MIZORAM STATE DISASTER MANAGEMENT POLICY (REVISED) 2016

DIRECTORATE OF DISASTER MANAGEMENT & REHABILITATION, MIZORAM

CONTENTS

CHAPTER-1

PREAMBLE

The Context

Disasters disrupt progress and destroy the hard earned fruits of painstaking developmental efforts, often pushing developing countries, quest for progress, back by several decades. Thus, efficient management of disasters, rather than mere response to their occurrence, has in recent time received increased attention in India and other countries of the world. In view of the catastrophic aftermath of disasters which are increasing in frequency and intensity, it has been acknowledged that good governance needs to deal effectively with devastating impact of disasters.

Disaster Risks in Mizoram

Mizoram is vulnerable, in varying degrees, to a large number of natural as well as man-made disasters. The whole of the landmass is prone to earthquake of very high intensity. It is also prone to landslides and land sinking. Cyclonic storms, hailstorms, cloud burst etc occur from time to time. Heightened vulnerabilities to disaster risks can be related to expanding population, urbanization and mushrooming of unplanned RCC buildings on steep hill slopes, especially in Aizawl City where buildings have been constructed in a congested, haphazard manner with no seismic considerations. Quality and design specifications of houses as well as materials used for housing, particularly for roofing and walling, have a bearing on the vulnerability of houses to earthquakes, high wind, floods and fires. Lack of proper sewerage is also a major concern

In the context of human vulnerability to disasters the economically and socially weaker segments of the population are the ones that are most seriously affected. Within the vulnerable groups, elderly persons, women, children and disabled persons are exposed to higher risks.

Landslide: Mizoram, being a hilly terrain is prone to landslides. Every year a number of landslides have been usually reported from various localities. These cause a lot of miseries to public, resulting in loss of life and property, disruption of communication network, and also cause economic burden on the society. This is primarily attributed to high slope, immature geology, neo-tectonic activity, heavy rainfall, unplanned and improper land use practice in

the State. There can be many factors that make an areavulnerable to landslides, both induced by human activities as well as inherent natural composition of the soil. However, in most cases the former factor is a contributing factor, especially in areas wheredevelopment activities are higher and drainage facilities are neglected. (Fig- 1)

Earthquake: The State forms a part of the most severe seismic zone in the country,namely Zone V of Seismic Zoning Map of India that is referred as VeryHigh Damage Risk Zone. A large number of moderate to large magnitude earthquakes have occurred within the State boundary as well as within100 km distance around it. According to the study conducted by MIRSAC (Seismic HazardZonation of Mizoram), the seismic vulnerability map of Mizoram showslongitudinal variations in hazard level which is very well correlated with the seismicity map of the entire North east India region.(Fig-2)

Cyclone: So far as wind hazard is concerned, the design wind speed in the wholestate is 55m/s (198km/h) which is the highest value specified in the country, occasionally reached when cyclonic wind comes crossingBangladesh. In such events, weakly built homes of wood, bamboo,thatched etc, and sloping roofs such as thatched and tiles and those AC sheet and corrugated 2inimizing iron(CGI) sheet roofs which are not fully anchored and integrated will suffermuch damage. The damages occurring in such high winds are of localized nature and do not result in a disaster at the State level. But it will be very useful if wind resistant construction Guidelines are adopted andimplemented for 2inimizing wind damages to buildings.

Wind and Cyclone Hazard classes of Mizoram are divided into Very high,High and Moderate zones. Very high hazard zone covers an area of3736.34 sq km which is 17.68 per cent of the total state area. High hazardzone extends over 7283.50sq km which comprises 34.50 per cent of thetotal study area and moderate hazard zone covers 10061.17 sq km whichconstitutes 47.82 per cent of the total study area. (Fig-3)

Floods:The State having hilly terrain does not have major flood problem. Under the action of heavy rain, flash floods may be caused resulting in bank erosion and some local damage. In Mizoram, floods occur in river valleys, when flow exceeds the capacity of the river channel, particularly at bends or meanders. Compared to other hazards like Landslides and cyclones, the damage caused by floods within the state is the least. Floods often cause damage to homes, public places and crop lands if they are placed in natural flood plains of rivers. Settlements lying in close proximity to the rivers are prone to flood hazard and hence drowning often happens due to unavoidable activities close by the river. This happens

especially during the monsoon period. In general, most significant damages occur only to the crops and erosion of cultivated land lying in the fluvial flood plains of Mat, ChhimtuipuiTlawng, Tuirial, Tuivawl and Tuivai, rivers, etc. (Fig-4)

Fire: Fire accidents are quite common especially during the dry seasons. Accidents caused due fire affect both property and life, hence, its effect cannot be neglected while considering disaster planning and mitigation for the State. Urban areas in Mizoram are vulnerable to fire accidents due to many reasons, most of which has been attributed to accidents caused by erroneous human activities leading to outbreak of fire. The State is also becoming increasingly vulnerable to electric accidents. The main causes of such accidents are:

a) Use of sub-standard electrical fittings.

b) Lack of routine check-up of over-utilized electrical items.

c) Lack of trained electricians for wiring of homes.

d) Faulty electrical wirings of home.

e) A combination of the above factors.

Another aspect of fire vulnerability of urban areas is due to closely spaced houses in the city. The outbreaks of fire in such cases have a higher chance of spreading to the adjoining houses as they are closely constructed to one another. Most of these houses are also not equipped with standard fire fighting tools (eg. Extinguishers, etc), not to mention the construction of fire-escapes, as found mandatory in cities of developed countries. (Fig-5)

Fig-1

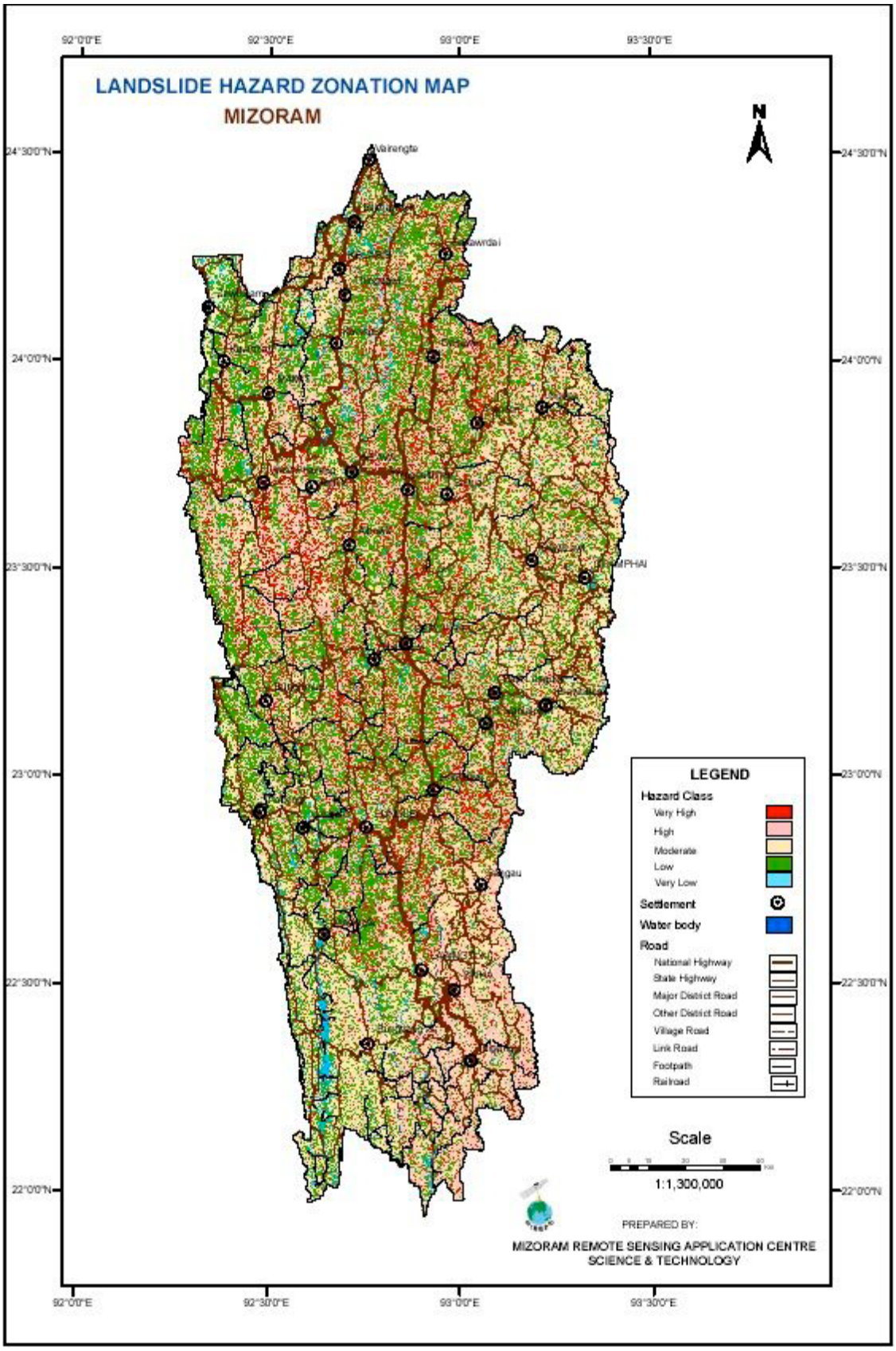
LANDSLIDE HAZARD ZONATION MAP
MIZORAM
N
92°0'0"E
92°30'0"E
93°0'0"E
93°30'0"E
24°30'0"N
24°0'0"N
23°30'0"N
23°0'0"N
22°30'0"N
22°0'0"N
LEGEND
Hazard Class
Very High
High
Moderate
Low
Very Low
Settlement
Water body
Road
National Highway
State Highway
Major District Road
Other District Road
Village Road
Link Road
Footpath
Railroad
Scale
1:1,300,000
PREPARED BY:
MIZORAM REMOTE SENSING APPLICATION CENTRE
SCIENCE & TECHNOLOGY

