

Abbreviations

ADB	Asian Development Bank
ADC	Additional Deputy Commissioner
ASDMA	AssamState Disaster Management Authority
ASDMP	AssamState Disaster Management Plan
ASEB	Assam State Electrical Board
ASTEC	Assam Science Technology and Environmental Council
BDO	Block Development Officer
BMTPC	Building Materials and Technology Promotion Council
CBOs	Community Based Organization
CBRNE	Chemical Biological Radiological Nuclear and High-Yield Explosive
CEO	Chief Executive Officer
CNG	Compressed Natural Gas
CO	Circle Officer
CSO	Civil Society Organizations
CWC	Central Water Commission
DC	Deputy Commissioner
DD F&CS	Deputy Director, Food & Civil Supply
DDMA	District Disaster Management Authority
DDMF	District Disaster Mitigation Fund
DDMP	District Disaster Management Plan
DEOC	District Emergency Operation Centre
DIPRO	District Information & Public Relation Officer
DM	Disaster Management
DOTs	Directly Observed Treatment, Short-Course
DPR	Detailed Project Report
DRDA	District Rural Development Agency
DRIC	Disaster Response & Information Centre
DRR	Disaster Risk Reduction
DTO	District Transport Officer
Dy. SP	Deputy Superintendent of Police
DYC-NYK	District Youth Coordinator -Nehru Yuva Kendra
EHS	Environmental Health Survey
EOC	Emergency Operations Centre
ESF	Emergency Support Functions
EWS	Early Warning Systems
FAO	Finance & Accounts Officer
FLEWS	Flood Early Warning Systems
FRERM	Flood and Riverbank Erosion Risk Management
GLOF	Glacial LakeOutburst Floods

GPS	Global Positioning System
GR	Gratuitous Relief
GSHAP	Global Seismic Hazard Assessment Programme
GSI	Geological Survey of India
HF	High Frequency
HRD	Human Resource Development
IAP	Incident Action Plan
IC	Incident Commander
ICDS	Integrated Child Development Services
IEC	Information Education and Communication
IMD	Indian Meteorological Department
IMO	Information & Media Officer
IPCC	International Panel on Climate Change
IRS	Incident Response System
IRT	Incident Response Team
ISRO	Indian Space Research Organization
IWT	Inland Water Transport Department
L &FS	Logistic & Finance Section
LDOF	Landslide Dam Outburst Floods
LNG	Liquefied Natural Gas
LO	Liaison Officer
MHA	Ministry of Home Affairs
NDMA	National Disaster Management Authority
NDMG	National Disaster Management Guidelines
NDRF	National Disaster Response Force
NDRF	National Disaster Response Force
NEIST	North-East Institute of Science and Technology
NESAC	North Eastern Space Applications Centre
NGOs	Non-Governmental Organizations
NIC	National Informatics Centre
NRSC	National Remote Sensing Centre
OS	Operation Section
PDNA	Post Disaster Damage and Needs Assessment
PDRRP	Post Disaster Recovery and Reconstruction Plan
PGA	Peak ground acceleration
PHC	Primary Health Centre
PHE	Public Health Engineering Department
PO	Project Officer
PRIs	Panchayati Raj Institutions
PS	Planning Section
PWD	Public Work Department
PWD Bld	Public Work Department, Building

PWD E	Public Work Department, Electrical
QRT	Quick Response Team
QRT	Quick Response Team
RO	Responsible Officer
SAARC	South Asian Association for Regional Cooperation
SDM & HO	Sub Divisional Medical & Health Officer
SDMF	State Disaster Mitigation Fund
SDMG	State Disaster Management Guidelines
SDO	Sub Divisional Officer
SDO (C)	Sub Divisional Officer (Civil)
SDRF	State Disaster Response Force
SDRF	State Disaster Response Fund
SDRF	State Disaster Response Force
SEC	State Executive Committee
SEOC	State Emergency Operation Centre
SIRD	State Institute of Rural Development
SITREP	Situation Report
SO	Safety Officer
SOP	Standard Operating Procedures
SPO	State Project Officer
SPO	Special Police Officer
SWAN	State Wide Area Network
TO	Treasury Officer
UDD	Urban Development Department
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
UNISDR	United Nations International Strategy for Disaster Reduction
VAF	Veterinary Field Assistant
VAS	Veterinary Assistant Surgeon
VHF	Very High Frequency
VSAT	Very Small Aperture Terminal
WRD	Water Resource Department

CHAPTER I

INTRODUCTION

- 1.1. Disaster Management which includes both Risk Management and Crisis Management falls within the roles and functions of the State Government. However, this holistic approach to Disaster Management came about only after the introduction of the Disaster Management Act, 2005. Till very recently, the widely practiced approach to Disaster Management was that of administering relief and rehabilitation. The Central Government had communicated certain guiding principles in 1883 in the form of a provisional code. Accordingly, a set of executive instructions were issued in 1959 and subsequently the “Assam Relief Manual” was prepared in 1976.
- 1.2. The 1976 Manual lays stress on emergency situations arising out of floods, as floods are recurrent phenomena. It also briefly deals with such situations arising out of other natural calamities and certain special calamities like international border disputes not amounting to war or acute economic distresses. This manual is now revised in the light of the Disaster Management Act 2005(Appendix I) to incorporate other hazards like Earthquakes, Flash floods, Landslides, Cyclones and other manmade disasters and to reflect the new approach embodied in Disaster Management Act 2005.
- 1.3. The duties and responsibilities of Deputy Commissioners have been specifically laid down and are flexible enough to allow them to operate according to exigencies of situations. The duties and responsibilities of the other district officers have been broadly laid down and will need to be supplemented by detailed instructions of the respective heads of department. The detailed instructions would be reviewed by them annually and re-issued if necessary.
- 1.4. This manual endeavours to cover as many aspects of the problem as could be envisaged to combat any emergency situation resulting from earthquakes, floods and other natural and man-made calamities. There may be certain unprecedented situations and gaps in knowledge. In these situations the officers concerned will act in the spirit of this manual, which is to ensure the state of preparedness, swift and co-ordinated action and proper maintenance of accounts.
- 1.5. Much of the work which is expected under the manual to be done every year could be rationalised if all districts and sub district level administrative units up to the Gram Panchayats and local authorities prepare a Disaster Management plan. Such a plan should take into account all local conditions, identify specific vulnerable areas, initiate necessary preparedness and mitigation measures, draw up capacity building plans, work out shelter sites, stockpile emergency provision of food, fodder, medicine, drinking water plan for deployment of personnel including utilization of the resources

of non-official agencies and work out budgetary provisions that would be required. It should be carefully studied by Commissioners, Heads of Departments and the required provisions for resources at the district or sub divisional levels arranged. The annual exercise would then be limited only to updating the disaster management plans and making detailed changes as might be warranted in the light of experience or changes expected in the situation.

- 1.6 The plan schemes of each department should be so devised that it addresses the disaster risk reduction issues (structural & non-structural) and minimizes damage that may be caused by different hazards.
- 1.7 This manual supersedes the earlier Assam Relief Manual 1976.

CHAPTER-II

DISASTER RISKS IN ASSAM

2.1 As per the Disaster Management Act 2005, disaster means a catastrophe, mishap, calamity or grave occurrence in any area arising from natural or man-made causes, or by accident or negligence which results in substantial loss of life or human suffering or damage to, and destruction of, property, or damage to, or degradation of, environment, and is of such a nature or magnitude as to be beyond the coping capacity of the community of the affected area.

2.2 MAJOR DISASTERS

2.2.1 EARTHQUAKES

Earthquakes are the most destructive of natural hazards. The impact of the event is most traumatic because it affects large areas, occurs all of a sudden and is unpredictable. They can cause large scale loss of life and property and disrupts essential services such as water supply, sewerage systems, communication and power, transport. It not only destroys cities, towns and villages but the aftermath leads to a destabilized economic and social structure of the affected region. Combined with this hazard is the vulnerability profile of towns and cities due to haphazard and uncontrolled growth. Huge urban population combined with poor quality and maintenance of infrastructure, low quality building materials, use of inferior technology and lower resilience of communities living particularly in high population density areas increases the risk of earthquakes in urban centers.

Assam lies in Zone V, one of the most seismically active regions of the world. This is the reason why earthquakes of very high intensities occur regularly in this region. Two great earthquakes, one that occurred on 12 June 1897 epicentered near Rongjuli in Assam (magnitude 8.7) and the other on 15 August 1950 epicentered at Tajo Bumin Arunachal Pradesh (magnitude 8.5) are regarded as among the most severe earthquakes in recent world history. Large scale devastations took place on both occasions. Besides, as many as 20 destructive earthquakes of magnitudes 6 to 7 in the Richter Scale have rocked this region during the past century. Scientific publications have warned that severe earthquakes are due anytime in the Himalayan Region.

2.2.2 FLOODS

Assam is one of the most flood prone states in India. The state faces acute flooding in the flood plains of the river Brahmaputra and Barak basins and other smaller river sub-basins. An extremely dynamic monsoon regime combined with unique physiographic setting of the

basins has been considered as the single most important cause for frequent occurrence of flood in the state.

The river Brahmaputra has a catchment area of 5, 80,000 sq. km in Tibet, Bhutan, India and Bangladesh and in terms of discharge is the third largest river in the world. The river flows for a length of 918 km in India of which 720 km is through the plains of Assam. It has about 20 major tributaries on its North bank and about 13 on its South Bank.

Assam also falls in the highest rainfall intensity zone in the country. The precipitation is mainly due to the South-West monsoon i.e., June to September. Average annual rainfall in the region is very high and ranges from 1750 mm in the plains to about 6400 mm in the hills. This huge volume of water rushes through the narrow bowl shaped valley of Assam to the Bay of Bengal ravaging the area as it flows through with floods and land erosion. Recurring floods on an average devastate about 20 per cent of the total area of the plains districts of the State of Assam and in the high flood years the devastation recorded is as high as 67 per cent.

2.2.3 RIVER EROSION

Riverbank erosion is a serious problem in Assam leading to massive displacement of people due to land loss which is engulfed by the river Brahmaputra year after year. When a river enters the flood plains, it shows a tendency to braid and develop a number of channels causing silting of the riverbed, change in its course and bank erosion. In the plains, a river shows a meandering tendency with meanders moving downstream causing erosion on concave and deposition on convex side and cut offs. This causes large-scale bank erosion. Thus, bank erosion and consequent loss of land and property is a constant phenomenon all along the course of a river. Total area eroded since 1954 till date is approximately 386476 hectares which means that about 7 per cent of the land in the state's 17 riverine districts has been lost due to river erosion in last 60 years.

2.2.4 LANDSLIDES / MUDSLIDES

The hilly tracts of the northeastern region are highly susceptible to slope instability due to immature and rugged topography, fragile rock conditions, high seismicity resulting from proximity to the plate margins, and high rainfall. Extensive anthropogenic interference as a part of the developmental activities is another significant factor that increases this hazard manifold time. Continued deforestation and demand for more and more agricultural land has also led to the destabilization of hill slopes which during the monsoons come down as landslides.

