

**DISTRICT  
DISASTER MANAGEMENT PLAN**

***LAWNGTLAI DISTRICT – 2009***

**Prepared by:**

**Deputy Commissioner,**

**&**

**Chairman**

**District Disaster Management Committee,**

**Lawngtlai District : Mizoram**

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**A. LIST OF IMPORTANT TELEPHONE NUMBERS**

<b>Deputy Commissioner/District Magistrate-</b>	<b>03835- 232805(O)</b>
	<b>03835- 232656(Fax)</b>
	<b>03835- 232001(R)</b>
<b>Additional D.C</b>	<b>03835- 232640</b>
<b>Sub- Divisional Officer (S)/</b>	<b>03835- 232222(O)</b>
<b>Nodal Officer, Disaster Management)</b>	<b>03835- 232221(R)</b>
<b>District E.O.C/Field Officer, D.M.</b>	<b>03835- 232252</b>
<b>Superintendent of Police</b>	<b>03835- 232806</b>
<b>Lawngtlai Police Station</b>	<b>03835- 232245/100</b>
<b>Fire &amp; Emergency Services</b>	<b>03835- 232801/101</b>
<b>Hospital Casualty</b>	<b>03835- 232802/102</b>
<b>Christian Hospital</b>	<b>03835- 233473</b>
<b>Lairam Christian Medical Centre(LCMC)</b>	<b>03835- 232367</b>

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<b>Power House, Lawngtlai</b>	<b>03835- 232240</b>
<b>Telephone Complaint Room</b>	<b>03835- 232298</b>
<b>Chief Medical Officer</b>	<b>03835-232262/232515</b>
<b>E.E., PHE</b>	<b>03835- 232235</b>
<b>E.E., PWD</b>	<b>03835- 233291</b>
<b>DCSO, Lawngtlai</b>	<b>03835- 232276</b>
<b>Central YLA</b>	<b>03835- 232856</b>
<b>SDO(Civil), Chawngte</b>	<b>0372 - 2563216(O)</b>
	<b>0372 - 2563217(R)</b>
<b>SDO(Civil), Sangau</b>	<b>0372 - 2553003(O)</b>
	<b>0372 - 2553004(R)</b>

**B. OWNERS OF PRIVATE EXCAVATORS/JCB WITH TRIPPER**

<b>Sl.no</b>	<b>Name</b>	<b>Address</b>	<b>Contact No.</b>
<b>1.</b>	<b>H.Rochunga</b>	<b>Lawngtlai – III</b>	<b>232368</b>
<b>2.</b>	<b>V.L.Dawma</b>	<b>Lawngtlai Bazar</b>	<b>232206</b>

4.	C. Hranghluna	Lawngtlai Chandmary	232384
5.	C. Zoramthanga	Lawngtlai Chandmary	232413
6.	Championthanga	Lawngtlai Chandmary	233508
7.	F. Lalkaisanga	Lawngtlai Bazar	232337
8.	Ramthinghlima	Lawngtlai Bazar	

**C. LIST OF TRUCK (HMV) OWNERS**

Sl.No	Name	Address	Contact No
1.	S. Zoramthanga	Lawngtlai - III	232046
2.	Lianchhuma	Lawngtlai - III	
3.	C. Lalthangmuana	Lawngtlai Chandmary	
4.	Sumkhuma	Lawngtlai Chandmary	232317
5.	B. Lalpanliana	Lawngtlai Chandmary	232927
6.	C. Ngunlianchunga	Lawngtlai Bazar	232224
7.	C. Thanghluna	Lawngtlai Bazar	232382
8.	Ramthianghlima	Lawngtlai Bazar	
9.	Kanu Mitra	Lawngtlai Bazar	232277
10.	Sangthinga	Lawngtlai College Veng	
11.	Thaluaia	Lawngtlai Bazar	

## CHAPTER – 1

# PROFILE OF LAWNGTLAI DISTRICT

### 1.1 LAWNGTLAI DISTRICT AT A GLANCE

**Location** : Lawngtlai District is situated in the south west of the state of Mizoram, between 92°30' 93E Longitudes and 21° 85 – 22°60' latitudes.

**Boundary** : East side : Myanmar and Saiha District  
West side : Bangladesh  
North side : Lunglei District  
South side : Myanmar

**Total Geographical Area :**

2557.10 Sq.kms. It accounts for 12.12% of the geographical area of the state.

**No. of Educational Institution:**

Primary School	-	189
Middle School	-	85
High School	-	29
Higher Secondary School	-	03
Colleges	-	02

**Administrative Sub – Divisions :**

Chawngte, Sangau and Lawngtlai(Sadar) Sub-Divisions.

**Rural Development Block :**

Lawngtlai, Chawngte, Sangau and Bungtlang 'S'

**Name and number of Polling Station :**

[as well as number of voters (after final publication of E. Roll on 10.02.2009)]

<b>Sl. No.</b>	<b>Name of Constituency</b>	<b>No. of Polling Station</b>	<b>No. of Voters</b>
1	36 Tuichawng ST (A/C)	50	22680
2	37 Lawngtlai 'W' (ST) A/C	62	20496
3	38 Lawngtlai 'E' (ST) A/C	33	19825
TOTAL		145	63001

**Population of the District\*\*** : Female - 49386  
Male - 50794  
**Total** - **100180**

**Rural Population** : 83.55%

**No. of household\*\*** : 18,205 Nos

**Literacy rate(2001 Census)** : 64.70%(Lowest in the state)

[\*\* = Statistical handbook – 2006]

**Salient physical feature and land use pattern :**

Total Geographical Area - 2557.10 Sq. Kms  
Forest Area - 1304 Sq. Kms  
Net Sown Area - 831 Sq. Kms  
Net Irrigated Area - 49.86 Sq. Kms  
Cropping Intensity - 112  
Average Operational Holdings - 1.2  
WRC Area - 950 Ha  
Rainfall - 2832.1mm

## 1.2 SOCIO-ECONOMIC CONDITION

The area of Lawngtlai District is 2557.10 Sq.Kms and is divided in three administrative sub-divisions namely – Lawngtlai, Chawngte and Sangau. There are four Rural Development Blocks viz – Lawngtlai, Chawngte, Sangau and Bungtlang ‘S’. According to 2001 census the district population is 73620 of which 38776 are male and 34844 are female. The percentage decadal variation from 1991 – 2001 is 35.80% females per 1000 males (885:1000). The density of population of the district as on 2001 is 29 per Sq. Kms. However, the above figure has been increased as the inclusion of Sangau RD Block to Lawngtlai District from Saiha District in 2007. It has new a population of 100180 which is 9.91% of the present total population of the state, i.e 1010661, as per statistical handbook of 2006 prepared by the government of Mizoram. The most inhabitant clans include Lai (Pawi), Chakma, Bru etc. There are 189 Primary Schools, 75 Middle Schools, 29 High Schools, 3 Higher Secondary Schools and 2 Colleges.

Lawngtlai town is the headquarters of the district. District Officers of various departments are located in Lawngtlai town. In Lawngtlai district, there are 3 Hospitals including private owned hospital, 1 Community Health Centre, 4 Primary Health Centres and 36 Health Sub-Centres which are existing in various part of the district. There is 1 Veterinary Dispensary and 3 Regional/Rural Animal Health Centres within the district. The district has 3 Sub-Post Offices, 43 Branch Post Offices. The district is having 5 Telephone Exchange Offices. Besides WLL connection, BSNL have issued 45 Village Panchayat Telephone (VPT) to Village VCP’s covering the remotest corner of the district. There are 6 Public Distribution Centres, 5 Police Stations and 2 Police Outposts. The banking facilities exist in the district includes State Bank of India, Mizoram Rural Bank and Apex Bank Ltd.

Lawngtlai District has a bad road communication network as compared to other district in Mizoram due to its remoteness as well as its geopolitics. The western belt areas of the district are the worst sufferers. In the northern most part of the district starting from

Thingkah village, National Highway No. 54 (NH – 54) runs along the south-eastern ridges passing through some villages like Saikah, Chawntlangpui, Sihtlangpui and Kawlchaw ‘W’ besides the district capital Lawngtlai. The state PWD road that runs from Hnahthial passes through villages in the eastern parts of the district like Vartek, Lungtian, Sangau, Cheural, Rawlbuk, Lungpher ‘S’, Siachangkawn, Bualpui ‘NG’, Lungzarhtum etc joining the BRTF Highway that runs from Saiha town. From Saikah village BRTF Highway passes through villages like Paithar, R. Vanhne, Rulkual and E. Saizawh. Starting from the district capital another BRTF Highway runs towards the south-western most ridges of the district passing through Mampui, Ngengpui, Diltlang ‘S’, Hmunnuam, Bungtlang ‘S’, Darnamtlang, Ngengpuitlang, Tuidangtlang, Tuithumhnar, M. Kawnpui, Saibawh, Nghalimlui, Vaseikai. The state PWD is looking after the road network from Diltlang ‘S’ to Chawngte town which passes through Chawngtelui, Muambu, Hmunlai. Road communication from Saibawh to Chikhurlui, Chamdur, Vathuampui, Tuichawngtlang, Mautlang, Ngunlingkhua, Tuisentlang and Parva is also under its supervision.

### **1.3. HISTORICAL BACKGROUND**

Prior to 1998, Lawngtlai District was a part of undivided Chhimituipui District comprising of Saiha and Lawngtlai District.

The History of Lawngtlai district as part of Mizoram dated back to the days of Lal’s (Chiefs). On 21<sup>st</sup> February 1888 before dawn, Lai Chief Dokulha Chinzah attacked the survey team and killed Lt. Steward, two English men and other army. Punitive expedition had to sent to punished the raid, ultimately Lawngtlai district came under the control of British after the expedition of 1889.

The north Lushai Hills was placed under the control of the Chief Commissioner of Assam and the South Lushai Hills under the control of the Lt. Governor, now Bangladesh. The eastern part of South Lushai Hills extension was also cut off by the Chin Hills Regulation Act 1894, which were new embedded to Burma on April 1<sup>st</sup> 1899, the south Lushai Hills was combined again with the north Lushai hills and placed under the Chief Commissioner of Assam.



The Pawi – Lakher Regional Council was constituted by the Government of Assam, under the sixth scheduled, the Pawi – Lakher Autonomous Region Rules, 1952 was enacted. After some years of administrative experience, the government granted separate three district councils for Lais, Maras and Chakmas having its headquarters at Lawngtlai, Saiha and Chawngte respectively on 2<sup>nd</sup> April, 1972. Meanwhile, Union Territory was also constituted in Mizoram and the Pawi – Lakher Regional Council was automatically dissolved. The Pawi name was changed into Lai by the Sixth Scheduled to the Constitution of India Amendment Act 1988 (No. 67 of 1988) subsequently, the name of the district was changed to Lai Autonomous District Council on May, 1989. Till then, Lawngtlai District was part of the undivided Chhimtuipui District having its headquarter at Saiha and Lawngtlai as one of the sub-division. On the 11<sup>th</sup> November, 1998 (vide : Government of Mizoram Notification No. A. 60011/21/95-GAD, Dated Aizawl 11<sup>th</sup> November, 1998), the district was created with its headquarters at Lawngtlai and now formed one of the eight districts of Mizoram state.

The name of Lawngtlai itself has a meaning ‘lawng’ means ‘ship’ and ‘tlai’ means ‘late’. In the olden days, people used ship/boat to cross the Chhimtuipui river, so in order to cross that, they have to reach the river when the ship/boat is there, hence, the meaning we will be late for boat/ship i.e “Lawng kan tlai ang e”

#### **1.4 ADMINISTRATION SET UP**

In comparison with other districts in Mizoram, Lawngtlai District has various types of uniqueness and peculiarity. There are two autonomous district councils within the district viz. Lai Autonomous District (LAD) and Chakma Autonomous District (CAD) with their headquarters at Lawngtlai and Chawngte respectively. Having separate autonomous legislature, the Lais and the Chakmas administered their respective autonomous regions whereas Civil administration including all kinds of criminal cases came under the jurisdiction of the Deputy Commissioner (DC), all cases trial able under customary laws are vested within the jurisdiction of the autonomous district councils.

## **1.5 CLIMATIC CONDITIONS**

Lawngtlai District has moderate climate. Relative humidity is highest during south-west monsoon when they are about 85%. Heavy rainfall is usually received during the months from may upto September every year. The temperature ranges from 15 to 25C during winter. The average annual rainfall is about 285cm. the hottest period starts from the month of March upto August every year. During the rainy season it is heavily clouded. There is an increase of cloudiness from March onwards. A clear and cool weather starts appearing from the month of September upto January the next year.

Lawngtlai District comes under the tropical monsoon climate zone of India. It experience direct impact of monsoon. With the valleys lying areas hotter humid while the hill tops are cooler and pleasant.

## **1.6 SOCIO-CULTURAL BACKGROUND**

The main communities occupying Lawngtlai District are the Lais, Chakmas, Bawm, Pang etc. There are famous cultural heritage among such tribes. In the eastern side of the district where Lai community are the main inhabitants, Chawnglaizawn, Sarlamkai, Pawhlohtlawh are the main cultural dances. In Chakma occupies are of the district, there are various tribes of backward classes. In this area, the main religion is Buddhuism where as in the eastern side. i.e. Lai occupied area, Christianity is prevailing as the major religion. The common languages speaks in the district are Lai, Chakma and various dialect of other backward tribes. i.e. Pang, Bru, Bawm etc. These communities have different folk dance, folk tales of their own. The inhabitants of Lawngtlai District are very backward in various ways, the standard of living is very low and literacy percentage of the district is also the lowest among the eight district in Mizoram.

## **1.7 OCCUPATION**

In Lawngtlai District, one third of the total population are depends on agriculture. The main method of agriculture is jhumming/shifting cultivation, thus most of the people are cultivator. The seeding is done

during March and harvesting period starts by the end of October and usually ended in November. Number of people especially Lawngtlai are also engaged in various services in government, business particularly in autonomous district councils office. The economic status of the districts is the lowest in comparison with other districts in Mizoram. Attempt has been made by the state government and the Autonomous Districts Councils (LADC & CADC) to uplift the method of agriculture and replacement of shifting cultivation by wet rice cultivation (WRC) in the western area of the district called Chamdur valley. Further in the western belt of the area, there are vast fertile plains which are highly potential for agricultural purposes in the valleys of the two rivers – Thega and Tuichawng and proper harvestmen of the plains will make the district self – sufficient in foodgrains.

## **1.8 FLORA AND FAUNA**

Lawngtlai District is situated within tropical belt. It usually received high annual rainfall during the month from May upto September. In this region, the tropical wet evergreen of mixed deciduous forest and formed. The western belt of the district is covered by a thick forest. A Banyan tree, Gulmohar tree, Champa and several kinds of bamboos, climbers of different kinds of wild fruit are found in this area. Several kind of plants herbs which are good for making herbal medicines are also found in this region.

Wild animals like, tigers, elephants, wild boars, bears, monkeys and different kind of deer's and birds parrot, eagle, jungle fowl, pigeon and different kinds of reptiles like python, lizard, tortoise, frog are also found in the western part of the region called Ngengpui Wildlife Sanctuary. The population of such animals is gradually decreasing year by year because of shifting cultivation. The common domestic animals are pigs, cattle, goat, buffaloes and dogs.

Lawngtlai District area lies at the foot hills of south-eastern Himalayan mountain ranges bordering Arakan Yana on the south east. The landform as a whole is rugged and is having immature topography.

## **1.9 DRAINAGE SYSTEM**

Even though the area used to received surplus rainfall during the rainy season, perennial spring in this area is scare. This may be the result of guide surface run off and litho logical and structural condition of rockbeds. Hence, the area used to face scarcity of water supply during the clear season where as the area used to receive a surplus rainfall during monsoon period and the streams course are often over-flowed causing great hardship to the people. This is mainly due to the absent of proper and systematic planning in the area to maintain this kind of problem.

The importance of water to planning and developmental relates most obviously to water as a resource, protection from pollution, and to flooding and landslide which is the most frequent of all the geological hazards in Mizoram.

Besides, problems can be local drainage system and protection measure taken up with this problem is needed since, these may have wider implication than originally intended. Here, most of the streams and nallahs from sub-parallel pattern. The envisioned activities at the toe portions especially at the lower down portion are very alarming. The district is well enclosed with major rivers, most of the river flow such and westwards. The major rivers are: Chhimtuipui river, Ngenpui river, Chawngte river and Tuiphal.