Fig-2

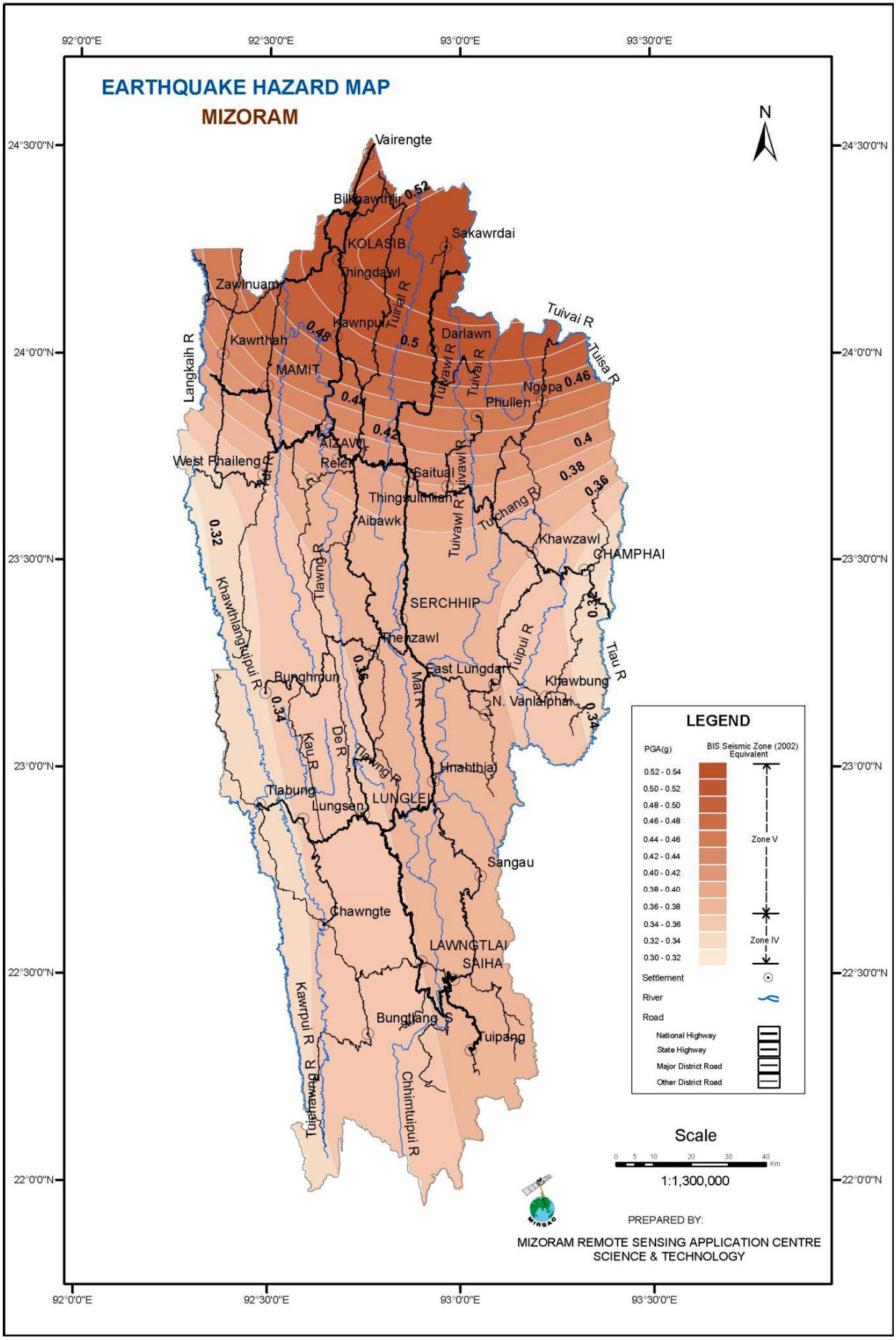
EARTHQUAKE HAZARD MAP
MIZORAM
N
92°0'0"E
92°30'0"E
93°0'0"E
93°30'0"E
24°30'0"N
24°0'0"N
23°30'0"N
23°0'0"N
22°30'0"N
22°0'0"N
Vairengte
Bilkhawthlir
Sakawrdai
KOLASIB
Thingdawl
Zawlnuam
Kawnpui
Kawrthah
MAMIT
Darlawn
Ngopa
Phullen
AIZAWL
Relen
West Phaileng
Saitual
Thingsulthliah
Aibawk
Khawzawl
CHAMPHAI
SERCHHIP
Thenzawl
East Lungdar
Khawbung
N. Vanlaiphai
Bunghmun
Hnahthial
Tlabung
Lungsen
LUNGLEI
Sangau
Chawngte
LAWNGTLAI
SAIHA
Bungtlang S
Tuipang
Langkaih R
Tuivai R
Tuisa R
Tuivawl R
Tuichang R
Tlawng R
Khawthlangtuipui R
Tuipui R
Tlau R
Mat R
Kau R
De R
Kawrpui R
Tuichawng R
Chhimtuipui R
0.52
0.5
0.48
0.46
0.44
0.42
0.4
0.38
0.36
0.34
0.32
LEGEND
PGA(g)
BIS Seismic Zone (2002) Equivalent
0.52 - 0.54
0.50 - 0.52
0.48 - 0.50
0.46 - 0.48
0.44 - 0.46
0.42 - 0.44
0.40 - 0.42
0.38 - 0.40
0.36 - 0.38
0.34 - 0.36
0.32 - 0.34
0.30 - 0.32
Zone V
Zone IV
Settlement
River
Road
National Highway
State Highway
Major District Road
Other District Road
Scale
0 5 10 20 30 40 Km
1:1,300,000
PREPARED BY:
MIZORAM REMOTE SENSING APPLICATION CENTRE
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Fig-3