Assam's vulnerability to landslides is seen in the threat of landslides to housing and infrastructure, farms and fields, vast stretches of border roads and railway lines, hydro-electric and water supply installations, transmission line projects, and disruption of vital communications affecting essential supplies and causing acute economic distress.

Frequent obstructions caused due to movement of traffic by numerous landslides during the rainy season, sometimes for days together bring untold misery to the people inhabiting the villages and townships in landslide-prone hilly regions. In the recent past, the city of Guwahati witnessed a number of severe landslides in its hilly belts. This is mainly because of inadequate urban land-use patterns and planning. With the demand for land skyrocketing people opt to build houses in areas which are environmentally unstable and vulnerable to landslides.

2.2.5 STORMS & CYCLONES

Assam is also prone to severe seasonal storms and violent cyclones causing damage to property by destroying houses, damaging vital installations, uprooting huge trees, disrupting communication and transport systems and causing loss of lives in large numbers.

2.3 CLIMATE CHANGE AND GLOBAL WARMING

Climate change and global warming are impacting lives and livelihoods of people across the world. There are definite indications that climate change would increase the frequency and intensity of natural disasters like cyclones, floods and droughts in the coming years and these would cause changes in water reserves, agriculture, forestry, bio-diversity and human and animal health.

The effects of global warming on the Indian subcontinent vary from the submergence of low-lying islands and coastal lands to the melting of glaciers in the Indian Himalayas, threatening the volumetric flow rate of many of the most important rivers of India and South Asia. In India, such effects are projected to impact millions of lives. As a result of the change in climate the climate of India has become increasingly volatile over the past several decades; this trend is expected to continue.

Elevated carbon dioxide emissions from industries, factories, vehicles and others have contributed to greenhouse effect causing warmer weather that last long after the atmospheric shroud of dust and aerosols are cleared.

The consequences of such environmental changes include:

- a) decreased availability and quality of water
- b) an increased risk of floods and droughts in many regions
- c) increased incidence of water-borne diseases such as malaria, dengue and others
- d) increased damages and deaths caused by extreme weather events
- e) decreased agricultural productivity
- f) adverse effects on many ecological systems

2.4 MAN-MADE DISASTERS

Man-made disasters are of various kinds and with increasing pressure of a burgeoning population and negative effects of economic development. They range from threat to the

eco-system to the incidence of road accidents. Demands for better infrastructure often blindsides the authorities to threats they pose in the long run. It is widely believed that unplanned construction of roads, embankments and railway tracks have accentuated the severity of floods in several areas.

The state also has to take a keen view of the issues of maintaining agricultural land and soil productivity in the face of the problems of the use of chemical fertilizers and pesticides and the challenges posed by the use of chemicals in tea gardens and oil spills from pipelines.

Threats to social harmony of the state and recurrence of ethnic violence pose another major challenge that calls for immense collaborative effort to contain it. It is necessary to identify the root causes and triggers for mistrust among communities and devise context-specific strategies to build bridges.

CHAPTER III

ESSENTIALS OF DISASTER MANAGEMENT

3.1 Disaster is a function of risk process. It results from:

- (a) Combination of Hazards,
- (b) Conditions of vulnerability and
- (c) Insufficient capacity or measures to reduce the potential negative consequences of risk

Therefore Disaster Management (DM) involves a continuous and integrated process of planning, organizing, coordinating and implementing measures which are necessary or expedient for:

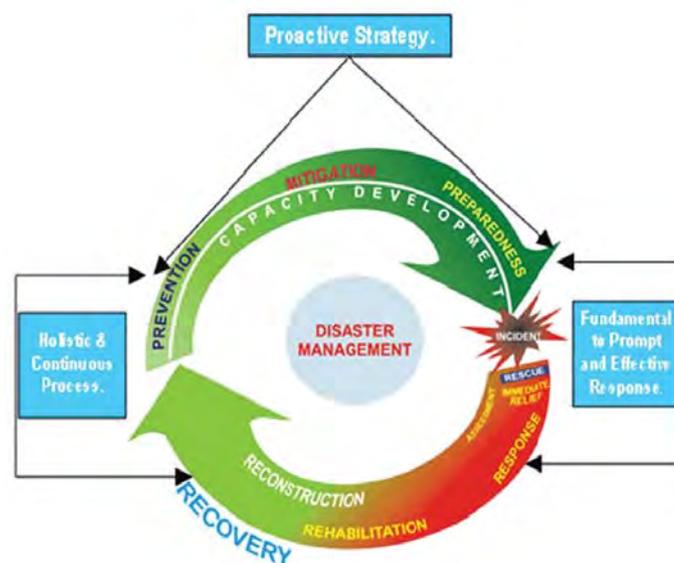
- (a) Prevention of danger or threat of any disaster.
- (b) Mitigation or reduction of risk of any disaster or its severity or consequences.
- (c) Capacity building including research and knowledge management.
- (d) Preparedness to deal with any disaster.
- (e) Prompt response to any threatening disaster situation or disaster.
- (f) Assessing the severity or magnitude of effects of any disaster.
- (g) Evacuation, rescue and relief.
- (h) Rehabilitation and reconstruction.

3.2. The objectives of Disaster Management are:

- (a) Promoting a culture of prevention, preparedness and resilience at all levels through knowledge, innovation and education.
- (b) Encouraging mitigation measures based on technology, traditional wisdom and environmental sustainability.
- (c) Mainstreaming disaster management into the developmental planning process by ensuring that different mitigation and preparedness activities are part of the regular development efforts and that plans at all levels from GaonPanchayats to the State level have a disaster management component.
- (d) Empowering communities to play a major role in disaster management through greater emphasis on community self-reliance, planning and decision making.

- (e) Establishing institutional and techno-legal frameworks to create an enabling regulatory environment and a compliance regime.
- (f) Ensuring efficient mechanism for identification, assessment, monitoring and mapping of disaster risks.
- (g) Strengthening the dissemination of early warning information through better coordination and use of technology as well as closely working with the media the dissemination of information.
- (h) Ensuring efficient response and relief with a caring approach towards the needs of the vulnerable sections of the society.
- (i) Undertaking reconstruction as an opportunity to build disaster resilient structures and habitat for ensuring a safer living.
- (j) Promoting a productive and proactive partnership with NGOs, CBOs, public and private sector, media and local community for disaster management.

3.3 Disaster Management Planning must adopt a comprehensive approach to ensure a balance between the various elements mentioned in the DM Act 2005.



Disaster Management Continuum

3.3.1 Planning for Disaster Management should entail in risk reduction, enhance resilience of systems and communities at risk, undertake effective response and recovery, streamline mitigation and prevention instruments in reconstruction and rehabilitation efforts, mainstream disaster risk reduction in development planning. The focus is therefore on five mission areas of Disaster Management.

Mission Area 1: Preparedness

Mission Areas 2 & 3: Prevention and Mitigation

Mission Areas 4 & 5: Response and Rehabilitation

These mission areas will serve the purpose to look into all the components of Disaster Management as specified in the National Disaster Management Act (Appendix I) and State Disaster Management Rules 2010 (Appendix II). The mission areas are not compartmentalized by any means as they remain highly interdependent and applicable to all hazards that are threat or have the potential to turn into a disaster in the State of Assam. Execution of the five mission areas is a subject focus of all administrative tiers of the Government departments, institutions/organizations/agencies and communities in the State. Stakeholders in Disaster Management will keep the focus directed on the mission and direct activities towards long term vulnerability reduction, integrate Disaster Risk Reduction measures in the development planning process and manage residual risk (untreated) across the State.

Key activities which fall within the mission area are broadly mentioned below:

3.3.1.1 Preparedness:

- ◆ Stakeholder consultation
- ◆ Emergency preparedness and 'All Hazards' response plan
- ◆ Unambiguous determination of Roles and Responsibilities
- ◆ Development of Standard Operating Procedures
- ◆ Mutual-aid Agreement
- ◆ Plan Testing
- ◆ Mock Drills/Table-top exercises/Simulation Exercises
- ◆ It is to be followed by evaluation of impact/compliance, so that the processes can be institutionalized
- ◆ Scenario planning
- ◆ Early Warning/Alert Systems
- ◆ Resource inventory and list of key contacts/specialists
- ◆ Evacuation Plan
- ◆ Training and Education

3.3.1.2 Prevention & Mitigation:

- ◆ Structural and non-structural measures
- ◆ Land use planning regulations/Zoning
- ◆ National Building Code/Indian Standard Code of Practice (BIS)
- ◆ General Development Control Regulations (GDCR)/Building byelaws
- ◆ Risk Transfer/Techno-financial regime

- ◆ Infrastructure strengthening
- ◆ Critical Infrastructure Protection
- ◆ Early Warning Systems (EWS)
- ◆ Education and training
- ◆ Relocation to safe places

3.3.1.3 Response:

- ◆ Emergency Declaration
- ◆ Emergency Response plan Activation
- ◆ Emergency Response Centre
- ◆ Communication Plan
- ◆ Issue of advisory, threat level, warning notification and delisting
- ◆ Resource Augmentation and Mobilization to cater response needs
- ◆ Liaison between agencies and between government authorities
- ◆ Evacuation to safer grounds
- ◆ Search & Rescue
- ◆ Temporary shoring of weak structures
- ◆ First-aid
- ◆ Medical assistance to the injured
- ◆ Rapid damage survey
- ◆ Provide immediate relief

3.3.1.4 Rehabilitation:

- ◆ Post-Disaster Needs Assessment (PDNA)
- ◆ Post Disaster Recovery and Reconstruction Plan (PDRRP)
- ◆ Temporary housing and provision of food/water and sanitation
- ◆ Restoration/Reconstruction of physical infrastructure and community services
- ◆ Psychosocial Care and Mental Health Services
- ◆ Public Information
- ◆ Counselling
- ◆ Socio-economic impact assessment
- ◆ Financial Package/Financial Assistance
- ◆ Community Rehabilitation
- ◆ Review of building byelaws and zoning/revision of development plan
- ◆ Reconstruction Programme- incorporate disaster risk reduction (DRR) concerns

The efforts of disaster mitigation and preparedness are to reduce the vulnerability of the population while at the same time increasing their capacity to cope and response. The aim is to minimize the negative effects of a hazard, so that it does not produce a major disaster.

CHAPTER IV

ADMINISTRATION OF DISASTER MANAGEMENT

4.1 ENACTMENT OF DISASTER MANAGEMENT ACT, 2005

The Disaster Management Act 2005 was adopted in the State of Assam vide Notification No. LGL/75/ dated 19th August, 2006. The Assam State Disaster Management Policy and the Assam State Disaster Management Rules 2010 were also subsequently framed.

