD). These documents are supplemented with various guidelines developed based on best practices and circulated for use by Government Ministries.

Disaster Management Act:

- The Disaster Management Act is the legislative instrument under which Disaster Management activities are conducted in Bangladesh. It has created mandatory obligations and responsibilities on ministries, committees and appointment. The following are some of the provisions of the Act (DMA, 2012).
- Article 25(2) provides that Government of Bangladesh can avail the services offered by any, NGO as well as medical facilities operated by NGOs as part of Disaster Management and all officers, staff and nurses of those hospitals & clinics are obliged to provide their assistance as the need of the government or local committees.

- Article 29 (10) provides for disaster affected individual or community to relevant Committees about any irregularities or mismanagement and within 30 days the complaint is to be investigated.
- Article 29 (4) provides for individuals not properly treated regarding decisions of any committee to appeal to Government of Bangladesh. It is therefore clear that the Act has adequately provided for punitive measures to deal with anticipated merciless Disaster Management officials that may tinker with relief materials.

Disaster Coordination:

The DDM (District Disaster Management) within MoDMR is the focal point for coordination during emergency management. MoDMR coordinates with so many cells. These include the Armed Forces Division (AFD) under the Prime Minister's office, Bangladesh Metrological Department (BMD) under Ministry of Defence and Flood Forecasting and Warning Centre (FFWC). Other organs within the coordination ring include the Geological Survey of Bangladesh (GSB); hospitals under Ministry of Health & Family Welfare; City Corporation and down to the Unions at the Local Government levels. Coordination is further facilitated through excellent communication that prevails between various disaster- specific warning outfits such as the flood forecasting and warning centre. These agencies have played crucial roles in mitigating the effects of the 1998 floods.

Disaster Response:

Bangladesh has effective disaster response mechanism in which the Armed Forces under the AFD play a leading role. The effective role of the Armed Forces was demonstrated in Cyclone AILA disaster operation in 2009. AILA struck the coastal areas of Bangladesh with very high intensity affecting 11 Districts and killing 170 people which was far less than casualties of other previous cyclones of lower intensity. The relative success of the operation was ascribed to equipment serviceability and early response and coordination devoid of call - out delays in 'Aid to Civil Power' by Bangladesh Armed Forces.

Disaster Management Training and Awareness:

Disaster awareness among Bangladeshis is naturally very high by virtue of being citizens of a disaster prone nation. Over the years the people have developed resilience and bravery in dealing with disasters. While it could be argued that it is a natural instinct of human beings to be resilient and brave to survive in adverse conditions, the commitment of Government of Bangladesh to Disaster Management training and awareness cannot be overlooked. Pursuant to its Disaster Management Vision to reduce vulnerability of the people to all forms of disaster to acceptable level, Government of Bangladesh has further deepened Disaster Management consciousness into the people. Accordingly, Government of Bangladesh has decided to include a chapter on disaster management in the education curriculum from Primary to Higher Secondary level. A session of at least 2 hours has been included in the training syllabus of all government training institutes. For instance, BUET, Dhaka University (Geography Department) and Khulna University have opened separate discipline on Disaster Management for their post-graduate students. The synergy of the all-level training, the resilience of the people and the commitment of the government to Disaster Management in all its ramifications could have contributed to the relative success in the attainment of the new paradigm shift in combating disasters in Bangladesh.

Conclusion

Our experience of handling in the past has helped us to prepare a comprehensive disaster management plan at national level. Public awareness, co-ordination of various aspects at different level, integration of various agencies has enabled us to take appropriate measures at pre, during and post disaster periods. Though at present we are much better prepared to combat disaster than any time in the past, but however our resource constraints had always been a major problem to manage the extent of the damage caused by disaster. Being aware of limitations and vulnerability, the Government of Bangladesh has been making continuous efforts to make Bangladesh a safer country.

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