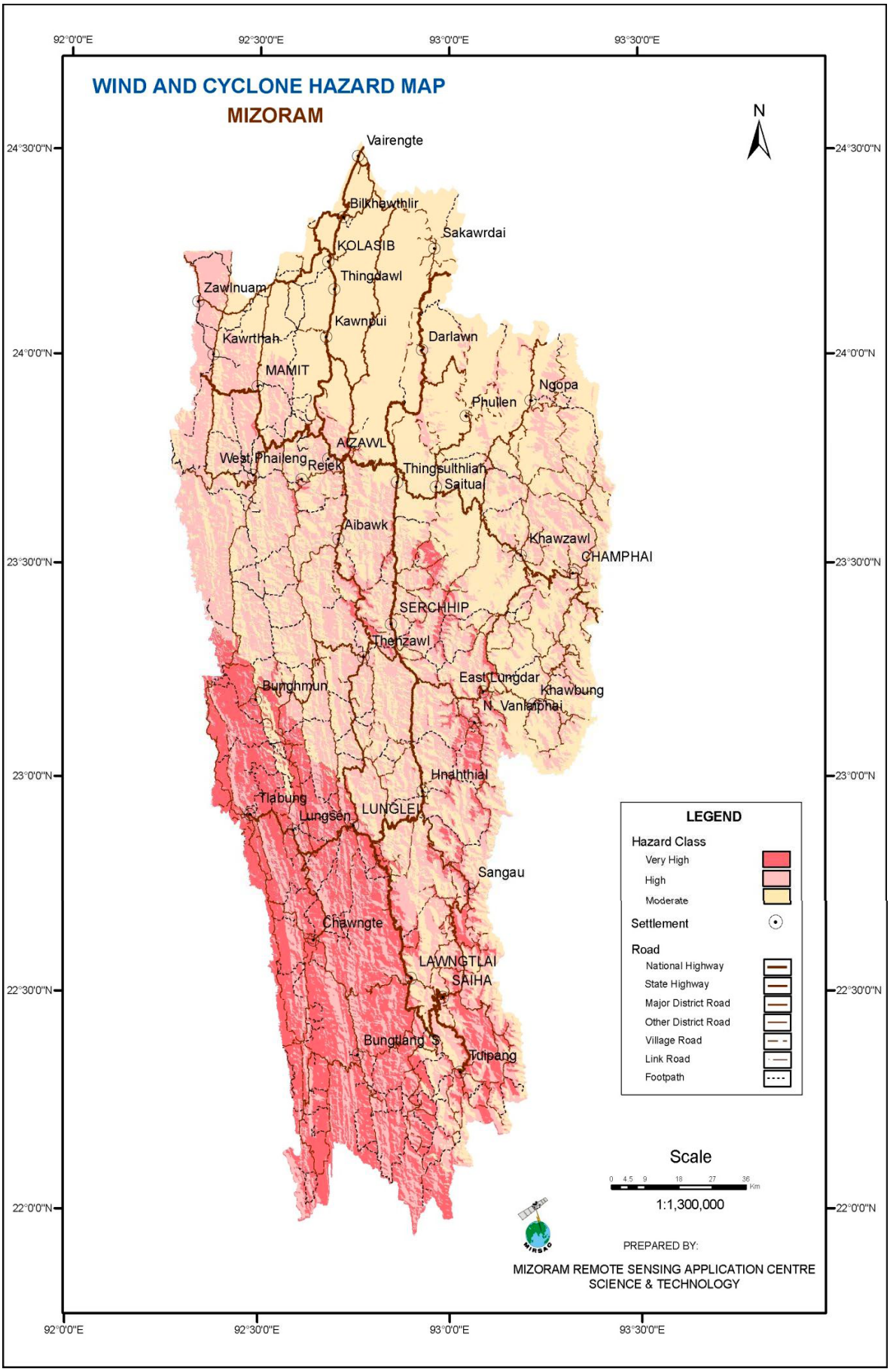
WIND AND CYCLONE HAZARD MAP
MIZORAM
N
92°0'0"E
92°30'0"E
93°0'0"E
93°30'0"E
24°30'0"N
24°0'0"N
23°30'0"N
23°0'0"N
22°30'0"N
22°0'0"N
Vairengte
Bilkhawthlir
Sakawrdai
KOLASIB
Thingdawl
Zawlnuam
Kawnpui
Kawrthah
Darlawn
MAMIT
Ngopa
Phullen
AIZAWL
West Phaileng
Reiek
Thingsulthliah
Saitual
Aibawk
Khawzawl
CHAMPHAI
SERCHHIP
Thenzawl
East Lungdar
Khawbung
N. Vanlaiphai
Bunghmun
Hnahthial
Tlabung
Lungsen
LUNGLEI
Sangau
Chawngte
LAWNGTLAI
SAIHA
Bungtlang S
Tuipang
LEGEND
Hazard Class
Very High
High
Moderate
Settlement
Road
National Highway
State Highway
Major District Road
Other District Road
Village Road
Link Road
Footpath
Scale
0 4.5 9 18 27 36 Km
1:1,300,000
PREPARED BY:
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Fig-4

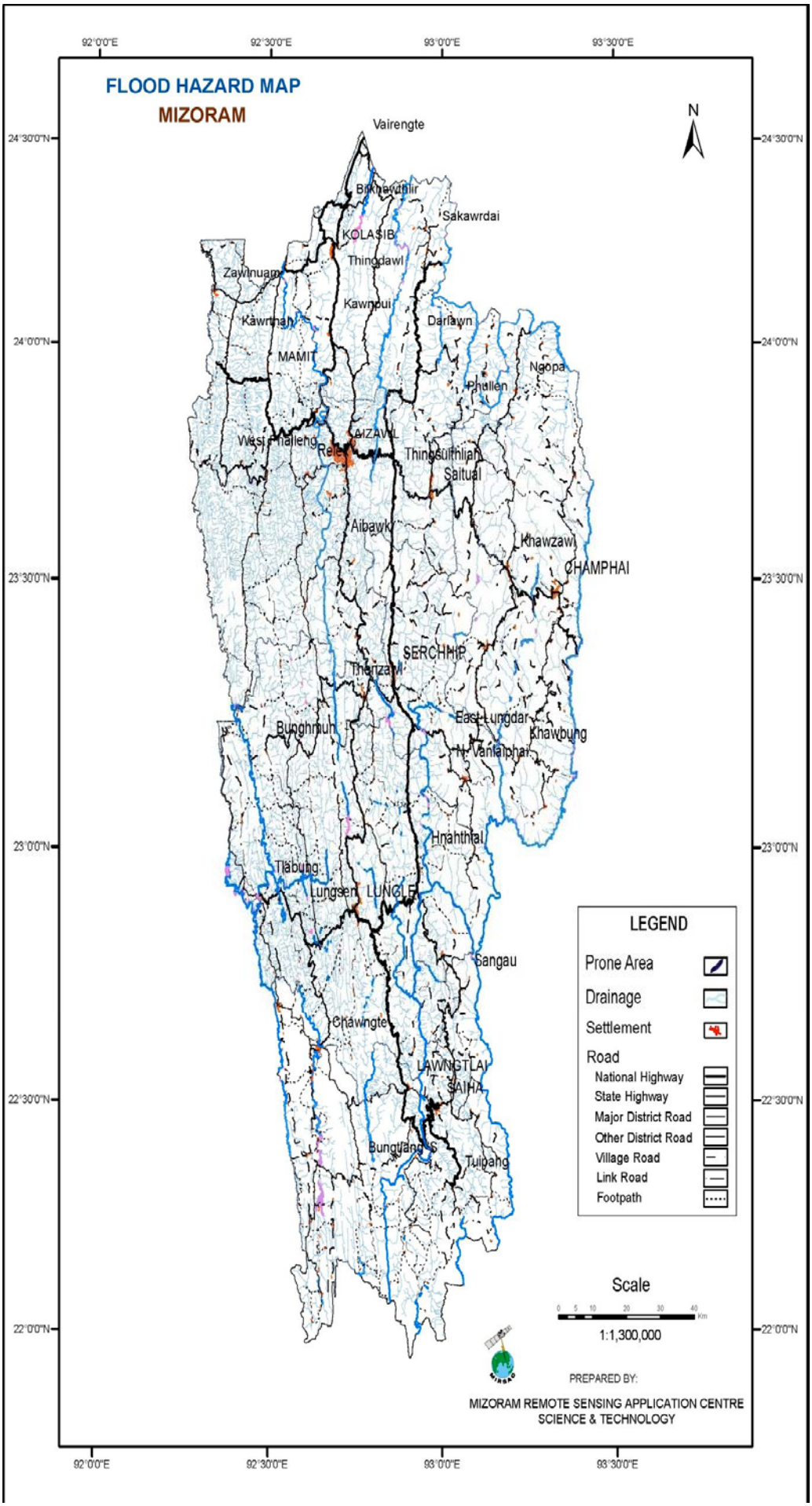
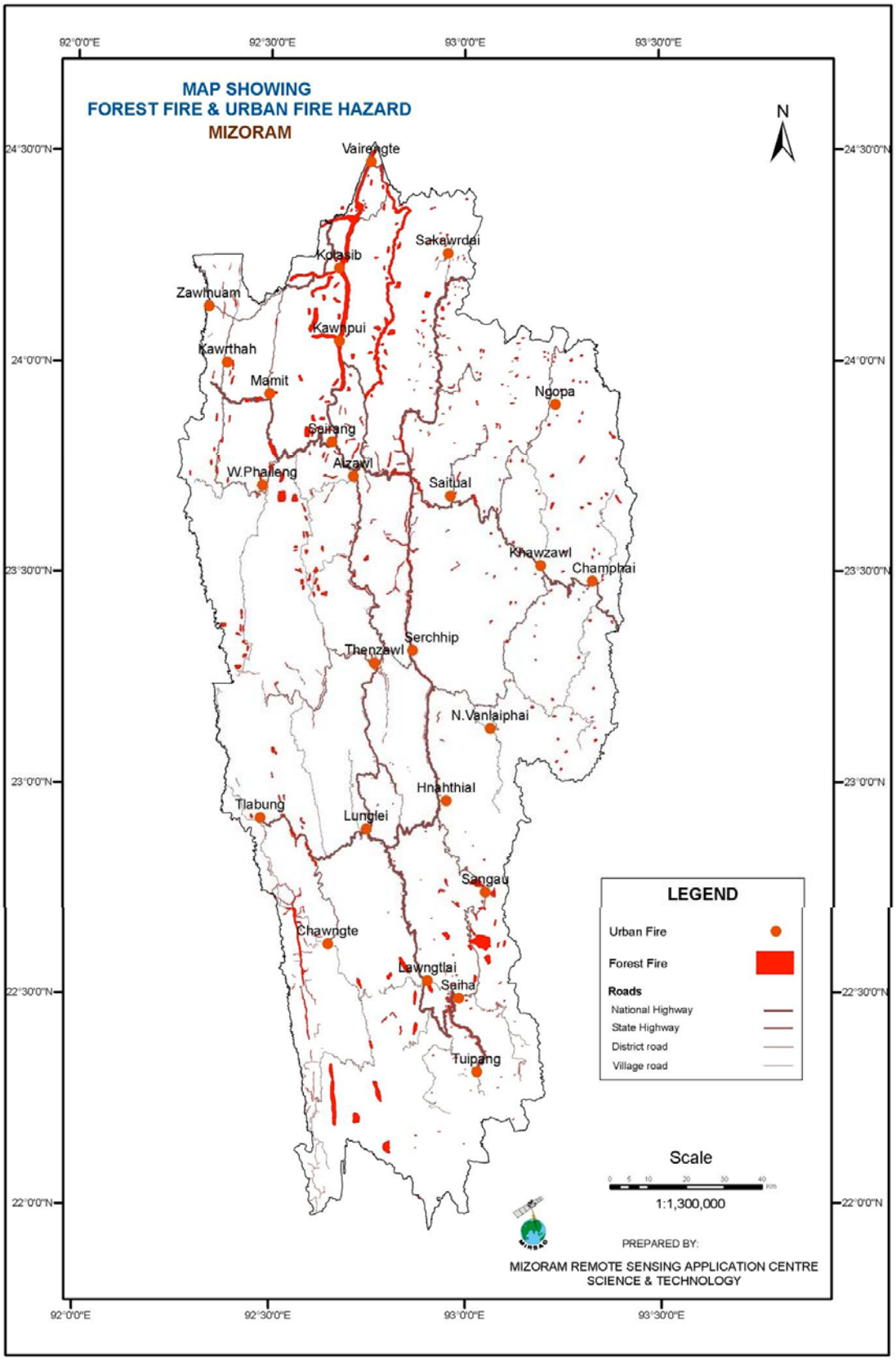