4.2 INSTITUTIONAL FRAMEWORK UNDER DISASTER MANAGEMENT ACT

4.2.1 Assam State Disaster Management Authority

As per the provisions in Section 14 (1) & (2) of the National Disaster Management Act, 2005, the Government of Assam in the Revenue and Disaster Management Department created the Assam State Disaster Management Authority vide Notification No. RGR/DM/1/2007/2 dated 23.03.2007 to effectively manage the entire gamut of disaster management activities including policy making and effective implementation by subordinate authorities.

The Assam State Disaster Management Authority constituted under the chairmanship of the Chief Minister and other members are to ensure inter-ministerial coordination covering all aspects of disaster management. The State Authority shall have the responsibility for laying down policies and plans for disaster management in the State, recommend the provision of funds for mitigation and preparedness measures, review the development plans of different departments of the State and ensure that prevention and mitigation measures are integrated therein and issue necessary guidelines or directions as may be necessary. The composition of the State Authority is in Appendix I(a)

4.2.2 Powers & Functions of the State Authority

The detailed Powers and Functions of the State Authority may be seen in the Disaster Management Act 2005 in Appendix I. A gist of the same is given in the box below:

1. Subject to the provisions of this Act, State Authority shall have the responsibility for laying down policies and plans for disaster management in the State.
2. Without prejudice to the generality of provisions contained in sub-section (1), the State Authority may-
 - (a) Lay down the State Disaster Management Policy;
 - (b) Approve the State Plan in accordance with the guidelines laid down by the National Authority;

- (c) Approve the disaster management plans prepared by the departments of the Government of the State;
 - (d) Lay down guidelines to be followed by the departments of the Government of the State for the purposes of integration of measures for prevention of disasters and mitigation in their development plans and projects and provide necessary technical assistance thereof;
 - (e) Coordinate in the implementation of the State Plan;
 - (f) Recommend provision of funds for mitigation and preparedness measures;
3. The Chairperson of the State Authority shall, in the case of emergency, have power to exercise all or any of the powers of the State Authority but the exercise of such powers shall be subject to ex post facto ratification of the State Authority.

4.2.3 State Executive Committee (SEC)

The State Executive Committee (SEC) constituted under the chairmanship of the Chief Secretary to the Government of Assam will assist the State Authority in the performance of its function and coordinate action in accordance with the guidelines laid down by the State Authority and ensure the compliance of directions issued by the State Government under this Act. As mandated under Section 20 (1) & (2) of the Disaster Management Act 2005, the Government of Assam in the Revenue and Disaster Management Department has constituted the State Executive Committee. Government Notification is at Appendix I(b)

4.2.4 Powers & Functions of the State Executive Committee:

SEC will exercise its power and functions as given in the Disaster Management Act 2005 in Appendix I

4.2.5 District Disaster Management Authority (DDMA)

A District Disaster Management Authority (DDMA) has been constituted for every district in the State under the chairmanship of the Deputy Commissioner under Section 25 of the Disaster Management Act 2005. The DDMA shall act as the district planning; coordinating and implementing body for Disaster Management and take all measures for the purposes of Disaster Management in the district as per the guidelines laid down by the Assam State Disaster Management Authority (ASDMA).

The district authority will prepare the District Disaster Management Plans, review capabilities and preparedness measures, give directions to the concerned departments at the district level, organize and coordinate specialized training programmes for different level of officers, employees, voluntary rescue workers and take all such measures as may be appropriate for a holistic and pro-active approach to disaster management.

The composition of the DDMA is in Appendix I(c)

4.2.6 Powers and Functions of DDMA:

DDMA will exercise its powers and functions as given in the Disaster Management Act 2005, details of which are in Appendix I.

4.2.7 Local authorities:

The local authorities will include the Panchayati Raj Institutions, Municipalities, Urban local bodies and others.

Section 41 of DM ACT, 2005

The local authority will ensure that its officers and employees are trained for disaster management, resources relating to Disaster Management are so maintained as to be readily available for use in the event of any disaster situation; construction projects under it or within its jurisdiction conform to the standards and specifications laid down for prevention of disaster and mitigation; and carrying out relief, rehabilitation and reconstruction activities in the affected area in accordance with the State Plan and district plan.

4.2.8 Disaster Management Plans

As per the DM Act 2005, Section 40

- [a] There shall be a plan for disaster management for every department of the State.
- [b] The Plans shall be reviewed and updated annually.
Further,
- [c] The local authorities shall also prepare and send a copy of all their plans to the District Authority.
- [d] The District Authority shall send a copy of the District Plan to the State Authority, which shall forward it to the State Government.

4.2.9 State Police Forces and Fire & Emergency Services

The State Police forces and the Fire and Emergency Services are crucial immediate responders to disasters. The police forces are undergoing re-orientation training and Fire and Emergency Services are renamed and upgraded to acquire multi-hazard rescue capability. They shall work under the supervision of DDMA during Emergency Response for Search and Rescue Operations.

4.2.10 Civil Defence and Home Guards

The Civil Defence and Home Guards play an effective role in the field of Disaster Management. They are deployed for community preparedness and public awareness. A culture of voluntary reporting to duty stations in the event of any disasters will be promoted.

The facility of the Central Training Institute of Civil Defence & Home Guards shall be utilized to train State Disaster Response Force (SDRF) personnel and other stakeholders in emergency response.

4.2.11 State Disaster Response Force (SDRF)

The State has created response capabilities by raising a State Disaster Response Force (SDRF). NDRF battalions and their training institutions will assist in the capacity building of the SDRF. The SDRF shall function as a specialized force in Search & Rescue operations under overall supervision of the Fire & Emergency Services. SDRF personnel are placed under the Command of the Senior Station Officer, Fire & Emergency Service in various districts.

For any emergency, where response forces are required, DDMA can deploy SDRF personnel within their district. If additional forces are required, the concerned DDMA will request the neighbouring DDMA with intimation to the Director, Fire & Emergency services and the concerned Divisional Commissioner.

CHAPTER V

5.1 CHAPTER OF ACTIVITIES IN DIFFERENT MISSION AREAS OF DISASTER MANAGEMENT

Departments in the Government intervene in various phases/aspects of the DM continuum. There has been a call for paradigm shift in disaster management, focus from reactive to proactive measures i.e., from relief to prevention and mitigation of disasters. This section outlines functional aspects of the department to undertake DM activities. The items listed provide an initial point of reference and is not to be treated as an exhaustive/final output. It will evolve in respect to changing hazard profile, vulnerability across sectors as well as socio-economic profile of the state, efforts made towards risk reduction by the department/line agencies/community by and large. Taking into consideration the primary responsibilities, activities of select line departments are listed and detailed in this section.

5.2.1 Revenue & Disaster Management Department	
Preparedness	<ul style="list-style-type: none"> • Supervise and Support ASDMA on all preparedness activities in the State • Establish infrastructure and human resource support at Department level to undertake DM functions • Check periodically the ‘state of readiness’ of all hazard risks/Conduct preparedness audits and direct actions • Establish ‘monsoon forum’ in the state along with support of line departments • Report annually to the State Executive Committee on the level of preparedness of the departments and administration units
Prevention & Mitigation	<ul style="list-style-type: none"> • Establish State Disaster Mitigation/Hazard Mitigation Fund • Review annually the mitigation and prevention measures taken by the department and line agencies • Review annually the hazard risk and vulnerability assessments of the state and direct actions for the next year and set targets • Reduce vulnerability in the rural areas • Establish Early Warning Systems in the state for hazard risks • Establish working relationship with warning agencies in the state and national levels

Alert & Warning Stage	<ul style="list-style-type: none"> • Establish protocols for the dissemination of warning information • Monitor continuously the field situation and determine activation/ deactivation of disaster response • Prepare situation reports and update SEC members and all line departments, administration units • Dispatch/preposition teams (quick response team, medical response team, search and rescue team, paramedics) in high risk prone areas which is under the influence of certain intensity of the hazard
Response	<ul style="list-style-type: none"> • Coordinate and manage response actions (incident/disaster) • Address the injured and minimize casualties, take immediate actions to reduce exposure to hazard condition • Deploy rapid damage assessment to gather field information • Take support from agencies equipped with disaster information systems to share satellite data and related analysis indicating the level of hazard or vulnerability or potential threat/risk • Conduct damage assessments and estimate relief needs • Distribute relief materials and direct restoration of basic services to the affected community/region • Direct agencies to set up temporary shelters for the affected population, ensure that the departments cater to minimum operating standards for distribution of relief • Coordinate with all possible stakeholders including the donors, NGOs, INGOs, Media, Private and Voluntary Sectors
Recovery & Rehabilitation	<ul style="list-style-type: none"> • Undertake complete restoration of basic services • Ensure supply of clean water, food, sanitation, medical supplies and clothing requirements • Ensure that adequate steps are taken to provide enclosed and habitable shelter. In case of a large scale disaster, undertake Technical Assistance studies to determine damage across all sectors to determine priority interventions and scaling of activities • Prepare detailed damage reports and determine the package for Rehabilitation and Reconstruction programme • Allocate funds for Relief and Rehabilitation programme • Coordinate the functions with agencies and institutions extending support (technical/financial/volunteer) • Document lessons learnt and share practices with institutions across the State

5.2.2 Health and Family Welfare Department

<p style="text-align: center;">Preparedness</p>	<ul style="list-style-type: none"> • Review district and state wide health emergency preparedness for hazard risks • Develop district and state wide health preparedness plan and disseminate the same. • Develop a roster of experts and establish networking of key hospitals across the state • Develop additional set of plan documents to address mass casualty care, model hospital contingency plan and related matters. • Ensure all health care units across the State have a functional DM Plan • Undertake hospital safety assessments and identify the shortcomings/ gaps to be addressed • Ensure that emergency supply stock cater to peak demand • Establish a base for field hospitals along with basic/support services • Impart skill and training to medical practitioners to function during disaster and post-disaster situations • Work towards developing a cadre of volunteers trained in basic first-aid • Impart skill and training for private medical practitioners/private sector hospitals/private pharmacy to function during disaster/post-disaster situation
<p style="text-align: center;">Prevention & Mitigation</p>	<ul style="list-style-type: none"> • Evaluate and undertake action measures towards prevention of water and vector borne diseases after severe rainfall/flood event • Evaluate all facilities to hazard risks, conduct state-wide vulnerability assessment of health infrastructure and define approach for mitigation and preparedness • Allocate budget for hazard mitigation of health facilities (<i>both, structural and non-structural measures</i>) • Create state of the art disease surveillance system to prevent outbreak • Create fail safe communication network among select medical facilities across the state • Establish necessary power back-up measures for primary and select secondary and tertiary tier of medical facilities
<p style="text-align: center;">Alert & Warning Stage</p>	<ul style="list-style-type: none"> • Assess current preparedness levels at sector level and initiate actions towards mobilization • Pre-stock supplies, redistribute/concentrate flow of supplies to disaster prone areas • During the outbreak of diseases undertake vaccination drive or initiate actions as per advice/established protocol