## **1.10 GEOMORPHOLOGY OF LAWNGTLAI DISTRICT**

The Geomorphology of the area expressed varied elements. The area, most of it, except at few places lies at the garden type depression. The hills are of structural hills with same linear ridges. Most of the area shows typical sedimentary structures line and Flaterion, However, these sedimentary structured elements are small due to the severe structurally controlled landscape. The western portion of the linear ridges is mainly with steep slope and width come down below. Most of the town area lies at an altitude 1040m above mean sea level. At the

western side of the ridges, below the steep slope, spurs are there. These spurs are more or less straight and tapering out at the major stream side with a relatively steep slopes. Most of the streams and nallahs used to cut deep channel along its course with pot holes types and gullies. Most of the are is characterized by soil erosion with deep V-shape channel.

The area is composed of sedimentary rock of middle Bhusan formation of group, is the dominant rock bed in this area. However, a major rock bed exposure is of varied types. The main rock beds encountered in this area are:

- a) silty sandstone
- b) moderately hard sandstone
- c) bedded sandstone
- d) shale
- e) hard sandstone (grey)

### **1.11 STRUCTURE**

The area is transverse by fault and lineaments. These faults play displacement and alteration of rock beds. These faults are depicted by the abrupt changed in the rock bed, change inn the amount of dip and direction and also linear stream coursed and the abrupt changes in the rivers/streams course. These faults are microscopic and megascopic in nature. Besides, the major lineaments mentioned above a number of joints and fracture traverse the area.

Primary sedimentary structures like ripple makes, bedding lamination are very common on the silky sandstone and ball like structures; burrows are common in shale bed. The area is folded, but the anticlival pattern is marked b an abrupt slopes. The eastern limb formed a rather gently slope whereas the western limb formed a fault scarps. The major fold run approximately north – south direction and the are can be classed as anti-clinal syncline local folding of milder in magnitude is very common, among the recumbent folding is mot common. The axial plane of these folds are abruptly changed in direction and varied in nature in a short range due to the distortion of

the rock beds. The main common exposed bed in this area is argillaceous unit of milled Bhusan formation. Intercalations of shale and silky-clay with thin bed of sandstone are commonly noticed within the thick silky sandstone bed. This rock beds are mainly of fine grain in nature. The shale and silky sandstone bed did not show the presence of any other fossil other than the worm tube which is mostly of branching nature. However, fragmentary remains of bivalves were seen within the intercalated sandstone. The lithology of the area and topology expressed recent depositional feature under fresh water estuarine condition. Local leadership should be associated in such a way that maximum participation in term of manpower and authenticity is ensured.

### 1.12 SOIL TYPE

The whole area of the district may be divided under the following types of soil –

<b>Sl. No.</b>	<b>Soil Type</b>	<b>Area covered (in Sq. Kms)</b>	<b>%</b>
1.	Very deep, dark brown to yellowish red, clay loam to clay, very strongly acidic, well-drained.	1114.87	43.6%
2.	Deep, yellowish brown to brownish yellow, clay loam to sandy clay loam, strongly acidic, poorly drained.	685.30	26.8%
3.	Dark yellowish brown to yellowish brown, clay loam, strongly acidic	756.91	29.6%

## **CHAPTER – 2**

# **OBJECTIVE AND PRINCIPLES OF DISASTER MANAGEMENT PLAN**

### **2.1 INTRODUCTION**

The need for Disaster Planning arises from the fact that communities which have effectively applied the DDMP process are better able to cope with the impact of disasters with effective DDMP human and other resources can be mobilized better to deal with impending as well as aftermath of disasters.

This plan has been prepared to provide guidance to the district administration as well as the general public and NGO's for systematic execution of activities before, during and after any disasters.

### **2.2 DISASTER MANAGEMNT CYCLE**

These are four phases of Disaster Management – Mitigation, preparedness, Response and Recovery. Each phase results from the previous one and established the requirements of the next one.

- a) Mitigation refers to activities, which actually eliminate or reduce the vulnerability or chance of occurrence or the effects of a disaster.
- b) Preparedness is planning how to respond in case an emergency or disaster occurs and working to increase resources available to respond effectively.
- c) Responds activities occur during and immediately following a disaster. They are designed to provide emergency assistance to victims of the event and reduce the likelihood of the secondary damage.

- d) Recovery – continues until all systems return to normal or near normal. Short – term recovery returns vital life support systems to minimum operating standards.

Long term recovery from a disaster may go on years until the entire disaster area is completely re-developed.

## **2.3 PLANNING FOR DIFFERENT PHASE OF AN EMERGENCY**

### **a) MITIGATION PHASE**

Mitigation phase begins with conducting hazard identification and vulnerability and analysis, which are essential to the planning of all other phases.

Hazard identification and vulnerability analysis is a two step process. First, the hazard is identified which has the potential of affecting the population. Second, how people, property and structures will be affected by the disastrous event.

### **b) PREPAREDNESS PHASE**

Disaster preparedness is a state of being ready to react promptly and effectively in the event of disaster. Being prepared means that a plan of action exists for various disasters. It should be done before the disaster occurs. Preparedness measures depend upon the disaster, especially those which strike without notice, requires a detail plan. It is essential to identify the resources available, and way to utilize them. It must be reasonably certain that the plan will work in a disaster situation.

### **c) RESPONSE PHASE**

The five basic stages of response to an emergency disaster are:

- 1) Notification/Warning
- 2) Immediate public safety



- 3) Property security
- 4) Public Welfare and
- 5) Restoration.

- 1) **Notification/Warning:** Warning should be issued to two specific groups (a) The general public and (b) Departments, Individual or Agencies who must respond to the disaster.

In most disaster situation, the general public can be informed through Radio and Television; however those in immediate danger area should be informed by or more direct mean using public address systems. Those departments, individuals or agencies which must be alerted could be done by two – way Radio bulletins. The people who are expected to respond must be given enough information so that they know what to do.

- 2) **Immediate public safety :** Immediate public safety deals primarily with providing disaster medical services, search and rescue evacuation from the danger area. The primary concern is for safety of the people and treatment for those who may be injured.
- 3) **Property security:** This stage deals primarily with the protection of property in the community. The local police should see that property is safe and looting or vandalism does not occur. The fire department should aid in prevention of further damage to surrounding property. The local PWD may also play an important part by providing manpower, remove debris or provides street barricades.
- 4) **Public Welfare:** During the public welfare stage, the prime concern is about mass welfare. Care for injured, shelter for homeless, food and clothing for those in need.

During this stage, assessment of damage is necessary in order to obtain state or national support. And all the service agencies must work closely.

- 5) **Restoration** : Restoration means restoring utility service and removal of debris from the disaster scene here. How the Assistance provided by district and state government is used.

## 2.4 RECOVERY PHASE

This is the final phase of disaster management and can be divided into short term and long term recovery.

Short-term recovery means the restoration of vital services and facilities to minimum standard of operation and safety. During short term recovery people's immediate needs are taken care of an assistance programmes are put into effect.

Long-term recovery is simply those recovery efforts, which are still in operation long after a disaster and includes everything from complete redevelopment of a disaster area to mitigation effort to prevent a similar disaster on an ongoing basis for years after the disaster.

## 2.5 LIFE CYCLE OF DDP

As planning is continuous process, any plan, to be effective, must be regularly checked, tested and revised. It should be updated as the condition change. Responsibility in this regard lies with the Planning Committee, and a plan review schedule should be worked out. At least one annual revision must be done.

Amendment to Plans will be necessary where deficiencies in operational systems and procedures are revealed. This is a result of review meetings, exercises, change in hazards and environment.

A proper implemented plan review schedule will ensure that plans are living document. Plan maintenance is vital so that there is a clear indication of the effective of the Plan. Any deficiency can be revised and strengthened to meet possible future emergencies.

## **2.6 PRINCIPLES OF LAWNGTLAI DISTRICT EMERGENCY MANAGEMENT PLAN**

The basic planning principles adopted in the development of this District Emergency Management plan are:

- 1) Plan must be clear and practical :** Plan must be developed in the language known to the people in clear and precise words stating exactly the procedures to follow in case of emergency and goals should stated for all phases of the anticipated event, preparedness, relief and rehabilitation and recovery. Formalities to be follow for gaining access to resources relevant to the management of the disaster at hand should be for all purposes and kept to the minimum.
- 2) Good management information system (MIS):** A comprehensive collection of facts and date is the pre-requisite for the development of an effective disaster management plan. Contingency plan must also include arrangement for collecting, analyzing, storing and disseminating information and there by one of the functions of the district emergency control room (DECR) has been identified as information management.
- 3) Maximum utilization of available resources :** It can be done by maintaining proper resource inventory system which should cover the basic needs of the people apart from machineries and conveyance.
- 4) Train and Practice regularly :** Any plan to be effective require the agencies involved to train and practice regularly and there by any flaws and weaknesses in the out lay of the component of the plan can be identified and rectified.

- 5) **Critical evaluation:** Evaluation of the effectiveness of any disaster management plan should form a part of any such plan.
- 6) **Plan must be well organized assigning:** Specific responsibilities and accountabilities to the different agencies, government or otherwise is important. The District Emergency Control Room (DECR) established should (1) give timely warning to the people (2) initiate and supervise activities done at different levels (3) every information about the district should be available with the Control Room.
- 7) **Incorporation of departmental sub plans:** The main plan should be supported by departmental plans which are more specific for the concerned organizations and makes the response easier in the event of an emergency. The Departmental sub plans are incorporated in this main plan with the same objective.
- 8) **Plan must be flexible :** Plan must be formulated so as to adapt itself to changing situations and verifying intensity and magnitude of any disaster. Flexibility of plan makes it viable and relevant in all aspects of emergency management.

## 2.7 NEED FOR DISTRICT PLAN

Lawngtlai District is experiencing a lot of growth and of development in terms of population growth, urbanization infrastructure development schemes of the State, District Council which in between have brought in many problems such as deforestation, drought, soil erosion, slope instability and landslides.

And in addition to that, on the western side bordering Bangladesh the lands are land of plain, where on the sudden of heavy down pouring of rain, the problem of flood is also there.

Since, the District falls in seismic zone V which is most vulnerable to earthquake measuring 5 and above on the Richter scale so the earthquake of high magnitude could strike the district at any time.

Besides, Cyclones are also causing a great hazard (one or more disaster every year). The design wind speed for Lawngtlai District is 55m/s (198 km/hr) which is one of the highest in the country. Wind pass from Bangladesh causes a lot of hazard.

In the past, efforts have been made to solve all these problems but due to lack of proper management strategy, no tangible results could be achieved.

Taking all these consideration, the need to have disaster management for the district is urgent and real.

## **2.8 DISTRICT LEVEL MECHANISM IN LAWNGTLAI DISTRICT**

In pursuance of the Under Secretary, Government of Mizoram, Relief and Rehabilitation Department, letter No. B. 13021/43-99 DE (RHE) dt. 31.3.2000. The Lawngtlai District Disaster Management Committee had been formed and notified by the memo No. B. 17011/11/200-DC (LTI). The following were the members:

- |     |                                      |   |          |
|-----|--------------------------------------|---|----------|
| 1)  | Deputy Commissioner, Lawngtlai       | - | Chairman |
| 2)  | S.P, Lawngtlai                       | - | Member   |
| 3)  | E.E, PHE, Lawngtlai                  | - | Member   |
| 4)  | SDO (P&E), Lawngtlai                 | - | Member   |
| 5)  | E.E, (PWD)                           | - | Member   |
| 6)  | CMO, Lawngtlai                       | - | Member   |
| 7)  | O/C Fire Service, Lawngtlai          | - | Member   |
| 8)  | AI & PRO, Lawngtlai                  | - | Member   |
| 9)  | President, CYLA                      | - | Member   |
| 10) | President, MHIP, Sub-Hqrs. Lawngtlai | - | Member   |
| 11) | President, LWA, Lawngtlai            | - | Member   |
| 12) | President, LSA, Lawngtlai            | - | Member   |
| 13) | President, LDJA, Lawngtlai           | - | Member   |
| 14) | BDO, Lawngtlai                       | - | Member   |

- 15) SDO (S), Lawngtlai - Member
- 16) ADC, Lawngtlai - Member

Accordingly, Sub-Divisional Level Disaster Management Committee pertaining to Chawngte Sub-Division is constituted and notified by memo No. B. 17011/11/2000 – DC (LTI)/36, dated 26<sup>th</sup> March, 2001. The following were the members:

- 1) SDO (C), Chawngte - Chairman
- 2) BDO, Chawngte - Member Secretary
- 3) SDO, PHE, Chawngte - Member
- 4) SDO, PWD, Chawngte - Member
- 5) JE, P&E, Chawngte - Member
- 6) Executive Secretary, CADC, Chawngte - Member
- 7) Senior Medical Officer, Chawngte - Member
- 8) Representative of CYLA - Member
- 9) SDPO, Chawngte - Member
- 10) CDPO, Chawngte - Member

Further, at the village level, DC Lawngtlai had issued a letter No. B. 17011/11/2000 – DC (LTI)/41 dated Lawngtlai, the 26<sup>th</sup> March, 2000 to all village council/court President, Lawngtlai District to form a village level disaster management committee as per the following composition :

- 1) Nodal Officer - Headmaster [P/S, M/S, H/S]
- 2) Chairman - VCP of the Village Council/Court
- 3) Secretary - President of YLA & YMA
- 4) Member - MHIP, LWA & any NGOs present in the village

And this village level Disaster Management should be submitted during the month of April, 2001, as such in all the villages, village level Disaster Management Committee had been set up in Lawngtlai District.

Besides, these the District Disaster Management Committee, held on 20/03/01 had formed Relief & Rehabilitation Monitoring Sub-

Committee as follows and notified by memo No. B. 17011/11/2000 – DC (LTI)/33 dated Lawngtlai the 21<sup>st</sup> March, 2001.

- |    |                                     |   |          |
|----|-------------------------------------|---|----------|
| 1) | Asst. to Deputy Commissioner        | - | Chairman |
| 2) | President, CYLA                     | - | Member   |
| 3) | President, LSA                      | - | Member   |
| 4) | President, MHIP Sub-Hqrs. Lawngtlai | - | Member   |
| 5) | President, LWA                      | - | Member   |
| 6) | Representatives of Churches         | - | Member   |

## CHAPTER – 3

# NATURAL DISASTER

### 3.1 INTRODUCTION :

Throughout the history of mankind disaster have shaped the destiny of the earth and her people It is assumed that nearly 20 major disaster strike the world every year resulting in many deaths, casualties and loss of properties India is one of the most disaster prone country as far as natural disaster are concerned. Mizoram or North East Region is included in zone 5 (the most prone area in relation to earthquake). In the recent earthquake in Bhuj, Gujarat it was estimated that more than 3000 people died and many were severely injures. The super cyclone in Orissa claimed more than 10,000 lives in the past year

Many of the contemporary disasters are man-made Before 1700 AD many natural disasters were considered inevitable and was the result of an unavoidable “Act of God”. However, scientific developments have helped in understanding the cause and effect of different types of disaster

In the past centuries, millions of people died due to flood, earthquake and tropical storms. There is no evidence to suggest that the frequency of natural disaster will alter significantly in the near future. In fact, natural disasters have a tendency to be more severe in the past two decades.

### 3.2 DEFINITION (W.H.O)

“Any occurrences that caused damage, ecological disruption, loss of human life and deterioration of health and health services on a scale sufficient to warrant all extraordinary response from outside the affected community and area is known as **Disaster**.



### **3.3 DISASTER CLASSIFICATION**

#### **3.3.1 WESTERN CLASSIFICATION**

##### **1. Natural Disaster**

- a) Natural phenomenon beneath earth's surface
- b) Earthquake
- c) Tsunamis
- d) Volcanic eruptions

##### **2. Natural Phenomenon at Earth's Surface**

- a) Landslides
- b) Avalanches

##### **3. Meteorological/Hydrological Phenomenon**

- a) Windstorms (Cyclones, Typhoons, Hurricanes)
- b) Tornadoes
- c) Hailstorms & Snowstorms
- d) Flood
- e) Droughts

##### **4. Biological Phenomenon**

- a) Locust swarms
- b) Epidemic (Enteritis, Cholera, Diarrhea, Hepatitis)

##### **5. Man Made Disaster**

###### **a) caused by warfare**

- i) Conventional warfare
- ii) Nuclear, Biological and Chemical warfare

###### **b) caused by accident**

- i) Vehicular (Plane, Train, Ship and Car etc)
- ii) Collapse of building
- iii) Explosion
- iv) Fire
- v) Biological
- vi) Chemical including poisoning

#### **3.3.2 INDIAN CLASSIFICATION**

In August, 1999, Government of India established a high power committee with the mandate of preparing national, state

(including union territories) and district level disaster management plan. And they have identified 30 odd types of disaster both natural and non-natural and have grouped them into 5 broad categories as follows.