FLOOD HAZARD MAP
MIZORAM
N
Vairengte
Bukhawthlir
Sakawrdai
KOLASIB
Thingdawl
Zawlnuam
Kawnpui
Kawrthah
Darlawn
MAMIT
Ngopa
Phullen
AIZAWL
West Phaileng
Relen
Thingsulthliah
Saitual
Aibawk
Khawzawl
CHAMPHAI
SERCHHIP
Thenzawl
East Lungdar
Khawbung
Bunghmun
N. Vanlaiphai
Hnahthial
Tlabung
Lungsen
LUNGLEI
Sangau
Chawngte
LAWNGTLAI
SAIHA
Bungtlang S
Tuipang
LEGEND
Prone Area
Drainage
Settlement
Road
National Highway
State Highway
Major District Road
Other District Road
Village Road
Link Road
Footpath
Scale
1:1,300,000
PREPARED BY:
MIZORAM REMOTE SENSING APPLICATION CENTRE
SCIENCE & TECHNOLOGY
92°0'0"E
92°30'0"E
93°0'0"E
93°30'0"E
24°30'0"N
24°0'0"N
23°30'0"N
23°0'0"N
22°30'0"N
22°0'0"N

Fig-5


MAP SHOWING
FOREST FIRE & URBAN FIRE HAZARD
MIZORAM
N
92°0'0"E
92°30'0"E
93°0'0"E
93°30'0"E
24°30'0"N
24°0'0"N
23°30'0"N
23°0'0"N
22°30'0"N
22°0'0"N
Vairengte
Sakawrdai
Kolasib
Zawlnuam
Kawnpui
Kawrthah
Mamit
Ngopa
Seirang
Aizawl
W.Phaileng
Saitual
Khawzawl
Champhai
Serchhip
Thenzawl
N.Vanlaiphai
Hnahthial
Tlabung
Lunglei
Sangau
Chawngte
Lawngtlai
Saiha
Tuipang
LEGEND
Urban Fire
Forest Fire
Roads
National Highway
State Highway
District road
Village road
Scale
0 5 10 20 30 40 Km
1:1,300,000
PREPARED BY:
MIZORAM REMOTE SENSING APPLICATION CENTRE
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Paradigm Shift in Disaster Management

On 23rd December, 2005, the Government of India (GoI) took a defining step by enacting the Disaster Management Act, 2005 which envisaged the creation of the National Disaster Management Authority (NDMA), headed by the Prime Minister, State Disaster Management Authorities (SDMAs) headed by the Chief Ministers, and District Disaster Management Authorities (DDMAs) headed by the District Deputy Commissioners to spearhead and adopt a holistic and integrated approach to Disaster Management. The DM Act of 2005 mandates that there will be a paradigm shift, from the erstwhile reliefcentric response to a proactive prevention, mitigation and preparedness – driven approach for conserving developmental gains and to minimize loss of life, livelihood and property.

CHAPTER-2

APPROACH AND OBJECTIVES

Vision

To build a safe and disaster resilient Mizoram State by developing a holistic, proactive, multi-disaster oriented and technology driven strategy through a culture of prevention, mitigation, preparedness and response.

The aim of the DM Policy is to provide guiding principles for reducing, preventing, mitigating disaster risk and creating a system for effective disaster response. The policy also aims at providing guidelines for post disaster relief, rehabilitation and reconstruction codes and guidelines.

Disaster Management

Sections 2 (d) and (e) of the DM Act, 2005 defines disaster as "a catastrophe, mishap, calamity or grave occurrence from natural or man-made causes, or by accident or negligence which results in substantial loss of life or human suffering 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."

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

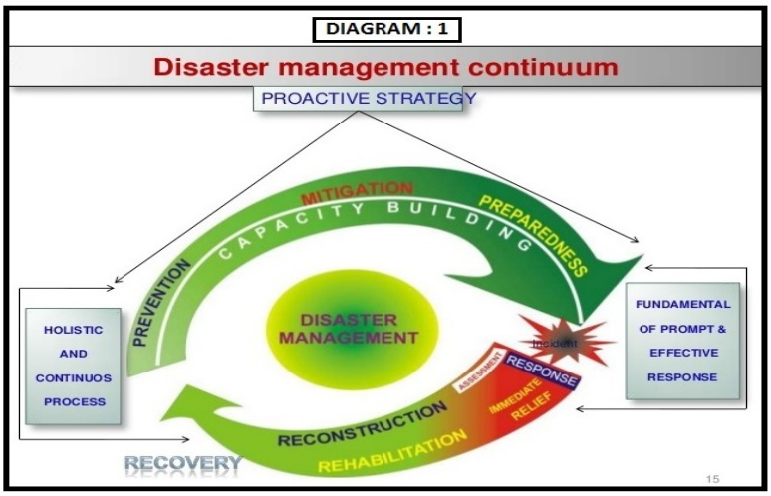
- Prevention of danger or threat of any disaster.
- Mitigation or reduction of risk of any disaster or its severity or consequences.
- Capacity building including research and knowledge management.
- Preparedness to deal with any disaster.
- Prompt response to any threatening disaster situation or disaster.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

Approach

The policy aims at developing a holistic and integrated approach which will be evolved towards disaster management with emphasis on building strategic partnerships at various levels. The themes underpinning the policy are:

- Community based Disaster Management.
- Capacity development in all spheres.
- Consolidation of past initiatives and best practices.
- Cooperation with agencies at National level.
- Multi-sectoral synergy.

A typical DM continuum comprises six elements; the pre-disaster phase Includes prevention, mitigation and preparedness, while the post-disaster phase includes response, rehabilitation, reconstruction and recovery. (Diagram – I).



Objectives

The objectives of the Mizoram State Policy on Disaster Management are :

- Promoting a culture of prevention, preparedness and resilience at all levels through knowledge, innovation and education
- Encouraging mitigation measures based on technology, traditional wisdom and environmental sustainability.
- Mainstreaming disaster management into the developmental planning process.