	<ul style="list-style-type: none"> • Protect the facilities in hazard prone areas and activate the building level emergency response plan • Arrange additional services such as back-up generators for the supply of electricity • Establish command and control, activation of the entire health system in the State (<i>as outlined in the State Contingency Plan</i>) • Activate communicate lines within the sector for coordination
Response	<ul style="list-style-type: none"> • Activate Health Sector Contingency Plan or District Wide Contingency Plan or a scale lower (depending on the scale of the event) • Set-up relief camps from District to PHC Level, Medical Colleges. • Assess the availability of medicine, ambulance services, equipment, instruments, medical experts, medical support staff and paramedics from time to time • Mobilize pre-determined teams (EMS Team) to address specific health care needs • Provide basic medical assistance to the injured and those in need of first-aid (pre-hospital care) • Prioritize patient management • Activate triage system as per the established protocol • Transport the severely sick and injured to main hospitals • Establish field hospitals if the need arise • Mobilize psycho-social stabilization team to the affected areas • Manage infectious-diseases during emergencies, and arrange for quarantine • Activate mass casualty plan if the need arise • Undertake steps towards networking among practitioners and hospital /health facilities • Ensure that emergency communication is functional at all times, including medical services (pharmacy, blood bank, paramedics, ambulance services)
Recovery & Rehabilitation	<ul style="list-style-type: none"> • Provide support in recovery operations • Carry out impact assessment on health infrastructure • Provide support to line departments in Recovery and Rehabilitation efforts of the communities • Provide expert counselling/psychosocial support to disaster survivors • Document actions taken by the department and incorporate lessons learnt in the sector plantment

5.2.3 Home Department

<p style="text-align: center;">Preparedness</p>	<ul style="list-style-type: none"> • Establish State Disaster Response Force and conduct regular training activities • Conduct scenario exercises/table-top exercises/full scale exercises to determine the state of preparedness of key response institutions and provide feedback for improvement • Ensure operational readiness of the key functional units within the Home Department • Strengthen the firefighting capability of the State and initiate back up Fire and Emergency Services with Paramedics Unit • Develop fail safe emergency communication plan and initiate measures to reach out to distant communities situated in high altitude or inaccessible areas
<p style="text-align: center;">Prevention & Mitigation</p>	<ul style="list-style-type: none"> • Ensure that all Response Forces/First Responders are housed in structurally safe buildings and are backed with adequate tools to stage full scale response • Undertake vulnerability assessment of all facilities and initiate mitigation actions
<p style="text-align: center;">Alert & Warning Stage</p>	<ul style="list-style-type: none"> • Maintain line of communication as per the protocol • Mobilize response teams to hazard prone locations based on the warning information • Coordinate with the State Disaster Information Centre (State EOC) • Facilitate evacuation orders, enforce/monitor process through Police
<p style="text-align: center;">Alert Response Stage</p>	<ul style="list-style-type: none"> • Dispatch response teams to the affected areas • Provide resource support to conduct Search & Rescue Operations • Maintain law and order at all times • Initiate further actions based on SITREP prepared by the State Disaster Information Centre • Relay information through emergency communication lines • Provide support to Fire & Emergency Services to undertake swift actions • Relay information to agencies at the State Level in case of external support
<p style="text-align: center;">Recovery & Rehabilitation</p>	<ul style="list-style-type: none"> • Provide security cover/arrangements for VIP visits • Assist administration in supply and distribution and in maintaining law and order in the State • Ensure smooth functioning of recovery and rehabilitation efforts • Assist in management of the dead

5.2.4 Public Works Department (Buildings)

Prevention & Mitigation	<ul style="list-style-type: none"> • Develop Department level preparedness plan • Identify core teams for technical/engineering support/decision making in disaster situations • Develop manuals and guidelines for safe construction practices • Conduct training of staff in latest advancements of engineering, demolition techniques, health monitoring of infrastructure assets, seismic strengthening and retrofitting of buildings, critical infrastructure protection, DM • Maintain inventory list of all key equipment and tools in the state that can be mobilised for response and recovery efforts • Integrate risk reduction as a component in design and construction practice of the department • Identify weak lifeline buildings and develop strategy for strengthening/retrofitting so as to minimize damage/disruption • Undertake vulnerability assessment of buildings and determine mitigation options • Establish mitigation funds within the department • Ensure/undertake checks that infrastructure remains in operational condition should disaster occur • Preposition emergency supplies and equipment/tools in high risk concentration areas • Undertake prevention/protection/structural rehabilitation/retrofitting measures of lifeline buildings • Provide regular capacity building/training to the staff to help them undertake vulnerability assessment of critical lifelines and develop mitigation options • Ensure that all design and construction in the department are in compliance to Indian Construction Codes of Practice (BIS) and National Building Code • Work towards Performance Based Seismic Design • Categorize structural performance/vulnerability assessment on the basis of the performance based design parameters • Establish 'Building Clinic' with adequate trained staff to advise on strengthening and retrofitting of lifeline buildings/infrastructure
Alert & Warning Stage	<ul style="list-style-type: none"> • Undertake emergency repairs/shoring measures • Secure tools and equipment in safe locations, pre-position if needed • Establish emergency communication network (inter/intra department)

Response	<ul style="list-style-type: none"> • Direct department engineering cadre for emergency response operations • Coordinate temporary repairs to buildings and related infrastructure • Undertake damage assessment of buildings and related infrastructure • Undertake emergency repair and shoring of buildings • Undertake construction of temporary structures and supporting structures to provide basic services to the affected population • Controlled demolition and shoring up of buildings which have turned hazardous due to severe damage/tilting/settlement
Recovery & Rehabilitation	<ul style="list-style-type: none"> • Participate in conduct of structural damage assessments • Guide urban authorities and line agencies on structural repair works and package development of repair/reconstruction scheme for housing and related social infrastructure • Undertake detailed damage assessment of buildings • Advise reconstruction/recovery of buildings and community infrastructure • Coordinate, monitor progress and prepare report- repair, reconstruction and strengthening/retrofitting of buildings • Prepare estimates and undertake repair/strengthening works • Provide technical guidance/guidelines for construction of new buildings • Supervise the civil work activities and ensure safe construction practices are streamlined during Recovery/Reconstruction phase
5.2.5 Public Works Department (Roads and Bridges)	
Preparedness	<ul style="list-style-type: none"> • Develop Department level preparedness plan • Identify core teams for technical/engineering support/decision making in disaster situations • Develop manuals and guidelines for safe construction practices • Conduct training for staff in latest advancements of engineering, demolition techniques, health monitoring of infrastructure assets, seismic strengthening and retrofitting, critical infrastructure protection, DM • Maintain inventory list of all key equipment and tools in the state that can be mobilized for response and recovery efforts
Prevention & Mitigation	<ul style="list-style-type: none"> • Integrate risk reduction as a component in design and construction practice of the department • Identify weak communication/infrastructure links and develop strategy to minimize disruption • Undertake vulnerability assessment of assets and determine mitigation options • Establish mitigation fund within the department • Ensure/undertake checks to ensure the infrastructure remains in operational condition should disaster occur

	<ul style="list-style-type: none"> • Preposition emergency supplies and equipment/tools in high risk concentration areas • Undertake prevention/protection/structural rehabilitation/retrofitting measures of critical infrastructure or connectivity links
Prevention & Mitigation	<ul style="list-style-type: none"> • Provide regular capacity building/training for staff to undertake vulnerability assessment of critical lifelines and develop mitigation options • Ensure that all design and construction in the departments are in compliance with the Indian Construction Codes of Practice (BIS) • Work towards Performance Based Seismic Design • Categorize structural performance/vulnerability assessment on the basis of the performance based design parameters
Alert & Warning Stage	<ul style="list-style-type: none"> • Undertake emergency repairs/shoring measures • Determine routes for mobilization of resources • Secure tools and equipment in safe locations and pre-position if needed • Establish emergency communication network (inter/intra department) • Direct department engineering cadre for emergency response operations • Provide equipment support for search and rescue • Coordinate the supply of goods and services • Undertake damage assessment of lifeline infrastructure • Coordinate temporary repairs to damaged infrastructure • Establish missing road-links
Response	<ul style="list-style-type: none"> • Clean and remove debris from communication infrastructure to ease flow of goods and emergency supplies • Undertake emergency repair of roads/communication and shoring of buildings • Create/Provide emergency access in areas which communication links are lost/damaged severely during the event • Undertake construction of temporary structures and supporting structures to provide basic services to the affected population • Removal of debris flow, conduct clearance operations and re-establishment of roads and bridges • Construction of emergency structures to control flood risk
Recovery & Rehabilitation	<ul style="list-style-type: none"> • Participate in conduction of structural damage assessments • Guide urban authorities and line agencies on structural repair works and package development of repair/reconstruction scheme for housing and social infrastructure • Undertake detailed damage assessment of critical infrastructure • Advise reconstruction/recovery of infrastructure

	<ul style="list-style-type: none"> • Coordinate, monitor progress and prepare report- repair, reconstruction and strengthening/retrofitting of infrastructure • Prepare estimates and undertake repair/strengthening works • Supervise the civil work activities and ensure safe construction practices are streamlined during Recovery/Reconstruction phase
5.2.6 Public Health & Engineering Department	
Preparedness	<ul style="list-style-type: none"> • Develop department wide disaster preparedness plan • Identify in advance emergency groundwater resources resistant to natural and man-made disasters that could replace damaged public and domestic drinking water supplies
Prevention & Mitigation	<ul style="list-style-type: none"> • Develop guidelines for consumption/purification of water during disaster • Ensure departmental/public awareness and encourage economic use of water • Train department engineers in D • Plan movement of staff to disaster affected areas, delegation of responsibilities • Restore plans for damaged facilities • Maintain emergency stock of supplies (pre-contract agreement with suppliers can be a add-on) • Undertake conditional assessment of existing infrastructure • Undertake risk assessment of the departmental facilities and cite recommendations • Protect/strengthen the supply network with alternative/complementary source • Undertake protection measures of distribution infrastructure (pumps, motors and the like)
Alert & Warning Stage	<ul style="list-style-type: none"> • On receipt of warning, make provisions for acquiring water supply tankers • Undertake chlorination programmes • Protect vital water supply infrastructure from contamination • Arrange for alternate energy sources should the electricity grids fail
Response	<ul style="list-style-type: none"> • Provide immediate safe drinking water supply in disaster affected areas • Provide immediate safe drinking water supply for conduct of response activities at hospitals, emergency shelters, schools designated as shelters, relief camps • Provide latrines/sanitary latrines in Relief Camps quickly • Provide hygienic measures to keep Relief Camps free from outbreak of epidemics/health hazards