### **3.4 LIST OF DISASTER IDENTIFIES BY THE HIGH POWER COMMITTEE**

#### **I. Water and Climate related disasters**

- i) Floods and Drainage Management
- ii) Cyclones
- iii) Tornadoes
- iv) Hailstorms
- v) Cloud Burst
- vi) Thunder and Lightning
- vii) Snow Avalanches
- viii) Heat-wave and Cold-wave
- ix) Sea erosion
- x) Drought

#### **II. Geological related disaster**

- i) Earthquake
- ii) Landslides and Mudflows
- iii) Dam bursts
- iv) Mine Fire

#### **III. Chemical, Industrial and Nuclear related disaster**

- i) Chemical and Industrial disaster
- ii) Nuclear disaster

#### **IV. Accident related disasters**

- i) Urban fire
- ii) Village fire
- iii) Forest fire
- iv) Electrical disaster fire
- v) Serial bomb blast
- vi) Oil spill
- vii) Festival related disaster
- viii) Air, Road and Rail accidents

- ix) Boat capsizing
- x) Mine flooding
- xi) Major building collapse

**V. Biological related disasters**

- i) Biological disaster and Epidemics
- ii) Pest attacks
- iii) Cattle Epidemics
- iv) Food Poisoning

### **3.5 EARTHQUAKE**

#### **3.5.1 WHAT IS AN EARTHQUAKE?**

Earthquake is also known as 'Seismo' and it taken from the Greek word 'Seio' which literally means 'to shake'. It is the shaking of places from a focus points also known as the epicenter. The shaking movements are called waves. The focus point originates beneath the earth's surface and there are three types of waves:

**i) L-Wave (Low frequency, long wave length, transverse vibration) :**

These waves usually shake the earth's outer crust and they move slowly and is a criss-cross manner. Hence, they are very destructive and cause extensive damage.

**ii) S-Wave (High frequency, short wave length, transverse) :**

The speed of these waves range from 4.35 km per second to 7.25 km per second and can effect both the earth's crust and below. These waves too, cause extensive damage.

**iii) P-Wave (High frequency, short wave length, longitudinal waves, push and pull) :**

These waves move longitudinally and horizontally. They not only effect the earth's crust and below, but also cause tremors in water and ocean.

There are 12 types of earthquake depending upon the intensity and damage cause. They are:-

- i) Instrumental
- ii) Feeble
- iii) Slight
- iv) Moderate
- v) Rather strong
- vi) Strong
- vii) Very strong
- viii) Destructive
- ix) Ruinous
- x) Disastrous
- xi) Very disastrous and
- xii) Catastrophic

### **3.5.2 EPICENTRE**

Usually, earthquake originates at a point many kilometers deep under the earth's surface. It is called 'focus'. The point on the earth's surface vertically above the focus called the Epicenter. The main area of earthquake surrounds this point.

### **3.5.3 EARTHQUAKE SCENARIO IN N.E. INDIA**

The North-East, which is under Zone V, or highly prone seismic zone – has been hit by nearly 794 earthquakes registering up to about 4 point on the R/Scale from 1964 to 1992. Out of these, three have spread widespread damage to life and property. Experts predict that an earthquake may take place in 2010 AD with an intensive of 8 points on the R/Scale and will cause widespread devastation. According to geo-scientists D.R. Nandy, Mizoram is among those states highly prone to quakes as it lies in the Arakan Yuma sub-duction zone. Scientist have stressed on precautionary measures like quakeproof buildings. The Government of Mizoram is seriously contemplating a comprehensive building regulation Act in the wake of the recent earthquake in Gujarat on January, 2006. It is a fact that all modern development structures in Mizoram are unplanned.

Earthquakes are expected phenomena. Due to the constant movement of the plates of the earth, 'deformation' is cause which results in the generation of strain energy. When the energy is released, it generates seismic waves, which cause vibrations or quake on the earth's surface.

**3.5.4** Earthquake prediction is not yet scientifically possible with reasonable accuracy in terms of location, time and magnitude. The only tangible effort, which can be done, is to mobilize relief and rescue operations immediately so as to minimize damage to life and property. Earthquakes cause widespread disaster and loss of human lives primarily due to the collapse of structures and buildings. Therefore, implementation of building regulations and bylaws must be the step towards the mitigation of damages caused by earthquakes. According to Director General, GSI K. Krishnanunni, the Geological Survey of India is currently engaged in charting out the model code for Mizoram whose capital Aizawl, is a nightmare for Seismologists as it has no Codes and Rules for town planning.

#### **PREPARATION FOR EARTHQUAKE SAFETY**

- Ensure that each family member is aware of Do's and Don'ts during earthquake.
- Identify specific safe place in each room of house and every member of the family should know the said place.
- Do practice for safety and also safety of your head to avoid injuries.
- Identify dangerous places in house and be at a distance during earthquake.
- Identify safe place outside house where you and your family member can take shelter.
- Ensure there is no obstruction en-route of escape/stairs to the said safe place.
- Ensure member of the family must know where to be collected after earthquake.
- Ensure each member of family has knowledge about first-aid and always keep some medicine.

- Ensure Almirah & other heavy luggages are tightened properly to avoid fall and head injuries.
- Ensure heavy luggage if any be kept in the bottom rack of Almirah.
- Don't store in excess cooking gas, petrol, K/Oil and other inflammable materials inside house.
- Ensure heavy hanging articles are hanged away from sleeping/sitting place.
- Keep cotton on the windows located near beds.
- Ensure technique of earthquake protection and materials as well as other safety measures are used during construction of new house.
- Have your house/building assessed by qualified engineer and also ensure regular renovation and repair of any crack in house/building to avoid fall during earthquake.
- Keep eye on unnatural panic, barking and other activities of animals as some of these indicate early warning of forthcoming disaster.

## **MEASURES DURING AN EARTHQUAKE**

### **Inside House**

- Remain calm, stay where you are, and do not get panic as it could be dangerous.
- Be away from articles likely to fall.
- Be away from windows, mirrors, book cases and unsecured heavy objects/articles to avoid injuries.
- Don't stand in doorways as violent motion may cause doors slam and cause injuries, flying objects may also injure you.
- In case being inside old & weak fastest and safest route to get out.
- Don't use elevators/lift, but take staircase to reach in open space.
- Take over under strong table or other study furniture, hold its legs so that it does not move away and wait there till shaking stops.
- In case non availability of study furniture/table/cover, kneel and sit close to the floor near structurally strong wall and maintain balance.

- Be prepared to protect face and head with your hands to avoid head injuries from any object.

### **Outside House**

- Move out to the open space, away from buildings, electric poles/lines and trees.
- Be at distance from landslides, boulders, big buildings/structure and loose electrical wire.
- Don't touch metallic object which are either in touch with or likely to be contacted by loose electric.
- Do not re-enter your house if damaged and also avoid visiting damaged building/structures, unless properly inspected.

### **Precaution while in moving vehicle**

- Stop while moving in vehicles, but stay in side till earth shaking is over. However, ensure vehicle is stopped in open space away from tress/building/over-bridges/eclectic wire/poles etc.
- Proceed to journey carefully taking care of bridges/roads which might have damaged due to earthquakes.

### **Measures after the earthquake**

#### **Do's**

- Ensure safety and security of every member of the family.
- Don't panic, remain calm and don't listen or spread rumors.
- Help injured or trapped person and provide first-aid.
- Take extra care to those who require special assistance like infants, elderly, ladies & disabled.
- Check for fire hazards, broken articles/glasses and take precautions against injuries/further damage.
- Clear the routes to maintain speedy movement of essential services & supply of articles.
- Mark the places where the victims are suspected/reported to be trapped and inform search and rescue team immediately.
- Switch off the cooking gas, electricity, and switch on only after ensuring that there was no leakage.

- In case any inflammable liquid like K/Oil, Petrol etc. is spread on the floor, clean it properly to avoid fire and do not use matchbox before cleaned.
- Avoid prolonged use of telephone to facilities others to use the services.
- Be calm and listen to radio and help others as help from outside might be delayed due to disturbance of road/line communication etc.
- Return home only after confirmation that house is safe.
- Don't waste potable water.
- Don't repair your house without proper structural inspection.
- Don't spread rumors and also do not listen rumours.
- Don't use elevators/lift until/unless checked/found and declared serviceable.

### 3.6 CYCLONE

India with its long coastline is vulnerable to the impacts of tropical cyclones that develop in the North of Indian Ocean (Bay of Bengal and the Arabian Sea). Cyclones are intense low-pressure systems that develop in the oceanic area surrounding the Indian sub-continent. These systems are classified as depressions, deep depressions, cyclonic storms, severe cyclones and severe cyclones with cores of Hurricane winds depending on the surface winds associated with them as indicated below:

<b>Sl. No.</b>	<b>Type</b>	<b>Surface Winds</b>
1.	Depression	18 to 27 Kts (36 to 54 Kms per hour)
2.	Deep Depression	28 to 33 Kts (56 to 66 Kms per hour)
3.	Cyclonic Storm	34 to 47 Kts (68 to 94 Kms per hour)
4.	Severe Cyclonic Storm	48 to 63 Kts (96 to 117 Kms per hour)



5.	Sever Cyclonic Storm with core of Hurricane winds	>/64 Kts (>/117 Kms per hours)
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### 3.6.1 WHEN IT OCCURS :

There are two cyclones seasons for India. The first is the Pre-Monsoon Season (April and May) and the second is post-monsoon season (October to December). The cyclones of the Post-Monsoon season are more intense than those of Pre-monsoon season. On an average six cyclones form in the Indian seas out of which the distribution in the Bay of Bengal and the Arabian Sea is in the ration of 4:1. Thus the Maritime States along the East Coast bear the brunt of the cyclones, more than those on the West Coast. Among the states in the East Coast the frequency of the cyclone crossing the coast is more in Orissa followed by Andra Pradesh and Tamil Nadu and finally West Bengal. Balasore district in Orissa is the most vulnerable district for cyclone landfall, (The recent cyclone 1999 also devastated the district).

Cyclones are associated with strong winds, torrential rains and storm surges (abrupt rise of sea level at the time storm crossing the coast). Storms surge is the most destructive phenomena associated with a cyclone. Due to this low lying areas along the coast are inundated by the sea water, which can result in the loss of human lives unless the people are evacuated from those areas.

#### **IMPACT**

- Uprooting of trees which disrupt transportation and relief supply missions.
- Failures in many cantilever structures such as signposts, electric poles, and transmission line towers.
- Damage to improperly attached windows or window frames.
- Damage to roof projections and sunshades.
- Failure of improperly attached or constructed parapets.
- Overturning failures of compound walls of various types.
- Failure of weakly built walls and consequent failure of roofs and roof covering.

- ✦ Overturning failures of compound walls of various types.
- ✦ Failure of weakly built walls and consequent failure of roots and roof covering.
- ✦ Failure of rooting elements and walls along the gable ends particularly due to high internal pressures.
- ✦ Failure of large industrial buildings with lightweight roof coverings and long/tall walls due to combination of internal and external pressure.
- ✦ Brittle failure of asbestos – cement (AC) sheeting of the roofs.
- ✦ The thatch roof commonly employed in rural construction lack durability but it provides greater permeability and attracts less forces of wind.

### **3.6.2 CYCLONE WARNING SYSTEM IN INDIA**

The Indian Meteorological Department (IMD) is the nodal agency for observing, detecting, tracking and forecasting cyclones, which develop in the Indian seas. The cyclone warnings are provided through six cyclone-warning centres located at Calcutta, Bhubaneswar, Vishakapatnam, Madras, Bombay and Ahmedabad. These centres have distinct responsibilities areawise, covering both the East, West Coast of India and the Oceanic areas of the Bay of Bengal and the Arabian Sea including Andaman and Nicobar Islands and the Lakshadweep.

Cyclone are monitored through synoptic charts and INSAT (Indian National Satellite) when it is in the high seas. When the Cyclone approach the coastal areas they are tracked through cyclone detection radars which are installed in coastal stations of the east and west coasts of the country, covering the entire region.

Cyclone warnings are provided in two stage. In the first stage, a Cyclone Alert is issued 48 hours before the commencement of the adverse weather along the coast. In the second stage, a cyclone warning is issued 24 hours before the cyclone anticipated landfall. The Cyclone Warning messages are continued till the cyclone crosses the coast. The ports and fisheries warnings start much earlier. Informatory messages on cyclones are issued for broadcast to AIR as

soon as a cyclone is detected in the Bay of Bengal and the Arabian Sea.

### **DISSEMINATION OF WARNINGS**

The cyclone warnings are disseminated by the following means :

- ❖ High priority telegrams.
- ❖ Telecast through Doordarshan.
- ❖ Broadcast through AIR.
- ❖ Bulletins to the press.
- ❖ Satellite based disaster-warning systems. (cyclone disaster warning system)
- ❖ In addition to the above, cyclone warnings are also disseminated through tele-printers, telex, facsimile and telephones wherever such facilities exists with the recipients. The warning bulletins are normally issued at 3 hourly intervals, but more frequently whenever needed. These bulletins contain the information on the areas threatened by cyclones, heavy rainfall, and magnitude of destructive winds and inundation of coastal areas by storm surges. Advise for fisherman not to venture into the sea and for evacuation of the people from the low-lying areas are also included.
- ❖ The Cyclone warning are disseminated to :
  - Commercial shipping and Indian Navy.
  - Port Authorities.
  - Fisheries Officials.
  - Officials of the State and Central Government.
  - Commercial Aviation.
  - General Public.
  - Care to be taken that information passed is user friendly.

### **3.6.3 THE RESPONSIBILITIES OF THE DISTRICT ADMINISTRATION**

- ❖ All the districts of the maritime states are vulnerable to the cyclone impacts to a different degree. It is henceforth imperative that the concerned District Collectors should be

familiar and get prepared with the measures to be taken in the event of Cyclone disaster.

- ❖ Cyclones are expected in the months of April, May and October to December. Prior to this season, pre-cyclone exercises such as strengthening of the communication facilities, checking and repair of cyclone shelters and checking and repair of road conditions in the vulnerable areas may be carried out. Action to be taken by various administrative wings in the event of Cyclone should be defined, issue clear orders – ensure that reached everyone intended.

**Before the cyclone landfall action by district administration :**

- ❖ After the receipt of the first warning from the concerned cyclone-warning centre, constant touch with the concerned cyclone-warning centre should be maintained to get updates on the cyclone movements.
- ❖ Constantly review and coordinate the measures necessary to face the cyclone threat.
- ❖ Make arrangements for the storage of food, first aids kits and availability of ware in the Cyclone Shelters may be ensured. Ensure that the drainage system is kept free of all blockades so that the rainwater in the event of heavy rains drains out fast.
- ❖ Ensure wide publicity of Cyclone warnings through local modes of dissemination, in vogue, so as to increase the alertness of the public, particularly the fisherman community.
- ❖ Keep adequate number of vehicles ready at the nearest point possible so as to evacuate the people from low lying areas in a shorter time as and when required.

**After the Cyclone – for District Administration:**

- ❖ Rescue the people who are stranded or otherwise affected
- ❖ Restore the supply of powers, and clear the roads (remove the fallen trees etc.) as early as possible.
- ❖ Food and water should be supplied to the stranded people and those who are in shelters.
- ❖ Search and rescue operation to be initiated, if necessary, for the people (particularly, for the missing including fishermen)

- ❖ Check for the outbreak of epidemics. Appropriate measures for inoculation and vaccination must be undertaken to prevent any outbreak of epidemic.
- ❖ If there is serious disruption of the regular communication system, communication through HAM Radios and/or wireless sets may be pressed into service.
- ❖ Supply of Electricity must be restored by carrying out repairs to the dismantled wires, uprooted damaged transformers and other switch-gears.
- ❖ Help of voluntary organizations to be taken but the security aspect should not be ignored so as to prevent the entry of undesirable, anti-social elements. (issue identity cards).
- ❖ Veterinary medical care should be made available, along with provision of fodder to the displaced cattle.
- ❖ Minimum road communication in the affected districts should be restored on war footing.
- ❖ Use cycle and two wheelers – Bikes for transportation.
- ❖ Supply of all essential commodities, such as, rice, wheat, pulses, salt, match-box, kerosene, diesel, etc. should be ensured to all the habitats in the disaster affected areas to concessional rates, or, free or cost.
- ❖ Inundated land should be reclaimed by desalination.
- ❖ If the drinking water wells are inundated by saline water, bore wells are to be dug, or pumps are to be installed for the supply of water to the public.
- ❖ Land survey of the affected area should be undertaken to assess the damage caused to the dwellings and standing crops as early as possible.
- ❖ Loan should be sanctioned on the basis of the survey, to construct/repair of the dwellings. (Short term and Long term loans be given).