- Establishing institutional and technological frameworks to create an enabling regulatory environment and a compliance regime.
- Ensuring efficient mechanism for identification, assessment and monitoring of disaster risks.
- Developing contemporary forecasting and early warning systems backed by responsive and fail-safe communication with information technology support.
- Ensuring efficient response and relief with a caring approach towards the needs of the vulnerable sections of the society.
- Undertaking reconstruction as an opportunity to build disaster resilient structures and habitat for ensuring safer living.
- Promoting a productive and proactive partnership with the media for disaster management

CHAPTER- 3

INSTITUTIONAL AND LEGAL ARRANGEMENTS

At the National level

The Disaster Management Act, 2005 lays down institutional, legal, financial and coordination mechanisms at the National, State, District and Local levels. These institutions are not parallel structures and will work in close harmony. The new institutional framework is expected to usher in a paradigm shift in DM from erstwhile relief centric approach to a proactive regime that lays greater emphasis on preparedness, prevention and mitigation. The NDMA, as the apex body at national level for disaster management, is headed by the Prime Minister and has the responsibility for laying down policies, plans and guidelines for DM and coordinating their enforcement and implementation for ensuring timely and effective response to disasters. The general superintendence, direction and control of the National Disaster Response Force (NDRF) is vested in and will be exercised by the NDMA. The National Institute of Disaster Management (NIDM) works within the framework of broad policies and guidelines laid down by the NDMA. The NDMA is mandated to deal with all types of disasters; natural or man-made. Whereas, such other emergencies including those requiring close involvement of the security forces and/or intelligence agencies such as terrorism (counter-insurgency), law and order situations, serial bomb blasts, hijacking, air accidents, CBRN weapon systems, mine disasters, port and harbour emergencies, forest fires, oilfield fires and oil spills will continue to be handled by the extant mechanism i.e., National Crisis Management Committee (NCMC).

The Act also provides for the National Executive Committee (NEC) at the National level. The NEC comprises the Union Home Secretary as Chairperson, and the Secretaries to the GoI in the Ministries/Departments of Agriculture, Atomic Energy, Defence, Drinking Water Supply, Environment and Forests, Finance (Expenditure), Health, Power, Rural Development, Science & Technology, Space, Telecommunications, Urban Development, Water Resources and the Chief of the Integrated Defence Staff of the Chiefs of Staff Committee as members. Secretaries in the Ministry of External Affairs, Earth Sciences, Human Resource Development, Mines, Shipping, Road Transport & Highways, and the Secretary, NDMA will be special invitees

to the meetings of the NEC. The NEC is the executive committee of the NDMA, and is mandated to assist the NDMA in the discharge of its functions and also ensure compliance of the directions issued by the Central Government. The NEC is to coordinate the response in the event of any threatening disaster situation or disaster.

State Disaster Management Authority (SDMA)

At present, The Disaster Management & Rehabilitation Department of the State is the administrative department for Disaster Management under the general guidance and supervision of the Government. The Government of Mizoram in pursuance of the provisions under Sec.14 of the DM Act, 2005 constituted the State Disaster Management Authority for Mizoram on 23rd May,2006. The SDMA will play a coordinating role in the pre-disaster and post-disaster phases. The other stakeholders will play their assigned roles during any or all the three phases. The SDMA will lay down the State Disaster Management Policy, approve the State Plan in accordance with the guidelines laid down by the NDMA, coordinate the implementation of the State Plan, recommend provision of funds for mitigation and preparedness measures and review the developmental plans of the different Departments of the State to ensure the integration of prevention, preparedness and mitigation measures.

State Executive Committee (SEC)

The State Executive Committee (SEC) headed by the Chief Secretary has been notified and it will assist the SDMA in the performance of its functions. It will coordinate and monitor the implementation of the National Policy, the State Policy, the National Plan and the State Plan.

The District Disaster Management Authority (DDMA), headed by the Deputy Commissioner will act as the planning, coordinating and implementing body for Disaster Management at the District level and take all necessary measures for the purposes of Disaster Management.

District Disaster Management Authority (DDMA)

The DDMA will be headed by the Deputy Commissioner, with the elected representative of the local authority as the Co-Chairperson. The DDMA will act as the planning, coordinating and implementing body for DM at the District level and take all necessary measures for the purposes of DM in accordance with the guidelines laid down by the NDMA and SDMA. It will, inter alia prepare the District DM plan for the District and

monitor the implementation of the National Policy, the State Policy, the National Plan, the State Plan and the District Plan. The DDMA will also ensure that the guidelines for prevention, mitigation, preparedness and response measures lay down by the NDMA and the SDMA are followed by all the Departments of the State Government at the District level and the local authorities in the District.

Local Authorities

For the purpose of this Policy, local authorities would include village councils, municipalities and Town Planning Authorities which control and manage civic services. These bodies will ensure capacity building of their members and officers/employees for managing disasters, carry out relief, rehabilitation and reconstruction activities in the affected areas and will prepare DM Plans in consonance with guidelines of NDMA and DDMA.

Advance Training Institute (ATI)

The ATI, in partnership with other research institutions has capacity development as one of its major responsibilities, along with training, research, documentation and development of a State level information base. It will network with other knowledge-based institutions and function within the broad policies and guidelines laid down by the SDMA. It will organise training of trainers, DM officials and other stakeholders. Since large scale training programme will require to be carried out in the State the ATI will network with other National, State, District, and Private Sector institutions for mass training programmes.

State Disaster Response Force (SDRF)

Since the DM Act has mandated the constitution of a National Disaster Response Force (NDRF), NDRF has been created at the national level and stationed at different parts of the country. The NDMA intends to encourage states to create response capabilities from within their existing resources. At present, the state has trained 7 battalions SDRF among Mizoram Armed Police and Indian Reserve Police. They will also include women members for looking after the needs of women and children. NDRF battalions and their training institutions will be utilised to train the SDRF. Adequate mitigation reserves would be placed at strategic locations to augment the resources of SDRF for enhancing their emergency response capabilities.

Other important institutional arrangements

State Police Fire Services

The State Police Forces and the Fire Services are crucial immediate responders to disasters. The Police Forces will be trained and the Fire Services upgraded to acquire multi-hazard rescue capability. The existing set up of these services would be strengthened to take up the new role more effectively.

Civil Defence and Home Guards

The mandate of the Civil Defence and the Home Guards will be redefined to assign an effective role in the field of disaster management. They will be deployed for community preparedness and public awareness. A culture of voluntary reporting to duty stations in the event of any disaster will be promoted.

Role of NCC, NSS, NGOs

They will be trained in search and rescue (SAR) and medical first aid (MFA) and other aspects of DM as per the need. The potential of these organisations would be also be used for education and awareness generation in DM. the potential of members of these organizations will be optimized to support all community based initiatives and DM training would be included in their programmes.

CHAPTER-4

FINANCIAL ARRANGEMENTS

Approach

In order to bring about a paradigm shift from the relief-centric approach to one covering prevention, preparedness and mitigation, efforts would be made to mainstream prevention and mitigation measures into the developmental plans and programmes by enlisting cooperation from all stakeholders.

DM to be in-built in Development Plans

SDMA will ensure mainstreaming of disaster risk reduction in the developmental agenda of all existing and new developmental programmes and projects which shall incorporate disaster resilient specifications in design and construction. The Planning and Programme Implementation Department will give due weightage to these factors while allocating resources.

State Disaster Mitigation Fund.

Guidelines for mitigation of the SDMF shall be framed. Similarly, as mandated by the Act, the State Disaster Mitigation Fund (SDMF) shall be created for projects exclusively for the purpose of mitigation.

Responsilities of the State Departments

All State Government Departments will prepare their DM plans including the financial projections to support these plans. The necessary financial allocations will be made as part of their annual budgetary allocations, and ongoing programmes. Proposal for utilization of flexi fund received by Departments under Centrally Sponsored Scheme for mitigation, relief and rehabilitation shall be made.

Techno Financial Regime

Considering that the assistance provided by the Government for rescue, relief, rehabilitation and reconstruction needs cannot compensate for massive losses on account of disasters, new financial tools such as catastrophe risk financing, risk insurance, catastrophe

bonds, micro-finance and insurance etc., will be promoted with innovative fiscal incentives to cover such losses of individuals, communities and the corporate sector. Steps will be taken to inculcate the importance of comprehensive insurance of properties in the mind set of the public efforts will be made in collaboration with the Govt. of India Insurance Companies. The services of CBOs, NGOs, PRIs and other agencies will be utilized to promote awareness about insurance.