Recovery & Rehabilitation	<ul style="list-style-type: none"> • Assist line departments and agencies in identification sources of potable water • Undertake swift actions to restore damages lines • Undertake regular checks to determine key potable parameters of the water supplied • Restore all service for pre-disaster phase and maintain check on vital quality including bacteriological parameters
5.2.7 Transport Department	
Preparedness	<ul style="list-style-type: none"> • Carry out conditional survey of all routes and determine risk spots and actions to be taken • Determine possible routes for evacuation for all settlements located in severe hazard prone areas of the state • Check availability of vehicle/resources for evacuation • Develop department wide preparedness plan • Prepare inventory of vehicles that can cater to evacuation, dispatch of response teams, or emergency supplies • Train drivers to operate in extraordinary times and difficult/missing routes, provide training in GPS enabled navigation system
Prevention & Mitigation	<ul style="list-style-type: none"> • Allocate resources for undertaking structural mitigation activities of the department facilities • Direct line departments to take actions on identified risk spots or vulnerable stretches and strengthen them if required
Alert & Warning Stage	<ul style="list-style-type: none"> • Make a quick assessment of population that requires evacuation or movement to safe locations/shelters • Control and restrict vehicular traffic to risk prone areas • Keep emergency vehicles on stand-by at pre-identified locations • Ensure sufficient supply of fuel and resources for departmental person to function/undertake activities
Response	<ul style="list-style-type: none"> • Facilitate movement of emergency personnel and equipment to the affected sites • Facilitate movement of emergency supplies; water, food and fuel • Facilitate movement of emergency medical supplies and first responders to affected sites • Move population to safe areas and back on clearance from the administration • Facilitate smooth movement of services in disaster affected areas, without causing disruption along regular routes • Maintain and operate round the clock connectivity to all areas

	<ul style="list-style-type: none"> • Control and restrict vehicular traffic movement to disasteraffected areas
Recovery & Rehabilitation	<ul style="list-style-type: none"> • Provide recovery support to line agencies • Assess damage to transport infrastructure • Coordinate in the reinstatement of transport services and infrastructure
5.2.8 Food and Civil Supplies Department	
Preparedness	<ul style="list-style-type: none"> • Stock pile resources throughout the year for emergency needs • Monitor the stock and undertake periodic checks of stored items (ensure quality and label ‘fit for human consumption’) • Prepare department wide preparedness and operational plan for distribution of supplies to people
Prevention & Mitigation	<ul style="list-style-type: none"> • Undertake mitigation and strengthening of all facilities and storage godowns across the State
Alert & Warning Stage	<ul style="list-style-type: none"> • Keep updated on weather bulletins and warning related information • Estimate the population at risk and those who would be needing support • Identify mechanisms for safe transport of food items to the affected population (ensure quality and label ‘fit for human consumption’) • Designate locations for pre-stock of supplies in relief camps
Response	<ul style="list-style-type: none"> • Coordinate with local authorities and transport essential supplies to disaster affected areas and pre-determined locations (relief centres) • Provide tailored food packets to people with special needs • Mobilize air/land/inland water transport for supply to far off destinations or regions which are inaccessible
Recovery & Rehabilitation	<ul style="list-style-type: none"> • Provide food supply to relief centres and kitchens till lifted off by the district/local administration • Issue duplicate ration cards • Maintain price of basic commodities in disaster affected areas • Curb unfair practices

5.2.9 Information and Public Relations Department

Preparedness	<ul style="list-style-type: none"> • Undertake education and awareness programmes among masses, build societal awareness • Take steps towards enhancing department level preparedness to hazard risks in the state • Guide media houses in covering/reporting disaster through guidelines or through order • Coordinate with the Assam Telecom Circle to ensure communication support during Early Warning/disaster period
Prevention & Mitigation	<ul style="list-style-type: none"> • Step up departmental level activities focusing on mitigation • Check periodically the communication line to ensure connectivity at all times
Alert & Warning Stage	<ul style="list-style-type: none"> • Disseminate warnings to communities based on established warning protocols • Flash warning messages on radio and television networks • Gather authentic information about the situation in the field • Mobilize personnel to areas prone to disaster • Curb the spread of wrong information, rumours, non-scientific/non-verified forecasts
Response	<ul style="list-style-type: none"> • Coordinate a large scale response to disaster • Collect reliable information from the field • Remain as a focal point for release of official and updated information to the media and the public • Regularly share information on disaster and highlight actions undertaken or planned • Broadcast essential information through radio and television • Provide key information and messages through public loud speakers (in field) • Establish media information centre if necessary • Liaise with media agencies- print, electronic and online. • Coordinate with information centres • Undertake press briefings and provide official version • Provide regular updates to departments, key personnel/decision makers and public
Recovery Rehabilitation	<ul style="list-style-type: none"> • Provide support to recovery operations • Document recovery and rehabilitation efforts • Oversee efforts towards restoration activities undertaken by the Assam

	<p>Telecom Circle and service providers</p> <ul style="list-style-type: none"> • Document cases/lessons from the field and dissemination of findings
5.2.10 Social Welfare Department	
Preparedness	<ul style="list-style-type: none"> • Integrate DM concerns in the ongoing welfare development schemes in the State • Identify vulnerable population and social groups which require special attention during disaster • Undertake training of communities and build awareness of the local environment and associated hazard risks and community measures which can reduce vulnerability within their location, promote community based disaster risk management • Identifying/communicate resource management at local level/community level to assist themselves to meet immediate needs of water, food, clothing and shelter (promote self-help)
Prevention & Mitigation	<ul style="list-style-type: none"> • Develop social safety nets taking into consideration hazard risks in the region where the welfare schemes are under implementation
Alert & Warning Stage	<ul style="list-style-type: none"> • Identify evacuation points/centres for communities • Facilitate provision of services to meet people's needs in risk prone areas
Response	<ul style="list-style-type: none"> • Provide welfare services to disaster affected people • Ensure proper care of the uncared • Provide protection to the most vulnerable sections of the society • Facilitate the process of financial assistance
Recovery Rehabilitation	<ul style="list-style-type: none"> • Participate and involve in recovery efforts and community rehabilitation • Administer relief/financial assistance is made eligible to disaster affected individuals/communities • Create an environment which is conducive to the all-round development of children, women and physically challenged persons
5.2.11 Agriculture Department	
Preparedness	<ul style="list-style-type: none"> • Undertake skill upgradation of department staff and farmers • Prepare state wide preparedness plan to manage drought and hazards like floods, pest attacks and others • Generate awareness on hazards, weather monitoring and suggest actions

Prevention & Mitigation	<ul style="list-style-type: none"> • Drought Monitoring System • Pest and Disease Monitoring System • Provide information to undertake crop insurance • Identify storage houses/godowns for early harvest • Establish Early Warning mechanisms
Alert & Warning Stage	<ul style="list-style-type: none"> • Gather information related to warning of impending floods, droughts or pest attacks • Take necessary precautions, actions, including moving of farm equipment/tools to safe locations • In case of pest attacks, determine the source/disease and take measures for protection of standing crops • Advice harvesting if permissible, this will reduce losses which otherwise could be higher
Response	<ul style="list-style-type: none"> • Assessment of damage to crops • Estimation of recovery • Discuss with the farming community through agriculture extension cells and support conduction of cleaning operations (to avoid long term water-logging, salinity)
Recovery Rehabilitation	<ul style="list-style-type: none"> • Provide technical support to prevent further damages and help resume agriculture/farming operations and restore soil conditions • Provide support and material inputs/farm implements to assist in recovery • Quantify loss estimate due to the event and suggest remedial/prevention measures • Depending on the intensity of the damage, establish a programme for agriculture rehabilitation • Ensure farmers are connected to the market (restore agriculture produce market) • Equip farmers with knowledge to deal with drought risks/hydro-meteorological and climate related disasters • Plan for establishment of ‘climate field schools’
5.2.12 Water Resources Department	
Preparedness	<ul style="list-style-type: none"> • Update the State and District wide contingency plan in consultation with the administration • Update embankment maintenance manual • Activate flood monitoring in all flood prone areas and capture information through flood bulletin • Establish coordination linkages with village teams for embankment strengthening and safety • Undertake mapping of vulnerable areas and risk spots

Prevention & Mitigation	<ul style="list-style-type: none"> • Undertake flood protection and erosion management measures • Construction/strengthening/maintenance of embankment • Undertake measures and direct action towards ensuring embankment safety • Undertake mitigation actions across the department following the design criteria mentioned in the guidelines for the preparation of DPR of Central Water Commission, Govt. of India. • Conduct pre-monsoon preparedness meeting in April every year to take stock of current status, discuss about critical areas, revisit protocols and operating procedures, check preparedness • Identify active channels causing erosion and take remedial measures
Alert & Warning Stage	<ul style="list-style-type: none"> • Associate with the IMD (to know the rainfall pattern and short term forecasts) and CWC (flood information, to know the flood level) • Maintain Flood Bulletin Chart in all stations. • Maintain Embankment Maintenance Manual • Watch flood protection work at all times, with support of locals • Observe and collect local data to determine flash floods
Response	<ul style="list-style-type: none"> • Translate department actions based on rainfall forecasts and flood information • Activate response plans on the basis of the flood bulletin • Ensure safety of embankments and take immediate protection measures to prevent breach • Undertake possible interventions to minimize further damage • Undertake emergency and long term flood protection works and repairment of embankments
5.2.13 Power Department	
Preparedness	<ul style="list-style-type: none"> • Undertake Disaster Management plan preparation for the department and guide support agencies in formulation of their plans • Undertake condition surveys of existing infrastructure and pin-point areas for intervention • Upgrade skill and training of staff in Disaster Management • Take up restoration plans of supply following an interruption across services/communication to all service agencies for preparedness measures and installation of back-up measures
Prevention & Mitigation	<ul style="list-style-type: none"> • Conduct vulnerability assessment of buildings and power infrastructure • Determine fragility of infrastructure to hazard risks and determine mitigation and non-structural mitigation actions • Establish mitigation fund and prioritize actions for risk reduction within the power sector

	<ul style="list-style-type: none"> Identify weak spots in allied/liked infrastructure or power dependent sectors and recommend actions
Alert & Warning Stage	<ul style="list-style-type: none"> On receipt of advisory, maintain vigil and undertake inspection works wherever necessary Undertake emergency repair works as and when necessary
Response	<ul style="list-style-type: none"> Undertake rapid assessment/inspection of damage to power infrastructure Undertake emergency repair of damage poles/equipment Dispatch quick response teams for restoration of power lines Address disruption to lifelines- water, sewerage services and transport routes in association with line agencies and arrange for alternate power supply arrangements at critical facilities Restore power supply to key lifeline/emergency services such as health care, decision support buildings, industries and other infrastructures
Recovery Rehabilitation	<ul style="list-style-type: none"> Undertake detail damage assessments of power infrastructures Take steps towards speedy repair and complete restoration of services Document lessons learnt and incorporate/update the Power Sector DM plan