#### **3.6.4 SUGGESTION FOR THE FUTURE**

- ❖ A good network of motorable roads should be constructed in all vulnerable coastal areas. This not only facilitates quick evacuation in the time of need, but also facilitates the supply of relief to the needy in the aftermath of the cyclone (for example,

the East Coast Road, under construction from Calcutta to Kanyakumari).

- ❖ Construct a high level coastal road with its top about one meter above the highest surge level which should of course have adequate drainage openings to permit the flow of normal rain/flood waters across. Such a road could serve as the first time of defense against the surge waters permitting only limited entry of water through the openings.
- ❖ All Governments official working in the cyclone prone areas may be trained in Programme related to the cyclone preparedness activities and relief works.

### **3.7 LANDSLIDES**

#### **3.7.1 INTRODUCTION**

Landslides occur in all terrains in response to a wide variety of natural/man-made conditions and triggering processes that include heavy rainstorms, cloudbursts, earthquakes, floods and haphazard human activities. Globally, landslides take a toll of thousands of human lives every year besides causing an economic loss of more than US \$4 billion. The major burnt of the calamity is, however, borne by the developing countries where population pressures have pushed the people to occupy even the hazard prone areas. Nearly 25% of our country's area is prone to various degrees of landslide hazard, frequently affecting the human life, properties, infrastructure, livestock, natural resources and the environment in a big way. In India, the Himalayan belt, Nilgiris, Western and Eastern Ghats comprise the landslide sensitive zones. They constitute a serious hazard that cause substantial human and financial losses, estimated to average more than 100 death annually and cost approximately 300-400 crores of rupees per year. In addition to direct and indirect losses, landslides cause significant environmental damage, societal disruption and strategic concern.

With growing population and human interventions in terms of developmental activities, landslides pose constant risk to

human life, buildings, structures and infra-structures. Large scale deforestation along with faulty management practices have led to high vulnerability to landslides in many regions of the country. Human activities relating to expansion on unsafe locations, construction of roads, dams and river training works ignoring natural features contribute to increased intensity of landslides. The absence of large scale landslide hazard maps leads to people being caught unaware especially when the first time landslides strike.

As individual landslides usually affect local areas and residents, damage resulting from landslide hazards has not generally been recognized as a problem of national importance and has not been addressed on a national basis. The absence of coordinated national approach to mitigating the detrimental effects of landslides has resulted in a reduced ability of the States and Local Government Agencies to apply the important lessons learnt, often at considerable expense, in other parts of the country.

As a result, the need for a national approach has been strongly felt and worked upon now by the National Disaster Management Authority by preparing the National Landslides Policy and Guidelines. Being cognizant of the diversity of issues associated with national landslides problem that arise from both the regional considerations and of the considerable variations in the institutional capability and responsibility at regional and local levels, inputs from a wide variety of stakeholders are essential. Strengthening the process of landslide inventory mapping and building of landslides databases will have far reaching effects in generating reliable landslide hazard zonation maps according to user's requirements. NIDM, the nodal institute dealing with disasters is planning to undertake such projects in order to stimulate necessary activities across the country and create a nodal platform to deliver comprehensive periodic data of the National Landslide Data and Inventory Map in public domain. It would pave way for effective decision making and planning micro level

mapping for various developmental and regulatory activities in hilly terrains.

## **DEFINITION OF LANDSLIDES**

**Landslides** are simply defined as down slope movement of rock, debris and/or earth under the influence of gravity. This sudden movement of material causes extensive damage of life and property. They are reported from Garhwal, Kumaun, Himachal and North East Himalayas in addition to Western and Eastern Ghats of India. Human intervention by way of slope modification has added to aggravation of landslides.

### **Landslide prone areas**

- ❖ Existing or old landslides.
- ❖ Areas at or on the base of slopes.
- ❖ Within or at the base of minor drainage hollows.
- ❖ At the base or top of a fill slope.
- ❖ At the base or top of a cut slope.
- ❖ Any sloping ground in an area known to have a landslide problem.

### **Potential landslide indicators**

- ❖ Saturated ground or seeps in areas that are not typically wet.
- ❖ New cracks and scarps or unusual bulges in the ground, roads or pavements.
- ❖ Movement of ancillary structures such as decks and patios in relation to a house.
- ❖ Sticking doors and windows, and visible open spaces indicating jambs and frames out a plumb.
- ❖ Tilting or cracking of concrete floors and foundations.
- ❖ Broken water lines and other underground utilities.
- ❖ Leaning telephone poles, trees, retaining walls or fences.
- ❖ Offset fence lines.
- ❖ Sunken or displaced road surfaces.
- ❖ Rapid increase in creek water levels, possibly accompanied by increase turbidity (soil content).



### **Effects of Landslides**

- ❖ Loss of human lives.
- ❖ Property damage.
- ❖ Affect a variety of resources like water supplies, fisheries, sewage disposal systems, forest, dams and reservoirs.

### **Economic Effect of Landslides**

- ❖ Cost of repair.
- ❖ Loss of property value.
- ❖ Disruption of transportation routes.
- ❖ Medical costs (injury).
- ❖ Water availability, quality and quantity.

### **DESTRUCTIVE SIGNIFICANT OF LANDSLIDES**

<b>Velocity (mm/sec)</b>		<b>Probable destructive significance</b>
Extremely <5 x 10 <sup>-7</sup>	slow	Imperceptible without instruments; construction possible with precaution.
Very 5 x 10 <sup>-5</sup>	Slow	Some permanent structures undamaged by movement.
Slow 5 x 10 <sup>-3</sup>		Remedial construction can be undertaken during movement; insensitive structures can be maintained with frequent maintenance work if the movement is not large.
Moderate 5 x 10 <sup>-1</sup>		Some temporary and insensitive structures can be temporarily maintained.
Rapid 5 x 10 <sup>1</sup>		Escape evacuation possible; structures; possession and equipment destroyed.
Very 5 x 10 <sup>3</sup>	Rapid	Some lives lost; velocity too great to permit all persons to escape
Extremely Rapid > 5 x 10 <sup>3</sup>		Catastrophe of major violence;

### **3.7.2 MINIMIZING THE EFFECTS OF LANDSLIDES**

#### **PLANNERS AND DECISION MAKERS :**

Planners and Decision Makers should learn from past tragic events and should impose stringent planning and design requirements in landslides-prone and unstable areas. These may include :

- ❖ Implementation of regional hazard and risk assessments into land planning policies. This ensures that appropriate processes are in place whereby new development applications are assessed with respect to slope stability issues and zoning for future development is directed towards areas with a low or very low risk of slope instability.
- ❖ Engineering and geotechnical investigation that define the landslide hazard and risk at site specific levels of investigation.
- ❖ Mapping of landslide vulnerability that can help with the development of emergency response scenarios.

#### **MITIGATION**

Mitigation includes any activities that prevent an emergency, reduce the change of an emergency happening, or lessen the damaging effects of unavoidable emergencies. Investing in preventive mitigation steps now such as planting ground cover (low growing plants) on slopes, or installing flexible pipe fitting to avoid gas or water leaks, will help reduce the impact of landslides and mudflows in the future. For more information on mitigation, contact your local emergency management office.

### **3.7.3 PREPAREDNESS PLAN FOR LANDSLIDES**

Landslide usually strike without warning. The force of rocks, soil, or other debris moving down a slope can

devastate anything in its path. Take the following steps to be ready.

### **PRE-DISASTER PREPAREDNESS**

- Get a Ground Assessment of your property.
- Seek specific information on areas vulnerable to land sliding from a geologist. Consult a professional engineering geologist or a geotechnical expert for opinions and advice on landslide problems and on corrective measures you can take.
- Minimize home hazards.
- Plant ground cover on slopes and build retaining walls. In mudflow areas, build channels or deflection wall to direct the flow around buildings. (Remember; If you build walls to divert debris flow and the flow lands on a neighbor's property, you may be liable for damages).

### **Learn to recognize the landslide warning signs**

- Doors or windows stick or jam for the first time.
- New cracks appear in plaster, tile, brick, or foundations.
- Outside walls, walks, or stairs begin pulling away from the building.
- Slowly developing, widening cracks appear on the ground or on paved areas such as streets or driveways.
- Underground utility lines break.
- Bulging ground appears at the base of a slope.
- Water breaks through the ground surface in new locations.
- Fences, retaining walls, utility poles, or trees tilt or move.

- You hear a faint rumbling sound that increases in volume as the landslide nears. The ground slopes downward in one specific direction and may begin shifting in that direction under your feet.

### **Make Evacuation Plans**

- Plan at least two evacuation routes since roads may become blocked or closed.
- Develop an emergency communication plan.
- In case family members are separated from one another during a landslide or mudflow this is (a real possibility during the day when adults are at work and children are at school), have a plan for getting back together.
- Ask an out-of state relative or friend to serve as the “family contact”. After a disaster, it’s often easier to call long distance. Make sure everyone knows the name, address, and phone number of the contact person.

### **Insurance**

- The local insurance companies can cover mudflow and Landslide risks under natural calamities.

### **DURING DISASTER**

- If inside a building: stay inside.
- Take cover under a desk, table, or other piece of sturdy furniture.
- If outdoors : Try and get out of the path of the landslides or mudflow.
- Run to the nearest high ground in a direction away from the path.

- If rocks and other debris are approaching, run for the nearest shelter such as a group of trees or a building.
- If escape is not possible, curl into a tight ball and protect your head.
- Sinkholes.
- A sinkhole occurs when groundwater dissolves a vulnerable land surface such as limestone, causing the land surface to collapse from a lack of support.

### **POST DISASTER PLANS**

- Stay away from the slide area.
- There may be danger of additional slides.
- Check for injured and trapped persons near the slide area.
- Give first aid if trained.
- Remember to help your neighbors who may require special assistance—infants, elderly people, and people with disabilities.
- Listen to a battery-operated radio or television for the latest emergency information.
- Remembering that flooding may occur after a mudflow or a landslide.
- Check for damaged utility lines. Report any damage to the utility company.
- Check the building foundation, chimney, and surrounding land for damage.
- Replant damaged ground as soon as possible since erosion caused by loss of ground cover can lead to flash flooding.
- Seek the advice of geotechnical expert for evaluating landslide hazards or designing corrective techniques to reduce landslide risk.

## **OBJECTIVE OF PREPAREDNESS PLAN**

Hazard exist within all communities, irrespective of the fact whether they are recognized or not. Coping with various types of hazards gives us the reason to plan and focus. Emergency Planning is the key to meet requirements during crisis situations. Management strategies can be applied to all emergencies, whether they are man made or natural. Emergency Management consists of 4 (four) cycles namely Preparedness, Mitigation, Response and Recovery and can be visualized as having a circular relationship. Each phase results from the previous one and can be overlapping at times. The main objectives of the Preparedness Plan are :

- To prevent loss of human life and property
- Preparedness, Prevention and Mitigation of life and property
- Training and awareness creation
- The demographic features, the latest census, statistics of male female population and density of population to be taken in to account.
- Disaster Management cycle, Hazard Analysis and History
- The occurrence to disasters – periodicity, intensity and damages to be analyzed.

## HAZARD/RISK ANALYSIS

### 4.1. 1. EARTHQUAKE

North East India has been divided into four (4) zones by Seismologists. They are :

- i) Eastern Syntaxi
- ii) Arakan Yuma and Naga Thrush Folded Belt
- iii) Shillong Plateau
- iv) MCT and MBF of the Himalayan Frontal Arc.

On the basis of this division, Mizoram falls under zone II. Whereas, according to some other zonations, Mizoram falls under zone V or the Vety High Damage Risk Zone. If an earthquake occurred in Mizoram, it could be of a magnitude of 7.5 and above on the Richer Scale. According to reports made by the International Seismological Society, major earthquakes occur at intervals ranging from was 35 – 40 years. The last major earthquake felt in the North-East was in the year 1950. As such, a major quake can be predicted in North-east particularly in Mizoram. As we already know, Mizoram is a steadily developing state and there is extensive urbanization. However, we do not have any guidelines, rules, regulations or byelaws for earthquake resistant buildings. Through it will be a giant task to correct unplanned development structures all over Mizoram concerned authorities need to wake up to the potential earthquake danger. This is true because of the fact that even from a cursory examination of earthquake distribution and global tectonics that Mizoram is in a earthquake zone. According to Geological Survey of India's Director General K. Krishnanunny, "Mizoram, whose capital Aizawl, is a nightmare for Seismologists as it has no codes and rules of town planning". In fact, Mizoram was shaken by tremors measuring 5.1 on the Richter Scale on 4.3.2001 through it may not have caused any extensive damage, it could

well have been a warning to major earthquake in the near future.

## **2. VULNERABILITY TO CYCLONE/WINDSTORM:**

So far as wind hazard is concerned, the design wind speed in the whole list is 55m/s (198Km/h) which is the highest value specified in the country, occasionally reached when cyclonic wind will come crossing Bangladesh. In such events weakly built homes of wood, bamboo, thatched etc. as in Category X in the atlas and sloping roofs such as thatched and tiles and those AC sheet and corrugated galvanized iron (GGI) sheet roofs which are not fully anchored and intergrated will suffer much damage. The damages occurring in such high winds is of localized nature and does not result in a disaster at the state level. But it will be very useful that wind resistant construction Guidelines are adopted and implemented for minimizing wind damages to buildings.

During summer, the sub tropical high pressure belt and the thermal equator are displaced northward in response to the changing pattern of heating of the earth. From the ocean, particularly from the north Indian Ocean or Bay of Bengal, they move towards the land mass and blow over the Asian continent. These are called South-West monsoon and they usually reach Lawngtlai District during second half of May and prevails up to the first half of October. The summer monsoon is characterized by highly variable weather with frequent spells of drought and heavy rains. Besides this, the winter monsoon also prevails which is a gentle drift of air in which the winds generally blow from the north east. This retreating monsoon cause sporadic rainfall especially in Lawngtlai District and other district producing sometimes heavy cyclonic rains. Mizoram state is vulnerable to impact of tropical cyclone which develops in North Indian Ocean (Bay of Bengal) and the cyclones of the post monsoon season (October to December) are more intense than those of pre monsoon season (April & May). Cyclone are associated with strong winds, torrential rains and



storms. The impact of cyclone/windstorm and hailstorm has often led to damages to houses, power line cut-off, blockage of road, damage to crops and plantation, loss of live stocks, etc. (Source : *Environmental studies of Aizawl City using Remote Sensing and GIS, a project report, 2005, Mizoram State Remote Sensing Centre, S&T, Planning Department, Mizoram*).

### **3. VULNERABILITY TO 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 and relief, immature geology, neo-tectonic activity, heavy rainfall and unplanned and improper land use practice in the state. (Source : *Environmental Studies of Aizawl City using Remote Sensing and GIS, A project report, 2005, Mizoram State Remote Sensing Centre, S&T, Planning Department, Mizoram*). The vulnerability of landslide can be understand by showing the number of silpouline procure by the Department of DM&R for distribution to landslide and other disaster victim.

▪ 2000 – 2001	:	14,000 nos
▪ 2001 – 2002	:	6,470 nos
▪ 2002 – 2003	:	21,740 nos
▪ 2003 – 2004	:	31,182 nos
▪ 2004 – 2005	:	15,020 nos
▪ 2005 – 2006	:	31,092 nos
▪ 2006 – 2007	:	38,280 nos

(DM&R Directorate, 12/04/07 by Telephone)

### **4. VULNERABILITY TO ACCIDENTS :**

The figures of road accidents indicate rising trend in Mizoram. From January to April 2007 alone there are 22 reported accident cases in newspaper causing 27 death and 33 injures.

The figures are however not complete since each and every accident case is not reported at the police stations and the Newspaper. Thus, the actual number of road accident cases may be still higher. Except for the observance of the Traffic Week, No Tolerance Week, Safety Week annually, there must be regular and sustained campaigns to prevent and reduce the roads accidents.

#### **5. VULNERABLE TO FIRE :**

Fire accidents are quite common, especially in rural areas because of the following factors

- a) Individual housing with roof of straw and storage of straw/hay in close proximity of the house.
- b) Close proximity of houses in many areas leading to spread of fire and wider destruction.
- c) Lack of availability of adequate water and nil or poor equipments for firefighting especially in rural areas and small towns.
- d) Lack of awareness of basic do's and don'ts when people live in houses that uses inflammable materials.
- e) Human error or carelessness.