CHAPTER-5

DISASTER PREVENTION, MITIGATION AND PREPAREDNESS

Disaster Prevention and Mitigation

Unlike man-made disasters, natural hazards like flash floods, earthquakes, and cloudbursts cannot be avoided. However, with mitigation measures along with proper planning of developmental work in the risk prone area, these hazards can be prevented from turning into disasters if we take preventive and mitigation measures in advance. This requires changes in the current development model, practices and priorities. Since disaster is a development problem, prevention and mitigation needs to be built in this process only. A multi-pronged approach needs to be adopted to undertake mitigation measures:

i) Incorporating elements of mitigation and risk reduction into all the development projects and programmes.

ii) Initiating state level mitigation projects in accordance with the guidelines issued by the NDMA for various hazard in high priority areas with the help of Government Departments and Agencies.

iii) Developing a culture of safety and safe practices in the state.

iv) Integrating the element of DRR into the development plans, policies and projects.

v) According high priority to projects contributing to vulnerability reduction of the area.

vi) Indigenous knowledge on disaster and coping mechanisms adopted by various States and sections of society will be given due weight age.

Risk Assessment and vulnerability Mapping

As a first step towards disaster prevention and mitigation, hazard zonation mapping, vulnerability and risk analysis (HRVA analysis) in a multi-hazard framework will be carried out for all eight Districts within the State. The HRVA studies would be carried out using GIS

and remote sensing data and other modern tools so that the study act as a decision support system (DSS) for disaster management. Rapid Visual Survey (RVS) of Lifeline buildings and Schools will also be carried out within the State.

Critical Infrastructures

It is of utmost importance that critical infrastructure like dams, power projects, roads, bridges, power stations, water storage tanks, irrigation canals, river embankments, communication network, and other civic utilities are constantly monitored for safety standards in consonance with worldwide safety benchmarks and strengthened where deficient. The building standards for critical infrastructure need to be aligned to the safety norms and Departments/Authorities concerned would ensure the requisite actions and measures to ensure this.

Environment protection

One of the most important components of disaster mitigation is protection of the eco system. Efforts will be made to preserve and protect these systems with people's cooperation. For example, afforestation which plays a very important role in reducing the impact of landslide will be encouraged. The Government will promote conservation and restoration measures, especially with involvement and participation of the communities dependent on such environmental niches. Emphasis will be given on promoting better sewerage and waste management systems in the urban areas. This maybe done in partnership with concerned Government departments such as LAD, UD&PA, Town Planning Department etc.

Preparedness

Preparation of Disaster Management Plans

The Government will consciously promote programme and projects to augment the capacity of the State and the people to be better prepared to face disasters. DM Plans at all levels will be made in consonance with the guidelines and provisions in the DM Act, 2005. While the State Plan will be prepared by the SEC, the disaster and domain-specific plans will be made by the respective State Departments both at the State and district level as per the

guidelines laid down by the SDMA at the State Level and DDMA at the district level respectively. The District plans will be prepared for their specific disaster related vulnerabilities in accordance with the provisions of DM Act, 2005 guidelines issued by the SDMA, and NIDM. The DMPs would be prepared in consultation with all stakeholders. The element of DRR would be integrated and incorporated in the developmental plans, programmes and policies at all levels and disaster prevention, mitigation and preparedness would be made part of the development process. A combination of top down coordination and bottom up approach would be adopted for the preparation and operationalization of these plans.

In order to ensure smooth response emergency support functions (ESFs) would be identified and standard operating procedure guidelines for performance of ESFs would be developed. Each ESF department would appoint nodal officers with due delegation of powers to perform ESF functions at the State and district level.

Medical Preparedness and Mass Casualty Management

Medical preparedness is a crucial component of any DM Plan. There is need to develop DM plans for all the hospitals and medical colleges to handle mass casualty and incorporating training and capacity building of medical teams, paramedics in trauma and psycho-social care, mass causality management and triage. The NDMA has formulated policy guidelines to enhance capacity in emergency medical response and mass casualty management and the department will use these guidelines for medical preparedness. The plans should inter-alia include safety of structural and non-structural elements in hospital, evacuation plan, provision of alternative hospital and identification of open spaces which could be used as open hospitals to handle the rush of disaster victims. The medical authorities will be encouraged to formulate appropriate procedures for treatment of casualties by private hospitals during disasters. The hospital DMPs will also address post-disaster disease surveillance systems, networking with hospitals, referral institutions and accessing services and facilities such as availability of ambulances and blood banks. The medical DMP will also have provision for mobile surgical teams, mobile hospitals and heli-ambulances for evacuation of patients. There is a need to focus on creating adequate mortuary facilities. Proper and speedy disposal of dead bodies and animal carcasses deserves due weight age.

Forecasting and Early Warning System

Forecasting and early warning helps in mitigating the effects of disasters. The loss of life and property can be considerably reduced with accurate and timely warning. It is most essential to establish, upgrade and modernize the forecasting and early-warning systems for all types of disasters. The nodal agencies responsible for monitoring and carrying out surveillance, for specific natural disasters will identify technological gaps and formulate plans for their upgradation in a time-bound manner at the State and the district level.

Communications and Information Technology (IT) Tools for DM

Use of modern communication and information technology tools is crucial for effective and efficient disaster management. The communication and IT tools would be utilised for compiling of information, dissemination, and for spread of forecasting and early warnings. The digital mapping of resources would be done and the same would be hosted in web-based portals for easy access and retrieval. These tools can be used in the following areas:

a) Creating decision support system for the policy makers, disaster managers and responsible officers at all levels;
b) Real time dissemination of early warning to the all the stakeholders – authorities, DMTs, QRTs, threatened community etc.;
c) Information and broadcasting mediums such as television, radios, FM stations etc. can be used keeping in view their geographical reach and availability;
d) Emergency communication system during disasters;
e) Collecting and collating information on damage and needs assessment.

Communication and sharing of up-to-date information using state-of-the-art IT infrastructure remain at the heart of effective implementation of the disaster management strategy. Reliable, up-todate and faster sharing of geo-spatial information acquired from the field or the affected areas is a pre-requisite for effective implementation of disaster management strategies. Efforts should be made for setting up IT infrastructures consisting of required IT processes, architecture and skills for quick upgradation and updation of data sets from the District and Village level.

Strengthening of Emergency Operation Centre

In line with the national emergency communication plan and national disaster management information and communication system, emergency operation centres (EOCs) is set-up at the State, and district level. Provision of mobile emergency operation vehicles may

be made. The EOCs would have fail-safe communication network with multiple levels of built-in redundancy having communication to ensure voice, data and video transfer. Development of Ham Radios network in the state would be encouraged so that it can be utilised during emergency. For last mile connectivity and control of the operations at the disaster hit areas, availability of portable platforms will be catered for.

Training, Simulation and Mock Drills

The Government, in order to improve disaster management capacity in the State, will give emphasis on training at all levels. Administrative Training Institute (Disaster Management Center) Aizawl, which is imparting training in Disaster Management, will be supported and strengthened. Officers, posted to key positions in the field, will be given training in disaster management. Training and orientation will be organized for elected people's representatives, Government officials, NGOs, community leaders, teachers, students and disaster response forces. Training programmes will be organized for engineers, architects, builders and masons to adopt appropriate construction technologies for building disaster resistant houses.

In order to generate a culture of preparedness and quick response Mock Drill will be conducted in Government offices, schools, hospitals, markets etc. The inputs and lessons learnt during the mock exercises will be utilised to upgrade and improve the DMPs.

CHAPTER-6

TECHNO-LEGAL REGIME

The DM Act, 2005, lays down the institutional and coordination mechanisms at the National, State, District and Local level. The relevant Acts, Rules and Regulations warranting amendments need to be identified and brought in conformity with the DM Act in a phased manner by the Central and State governments and other agencies concerned.

The Aizawl Municipal council has developed the 'Aizawl Municipal Council Building Regulation, 2012' for areas covered by the Aizawl Municipal Council. Safe construction guidelines would be formulated for the village levels and suitable regulations needs to be emphasized. In view of the construction boom and rapid urbanisation, municipal regulations such as development control regulations, building bye-laws and structural safety features need to be revisited.

Land Use Planning

The land use planning is an important tool to avoid or mitigate disaster risk. It is important to main urban centres, high density areas settlements for safer location of habitat and other critical facilities. The land use planning and regulation in the state would be guided by the hazard, vulnerability and risk analysis and environmental considerations. The existing master development plans and zoning regulations would need to reviewed and modified wherever needed in view of the HRVA analysis. The land use planning needs to be carried out using the modern IT tools and inventorising the database of various uses. The future land use is to be assessed keeping in view the anticipated intensity of development.