5.2.14 Education Department

Preparedness	<ul style="list-style-type: none"> Develop a department wide plan in Disaster Management Ensure all schools/institutions within the department jurisdiction (Government and Private) have Building Level Emergency Response/ Preparedness Plan Undertake training of teachers in preparation of School Disaster Management Plan Undertake training of children and school staff in basic first-aid, select search and rescue methods. Organize rallies and education programmes to raise awareness Encourage volunteer participation in DM activities and conduct preparedness drills
Prevention & Mitigation	<ul style="list-style-type: none"> Undertake vulnerability assessments of education infrastructure and publish analysis/findings Identify structural and non-structural risk reduction/mitigation measures Develop State Level Mitigation Plans Work towards developing safety policies and safety rules that can be applicable to both Government and Private run institutions Ensure hazard resistant designs is an integral part of design and construction of new buildings/rooms or any expansion activity

Alert & Warning Stage	<ul style="list-style-type: none"> Convey appropriate information to the administrative staff in the department and relay further information based on established protocols
Response	<ul style="list-style-type: none"> Undertake rapid damage assessment of health facilities. Declare facilities fit for continuing operations Notify continuation of activities or temporary closure till situation is normalized Based on the notification/disaster declaration, provide necessary support for the functioning of schools as temporary shelters/relief distribution centres
Recovery & Rehabilitation	<ul style="list-style-type: none"> Undertake detailed damage assessments of education infrastructure Ensure DDR that concerns are considered in the design of new facilities/strengthening of existing facilities
5.2.15 Panchayat and Rural Development Department	
Preparedness	<ul style="list-style-type: none"> Analyze type of hazard risks in the areas under the Panchayat Form various committees among the youth for effective response Organize drill practices to raise awareness and test local plans Develop DM plans for the department Undertake training and capacity building of staff, elected representatives and other officials Promote the concept of village cluster DM plan
Prevention & Mitigation	<ul style="list-style-type: none"> Ensure that all development schemes routed through the department or through various schemes directed for implementation, taking into consideration of DM requirements. Undertake measures to strengthen the department buildings across the state
Alert & Warning Stage	<ul style="list-style-type: none"> Coordinate with the officials to relay information and activate the plan (based on threat levels)
Response	<ul style="list-style-type: none"> Coordinate support from line agencies to undertake response activities Coordinate with line agencies/departments and ensure supply of relief materials
Recovery & Rehabilitation	<ul style="list-style-type: none"> Ensure that beneficiaries receive the benefit of the rehabilitation and reconstruction schemes Strengthen the capacity by involving people in Relief & Rehabilitation efforts.

5.2.16 Urban Development Department

<p style="text-align: center;">Preparedness</p>	<ul style="list-style-type: none"> • Direct the urban areas to prepare city wide disaster management plan for every city/town and detail ward level DM plan to meet any type of exigency • Provide training and capacity building to department staff in disaster management • Direct the local government to submit the DM Plan to UDD and ASDMA. ASDMA is to approve the DM Plan.
<p style="text-align: center;">Prevention & Mitigation</p>	<ul style="list-style-type: none"> • Support activities to undertake risk assessment of the city • Incorporate/integrate DM concerns or hazard resistant construction into process of: Land Use plan, Building Byelaws, General development control regulations, City Development Plan, Master Plan • Facilitate developing a robust response plan in urban areas • Prepare department specific hazard mitigation plan
<p style="text-align: center;">Alert & Warning Stage</p>	<ul style="list-style-type: none"> • Identify mechanisms for outreach of information to people residing in urban areas • Set up areas for the establishment of relief camps • Direct the local government to determine needs and take necessary measures for coordinated response • Direct local government to undertake quick assessment of ground situation and direct allied urban systems to remain alert/activated (shelter/medial response/law and order/communication/water supply and sanitation).
<p style="text-align: center;">Response</p>	<ul style="list-style-type: none"> • Undertake rapid assessments of damaged areas • Housing back people to homes that are determined safe • Work with line agencies for the removal of debris • Mobilize efforts for undertaking heavy urban search and rescue operations, medical care/mass casualty care • Make arrangements to shelter the needy and minimize failure of basic services
<p style="text-align: center;">Recovery & Rehabilitation</p>	<ul style="list-style-type: none"> • Restoration of basic services • Provision of temporary housing and implementation of Relief & Rehabilitation package for urban areas

5.2.17 Guwahati Development Department	
Preparedness	<p>Direct the Guwahati Municipal Corporation to prepare a city wide disaster management plan and detail ward level DM plan to meet any type of exigency</p> <ul style="list-style-type: none"> • Provide training and capacity building to department staff in disaster management
Prevention & Mitigation	<ul style="list-style-type: none"> • Support activities to undertake risk assessments in the city • Incorporate/integrate DM concerns or hazard resistant construction into process of: Land Use Plan, Building Byelaws, General development control regulations, City Development Plan, Master Plan • Facilitate developing a robust response plan in urban areas • Prepare a specific hazard mitigation plan
Alert & Warning Stage	<ul style="list-style-type: none"> • Identify mechanisms for outreach of information to people • Set up areas for establishing relief camps • Determine needs and take necessary measures for coordinated response • Undertake quick assessment of ground situation and direct allied urban systems to remain alert/activated (shelter/medical response/law and order/communication/water supply and sanitation).
Response	<ul style="list-style-type: none"> • Undertake rapid assessments of damage areas • Ensure housing back people to homes that are determined safe • Work with line agencies for removal of debris • Mobilize efforts for undertaking heavy urban search and rescue, medical care/mass casualty care • Make provisions to shelter the needy and minimize failure of basic services
Recovery Rehabilitation	<ul style="list-style-type: none"> • Restore basic services • Make provisions for temporary housing and implement Relief & Rehabilitation packages for urban areas
5.2.18 Finance Department	
Preparedness	<ul style="list-style-type: none"> • Garner Support towards making provisions for establishing State/District Disaster Mitigation Fund (SDMF/DDMF), State/District Response Fund (SDRF/DDRF)

Prevention & Mitigation	<ul style="list-style-type: none"> Establish State/District Disaster Mitigation Fund, State/District Disaster Response Fund and State/District Recovery and Reconstruction Fund. Direct development planning activities/schemes to incorporate or build-in safety nets/mitigation measures
Warning Stage	<ul style="list-style-type: none"> Pass information to key department officials. No action required.
Response	<ul style="list-style-type: none"> Determine preliminary allocation of funds to undertake relief efforts Mobilize resources
Recovery Rehabilitation	<ul style="list-style-type: none"> Review damage assessment studies Work out estimates for central/state assistance
5.2.19 Animal Husbandry & Veterinary Department	
Preparedness	<ul style="list-style-type: none"> Determine livestock population risk to various hazards Identify list of possible shelter points Maintain livestock update and list down essential supplies/equipment required in case of disaster Train staff to ensure/undertake quarantine requirements Plan response and recovery operations
Prevention & Mitigation	<ul style="list-style-type: none"> Encourage farmers for insurance of livestock Establish monitoring mechanism for disease control
Recovery & Rehabilitation	<ul style="list-style-type: none"> Identify shelter, fodder requirements, veterinary equipment In case of disease outbreak, follow necessary instruction and protocol identified by the department. Detection, diagnosis, assessment of risk and surveillance of the disease Vector Control, Quarantine Control
Response	<ul style="list-style-type: none"> Eradicate and control animal diseases Deploy team to do quick access of damage and identify requirement for relief/rescue, equipment and fodder Assessment of injured stock and undertake treatment measures Coordinate with wildlife department to take necessary measures and treatment of injured animals

Response	<ul style="list-style-type: none"> • Manage livestock population in emergency period, provide treatment to injured animals • Coordinate with agencies for supply and distribution of fodder and other materials • Draw assistance from the local government and line agencies to dispose of carcass in a scientific manner, disinfection of contaminated areas • Draw measures for protection and care of abandoned livestock • Establish infrastructure support, include cattle camps, feeding centres, veterinary aid centres
Recovery & Rehabilitation	<ul style="list-style-type: none"> • Ensure relief distribution and administer financial assistance • Undertake detail damage and loss assessment for the Sector, determine financial assistance • Continue giving veterinary advice till business returns to normal • Continue undertaking assessments of injured animal stock, coordinate disposal of carcass
5.2.20 District Sports Officer	
Preparedness	<ul style="list-style-type: none"> • Undertake DM plan preparation for department and guide support agencies in formulation of their plans • Undertake condition survey of existing sports infrastructures • Skill up gradation and training of staff and volunteers in DM • Prepare an inventory of volunteers with their specialization and contact details • Prepare a list of facilities that can be used as relief shelters
Prevention & Mitigation	<ul style="list-style-type: none"> • Conduct vulnerability assessment of sports infrastructure • Determine fragility of infrastructure to hazard risks and determine structural and non-structural mitigation actions • Establish mitigation fund and prioritize actions for risk reduction within the sports infrastructures • Undertake necessary rectification measures for ensuring safety of the users of these facilities
Alert & Warning Stage	<ul style="list-style-type: none"> • On receipt of advisory, maintain vigil and undertake inspection works wherever necessary • Undertake necessary steps to mobilize volunteers if necessary
Response	<ul style="list-style-type: none"> • Undertake rapid assessment/inspection of damage to sports infrastructure • Undertake emergency repair of damage infrastructure and equipment • Dispatch quick response teams of volunteers in coordination of DDMA

Prevention & Mitigation	<ul style="list-style-type: none"> • Undertake detail damage assessment of sports infrastructure • Take steps towards speedy repair and complete restoration of services • Document the roles of volunteers in response work
5.2.21 Soil Conservation Department	
Preparedness	<ul style="list-style-type: none"> • Undertake DM plan preparation for department and guide support agencies in formulation of their plans • Undertake condition survey of existing bunds, channels, water bodies, erosion prone areas, periphery bunds, graded bunds, drainage channels, water bodies that come under its jurisdiction and identify areas for intervention • Take short term, medium term and long-time preventive measures • Help DDMA to identify the vulnerable areas, infrastructures and incorporate the same into DDMP
Prevention & Mitigation	<ul style="list-style-type: none"> • Conduct vulnerability assessments relating to soil erosion hazard of infrastructure it built or look after. • Establish mitigation fund and prioritize actions for risk reduction • Ensure timely completion of works undertaken before flood season
Alert & Warning Stage	<ul style="list-style-type: none"> • On receipt of advisory, maintain vigil and undertake inspection works wherever necessary • Undertake emergency repaired works if necessary
Response	<ul style="list-style-type: none"> • Undertake rapid assessment/inspection of damage to the infrastructure • Undertake emergency repair of damage infrastructure like water bodies, bunds, agricultural channels and others
Prevention & Mitigation	<ul style="list-style-type: none"> • Undertake detail damage assessment • Take steps towards speedy repair and complete restoration of infrastructure • Process proposals through the DDMA to the Government for consideration under SDRF
5.2.22 Irrigation Department	
Preparedness	<ul style="list-style-type: none"> • Undertake DM plan preparation for department and guide support agencies in formulation of their plans • Prepare Preparedness plan for manage drought & drought like situation • Undertake condition survey of existing bunds, irrigation channel & drains that come under its jurisdiction and identify areas for intervention • Take short term, medium term and long-time preventive measures