The State is also becoming increasingly vulnerable to electric accidents. The main causes of such accidents are :-

- a) Use of substandard electrical fittings.
- b) Lack of check up of overused electrical items.
- c) Lack of trained electricians.
- d) A combination of the above factors.

There are also recent incidents of death due to boat capsizing. Poor condition of boats, untrained boatmen, lack of rescue equipments, overloading of boats are major causes of boat capsizing and deaths.

## 4.2 RISK ASSESSMENTS AND VULNERABILITY ANALYSIS

### 4.2.1 ECONOMIC, OCCUPATIONAL, SOCIAL AND EDUCATIONAL PROFILE OF THE POPULATION

Agriculture is the main occupation of the people of the district to develop their economical background. However the frequent occurrence of calamities staged the economical progress of the people. The scope of Public Sector is very limited to provide employment opportunity to a large section of unemployed persons in the district. However various employment generous programmes are implemented in the district to generate self/wage/salary employment for the unemployed youths. The employment generating programmes like PMRY, JRY, SGSY, SGSSY, PMGRY etc & beneficiaries programmes like IRDP provide employment to most of the people.

### 4.2.2 DISTRICT SPECIFIC PRONENESS TO VARIOUS TYPES OF DISASTERS

TYPE OF HAZARD	POTENTIAL IMPACT	VULNERABILITY	VULNERABLE AREAS (District)
LANDSLIDE	Lost of crop, Infrastructure, human and bovine life, livelihood system, houses, Pvt. Public proterty etc. Cattle livestock	<ul style="list-style-type: none"> <li>▪ <b>Communication network.</b> Road network of the effected block. Telephone connections.</li> <li>▪ <b>Private Infrastures.</b> Kutchra Houses, Semi Kutchra Houses.</li> <li>▪ <b>Agriculture/Horticulture.</b> Crop (estimated Area), Others.</li> <li>▪ <b>Irrigation Sources.</b> Private LI-Points, Govt LI-Points. Electrical Installations.</li> <li>▪ <b>Drinking Water sources.</b> Stream, pond, PHD/Rural Supplies Water supplies.</li> <li>▪ <b>Educational Institutes.</b> Primary Schools, M.E. Schools,</li> </ul>	

		<p>High Schools, Colleges.</p> <ul style="list-style-type: none"> <li>▪ <b>Live Stock.</b> Cows, Buffalos, Goats/Sheep, Poultry Farms.</li> <li>▪ <b>Vulnerable People.</b> Handicapped, Old/Aged, Pregnant, Slick and ailing/diseased, Children below 5 years.</li> <li>▪ <b>Other Vulnerable assets.</b> Steep slopes, minor Canal embankments, Irrigation Projects, Small scale industries, PMRY units, Handloom Units, Cardamoms plantations, paddy fields, Trees/orchards/plantation.</li> </ul>	
FLASH FLOOD	Loss of crop, infrastructure, human and bovine life, livelihood system, houses, Pvt. Public property etc. Livestock.	<ul style="list-style-type: none"> <li>▪ <b>Communication network.</b> Road network, Telephone connections.</li> <li>▪ <b>Private Infrastructures.</b> Kutcha Houses, Semi Kutcha Houses.</li> <li>▪ <b>Agriculture.</b> Crop &amp; Others.</li> <li>▪ <b>Irrigation Sources.</b> Private LI-Points, Govt. LI-Points. Electrical Installations.</li> <li>▪ <b>Drinking Water Sources.</b> Streams and ponds, PHD/Rural water supplies, Stand Posts.</li> <li>▪ <b>Educational Institutes.</b> Primary Schools, High Schools, Colleges.</li> <li>▪ <b>Live Stock.</b> Cows, Buffalos, Goats/Sheep, Poultry Farms.</li> <li>▪ <b>Vulnerable People.</b> Handicapped, Old/Aged sick and</li> </ul>	All over the District

		ailing/diseased, Pregnant, Children aged below 5. <ul style="list-style-type: none"> <li>▪ <b>Other vulnerable assets.</b></li> </ul> Embankments Handloom Units Minor Irrigation Channels, cardamom plantations, Hydro-Project. Small scale industries, Textile Units, orchard plantation.	
COLD WAVE		Loss of Human & bovine life. Damage of crops.	All over the District.
VILLAGE FREE/F OREST FIRE	Loss of property/Forest area/loss of animal and medicinal plants.	Loss of property & life. Animal life and medicinal plants crops, lost of forest.	Selected areas in the District.
DROUG HT	Loss of crop, livelihood, livestock, cash crops etc.	Crop Loss, Drinking water scarcity.	Selected area in the District.

#### 4.2.3 DISASTER PROBABILITY IN THE DISTRICT

TYPE OF HAZARD	MONTH OF OCCURRENCE											
	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	September	OCTOBER	NOVEMBER	DECEMBER
HIGHT SPEED WIND				←	→							
DROUGHT	←	→								←	→	
COLD WIVE												
VILLAGE FIRE	←	→								←	→	
EARTHQUAKE	←	→										→
LANDSLIDE				←	→							

#### 4.2.4 OCCURRENCE OF DISASTER IN THE PAST :

One major disaster occurred in the district in the last twelve years. The typology and effect of the major disaster in the last fifteen years is elucidated below.

TYPE OF DISASTER	YEAR OF OCCURENCE	EFFECTS
LANDSLIDE	1989	<b>Area damaged &amp; live lost</b> College veng area and claimed 9 lives
	1990	Chanmary veng, Lawngtlai washed away 25 dwelling houses and claimed 2 lives
	1995	Washed away 194 dwelling houses. Partially destroyed 617 dwelling houses claimed 14 lives and injured 3 persons.

#### OTHERS

TYPE OF DISASTER	YEAR OF OCCURANCE	EFFECTS
FLOOD	1995	(a) Kolodyne river washed away 20 dwelling houses at Kawlchaw 'W'. (b) Ngengpui river washed away Bailey's Bridge over the said river washed away 30 dwelling houses at Kamalanagar.
CYCLONE	1982	Destroyed 650 dwelling houses in the district.
FIRE	June, 1990	Vaseitlang - I and destroyed 12 houses.
	March, 1991	Parva - III and destroyed 18 houses.
	1997	Kamalanagar - razed down 36 shops and 20 dwelling houses.
	2000	Kamalanagar bazar - destroyed 30 shops and 10 dwelling houses.
	2004	Kawlchaw 'W' - destroyed 20 dwelling houses.

**4.3 YEAR-WISE REPORT ON DISASTER AND ITS AFTERMATH  
DURING 2007- 2008**

Sl. No	Year	LANDSLIDE					CYCLONE					EARTHQUAKE				
		Total Area affected (in Ha)	Total cropped area affected (in Ha)	No. of Houses Damaged	No. of Lives lost	Lost public property (estimated value in Rs)	Total Area affected (in Ha)	Total cropped area affected (in Ha)	No. of Houses Damaged	No. of Lives lost	Lost public property (estimated value in Rs)	Total Area affected (in Ha)	Total cropped area affected (in Ha)	No. of Houses Damaged	No. of Lives lost	Lost public property (estimated value in Rs)
1	2	3	4	5	6	7	8	9	10							
1	2007-2008	33	Nil	532	Nil	Nil	145	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	

It is clear from the above that the entire district is very prone to landslide and cyclonic disaster.

## **CHAPTER – 5**

# **LANDSLIDE IN LAWNGTLAI TOWN – A CASE STUDY**

### **5.1 INTRODUCTION**

Lawngtlai town which is the district capital of Lai Autonomous District Council used to suffered landslides and land subsidence of varying magnitudes for the past years. The whole area lies at the foot-hill of south-eastern landforms as a whole is rugged an immature topography. Landslides and land subsidence is a frequent natural happening in these areas causing great havoc and lost of lives and properties to the people.

The landslide/subsidence in the town area effected not only to the loss of lives properties but it also hampered the day to day work and developmental programme in the area in various ways, especially during monsoon period. For the sustainable development of the area, proper care must be taken up before any major development work with great care in a scientific manner so that future geological hazard can be tackled with or lessened and prevent lost of lives and properties.

### **5.2 LOCATION**

Lawngtlai Town is the main capital of the Autonomous District Council area. It lies in the southern part of Mizoram State; it is about 310 Kms. away from Aizawl town. The main town lies at the intersection of  $92^{\circ} 50.5'$  longitude and  $22^{\circ} 31'$  latitude. The town is well connected by NH-54 and other all weathered roads. The area falls under Survey of India Toposheet No. 84 B/14 and part of S.O.I Toposheet No. 84 B/15. The area is also accessible from Chawngte via Diltlang by PWD Road.



### **5.3 DRAINAGE**

Even though, the area used to received surplus rainfall during the rainy season, perennial spring in this area is scarce. This may be the result of quick surface run off or lithological and structural condition of rock beds. Hence the area used to face scarcity of water supply during the lean session whereas the area used to receive surplus rain fall during monsoon period and the streams course are often over-flowed causing great hardship to the people. This is mainly due to the absent of proper and systematic planning in the area to contain this kind of problem. The importance of water to planning and developmental relates of problem. The importance of water to planning and developmental relates most obviously to water as a resource, its protection from pollution, and to flooding, which is probably the most costly of the geologic hazards in Mizoram.

Besides, problems can be alleviated or compounded by local drainage systems and protection measures taken up to cope with problem is needed since, these may have wider implications than originally intended.

Here, most of the streams and nallah form sub-parallel and trellis pattern. Two of the important perennial streams on the eastern flank of the area are Chengkawl Lui and Sahri Lui which flows toward east. These two steams are structurally control. The other occasional streams and nallah are mainly drill erosion. There are other two major steams on the western side and are perennial in nature viz. Servate and Servapui flowing toward noth-west.

### **5.4 VEGETABLE**

The investigated area is lack of vegetation and the whole area is covered by shrubs, bushes and grass only. Large trees, which can protect the soil with its roots and leaves are absent, because of this the area is vulnerable for landslides and soil erosion.

## **5.5 GEOMORPHOLOGY**

The Geomorphology of the area expressed varied elements. The study area, most of it, except Chawnhu village area lies at the graben area shows typical sedimentary structures like Cuesta and Flaterion. However, these sedimentary structures elements are small sue to the severe structurally controlled landscape. The western portions of the linear ridges are mainly with step slope with gentler except some small area eg. L – I. There are two prominent hillocks in this area, one near Balhlakawn with 1029m and Chawnhu village with 1040m height. Most of the town area lies at an altitude between 1040m and 700m above mean sea several elongated spurs. These spurs are more or less run straight and tapering out at the major streamside with a relatively steep slope.

Most of the streams and nallah used to cut deep channel along its course with potholes type and gullies. Most of the area is characterized by drill erosion with deep V-shaped channel.

The eastern portion is relatively gentler, however L – I and L – II area are rather bounded by steeper slope. The hills and ridges are sharp and the whole area expressed immature Sedimentary landform.

## **5.6 HYDROGEOLOGY**

Eventhough the area used to receive surplus rainfall during the monsoon period, due to the topographic set up and lithogical condition of the area, copious underground water storage is rather scarce. This is mainly due to the absence of confine aquifer bed. Most of the underground water extractions are from unconfined structure. Besides, the overlying silky shale and shale bed at most of the area lessened percolation water to the rock beds below and further enhance surface run off during the rainy season. Most of the underground water drilled in this area is tapped out only from joints and fractures of the frock beds. Because of this structural controlled of the area like joints and fractures, copious underground water storage is less in comparison to confined aquifer structure.

Most of the springs in this area used to get water supply from shallow rock bed joints and fractures and the water storage from these opening is not high. Since, this has been the case, most of the springs in the area used to dry up during the lean season. Besides, the shallow shale bed especially at the Lawngtlai – III area created several shallow spring or seepages in the area during rainy season affecting the whole area and these springs saturated the shale bed formation and then produced liquefaction of the soil in the area which ultimately leads to subsidence in the area.

## **5.7 PREVIOUS WORK**

Landslide studies of Lawngtlai town were carried out by Geology & Mining wing, during 1992 and again in 1995. Similarly, landslide studies of Lawngtlai – III area was also taken up during August 2002. It is also learnt that geological mapping covering toposheet 84 B/14 at a scale of 1:50,000 had been conducted by Geological Survey of India way backs in 1980's. Besides, landslides hazard zonation map with a scale of 1:50,000 was also conducted by Geological Survey of India during 1997 covering Survey of India Toposheet 84 B/14, 84 F/3, 84 B/13, 84 B/10, 84 B/11, 84 B/12, 84 B/15, 84 B/16, 84 B F/2 and 84 F/9.

## **5.8 RECENT PAST EVENTS**

Lawngtlai town had been witnessing landslide catastrophes of minor and major in magnitude for the past years. Most of the catastrophes in this area are of major magnitude in nature affecting ways of lives of the people and sometimes caused severe destruction of properties and lost of precious lives.

Even though the area used to suffer landslide catastrophe incessantly, there is no systematic and proper records of landslides in the area. The major occurrences of landslides in this area which was properly known with record by the people dated back only during 1989. This landslide caused a heavy damage at Bazar area and Lawngtlai – III area along the NH – 54. At Bazar area 10 (ten) houses

were completely damaged and also caused rejuvenated landslide and subsidence at Lawngtlai – III area.

Due to unsystematic cutting of slopes without proper safety measures, a big landslide occurred at Lawngtlai – IV area on 23.9.1992. A huge rock bed sliced down on NH – 54 causing heavy damages to properties and lost of two human lives.

This landslide damaged 8 nos. houses, 5 nos. Vehicle, 13 nos. persons seriously injures and 10 number of housed vacated.

Again, Lawngtlai town suffered great landslide and subsidence of land during 15 – 17 May 1995. This major landslides not only effect Lawngtlai town but also effected a vast area in the southern part of Mizoram State. This landslide catastrophe was felt between 22° 28' latitude to 22° 37<sup>1/2</sup> latitude and 92° 30' longitude to 92° 7<sup>1/2</sup> longitude.

The landslide of 15 – 17 May, 1995 caused immense trouble to the area. The area could not be reached for sometimes then. Most of the area suffered heavy damage, Lawngtlai town alone toll the following casualties.

House full damaged	- 194 nos
House partially damaged	- 617 nos
Loss of lives	- 14 nos
Seriously injured	- 3 nos

(Data received from the DC, Lawngtlai 1995)

Number of landslides data collected from BRTF (GREF 71 RDD Hqrs.) during 15-17 May, 1995 landslide between the said latitude and longitude area are as follows :

<b>NAME OF THE VILLAGE</b>	<b>DISTANCE</b>	<b>NO. OF LANDSLIDE</b>
1. Tawipui 'S' – Thingfal	20 Kms	69 nos.
2. Thingfal – Thingkah	11.3 Kms	54 nos.
3. Thingkah – Lawngtlai (upto 71 RCC Hqrs)	7 Kms	23 nos.
4. Lawngtlai – Nalkawn	9 Kms	73 nos.
5. Nalkawn – Paithar	9 Kms	3 nos.
6. Lawngtlai – Mampui	19 Kms	73 nos.
7. Mampui – Ngenpui bridge	10 Kms	40 nos.
8. Ngenpui bridge – Diltlang	18 Kms	233 nos.
9. Diltlang – Sekulh	39 Kms	98 nos.
10. Zero – Saiha	16 Kms	140 nos.
11. Nalkawn – Ngenpui bridge (near Saizawh)	51 Kms	45 nos.
12. Saizawh – Tuiphai	54 Kms	234 nos.
13. Lungzarhtum – Saiha	11 Kms	57 nos.

The data received from BRTF (GREF 71 RCC Hqrs.) is only the landslide, which occurred along the BRTF road. After this landslide, land subsidence used to occur at Lawngtlai – III area, disrupting ways of lives to the area and effecting subsidence of NH – 54. This land subsidence is unabated. The major ones occurred again during May – June 2002 and June – July 2003.

### **5.9. GEOLOGY THE AREA**

The area is composed of sedimentary rock of Middle Bhuban formation of Surma group. Shale is the dominant rock bed in this area. However, at the town area, major rock beds exposure is of varied types. The main rock beds encountered in this area are (1) Silty sandstone (2) Moderately hard sandstone {brown} (3) Bedded sandstone (4) Shale (5) Hard sandstone (grey).

## 5.10. ORDER OF SUCCESSION

	<u>Overburden</u>
Silty Sandstone	- Very fine to fine grain, grey colour, silt is common with few striated shale, compact, hard to moderately hard, argillaceous etc.
Moderately hard Sandstone (Brown)	- This rock bed is of brownish in colour, fine to medium fine grain, compact and mass Massive hard. Arenaceous etc.
Bedded fracture	- Hard, very fine to fine grain, fracture and Sandstone jointed etc.
Shale	- Very thick, weathered, ferruginous, grey colour. Splintery ball type and exfoliated etc.
Hard sandstone (grey)	- Massive, thick, fine to medium fine Grain, Compact undulated. Ferruginous, very hard etc.