Safe Construction Practices

Ensuring safe construction of new buildings and retrofitting of selected lifeline buildings, as given in the Earthquake Guidelines, is a critical step to be taken towards earthquake mitigation. The design and specification of houses being constructed, under the Indira AwasYojana (IAY), RAY, and other government welfare and development schemes, will also be re-examined to ensure hazard safety.

Training of engineers, architects, small builders, construction managers and artisans – black smiths, carpenters, wire binders – has already taking place under various programmes and needs to be intensified at the District and local level. Safe schools and hospitals (with large capacity) and National monuments besides other critical lifeline buildings will be regarded as a State priority. Enabling provisions shall be made in all the schemes to design school buildings/ hostels with earthquake resilient features and to equip them with appropriate fire safety measures.

Compliance Regime

There is a need for putting in place a sound compliance regime, with binding consequences, to ensure the effectiveness of techno-legal, land use regulations and techno-financial provisions. It is important to ensure that effective monitoring, verification and compliance arrangements are in place both at the State, district and local level. Appropriate compliance mechanism need to be developed to avoid undesirable practices compromising safety during disasters. Awareness and sensitisation of stakeholders – Government functionaries, enforcement agencies and community at large - would be done to ensure better compliance of building codes, regulations and safety norms. The public representatives, NGOs and CBOs can be of great help in sensitisation and seeking compliance. Financial incentive can be used as a mechanism for the enforcement agencies. Adoption of best management practices like self-certification, social audit, and an external compliance regime including audit by professional agencies, need to be encouraged through development and design of tools such as IT-enabled monitoring software to suit the DM systems in India, in consultation with various stakeholders and knowledge institutions for adoption after due trial and validation.

CHAPTER-7

RESPONSE

Approach

Disaster response is a multi-agency function. Well-coordinated, prompt and effective response minimizes loss of life and property. On the contrary, delayed response will multiply the ill effects of disaster event. The response can be prompt and effective only when there is advance planning. Planning needs testing through mock drills to improve it and make it better. The roles and responsibilities need to be defined well in advance and chain of command is defined and well understood. The institutional mechanism need to ensure an integrated, synergized and proactive approach in dealing with any disaster. This is possible through contemporary forecasting and early warning systems, fail-safe communication, anticipatory deployment of specialized response forces, stockpiling of some relief material, identification of relief camps and temporary shelters. A well-informed and prepared community can mitigate the impact of disasters.

Role of State, District and Local Authorities

It is the primary responsibility of the State Governments/SDMAs to monitor and assess any developing situation and keep the NDMA and SEC apprised of the same. They will also be responsible to constantly evaluate their own capabilities to handle that situation and project the anticipated requirements for the Central resources well in time. Inter-state assistance and cooperation will be encouraged. The States will also be responsible to develop their own response potential progressively and complete the process at the earliest. This will comprise training and equipping of State response forces, community preparedness, training and creation of response caches at the District level. District level preparations will provide the cutting edge to all response activities. Local authorities, PRIs and ULBs will play a significant role in the entire process, particularly in response and rescue operations, relief and rehabilitation, awareness generation and disaster preparedness, restoration of livelihood options and coordination with NGOs and civil society.

Standard Operating Procedures (SOPs)

The State Government, District Authorities and other stakeholders have prepared SOPs in consonance with the State and District Plans. SOPs is prescribed for activities like search and rescue, medical assistance and casualty management evacuation, restoration of essential services and communication at disaster sites, etc. The other important activities are provision of food, drinking water, sanitation, clothing and management of relief camps. Detailed SOPs will also be devised by all concerned for dispatch, receipt and deployment of resources received from other sources. In order to assess the ability of different personnel and effectiveness of SOPs mock drills needs to be conducted on a regular basis. The inputs and lessons learnt during the mock exercises will be utilised to upgrade and improve the SOPs.

Incident Response System (IRS)

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. If IRS is put in place and stakeholders trained and made aware of their roles, it will greatly help in reducing chaos and confusion during the response phase. Everyone will know what needs to be done, who will do it and who is in command, etc.

The IRS system in the state would be grounded properly by imparting training to all the government functionaries and other stakeholders so that the response is coordinated and effective and devoid of chaos.

Key Responders

The role and importance of the community, village volunteers, village disaster management teams, NGOs, CBOs etc. under the leadership of the local authorities, Local Councils and Village Councils, being the bedrock of the process of disaster response, is well recognised. For their immediate support, there are other important first responders like the Police and Fire and Medical Emergency Services. The deployment of the SDRF, NDRF and Armed Forces will also be organised on as required basis.

Medical Response

Medical response has to be quick and effective. The execution of medical response plans and deployment of medical resources warrant special attention at the State and District level in most of the situations. The voluntary deployment of the nearest medical resources to the disaster site, irrespective of the administrative boundaries, will be emphasised. Mobile Medical Units, Health Sub-Centres and other resources available with the centre will also be provided to the State in a proactive manner. Post-disaster management of health, sanitation and hygiene services is crucial to prevent an outbreak of epidemics. Therefore, constant monitoring of any such possibility will be necessary.

The impact of a disaster on reproductive health care can be devastating. Communities in crisis are suddenly deprived of reproductive health (RH) information and services. Access is cut off, yet needs persist, even escalate. People in distress find themselves with limited access to lifesaving RH care, and may suffer serious illness or die due to entirely treatable RH problems. Humanitarian actions generally tend to overlook emergency obstetric (EmOC) and reproductive health related services for pregnant women and adolescents in emergency settings. In order to take care of these issues, the health authorities will as soon as emergency response begins:-

i) Plan for provision of comprehensive RH services as an integral part of primary health care;

ii) Reduce HIV transmission through enforcement of universal precautions, ensuring the availability of free condoms and that blood transfusion is safe;

iii) Provide medical care for survivors as well as culturally appropriate psychological support;

iv) Provide for post-exposure prophylaxis (PEP) to survivors of rape to minimise HIV transmission;

v) Provide for appropriate care to the victims of gender based violence;

vi) To prevent maternal and newborn death, disease and injury through: - a) establishment of 24-hour referral system for women with obstetric complications; b) distribute clean delivery kits for use at home by mothers and midwives; and c) supply midwives delivery kits to health facilities to ensure clean, safe deliveries;

vii) Prioritize family planning in emergencies and ensure uninterrupted supplies to ensure continuous access to all contraceptive methods including emergency conception;

viii) Provide post-abortion care (PAC) and emergency management of incomplete abortion and potentially life-threatening complications and making a link between PAC and other RH care, such as family planning; and

ix) Engage with the decease affected community in designing the service delivery programme.

Animal Care

Animals both domestic and wild are exposed to the effects of natural and man-made disasters. It is necessary to devise appropriate measures to protect animals and find means to shelter and feed them during disasters and their aftermath, through a community effort, to the extent possible. The Departments of the Government of India, such as the Department of Animal Husbandry, Fisheries, Veterinary, Social Justice and Empowerment and the State concerned should devise such measures at all levels.

Information and Media Partnership

Dissemination of accurate information through electronic and print media is very important during disasters and disaster situation to avoid panic and confusion. Regular press briefing by trained disaster management officials is essential. Training in information management and accurate reporting with sensitivity and respect for privacy and custom will be undertaken at all levels.

CHAPTER-8

RELIEF, REHABILITATION AND RECOVERY

Approach

Relief is no longer perceived only as gratuitous assistance or provision of emergency relief supplies on time. It is on the contrary, viewed as an overarching system of facilitation of assistance to the victims of disaster for their rehabilitation in States and ensuring social safety and security of the affected persons. The relief needs to be prompt, adequate and of approved standards. Guidelines defining minimum standards of relief are prepared by the SDMA as per the guidelines laid down by the NDMA. According to Section 19 of the DM Act, the State Aurhorities shall lay down detailed guidelines for providing standards of relief to persons affected by disaster in the state and such standards shall in no case be less than the minimum standards in the guidelines laid down by the National Authority.

Setting up of Temporary Relief Camps

DDMAs will identify locations for setting up temporary camps. Agencies to supply the necessary stores will be identified in the predisaster phase. The use of premises of educational institutions, churches, community halls for setting up relief camps needs to be encouraged.

The temporary relief camps will have adequate provision of drinking water and bathing, sanitation and essential health care facilities. Whenever feasible, special task forces from amongst the disaster affected families will be set up to explore the possibility of providing food through community kitchens, and provision of education through the restoration of schools and Anganwadis. Efficient governance systems like entitlement cards, laminated identification cards etc., will be developed as a part of uniform humanitarian governance practices through the respective DDMAs.