Preparedness	<ul style="list-style-type: none"> • Help DDMA to identify the vulnerable areas, infrastructures and to incorporate in DDMP • Develop State and District wise preparedness plan towards protection of irrigation of Irrigation Assets and providing water supply in drought. • Identify vulnerable points of irrigation structure like Head Works, Aqueduct, Cross Drainage including canals embankments and canal system. • Undertake monitoring of regular vigilance of I/S and duty of field staff and Head Work/other important vulnerable structures • Stabilize coordination linkage with W.U.A's
Prevention & Mitigation	<ul style="list-style-type: none"> • Conduct vulnerability assessments relating to flood/drought/ erosion hazard of infrastructure it built or look after. • Establish mitigation fund and prioritize actions for risk reduction • Ensure timely completion of works undertaken before flood season • Undertake flood protection management measures at vulnerable structures/canals systems • Maintain canal embankments/guide bunds/affix bunds including canal structures • Conduct pre monsoon preparedness meeting in April every year to take stock of the current status of irrigation projects, discuss critical areas, revisit protocol operating producers, preparedness, checks and others • Gather information related to warning of impending floods/droughts based on hydrological and meteorological information • Identify drought like areas for necessary steps towards irrigation supply in areas covered under irrigation
Alert & Warning Stage	<ul style="list-style-type: none"> • On receipt of advisory, maintain vigil and undertake inspection works wherever necessary • Undertake emergency measures to provide water to vulnerable agricultural areas
Response	<ul style="list-style-type: none"> • Undertake rapid assessment/inspection of damage to the infrastructure during flood/erosion • Undertake emergency repair of damage infrastructure like irrigation drainage, agricultural channels and others • Coordinate with Agriculture department during drought and drought like situation • Translate information based on rainfall forecast and weather forecast • Activate response plan based on rainfall/weather forecast to combat flood/drought like situation

	<ul style="list-style-type: none"> • Take immediate protection measures to prevent damage to structure/ canal systems • Take steps to supply water to field on drought like situations
Recovery & Rehabilitation	<ul style="list-style-type: none"> • Undertake detail damage assessments • Take steps towards speedy repair and complete restoration of infrastructure • Process proposals through the DDMA to the Government for consideration under SDRF • Undertake possible intervention to minimize further damage • Undertake emergency measures

CHAPTER-VI

DISASTER RESPONSE

6.1 As per the DM Act 2005 (**Appendix I**) and the Assam DM Rules 2010 (**Appendix II**), Disaster Management arrangements in the state are based upon partnerships between National, State, District and Local Authority. This partnership recognizes each Level of Disaster Management arrangements. Levels of disasters have already been categorized and disseminated as L0, L1, L2 and L3, based on the ability of various authorities to deal with them.

L0	L0 denotes normal times which are expected to be utilized for close monitoring, documentation, prevention, mitigation and preparatory activities. This is the planning stage where plans at all levels from community to the State shall be put in place. Training on search and rescue, rehearsals, evaluation and inventory updating for response activities will be carried out during this time.
L1	L1 specifies disasters that can be managed at the district level, however, the state and centre will remain in readiness to provide assistance if needed.
L2	L2 specifies disaster situations that may require assistance and active participation of the state, and mobilization of resources at the state level.
L3	L3 disaster situations arise from large scale disasters where districts and the state may not have the capacity to respond adequately and require assistance from the central government for reinstating the state and district machinery.

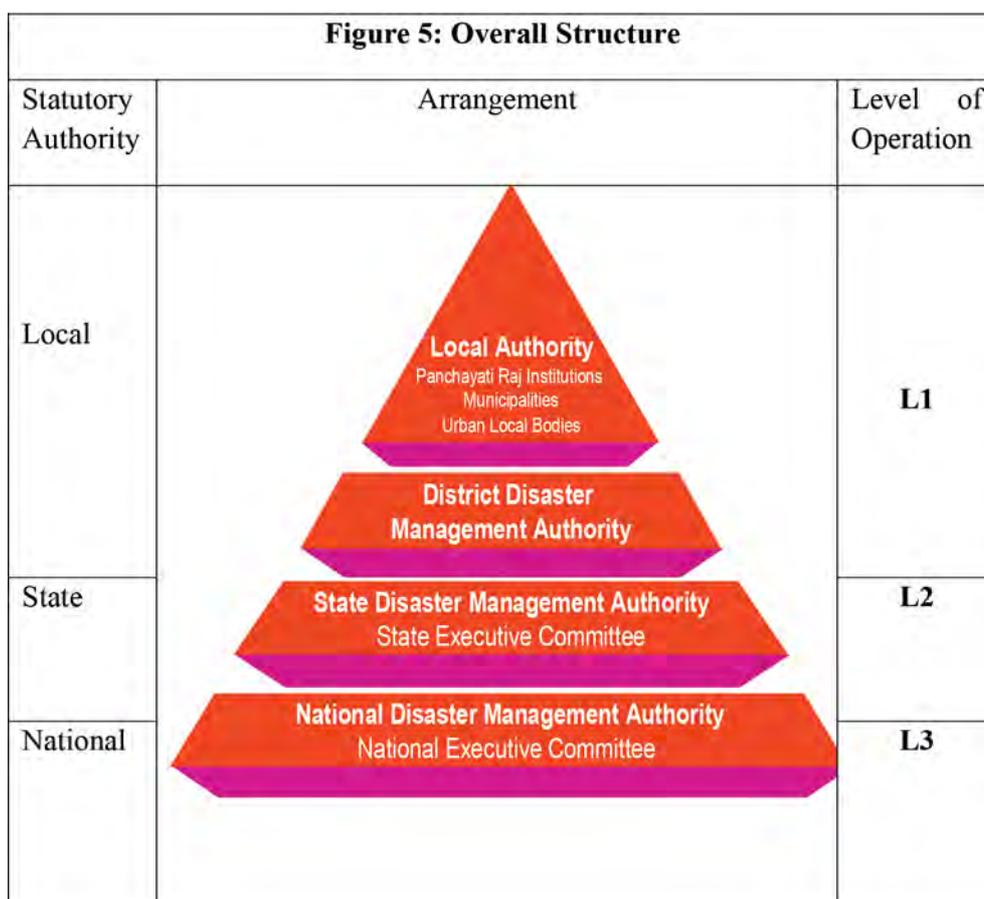
Natural disasters and other severe incidents have shown the importance of emergency response in order to save lives, minimize damages and ensure continuity of societal functions as well as business operations of the State. Emergency response is not limited to single organizations of the national or state level government; however it is increasingly recognized to make this function multi-organizational and liaise with business/industry and non-governmental organizations. Community participation (established through Community Based Disaster Risk Management activities) in the development of response plans and implementation of the same is essential.

Response activities are sequence of required actions including conduct of search and rescue, mobilization of emergency equipment and services and undertake operations to keep population and assets from harm's way. Response requires immediate activation of functions,

high level planning, knowledge of the nature of hazards/disaster (sudden onset, slow onset, escalating incident), interpretation of warning, gathering of structured information, mobilization/ deployment of resources and demonstration of coordination skills while undertaking operations. The framework for response and conduct of response operations is in accordance with the DM Act 2005 and Assam DM Rules 2010. ASDMA shall ensure coordination and monitor the implementation of response actions.

The partnership across authorities is to work collaboratively and ensure coordination and planning at all times, information sharing and resource mobilization that are necessary for DM. In any response situation, initial efforts would always be taken by the District Administration. However, when District is overwhelmed in any situation, the support necessarily has to come from the State and National Level. Responsible Officer (RO) within the jurisdiction control will trigger the activation for various level of disaster.

Disaster Management arrangement in Assam is based on a four tiered structure and recognizes all four levels (L0, L1, L2 and L3), including the support mechanism from the National Level.



Structure is to be established across the state of Assam (Local/District/State) along with creation of support structures such as Emergency Operations Centre, State Disaster Response Force (SDRF) among others, so as to conduct operations for each Level of DM arrangements

6.2 Incident Response System (IRS) :

The Guidelines on the Incident Response System (IRS) are issued by the National Disaster Management Authority (NDMA) under Section 6 of the DMA Act, 2005 for effective, efficient and comprehensive management of disasters in India. The vision is to minimize loss of life and property by strengthening and standardizing the disaster response mechanism in the country.

Though India has been successfully managing disasters in the past, there are still a number of shortcomings which need to be addressed. The response today has to be far more comprehensive, effective, swift and well planned based on a well-conceived response mechanism.

The Incident Response System (IRS) is an effective mechanism for reducing the scope for ad-hoc measures in response. It incorporates all the tasks that may be performed during DM irrespective of their level of complexity. It envisages a composite team with various Sections to attend to all the possible response requirements. The IRS identifies and designates officers to perform various duties and get them trained in their respective roles. IRS is a flexible system and all the Sections, Branches and Units need not be activated at the same time. Various Sections, Branches and Units need to be activated only as and when they are required.

6.2.1 Role of Circle Officers in Response:

Revenue Circle Officers will lead response within the Revenue Circle. They will maintain communication and information sharing arrangement with all the field level officials of different departments and oversee their preparedness for acting on the Standard Operating Protocol for different disasters. It will be the responsibility of the Circle Officer to keep DDMA informed of all the developments in the Revenue Circle area and coordinate the response activities.

Circle Officer will always keep an updated copy of the Circle Disaster Management Plan and the District Disaster Management Plan and Resource inventories including Flood hazard map prepared by ASDMA for ready reference for response.

6.2.2 IRS Organization:

The IRS organization functions through Incident Response Teams (IRTs) in the field. In line with our administrative structure and DM Act 2005, Responsible Officers (ROs) have been designated at the State and District level as overall in charge of the incident response management. The RO may however delegate responsibilities to the Incident Commander (IC), who in turn will manage the incident through IRTs. The IRTs will be pre-designated at all levels; State, District, Sub-Division and Revenue Circle. On receipt of Early Warning, the Responsible Officer will activate them. In case a disaster occurs without any warning, the local IRT will respond and contact Responsible Officer for further support, if required. The IRS has two main components; a) Command Staff and b) General Staff as shown in this Fig.



Command Staff :

The Command Staff comprises of an Incident Commander (IC), an Information & Media Officer (IMO), a Safety Officer (SO) and a Liaison Officer (LO). The main function of the Command Staff is to assist the Incident Commander in the discharge of his functions.

General Staff:

The General Staff has three components viz: Operations Section, Planning Section and Logistics & Finance Section.