## 5.11. HARD SANDSTONE (GREY)

The hard sandstone of grey colour is exposed at the lower level of the area. This rock bed is the lowest bed rock exposure in this area. However, this rock bed is not always exposed in the study area. It was noticed at some points only. The rock bed is commonly exposed along the major steam channel of Sahri Lui and near Thingkah village.

This bedrock is hard and compact, the grain sizes range from fine to medium grain. This bedrock is rather devoid of joints and fractures. The thickness of the bedrock is about 10 ft. in thickness. The rock is sometimes undulated with ripple marks.

#### **5.12. SHALE**

The Shale bed of this area is enormously thick, grey colour and very fine to fine grain. This shale bed is weathered at the exposed portion; sometimes this shale bed is lined by very hard sandstone bed of five inches to 2 ft. thick. This shale bed is characterized by hall type, elliptical and exfoliated structures. Circular structure is also common. The thickness of this bed is around 50 ft. or more feet at some area and around 10 ft. thick at some area. The shale bed of grey colour is clearly exposed along the road section from Thingkah to Balhlakawn and again along the road section below Chawnhu village.

Light brown Shale bed of the same character with that of the grey colour is exposed more clearly inside Lawngtlai town area. But this Shale bed is more characterized by silt. However, this light brown shale bed is more or less devoid of structures of the Grey shale bed and the shale bed is easily slaked and slippery when it is saturated with water with overburden forming clay a vital role in sliding and subsidence.

#### **5.13. BEDDED FRACTURE SANDSTONE**

This sandstone bed is noticed near AOC toward Balhlakawn, about ½ Km Mampui road from Lawngtlai Town and along the road below a hillock after passing Chawnhu Village toward Saiha town. This sandstone bed is well-bedded fracture, the fracture rock from a rectangular shape. The rock bed is of brownish in colour and moderately hard, fine grain and jointed. The thickness of the bed is about 15 – 20 ft.

#### **5.14. MODERATELY HARD SANDSTONE BROWN**

This Rock bed is well exposed around Balhlakawn and along the road to Saiha where BRTF old stone quarry existed. This rock bed is about 5 ft. to 8 ft. thick, moderately hard, compact, massive and brownish in colour. Fine to medium fine grain, erinaceous and rather devoid of joints or fractures. At some area this rock bed is bedded with well bedding plane. The rock of this bed is lacking of structures compared to the shale bed.

#### **5.15 SILTY SANDSTONE BED**

This silty sandstone bed is seemed to be youngest rock bed formation in this area. The rock of this silty sandstone is the most common rock type. This rock bed is about 20-30 ft. thick. It is characterized by silt with few shale parting. Sedimentary structures like ripple marks is common with undulated surface and sometimes fossils and burrows are noticed in this rock bed. This bed overlies the well bedded sandstone, again this silty sandstone bed is overlies by overburden top soil.

#### **5.16. STRUCTURE**

The area is traversed by fault and lineaments. The fault of this area is of an echelon type. There are two common set of lineaments, two prominent faults which run along Chengkawl Lui and Sahri Lui are almost parallel to each other. These faults are running N 45° W direction.

The other sets of faults which run almost N 55° W traversing the area are running along Servapui Lui and Khurpui Lui. The fault along which Khurpui Lui is flowing passed through Areopagi, besides these, minor faults transversed the area. In the study area there are 10 numbers of prominent lineaments. These fault play displacement of alteration of rock beds. These faults are depicted by the abrupt changed in the rock bed, change in the amount of dip and direction and also linear stream courses and the abrupt change in the rivers/streams courses. These faults are Microscopic and Megascopic



in a nature. Besides the major lineaments mentioned above a number of joints and fracture traverse the area.

Primary sedimentary structures like ripple marks, bedding lamination are very common on the silty sandstone and ball like structures, burrows etc. are common in shale bed.

#### **5.17. FOLD**

The area is folded, but the anticline portion is marked by an abrupt slopes. The eastern limb formed a rather gently slope whereas the western limb formed a fault scraps. The major fold run approximately north – south direction and the area can be called as anticline – kthem recumbent folding is more common. The axial plane of these folds are abruptly changed in direction and varied in nature in a short range due to the distortion of the rock beds.

The main common exposed bed rock in this area is argillaceous unit of Middle Bhuban formation. This Middle Bhuban formation of Silty Sandstone bed is exposed all along the road sections from Thingfal villages up to the entrance of Balhlakawn village. Intercalation of Shale and Dirty – Clay with thin bed of sandstone are commonly noticed within the thick Silty Sandstone bed. These rock beds are mainly of fine grain in nature. The shale or silty sandstone did not show the presence of any other fossils other than the worm tubes, which are mostly of branching nature. However, fragmentary remains of bivalves were seen within the intercalated sandstone. The lithology of the area and topography expressed recent depositional features under fresh water estuarine condition.

#### **5.18. CONCLUSION**

The area is lack of vegetation cover, most of the area can be regarded as barren land, there is not much forest covered except the area around Chawnhu village, to lessen the force of drops of rainfall and hence, it received direct rainfall. The area where there the forest covered is depleted are the main affected portion by the yester-years landslides. Protection and lessening the force of excessive rainfall

given by forest for the prevention of soil erosion is always ignored and go unheard. The effects of increasing rainfall interception and therefore decreasing volume of rainfall at the ground surface as the plant grows are offset by changes in the drop-size distribution of the rain due to formation of leaf drip on the canopy.

#### **5.19 SHILLONG DECLARATION ON NATURAL DISASTER MANAGEMENT IN NORTH - EAST INDIA**

We, the Member States of North Eastern Council having met at the 49<sup>th</sup> # meeting of the Council at Shillong, Meghalaya# on February 20, 2004#, express our deep concern for the continuing human suffering and disruption of development caused by natural disaster in North East India and inspired by the commitment of National Government for a safer country, Affirm that

- (1) The natural disaster like earthquake, flood, landslide, flashflood, cyclone etc. wipe out our development gain and affect the poor and disadvantaged groups in the society most.
- (2) The risk posed by these natural disasters can be reduced better by preparedness, prevention and mitigation than response.
- (3) The enhancement in the capacities and capabilities of the Government and all other stakeholders is possible by taking appropriate legislative measures to put Institutional and Techno-legal framework in place.
- (4) The absence of effective building regulations and the unregulated development activities in our States – have increased the risk posed by natural disasters considerably and we understand planning, effective risk management, innovation in development and environmental protection activities will reduce this risk effectively. Risk assessment and disaster reduction should be integral parts of all sustainable development projects and policies.
- (5) The North East India has unique geo-climatic set up based upon our common interests and shared responsibilities to save human lives, since natural disasters do not respect borders. Regional cooperation will significantly enhance our ability to achieve real progress in mitigating disasters through transfer of

technology; sharing of experiences and information; and joint disaster prevention and mitigation activities.

- (6) The community participation is essential and compulsory component in disaster risk management and therefore community will be involved in all the stages of management, say plan preparation, plan implementation. The necessary training will be imparted to the community, local bodies and other stakeholders on regular basis to manage the disasters.
- (7) The scientific study of the natural hazard helps in understanding the disasters and it becomes important tool in warning, prediction, prevention and planning to cope effectively with the disasters. We will encourage space application technologies and Information Technologies in the study of disasters and its use in reducing the disasters.
- (8) The Information, Education and Communication (IEC) campaign is utmost necessary in making all the stakeholders change their perceptions and attitudes in reducing the risk posed by disasters. It will help in bringing a culture of prevention instead of culture of relief.
- (9) The documentation of history of natural disasters and dissemination of information is essential in disaster management. In the age of Information Technology, creation of a regional centre for Disaster Management Information Centre in the region will help in having an appropriate platform for experience sharing.
- (10) The number and impact of disasters can and must be reduced by building sustainable communities that have the long-term capacity to live with risks.

# to be substituted suitably

## CHAPTER – 6

# CAPABILITY ANALYSIS

### 6.1 INVENTORY AND EVALUATION OF RESOURCES

Taking stock of Resources available with District Administration, Private Individuals & different Govt. Officials & their deployment at the time of calamity for Relief/Rescue Operation is of vital importance.

### 6.2 CAPABILITY ANALYSIS OF INSTITUTIONS/OFFICE IN THE DISTRICT

**6.2.1** All District Level Officers, Sub-Division, Blocks & important Villages have been provided with a Telephone connection.

**6.2.2** All Police Station/Out Post having VHF Communication facilities.

#### DEPLOYMENT OF POLICE PERSONNEL IN LAWNGTLAI DISTRICT

(AS ON 25.02.2009):

1.	Superintendent of Police	-	01	
2.	SDPO	-	01	
3.	Inspector	-	03	+ 01(Ministerial)
4.	Sub- Inspector	-	08	+ 03(Ministerial)
5.	Asst. Sub- Inspector	-	11	+ 04(Ministerial)
6.	Head Constable	-	14	
7.	Constable	-	104	
8.	Driver	-	15	

**6.2.3** Fire Station of the district equipped with following resources for rescue operation.

<input type="checkbox"/>	Fire tender	:	01	
<input type="checkbox"/>	Firemen	:	04	+ 02(Drivers)

#### 6.2.4 Number of Ambulance :

Lawngtlai	-	01 (Bus)
	-	01(Sumo)
	-	01(Sumo) - LCMC
Chawngte	-	01(Sumo)
Bungtlang 'S'	-	01(Sumo)

#### 6.2.5 LIST OF HOSPITALS INCLUDING PRIVATE/CHURCH

##### OWNED HOSPITAL:

<i>Name of Hospital</i>		<i>Bed Strength</i>
Lawngtlai Civil Hospital	-	30
Kristian Hospital (BCM), Vengpui	-	20
Lairam Christian Medical Centre, Bazar	-	30
Community Health Centre, Chawngte	-	30
Primary Health Centre, Sangau	-	10
Primary Health Centre, Bualpui 'NG'	-	10
Primary Health Centre, Lungpher 'S'	-	10
Primary Health Centre, Bungtlang 'S'	-	10
<b>Total</b>	-	<b>150</b>

<b>6.2.6</b> Number of Sub-Centre in the district	-	36
Number of Health Clinic	-	02
Number of Health worker	-	80

#### 6.3 LIST OF MEDICAL STORE (REGISTERED UNDER TAXATION DEPTT.,LAWNGTLAI CIRCLE)

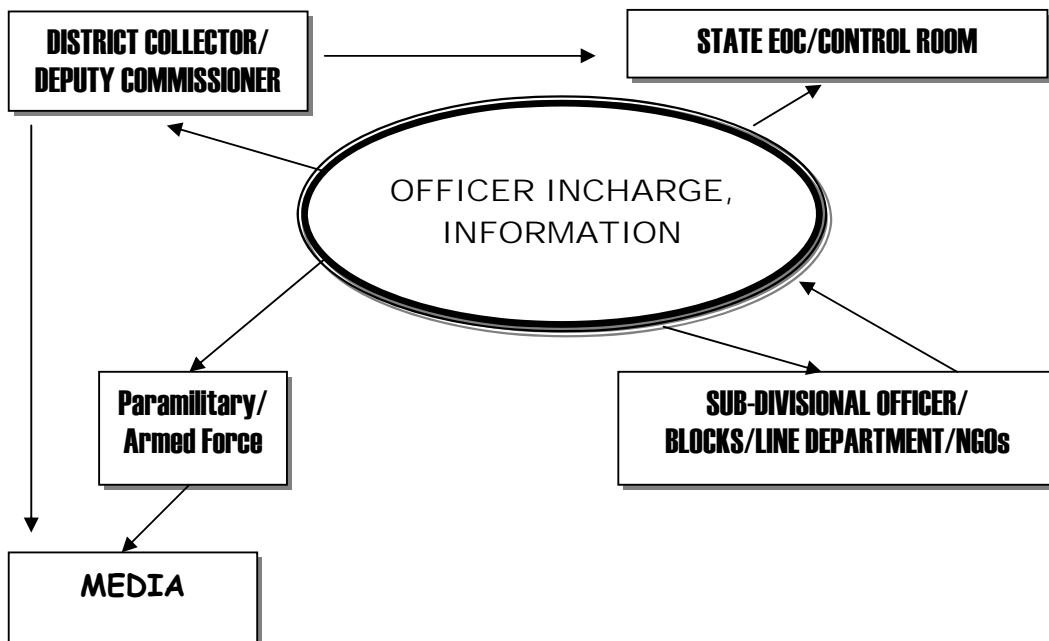
SL.NO	NAME OF STORE WITH PROPRIETOR	LOCATION
1.	Giddel Medical Store - F. Lalnghinglova	Lawngtlai Bazar
2.	Rexi Medical HalL - Punya Chakma	Chawngte 'C'
3.	LCMC - Gen. Secy, LIKBK	Lawngtlai Bazar
4.	Health Clinic - Lalkhawngaihi	Lawngtlai Bazar
5.	V.L. Drug Store - F. Vanlalchhuanga	Lawngtlai Bazar
6.	Gateway Store - H. Remhnuni	Lawngtlai - IV
7.	Valeit Medical Store - Valeit Chakma	Chawngte 'C'
8.	J.J. Drug Store - Lobinbra Chakma	Chawngte 'C'
9.	Purna Drug Centre - Dr.BP Purna Chakma	Chawngte

#### 6.4 COMMUNICATION & MEDIA

In Disaster preparedness media plays a capable role in building a communication network both horizontally and vertically. It stands in interaction with different section of society, Actors of relief administration, NGOs etc. and feeds the right information at right time to the right people.

The following tabular form insures media involvement at different hierarchy of administration.

- ☑ District Level – Dy. Comm’r ☐ Paramilitary Force ☐ Officer i/c, DCR
- ☑ Sub – Division Level–Sub–Divisional Officer ☐ Line Department/NGO



Two Officers in charge from D.C will be appointed as O i/c Information on rotation basis to collect and provide information at the time of disaster.

**6.5 ADMINISTRATIVE PREPAREDNESS FOR DIFFERENT HAZARDS FOR FLASH FLOOD & LANDSLIDE EARLY WARNING DISSEMINATION**

<b>PREPAREDNESS</b>	<b>RESPONSIBILITY</b>
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Setting up control room and manning of Control Room round the clock.	* All District Level Officials. - All Sub-Magistrates - All Revenue Officer - District Fisheries Officer - Leading NGOs - Nodal Officer of NGOs - PWD - PHE - P&E
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Assignment of duties to the District level officials and Sub-Divisions/Blocks.	
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Arrangement of vehicle and sound system for information dissemination.	
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> NGO coordination and assignment of duty.	
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Proper record keeping and transmission of information to all the levels.	
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Holding of Natural calamity meeting.	
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Ensure functioning of warning systems & communication systems.	
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Create awareness with the target groups.	
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Ensure Mock drill.	

❖ **EVACUATION**

<b>PREPAREDNESS</b>	<b>RESPONSIBILITY</b>
<input checked="" type="checkbox"/> To warn people about the impending danger & to leave for safer places.	<ul style="list-style-type: none"> <li>▪ All Sub-Magistrate</li> <li>▪ Village Council</li> <li>▪ Leading NGOs</li> <li>▪ Police</li> </ul>
<input checked="" type="checkbox"/> To co-ordinate with Civil defense-NGOs/Secretary/ Police for support	
<input checked="" type="checkbox"/> Arrangement of vehicles, etc. for evacuation.	
<input checked="" type="checkbox"/> Evacuate people of marooned areas and administer emergent relief.	
<input checked="" type="checkbox"/> Organize trained task force members.	
<input checked="" type="checkbox"/> Deployment of police for maintaining law & order & peace keeping during evacuation.	

❖ **SEARCH AND RESCUE**

<b>PREPAREDNESS</b>	<b>RESPONSIBILITY</b>
<input checked="" type="checkbox"/> Deployment of Police/Fire Brigade for search and rescue.	<ul style="list-style-type: none"> <li>▪ Police</li> <li>▪ Fire Brigade</li> <li>▪ Leading NGOs</li> <li>▪ Sub-Magistrate</li> <li>▪ PWD</li> <li>▪ Programme Co-coordinators of NSS /NCC/Defense Unit</li> </ul>
<input checked="" type="checkbox"/> Co-ordination with the NCC/NSS/Civil Defense/Rajya Sainik Board etc. for rescue operation.	
<input checked="" type="checkbox"/> Ensure availability of the rescue materials.	
<input checked="" type="checkbox"/> Prepare inventory of shelter places and map indicating the shelters centers.	
<input checked="" type="checkbox"/> Provide & arrange Rescue kit at risk areas.	