Management of Relief Supplies

Ensuring minimum standards of relief and speedy management of supplies are important features of relief operations. SOPs will be put in place for ensuring the procurement, packaging, transportation, storage and distribution of relief items, which needs to be carried out in an organized manner. The affected community and local authorities need to work in tandem in managing the relief.

SDMA will recommend standards of relief to address the contemporary needs of communities affected by disasters which will be incorporated in the State Relief Code.

Provision of Intermediate Shelters

In the case of devastating disasters, where extreme weather conditions can be life threatening or when the period of stay in temporary shelters is likely to be long and uncertain, construction of intermediate shelters with suitable sanitary facilities will be undertaken to ensure a reasonable quality of life to the affected people.

Detailed Damage Assessment and Preparation of Rehabilitation & Reconstruction Plan

A detailed and objective damage assessment will be done in the affected area in order to size up and prioritize restoration, reconstruction and rehabilitation measures within the shortest possible time. Respective departments will undertake detailed sectoral damage assessment on priority basis and complete the same within two months of the event at the latest. Guidelines will be formulated by the SDMA. The shelf of projects, programmes are to be approved by Govt. before implementation. The concerned District Deputy Commissioner will prepare a time-bound comprehensive reconstruction and rehabilitation plan. The SDMA will facilitate the process. The objective of the rehabilitation and recovery plan will be to reduce vulnerability of the people and infrastructure. In the rehabilitation plan, the special needs of the vulnerable groups and areas prone to repeated disasters will be given priority.

Resource mobilization

To augment the resources available with the State Govt., assistance from Union Government, public and private sector, multi lateral and bilateral agencies, organizations, the civil society and other charitable organizations will be sought with the approval of the State Government. Communities and individuals would be encouraged to raise resources necessary for immediate relief within the community itself and to access the Community Disaster Management Fund and institutional credit. A coordination mechanism will be put in place at all levels under the aegis of the SDMA, to ensure equitable distribution of resources, avoid duplication of efforts and generate synergy.

Rehabilitation of orphans and widows

For the rehabilitation of orphans and widows a community-based approach will be adopted. Institutional rehabilitation will be considered only as an alternative option. Social

Welfare Department will be the Nodal Department for the rehabilitation of the children who become orphans, and persons who become widows and physically or mentally challenged due to disasters.

Documentation

Documentation of various phases and aspects of disaster management is important for recording valuable experiences and identifying areas where improvements are possible. The Information and Public Relations Department will be the nodal department for document item of various disaster events, highlighting lessons learnt in association with other involved organizations.

CHAPTER-9

CAPACITY DEVELOPMENT

Approach

It is important to build effective capacity building of all the stakeholders and institutions in disaster management. This process comprises awareness generation, education, training, knowledge management, Research and Development (R&D), etc. It further addresses putting in place appropriate institutional framework, management systems and allocation of resources for efficient prevention and handling of disasters.

The approach to capacity development will include:

i) According priority to training for developing community based DM systems for their specific needs in view of their requirement and multi-hazard vulnerabilities.

ii) Conceptualisation of community based DM systems at the State level through a consultative process involving the districts and other stakeholders with the Local level authorities in charge of implementation

iii) Identification of knowledge –based institutions with proven performance.

iv) Promotion of National, interstate and Regional cooperation.

v) Adoption of traditional and global best practices and technologies.

vi) Laying emphasis on table-top exercises, simulations, mock drills and development of skills to test the plans.

vii) Capacity analysis of different disaster response groups at District/Sub-divison/ Blocks/Local/ Village levels.

Training

In order to build the capacity of stakeholders, a massivetraining / orientation programme has to be undertaken in the State atvarious levels. The Administrative Training Institute (ATI) is identifiedfor the disaster risk management training. Various training programmes such as basic training on disaster risk management and for specialized training such as search and rescue, first aid, psycho-socialcounseling, training on safe construction practices, Rapid VisualAssessment of building, etc will be conducted. Other institutions like Fire and EmergencyServices, Sports & Youth Services, Mizoram Health Workers

TrainingInstitute, State Institute of Rural Development are the specializedinstitutions who could be involved for specialized training.

Keeping in view the requirement of DM Act and for effective handling of disasters and building capacity at all level – Government machinery and other stakeholders - training needs to be imparted at various levels according to the needs and requirement of respective departments and other stakeholders.

Some of the key training topics will include:

i) Awareness about the provisions of the Disaster Management Act, 2005.

ii) Orientation and awareness on Disaster Management and its various aspects

iii) Preparation of DMPs

iv) Preparation of Response Plans

v) Training to perform the ESF assigned to the departments

vi) Training on integration of DRR into development plans and policies

vii) Training on mitigation measures and plans

viii) Community awareness and IEC

ix) Damage and Needs Assessment

x) Conduct of mock drills

Education Department shall also take initiative for training of all teachers either at primary education, higher education or college level. Some of the trainings could be organized for the NCC and NSS under their capacity building programme. Teachers could be trained on school safety plans, search & rescue and first aid. Under the SSA, most of the schools can initiate training of teachers on school safety planning and preparation of School Safety Plan in all the schools.

Health Department shall ensure that doctors and paramedical staff are trained on disaster management and hospital preparedness plan. Under NRHM programme, all doctors and Para-medicals could be trained on first aid and hospital preparedness plan.

Building the capacity of communities, as they are the first responders to disasters, is a significant part of the capacity development process. It will include awareness, sensitisation, orientation and developing skills for relief distribution, management of relief camps, psycho-socio care etc. of communities and community leaders. Assistance from SDRF, Civil Defence and other voluntary organisations such as the Adventure clubs will be encouraged. The

community based organisation such as YMA, MHIP, YLA, YCA, MTP, LWA etc will be targeted in the training. The overall responsibility to give impetus to leadership and motivation will rest with local authorities, Local councils and village Councils under the overall guidance of State and District authorities.

CHAPTER-10

KNOWLEDGE MANAGEMENT

Approach

Knowledge management will synthesise the techno-centric organisational and ecological practices to strengthen the process of informed decision making. There is a need to create a network of knowledge institutions in the field of DM, to share their experiences and knowledge. The SDMA and other institutions will collaborate and bring together academic and training institutions at the National, Regional and International levels. These institutions will form the knowledge repository in DM, and also strive to enhance the knowledge base.

Knowledge Dissemination

The existing framework of IDRN needs to be further expanded to include the resources of various agencies, domains and disciplines at the National level. The relevant information will be placed in the public domain for easy retrieval, usage and online updation.

In acknowledgment of the need for a knowledge sharing platform on DM, and to facilitate interaction and dialogue with related areas of expertise, the India Disaster Knowledge Network Portal has been set up. The portal will serve as a tool to collect, collate and disseminate information related to DM. It will connect all Government Departments, statutory agencies, research organisations/institutions and humanitarian organisations to share collectively and individually their knowledge and technical expertise.

Research and Development

A core group of experts from scientific and technical institutions will be set up by the SDMA to identify broad research needs in disaster risk reduction. They will also identify research partners/agencies/groups depending on their knowledge base and expertise. Emphasis will be laid on climate change and global warming with specific relevance to India.

The research on cross-cutting themes including technological and man-made disasters will be promoted in addition to natural disasters. Research and Development in areas such as micro-zonation and scenario development based on simulation studies will also be encouraged to assess the short-term and long-term consequences of these disasters.

ABBREVIATIONS

CBO	-	Community Based Organization
DDMA	-	District Disaster Management Authority
DM	-	Disaster Management
DRR	-	Disaster Risk Reduction
EOC	-	Emergency Operation Centre
ESF	-	Emergency Support Function
GIS	-	Geographical Information System
HRVA	-	High Risk Vulnerability Assessment
IEC	-	Information Education Communication
IRS	-	Incident Response System
LWA	-	Lai Women's Association
MHIP	-	MizoHmeichheInsuikhawm Pawl (Women's Association)
NCC	-	National Cadet Corps
NDMA	-	National Disaster Management Authority
NDRF	-	National Disaster Response Force
NRHM	-	National Rural Health Mission
NSS	-	National Service Scheme
R&D	-	Research and Development
RH	-	Reproductive Health
RVS	-	Rapid Visual Survey
SDMA	-	State Disaster Management Authority
SDMF	-	State Disaster Mitigation Fund
SDRF	-	State Disaster Response Force
SEC	-	State Executive Committee
SOP	-	Standard Operating Procedure
SSA	-	SarvaShikshaAbhiyan
YCA	-	Young Chakma Association
YLA	-	Young Lai Association
YMA	-	Young Mizo Association