Operations Section (OS):

The OS is responsible for directing the required tactical actions to meet incident objectives. Management of disaster may not immediately require activation of Branch, Division and Group. Expansion of the OS depends on the enormity of the situation and number of different types and kinds of functional Groups required in the response management.

Planning Section (PS):

The PS is responsible for collection, evaluation and display of incident information, maintaining and tracking resources, preparing the Incident Action Plan (IAP) as given in Appendix III and other necessary incident related documentation. They will assess the requirement of additional resources, propose from where it can be mobilized and keep IC informed. This Section also prepares the demobilization plan.

Logistics & Finance Section (L&FS):

The L&FS is responsible for providing facilities, services, materials, equipment and other resources in support of the incident response. The Section Chief participates in development and implementation of the IAP, activates and supervises Branches and Units of the section. In order to ensure prompt and smooth procurement and supply of resources as per financial rules, the Finance Branch has been included in the LS.

6.2.3 State Level Incident Response Team

In pursuance of the Incident Response System (IRS) Guideline issued by the National Disaster Management Authority (NDMA), State level Incident Response team is to be constituted and the detailed Notification and Roles & Responsibilities is given in Appendix IV

Chief Secretary as Responsible Officer of the State Level IRT will decide if State level Incident Response Team (IRT) needs to be activated in the event of occurrence of any emergency/disaster.

In case of any disaster that requires activation of State level Incident Response Teams (IRT), office premises of Assam State Disaster Management Authority (ASDMA) will be converted into State Emergency Operation Centre (SEOC) and all the IRT members will operate from this SEOC.

General Staff (Operation Section Chief, Planning Section Chief & Logistic Section Chief) of State level Incident Response Team will activate their respective sections (as per the organizational structure of IRS) if required directing them to function from SEOC.

6.2.4 District Level Incident Response team

In pursuance of the Incident Response System (IRS) Guideline issued by the National Disaster Management Authority (NDMA), District level Incident Response team is to be constituted and the detailed Notification and Roles & Responsibilities is given in Appendix V

The Deputy Commissioner as responsible Officer of the District level incident Response team will decide on activating the District level Incident Response Team (IRT) depending of the magnitude of an emergency. In case of any disaster, that requires activation of District level Incident Response Teams (IRT), office premises of Deputy Commissioner will be converted into District Emergency Operation Centre (DEOC) and all the IRT members will operate from this DEOC.

General Staff (Operation Section Chief, Planning Section Chief & Logistic Section Chief) of the District level Incident Response Team will activate their respective sections (as per the organizational structure of IRS) if required.

Operation Section Chief will activate Strike Teams depending on the nature of the emergency i.e., Fire & Emergency Services in case of Fire, SDRF in case the emergency needs Search & Rescue Operations and others. All information will flow upward to Incident Commander from respective sections through the Section Chief.

Activation of full IRT or partial activation will depend on the magnitude of the emergency and that will be decided by the Deputy Commissioner as Responsible Officer. In case, one person is designated to look after two different functions in the IRT, he or she will discharge the two functions separately. Incident Commander will pass on the information to the Responsible Officer who in turn will pass the information to the Government at the State HQ.

6.4 Assistance from Government of India/National Disaster Response Force (NDRF) for Emergency Response: National Disaster Response Force

- a) Requisition of NDRF is to be made for L2 & L3 disaster only
- b) Requisitioning Authority for NDRF are:
 - ◆ Principal Secretary, Disaster Management/Relief Commissioners
 - ◆ CEO, ASDMA
 - ◆ Deputy Commissioners
- a) Requisition may be sent to: MHA/NDMA/HQ DG NDRF/NDRF Bn in the prescribed format at Appendix VI.
- b) Law & Order and safety of the NDRF responders will have to be ensured by district administrations.
- c) For demobilization after an operation, clearance from local authority is required.

Air Force:

In case Assistance is required from Air Force, Air Force may be approached by the District Administration for assistance in the following Coordinates. Prescribed format for requisitioning the services is given at Appendix VII.

However, for requisitioning the support from the Government of India/NDRF the following procedure may be noted:

- a) District Authorities will have to provide specific information on the kind of assistance required i.e., rescue, dropping relief materials and numbers of flights required.
- b) In case of relief operation, good relief have to be provided by the district administration, including logistics to air base and depute a representative.
- c) For Air Transport of personnel, details of the passengers are to be mentioned in advance. However, in case of airlift of marooned personnel the procedure may be completed in flight.
- d) In case of request for recce flight to assess the situation in a disaster from State or District administration mission can be undertaken first and HQ EAC be given the full details at the earliest.

6.5 Mobilization of resources for response from adjacent districts:

In the event of requirement of resources including SDRF personnel from one or more districts to respond to a disaster, DDMA will request the concerned DDMA or DDMA with intimation to the concerned Divisional Commissioner & State level Heads of the concerned departments/agencies. Divisional Commissioners will coordinate the mobilization of resources from one district to another within his jurisdiction and issue necessary direction for demobilization of the same after the disaster is over or some other district or districts are affected severely.

CHAPTER VII

FLOOD MANAGEMENT

7.1. Management of flood in Assam

Flood Management Guidelines prepared by NDMA emphasizes on the measures for preparedness, prevention, mitigation in pre flood stage and on prompt and effective response, relief and recovery during and post flood stages. Emphasis of the State Government has so far been on structural measures of Flood Management requiring huge investments and long gestation period. Some of these are:

- a) Embankments and bunds
- b) Dams, reservoirs and other water storages
- c) Channel improvement
- d) De-silting and dredging of rivers
- e) Drainage improvement
- f) Diversion of flood waters
- g) Catchment area treatment and afforestation
- h) Anti-erosion works.

However, with the paradigm shift in disaster management, the Government now gives equal emphasis on preparedness and mitigation activities (both structural and non-structural) which are very effective in reducing loss of lives and property.

7.2. Measures for management of flood:

All districts will conduct the flood preparedness meeting by 15th February and take stock of the preparedness level of all departments as per the indicative list of the tasks and responsibilities for different departments in the Chapter V.

- c) Water Resources department needs to undertake GIS mapping of all the embankments and flood protection measures, clearly indicating the vulnerable points and the points in immediate need of repair/reinforcement, and integrate the spatial data with the non-spatial data. It will ensure that all breach closing and protection works of the immediate nature are completed before the onset of monsoon. They will also contact the North East Space Application Centre (NESAC) for satellite maps of embankments and dykes to cross check the openings and unclosed breaches every year before 1st February.
- d) It must be acknowledged that flood management is not effective without the participation of the local people. They will have to be involved by sharing complete information about the status of embankments and flood protection structures and likely threat and evacuation plan in case of situations turn hostile. One of the major

areas of concern has been human settlements cropping up in the courses of natural waterways. The department will have to have complete data on all such human settlements and identify alternative locations nearby to shift them in case of high floods. The long term strategy, of course, will be to clear the river courses from such encroachments.

- e) A Flood Control Room will be made operational by the districts w.e.f. 15th May to 15th October. This Control Room will be functional in the District Emergency Operations Centre premises with either dedicated manpower deployed through a roster of duties or vertical staffing for flood management during flood season in DEOC facility. The effectiveness of the Control Room hinges on information coming from the field level functionaries. The water Resources Department will, therefore, develop a credible communication plan and ensure prompt flow of information to the Control Room.
- f) From 15th May till the end of the flood season a Control Room will be set up at the headquarters of the Water Resources Department at Guwahati. All information regarding the flood situation will be received and disseminated to the concerned district authorities (EOCs) from the control room on a daily basis.
- g) Flood situation in the state aggravates at times because of the release of water from the reservoirs of dams within the state as well as in the neighbouring states. Water Resources department must have an information sharing protocol with the authorities concerned to ensure that prior warning to the people may be given and appropriate steps taken to help them.
- h) Gratuitous Relief (GR) and financial assistance under SDRF and State Government norms are to be provided to the flood-affected people during floods. It is imperative that the necessary arrangements for their procurement are made in advance. The Deputy Commissioners should fix the rates of various items well in advance needed to be provided to the affected people during floods, ensure sufficient stock of food grains; cattle feed and the like and have a transportation plan in place. To avoid last-minute scramble for boats available in the district, they should have an inventory of boats and involve the owners of the boats in planning.
- a) The Central Water Commission at Guwahati will send to the Control Room of the Water Resources Department and the State Emergency Operations Centre (SEOC), the water levels of the River Brahmaputra and Barak twice daily from 15th May to 15th October. The flood data will be communicated at 0800 hours and 1900 hours daily to the Control Room of the Water Resources Department at Guwahati and SEOC through email or fax. Any alarming forecast will be forwarded to the Districts immediately from SEOC and the Control Room of the Water Resources Department at Guwahati.
- b) The forecasts will also be directly sent to the D.Cs/S.D.Os (Civil) in respect of the district/sub division where they have set up station.

- c) The Executive Engineer of the Water Resources Department will send to the Control Room of the Water Resources Department at Guwahati and the deputy Commissioner/ Sub Divisional Officer (Civil)
- ◆ Daily information regarding the water levels at different stations of the rivers Brahmaputra and Barak and their tributaries ;
 - ◆ Crossing of danger levels by any river and
 - ◆ Indirect information regarding damages/breaches in embankments/dykes/erosion
- d) The Water Resources department will publish from its Control Room at Guwahati a flood bulletin twice daily and circulate the same to the concerned authorities.
- e) Every district will send a daily Flood Report in the prescribed format to the State HQ during the flood season (15th May to 15th October) as given in Appendix VIII. The report should reach SEOC everyday by 12 noon for compilation and onward submission to the State level officials and the Government of India.
- f) Deputy Commissioner will within the scales prescribed provide Gratuitous Relief (GR) in cash or kind to the deserving affected people.
- g) Deputy Commissioner will arrange proper distribution of relief material received as donation among the deserving affected people.
- h) Relief camps will have to be set up for the flood affected people. Detailed guidelines for keeping records in this regard are in Appendix XI to XIV
- h) Deputy Commissioner will arrange shelter/places for evacuation purposes pre identified and described in DM Plan if required.
- a) Assessment of the loss of lives and property by floods is an important activity that require meticulous planning. It is often observed that there are long delays in the assessment work and there is little role clarity about the personnel to be engaged in the exercise. Other departments are under impression that it is a job to be done by the District Administration and do not involve themselves with the task with due earnest.
- b) It must be noted that the damage assessment is a collaborative effort and has to be done in a time-bound manner, as soon as possible after the waters recede. People who have lost their kith and kin, houses, cattle, agriculture produce, and other properties need to be provided immediate help and the State Government has to approach the Central Government to supplement the resources to help them.

Every Department shall, therefore, have a well-articulated plan of action for damage assessment and a time-frame to have the information at the state level within 15 days of the situation becoming suitable for the assessment works. The information should be shared with the District Administration for compilation and the consolidated District level damage assessment report is to be submitted to the Revenue & Disaster Management department.