❖ **MEDICAL AID**

<b>PREPAREDNESS</b>	<b>RESPONSIBILITY</b>
☑ Deployment of Medical Staff	▪ CMO
☑ Stock pilling of Life saving drugs/ORS packets/Halogen tablets.	▪ DVO ▪ SDMO ▪ SDVO
☑ Treatment of the injured persons and Transportation of the injured to hospitals.	▪ Medical Officers of ▪ PHC/CHCS ▪ ICDS
☑ Awareness messages to stop the outbreak of epidemics.	▪ Leading NGOs
☑ Disease surveillance and transmission of reports to the higher authorities on a daily basis	▪ Leading NGO/VC/ PHC workers/Doctors
☑ Vaccination.	
☑ Constitute mobile teams and visit the worst affected areas.	
☑ Dis-infection of Drinking water sources.	
☑ Identification of site operation camps.	
☑ To obtain/transmit information on natural calamities to District Control Room.	
☑ Advance inoculation programme in the Flash Flood/Land slide prone areas.	
☑ Arrangement of fodder/medicines for the animals.	
☑ Vaccination site operation camps, Carcasses, disposal	

❖ **SHELTER MANAGEMENT**

<b>PREPAREDNESS</b>	<b>RESPONSIBILITY</b>
<ul style="list-style-type: none"> <li>☑ Identification of Shelter/Temporary shelter in high-elevated places and arrangement of tents etc.</li> <li>☑ Arrangement of Food/Drinking water/ Medicine in the shelter places.</li> <li>☑ Person's allocation for each shelter.</li> <li>☑ Arrangement of transportation.</li> <li>☑ Arrangement for safe shelter for animals.</li> <li>☑ Providing the lighting facilities for shelter places.</li> <li>☑ Deployment of Police Personnel.</li> <li>☑ Temporary supply of safe drinking water.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Sub-Magistrate</li> <li>▪ Medical Officers</li> <li>▪ Paramilitary Forces</li> <li>▪ Police</li> <li>▪ PHE</li> <li>▪ Block Officer/ Ranger (Forest Department)</li> <li>▪ SP</li> <li>▪ PHE</li> <li>▪ P&amp;E</li> </ul>

❖ **EMERGENT RELIEF/FREE KITCHEN OPERATION**

<b>PREPAREDNESS</b>	<b>RESPONSIBILITY</b>
<ul style="list-style-type: none"> <li>☑ Deployment of vehicle.</li> <li>☑ Procurement and transportation of Relief materials to affected pockets/areas.</li> <li>☑ Arrangement of free kitchen in the shelter camps &amp; affected areas.</li> <li>☑ Assigning responsibilities to officials for distribution of emergent relief/running of free kitchen.</li> <li>☑ Coordination with the NGOs/Other voluntary organization &amp; PSUs/UNICEF/ UNDP/REDCROSS. For continuing Relief Operation.</li> <li>☑ Monitoring</li> </ul>	<ul style="list-style-type: none"> <li>▪ Sub-Magistrate</li> <li>▪ BDOs</li> <li>▪ DFO/DCF</li> <li>▪ Medical Officers</li> <li>▪ Paramilitary Forces</li> <li>▪ Police</li> <li>▪ PHE</li> <li>▪ Leading NGO</li> </ul>

❖ **HEALTH AND SANITATION RESPONSE STRUCTURE**

<b>PREPAREDNESS</b>	<b>RESPONSIBILITY</b>
<ul style="list-style-type: none"> <li>☑ List of the Medical staff members with contact address/telephone number.</li> <li>☑ Stock position of medicines at District/ Sub-Division/PHC/CHC/AWC.</li> <li>☑ Plan and indent position of stock.</li> <li>☑ Trained voluntary staffs/task forces/ Anganwadi workers on use and providing min. health services to the community.</li> <li>☑ Arrangement of Mobile Health Unit for inaccessible pockets/Health awareness campaign.</li> <li>☑ Stock position for medicines for animals.</li> <li>☑ Ensuring supply of safe drinking water arrangement for supply of safe drinking water.</li> <li>☑ Disinfectant for purification of water.</li> <li>☑ Arrangement of mobile team and assigning specific operational area for supply of water.</li> <li>☑ Involvement of volunteers/village level workers.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Sub-Magistrates</li> <li>▪ CMO</li> <li>▪ DVO</li> <li>▪ PHE</li> <li>▪ DFO/DCF</li> <li>▪ Medical Officers</li> <li>▪ Paramilitary Forces</li> <li>▪ Police</li> </ul>

❖ **INFRASTRUCTURE RESTORATION**

<b>PREPAREDNESS</b>	<b>RESPONSIBILITY</b>
<ul style="list-style-type: none"> <li>☑ Formation of task force with specific equipments.</li> <li>☑ Assigning responsibilities for</li> </ul>	<ul style="list-style-type: none"> <li>▪ Police</li> <li>▪ PHE/BRO/R&amp;B/ Civil Defence</li> </ul>

<p>specific areas.</p> <ul style="list-style-type: none"> <li>☑ Emergency cleaning of debris to enabled reconnaissance.</li> <li>☑ Coordinate road-cleaning activities to assist local relief work.</li> <li>☑ Begin clearing roads, assemble casual labour provide a work team carrying emergency tool kits.</li> <li>☑ Towing vehicles, earth moving equipments, cranes, construct temporary roads.</li> <li>☑ Keep National &amp; other Highways clear from disaster effects.</li> <li>☑ Damage assessment.</li> <li>☑ Monitoring</li> </ul>	<ul style="list-style-type: none"> <li>▪ RTO/MVI/BRO</li> <li>▪ All line departments</li> <li>▪ All Revenue Officers</li> <li>▪ All Village Councils</li> <li>▪ 71 RCC</li> <li>▪ PWD</li> </ul>
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**DISASTER-SPECIFIC CAPABILITY ANALYSIS WITH THE HUMAN RESOURCES/SKILLS**

❖ At the time of Calamity for effective operation of different Institutional arrangement & Relief operation the necessity of the Human resources are highly essential without which nothing can be pulled on. The district is having following Human resources both at Government & with the civil society organization for maximum utilization of their services.

- ✦ Total No. of Police personnel including Officers in Police Department is – 165
- ✦ Total No. of Fire personnel in Lawngtlai District – 06

## CHAPTER - 7

# PREVENTION, MITIGATION STRATEGY AND RESPONSE PLAN (ACTION PLAN) FOR EMERGENCY SUPPORT FUNCTIONS

“The disaster scenario offers a range of opportunities for affected communities to respond to the crisis, how community responds to a disaster and post disaster aid sets the tone for the transition from disaster to development”. After earthquake in Latur, people of that area started to monitor construction works, retrofitting of houses and behaved like “community construction watch dogs” (IDR, Oxford, 2000)

Disaster management is a multi faceted discipline that needs different mechanisms with diverse methodology. The action plan contains two approaches; 1) short term plan and 2) long term response plans to tackle a disaster scenario.

### 7.1 SHORT TERM RESPONSE PLAN :

Short-term response plan contains the actions to be taken immediately after a disaster. Once an information has been reached the district EOC or an of the Disaster Managers n the district either from authentic or unauthentic sources, it has to be verified soon for authenticity. Once the information is found correct, it has to be reported to the Incident Commander via fast communication system. The Incident Commander shall take the following actions.

1. Disseminate warning/alert to the potential victims.
2. Disseminate information to vertical and horizontal EOCs.
3. Disseminate information to vertical and horizontal Administrators and DMTs.
4. Declare Disaster based on the severity/vulnerability.

#### 7.1.1 Rescue Operations :

Immediately after a disaster the Deputy Commissioner shall act as the District Magistrate and incident commander and take over disaster management. He/she shall coordinate the rescue

operations with the help of the Working Group for relief and rehabilitation and the Emergency Support Functions. Along with the rescue operations the Incident Commander shall do the following measures :

1. Activate the Incident Command System.
2. Call meeting of Crisis Management Group.
3. Coordinate the ESFs in disaster management.
4. Set up Site/Onsite Operation Centers and activate relief camps.
5. Collect preliminary assessment report from the onsite EOCs.
6. Activate the pre-contract vendors and collect relief materials for distribution.
7. Brief the situation to the Higher authority as well as to the press/media people.
8. Ensure basic logistic arrangements for disaster managers and the Operation Centers.
9. Mobilize resources/call assistance from various stakeholders.

Besides there are large number of activities to be under taken by the Incident Commander in consultation with the Crisis Management Group which are listed in the District Management Act.

#### **7.1.2 Relief Operations :**

Once the rescue phase is over, the district administration shall provide immediate relief assistance either in cash or in kind to the victims of the disaster. The DDMC shall enter in to pre-contract well in advance and procure materials required for life saving. The office of Deputy Commissioner is responsible for providing relief to the victims of natural and man made disasters like fire, flood, drought, earthquake, riots, terrorist attacks, accidents etc. The relief is provided as per the scale fixed by the government which may be modified time by time :

### Communal Riots

Death Case	Rs. 1 lakh
Permanent Incapacitation	Rs. 50,000/-

### Bomb Blasts and Riots

Death Case	Rs. 1 lakh in each case
Permanent Incapacitation	Rs. 50,000/-each case
Serious Injury	Rs. 10,000/-each case
Minor Injury	Rs. 3,000/-each case

### Fire and Other Accidents

Death (Major)	Rs. 50,000/-each case
Death (Minor)	Rs. 25,000/-each case
Serious Injury	Rs. 20,000/-each case
Minor Injury	Rs. 500/-each case

### Loss of property

Animals	Rs. 1,000/-each
Rickshaw etc.	Rs. 500/-each case

### Damage to residential unit (in riots)

Total damage	Rs. 20,000/-
Substantial damage	Rs. 10,000/-
Minor damage	Rs. 2,000/-

### Uninsured commercial property/commercial articles

50% of the loss – up to a maximum of Rs. 50,000/-
Total damage of the Jhuggis – Rs. 1,000/-

### **7.1.3 Rehabilitation :**

In short term response rehabilitation is the final step. The incident Command System shall be deactivated as the rehabilitation phase is over. Thereafter the normal administration shall take up the remaining reconstruction works in the disaster-affected areas. These activities shall be performed by the Working Group for relief and rehabilitation under the direction of the DDMC.

## **7.2 LONG TERM RESPONSE PLAN**

The long-term response plans are related with Recovery and Reconstruction activities on one side and institutionalizing disaster management in district administration on the other side. The former one is given in detail in the coming chapter. There are Standard Operation Procedures (SOPs) for the Emergency Support Functions. In long term measures the following action shall be undertaken duly.

1. Constitution of Emergency Support Functions, Disaster Management Teams, Quick Response Teams, Field Response Teams.
2. Refresher trainings for all such teams in a regular interval of time and exercise of Mock Drills.
3. Continuous awareness/sensitization programmes for the stakeholders and the general Public.
4. Getting pre-contract with vendors and merchant establishments to procure relief materials in times of disaster.

Most of the Line Departments in the District, Autonomous Bodies and Organizations are part of the Emergency Support Functions. The action plans for ESFs for disaster management are discussed below. The DDMC shall ensure that these actions plans are updated bi annually and practiced through mock drills in the district.



### **7.2.1 Action Plan for Police :**

#### Response Activation

- The Nodal Officer from Mizoram Police will activate the Quick response teams.
- The Quick Response Teams will be deployed at the Onsite EOCs.
- As per the information from IMTs, more officers may be sent at site.

#### Actions to be taken

- If felt, cordoning of area to restrict movement of onlookers, vehicular and pedestrian traffic should be done.
- Quick assessment of law and order situation in affected areas.
- Prepare updates on the law and order situation every 2–3 hours and brief the Incident Commander.
- Arrangements for controlling situations like rioting and looting.
- QRTs will guard property and valuables in affected areas.
- Control and monitor traffic movement.
- QRTs will also provide information about traffic flow along various corridors, especially heavy traffic or congested roads.
- QRTs will communicate to police control rooms, details on the field activities including deployment and reinforcement of staff and resources and communicate nature of additional requirements.

#### Equipments to be brought

- Search Lights.
- Electric Lights.
- Crane-Heavy Duty Fork Type.

- Recovery Van.
- Stretches.
- First and Kits.
- Vehicles : Mini Buses, Heavy Truck, Ambulance Vans, Mobilization Trucks.
- Water Tanker.
- Any other.

### **7.2.2 Action Plan for Fire and Emergency Service :**

#### Response Activation

- As soon as the Nodal Officer gets information about the disaster, he should reach the EOC.
- The Quick Response Teams will be deployed at the Onsite EOCs.
- As per information from IMT, more officers may be sent at side.

#### Actions to be taken

- At the site, QRTs should contact the local volunteers and local people to gather information about vulnerable areas so that search and rescue operation can take place through a proper channel in heavily dense areas, large buildings, community centers, hotels, hospitals, public buildings and any other area having large gathering.
- Locate the damaged and collapsed structures and rescue the population buried and trapped in rubble.
- Special care to women and children groups should be given as they are expected to be more affected and helpless incase of any emergency situation.
- Coordinate with the Transportation ESF if a large number of medical professionals need to be sent to the affected sites and/or a large number of victims need to be transported to health facilities.

### Equipments to be brought

- Water Tender.
- Ladder Platforms.
- Haz Mat Van.
- Concrete Cutter.
- Other equipments necessary for Search and Rescue Operations, depends upon need.

**As soon as Fire and Emergency services gets information about the disaster, the nodal officer/ duty officer shall call the PHE department for help to arrange other trips of water or provide water from the nearest source available as early as possible. The necessity of such arrangement is obvious as the district has only one fire fighting vehicle.**

### **7.2.3 Action Plan for Home Guards :**

#### Response Activation

- As soon as the Nodal Officer gets information about the disaster, reach the EOC.
- The Quick Response Teams will be deployed at the three sites.
- As per information received from Incident Management Team (IMT), more officers may be sent at site.

#### Actions to be taken

- Support and coordinate with the Incident Command System for Law and Order, Search and Rescue and Medical Response and Trauma Counseling functions.
- Locate the damaged and collapsed structures and rescue the population buried and trapped in rubble.
- Special care to women and children groups should be given as they are expected to be more affected and helpless in case of any emergency situation.

- In case of fire, the CD team members should do firefighting.
- First Aid should be provided along with the members of ESF on Medical Response.
- Do Search and Rescue.

Equipments to be brought

- Extension Ladders.
- Sledge Hammers.
- Lifting Tackles.
- Stretchers.
- Tarpaulins/Silpaulins.
- Any Other

**7.2.4 Action Plan for P&E :**

Response Activation

- As soon as the Nodal Officer gets information about the disaster reach the EOC.
- The Quick Response Teams will be deployed at the sites.
- As per information received from Incident Management Team (IMT), more officers may be sent at site.

Actions to be taken

- Will dispatch emergency repair teams equipped with tools, tents and food.
- Assist hospitals in establishing an emergency supply by assembling generators and others emergency equipments, if necessary.
- The members of QRTs will establish temporary electricity supplies for other key public and private water systems.
- The members of QRTs will make arrangements for temporary electricity supplies for transit camps, feeding

centers, relief camps and Onsite EOC, District EOC and on access roads to the same.

- The members of QRTs will establish temporary electricity supplies for relief materials go downs.
- Compile an itemized assessment of damage, from reports made by various electrical receiving centers and sub-centers.
- Report about all the activities to the head office.

#### Equipments to be brought

All material required for restoration of supply available with the department in Field Offices/Stores.

### **7.2.5 Action Plan for BSNL :**

#### Goal

The BSNL is primarily responsible for restoration of communication facilities. The BSNL should ensure the smooth flow of information that can cater to the outreach in a time-sensitive manner at state level in response efforts.

#### Response Activation

- Soon after receiving information about disaster (from any source). Nodal Officer will contact State/District Emergency Operations Centre.
- The Nodal Officer from BSNL will activate the Quick Response Teams.
- As per the information from Incident Management Team, more teams may be deployed at affected sites.

#### Action to be taken

- Communicate situation to support agencies (Reliance, Airtel, NIC etc.) and request for detailed information on the status of equipment and infrastructure damage in the affected area(s).

- Launch assessment mission to understand better the nature of damage to telecom services and network.
- Ensure possible arrangements for establishing reliable and appropriate network.
- Work out a plan of action for private telecom companies and convene a meeting to discuss and finalize the modalities.
- Compile and communicate Action Taken Report to District and State Authorities.
- New numbers and details of contact persons to be communicated to Emergency Operations Centre (District/State).
- Mobile exchanges should be deployed as alternative mode of communication for authorities and general public.
- Establish telephone facilities for the public and information on this should be announced through media.
- Monitor the situation and arrange for emergency staff required to operate systems established.
- Inform district/state authorities on debris clearness of the work required.
- Launch rehabilitation work and arrange for repairs and relocation, if required.
- Make available various types of equipment/material/technical manpower and services, if requested.

Equipments to be brought

- Emergency Communication Van with GSM and CDMA services.
- Other necessary equipments to restore communication network/set-up alternative emergency communication.

**7.2.6 Action Plan for Private Mobile Operators :**

Goal

The BSNL is primarily responsible for restoration of communication facilities. The private operators should ensure the smooth flow of information that can cater to the outreach in a time-sensitive manner at state level in response efforts.

#### Response Activation

- Soon after receiving information about the calamity (from any source), Nodal Officer will contact Team Leader from BSNL.
- The Nodal Officer will activate the Quick Response Team.
- The Quick Response Teams will be deployed at the three incident sites.
- As per the information from Incident Management Team, more teams may be deployed at the affected sites.

#### Action to be taken

- Communicate situation to BSNL and arrange for detailed information on the status of equipment and infrastructure damage in the affected area(s).
- Launch assessment mission to understand better the nature of damage to telecom services and network.
- Ensure possible arrangements for establishing reliable and appropriate network.
- Work out a plan of action for restoration and convene a meeting to discuss and finalize the modalities.
- Compile and communicate Action Taken report to BSNL.
- New numbers and details of contact persons to be communicated to Emergency Operations Centre (District/State).
- Mobile exchanges should be deployed as alternative mode of communication for authorities and general public.
- Establish telephone facilities for the public and information on this should be announced through media.

- Monitor the situation and arrange for emergency staff required to operate systems established.
- Inform district/state authorities on debris clearance of the work required.
- Launch rehabilitation work and arrange for repairs and relocation, if required.
- Make available various types of equipment/material/technical manpower and services, if requested.

Equipments to be brought

- Emergency Communication Van with GSM services.
- Other necessary equipments to restore communication network/set-up alternative emergency communication.

**7.2.7 Action Plan for PWD :**

Action to be taken

- The above agencies will bring debris of heavy RCC structures (having beams/columns) and put dummies beneath the debris. This will facilitate demonstration of search & rescue operations. Soon after search and rescue team leave the site, will mobilize equipments for debris clearance.
- Assume role in Equipment support, debris and road clearance, on receiving the intimation of the disaster from State EOC/Nodal Officer of MCD.
- Coordinate with the MCD officers to mobilize equipments from the warehouses.
- Contact respective personal to move the equipments to central warehouse.
- The equipments like JCB, concrete cutters identified as per the need will be transported to the site.
- On receiving intimation on the intensity of the damages of structure, the nodal officer will make an assessment



on of the damages of roads and structures reported at the site and surrounding areas.

- The nodal officers will call for personal to immediately start debris clearance operation to enable movement to the affected site.
- A review of the current situation should be taken up by the nodal agency to update the support agencies to delegate their respective personnel to take precautionary measure to plan de-routes for the transportation ESF's to be operational.
- All supporting agencies will inspect the road/rail network and structures within the disaster site and surrounding.
- Ensure proper corpse disposal and post mortem by coordinating with ESF on medical response.
- Assessment of damage (locations, no. of structures damaged, severity of damage).
- The QRTs will be deployed at the affected site.
- Enlisting the types of equipment as compiled from resource inventory required for conducting the debris clearance.
- The QRTs will report the situation and the progress in response activities to the respective EOCs.
- Undertake construction of temporary roads to serve as access to temporary transit and relief camps, and medical facilities for disaster victims.
- Undertake repair of all paved and unpaved road surfaces including edge metalling, pothole patching and any failure of surface, foundations in the affected areas by maintenance engineer's staff and keep monitoring their conditions.
- Ensure a critical number of medical professionals to reach the site including specialists from outside the state.
- If temporary living arrangements are being made from the affected populace, the agencies must ensure high standards of sanitation in settlements in order to prevent the multiplicity of the disaster.

- Coordinate, direct, and integrate response to provide Equipments support, relief camps establishment, and sanitation health assistances.
- Mobilizes different modes of transportation e.g. Trucks, etc. to be put on stand-by.
- Assist timely re-establishment of the critical transportation links.
- Compile an itemized assessment of damage, from reports made by various receiving centers and sub-centers.

Equipments to be brought

- JCB, concrete breakers, cranes, Grader, Bulldozers, Gas Cutter, Jack Hammer, Tipper, Folkanes, Dumper, Aeromatic Hammer for debris/road clearance, supporting rescue operations.
- Vehicles (Trucks), Earth movers, rescue equipments, mobile medical vans.
- Other disaster management related equipments.

**Quick Response Team**

<b>Team Leader :</b>	<b>Contact No:</b>
<i>Pu J.Sangkhuma, EE</i>	03835-233291(O)/233299(R)
	9436142764

**Alternate Team Leader :**

<i>Pu Vanlalsiama, SDO</i>	03835-233291/9436147400
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**Member 1 :**

<i>Lalfakzuala, SDO</i>	9436147013
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**Member 2 :**

*Penticos Chinzah, JE*

**Member 3 :**

*C. Thankima, JE*

**Member 4 :**

*K.Biakhranga, JE*

**Member 5 :**

*Malsawma, LDC*

### **7.2.8 Action Plan for PHE :**

#### Response Activation

- Upon receipt of notification about disaster, nodal officer will activate quick response teams.
- The quick response teams will be deployed at the sites.

#### Action to be taken

- Quick assessment of water line damage and contamination.
- Supply of water tankers to disaster affected communities.
- Deploy response teams to repair and restore water supply lines that may be damaged after disaster.
- Quick assessment of water contamination levels and taking steps to restore clean drinking water.
- Provide information to IMT, district EOC and state EOC about extent of damage.

#### Equipments/Materials to be brought to site

- Water tankers.

**As soon as the department gets information about the disaster – especially in fire, the nodal officer/ duty officer shall liaise with the PHE officials to arrange at the disaster site, a trip(HMV) of water for Fire Tender quickly. It is necessary for the fire tender to get another trip of water in a short time unless such disaster may turn bad to worst.**

**The following telephone number may be utilized-**

- 1. E.E., PHE - 232235 / 9436147658**
- 2. SDO.,PHE - 232235/ 9436147658**
- 3. Control Room i/c            9612327979**

### **7.2.9 Action Plan for Department of Irrigation (Agriculture) :**

#### Response Activation

- Team leader of ESF will activate Quick Response Team.
- QRTs will be deployed at all three sites.

#### Action to be taken

- QRT to report situation and progress of action to the EOC.
- Coordinate with Team leader for water supply.
- Provide arrangements for transportation means across any river in case bridge network fails.

### **7.2.10 Action Plan for DCSO, Food, Civil Supplies & Consumer Affairs.**

#### Response Activation

- Team leader will activate ESF on receiving information of the disaster from State EOC.
- Team leader will inform Nodal Officers of support agencies about the event and ESF activation.

#### Action to be taken

- Coordinate with ESFs related to transportation, debris and road clearance to ensure quality supply chain management and relief materials.
- QRTs to report to site of relief camps.
- QRTs responsible for management and distribution of food and relief items to affected victims.
- QRTs responsible for reporting progress of action taken to EOC.
- Preparing take-home food packets for families.
- Ensuring support to local administration.

Equipments/Materials to be brought to site

- Food packets.

**7.2.11 Action Plan for Department of Transport :**

Response Activation

- Team leader will activate ESF on receiving information of the disaster from State EOC.
- Team leader will inform Nodal Officers of support agencies about the event and ESF activation.

Action to be taken

- Team leader communicates situation to support agencies and requests for detailed information on the status of transportation infrastructure in the affected area(s).

**7.2.13 Action Plan for Army/Military :**

Response Activation

- Upon receipt of notification about disaster, nodal officer will activate quick response teams.
- The quick response teams will be deployed at the sites.

Action to be taken

- Support and coordinate with the Incident Command System for Law and Order, Search and Rescue, distribution of Relief material, Medical Response and Trauma Counseling functions.
- Locate the damaged and collapsed structures and rescue the population buried and trapped in rubble.

- Cordoning of area to restrict movement of onlookers, vehicular and pedestrian traffic should be done.
- Quick assessment of law and order situation in affected areas.

**SEQUENCE OF EVENTS, EXPECTED RESPONSE AND AGENCIES INVOLVED**

Sl. No.	Event
1	<u>Notification Phase</u> : to district Authorities of the incident – Tremors lead to falling of buildings.
2	<u>Notification Phase</u> : Notification to State and National Authorities by the designated Unified Commander.
3	<u>Response Phase</u> : Mobilization of Resources
4	Movement of Emergency Response Team (ERT) under the overall supervision of Unified Commander from their permanent location to the site of incident.
5	Physical movement and deployment of Emergency Response Teams at the site(s) of incident.
6	<u>Response Phases</u> : Cordon of the area, evaluation of the situation site security and control.
7	<u>Response Phases</u> : Detection, Decontamination and Rescue & Evacuation (if chemical spillage takes place as an after effect of earthquake)
8	Safety.
9	<u>Response Phase</u> : execution of rescue and relief operations.
10	Setting up of Relief Camps at safe community buildings/open spaces.
11	Actions to information officer of media management.
12	<u>Restoration and recovery.</u>
13	Crime investigation.

**7.2.15 Composition of Search and Rescue Team :**

The Typical Search and Rescue Team should consist of

- Rescue and evacuation team.
- Relief team, Medical Unit, Technical support team.
- Damage and need Assessment team.

## Rescue Required

- Acoustic listening devices.
  - Search Cams.
  - Thermal Imaging Cameras.
  - Rescue gears.
  - Canines.
  - Hydraulic platform 60 mts. Telescopic cum Articulating.
  - Hydraulic platform 54 mts. Telescopic with Articulating tip boom.
  - Hydraulic platform 45 mts. Telescopic with Articulating tip boom & rotating cage.
  - Hydraulic Telescope crane (45mts. 100 ton capacity)
  - Hydraulic/pneumatic rescue tools (Heavy duty industrial type) Concrete saws, portables, gasoline operated with diamond chains.
  - 12" & 14" with water pump & hose/connectors.
  - Concrete breakers (28 kgs)
  - Concrete breaker (10 kgs)
  - Pneumatic High-pressure lifting bags 12 to 132 tons.
  - Life detector compact system.
  - Helmets with head mounted strap lights/battery & wireless/walkie-talkie adapters.
  - Mechanical jack supports.
  - Hydraulic jacking system.
- Front End Loader (JCB Type)
- ✓ Bucket cap 1.0 cu.mt/Back hoe cap. 0.2/0.3 cu. mt.  
HP
  - ✓ Bucket cap 2.0 cu. mt. HP
  - ✓ Bucket cap 1.0 cu. mt. HP
- Excavator, Bucket Cap 0.3 cu.m.wt. @ 7/8 ton, HP @ 50/60 HP.
  - Bucket cap 1.0 cu.mt.wt. @ 20/25 ton HP @ 120/135.
  - Wheel Dozer G14 D type. Bulldozer D80 A12, Tipper truck, tractors,.
  - Lifting crane cap. 25 ton.
  - Mobile medical van, Tata Sumo.
  - Dead animal van/Animal ambulance.

- Do watering pump heavy duty mounted on a LCV.
- Towing crane, Trailer 25 ton to transfer the machinery.
- Mobile Breakdown Unit.

#### Other Resources

- Emergency lights, torches.
- Public Address Systems (battery operated).
- Stretchers, Covered dustbins.
- Earth digging equipments.
- Polythene sheets, Fire-fighting equipment.
- Bleaching Powder, First Aid kits.
- Protective shoes/gloves, Casualty bags.



## STANDARD OPERATING PROCEDURE (SOP)

### 8.1 INTRODUCTION

Standard Operating Procedure is the procedural operations that have to be followed to reduce repairs time to minimum in any eventuality of disaster to activate the entire civil administration defense system.

In order to lay down SOP for different intensity of disaster the concept of L – 0, L – 1, L – 2 and L – 3 will be used in Lawngtlai District as in line with recommendation of high power committee of disaster management plan, department of Agriculture/Co-operation, Govt. of India.

**8.1.1 L – 0 or Ordinary Level :** is to devote normal times when the disaster management team should be maintaining a close watch over the state of preparedness of each type of disaster.

Some Drill may be necessary at this level. A Drill shall include that all disaster management plans that are ready at different levels should be updated in the last weeks of April and rehearsal in the first week of May. Rehearsal should be evaluated at every level.

**8.1.2 L – 1 or Level One :** This is the starting point of a disaster situation, which when reported from any quarter would set into motion, without formal orders from anywhere. Some basic initial management response steps alerting all concerned according to predetermined procedural drill for each type of disaster. Basic action to mitigate the impact of the disaster would also be taken simultaneously along with rescue and relief measures.

**8.1.3 L – 2 or Level Two :** This level require total attention of the district administration. This would show Triggering off some

basic initial management response steps, predetermined for each type of disaster which would be set into motion without formal orders from any quarter. The mitigation, relief and rescue activities would swing into action simultaneously.

**8.1.4 L – 3 or Level Three :** This is the last level or the disaster of the greatest intensity. When this perception takes place, some basic initial management response steps, predetermined for each type of disaster, would be set into motion without formal order from anywhere. The corresponding mitigation, relief and rescue activities would swing into action simultaneously.

**8.1.5** The L – 0, L – 1, L – 2, L – 3 level would be determined for each type of disaster by the corresponding manager/officer at the district level.

**8.1.6** The entire exercise is essentially to determine the level L – 0, L – 1, L – 2, L – 3 along with this action that need to follow as well as the various authorities that need to be attended and activated would also need to be predetermined.

**8.1.7** A disaster may start at a low key (L – 1) and may develop overtime to a more serious level (L – 2) and later become a major disaster (L – 3).

## **8.2 SEQUENCE OF ACTION TO BE TAKEN AT THE TIME OF DISASTER**

- In the event of disaster, the DC, Lawngtlai or District Emergency Operations Centre(EOC) and SP, Lawngtlai should be informed immediately about the incident. Then, these two officer would informed the concerned officials based upon the kind of disaster. Besides, immediate relief and rescue operation will be started at the places. Then, the DC will informed the level of disaster and accordingly action will be taken.
- Irrespective of whether the area is small or big, the area should be demarcated by wire or haisian cloth, so that no one except only those trained in disaster management and officials would

be permitted to enter the demarcation zone. And the site operation centre should be establish near the demarcation area to see overall management and coordination. One or more officials will be in charge of this and he will be assisted by local NGO's, VC's, YLA etc.

- The trained electrician should be used to stopped the electric current at the site of the disaster, if there is remains of electric wire to prevent electrocution, electric shock burns etc.
- The fire brigade should see whether there is any possibility of fire and should extinguish if there is no fire at the site of disaster.
- The medical team should be sent immediately to provide first aid medical help and look after any injuries. If any severe/serious injurious happen, should be sent directly to the nearby hospital immediately.
- Rescue party should be send immediately to rescue any person alive at the disaster place and search for the missing person should be done immediately.
- Welfare party should be send in immediately to look after dead bodies and carcass of animals. If there are any severe injuries, the welfare party will look after their transportation to nearby hospital and arranged any material required to be brought to the site operating centre. The dead bodies should be put in a coffin and then buried.
- Any properties and valuable items should be kept carefully and protected, so that there is no missing properties and valuable items. In order to do this, no person except the disaster management teams/official will be allowed inside the demarcated area.
- If the disaster occur at night, the lighting should be provided to the site operating centre immediately.
- If the disaster happens at rainy days, the affected area should be cordoned and covered by tarpauline/silpauline immediately.
- Different aspect of relief and rehabilitation of the affected persons should be started immediately. Eg. Clothing, shelter, food, etc.
- The overall management will be look after by the DC or any other officials present at the site designated by DC or in their

absence by the village level disaster management team including NGO's, VCP's, YLA, etc.

### **8.3 S.O.P FOR EMERGENCY SUPPORT FUNCTIONS (ESF)**

The major functions of the incident command system are summarized as follows. Nevertheless, they are to be released in cooperation of all the ESFs and participating agencies in disaster management. The incident commander is given with full control and command over the entire teams in district level.

#### **ESF 1 : COMMUNICATION**

##### **Background**

The communication ESF is primarily responsible for restoration of communication facilities. The ESF on Communication should ensure the smooth flow of information that can cater to the outreach in a time-sensitive manner at state level in response efforts.

##### **Situation Assumption**

- There would be a congestion in the network because of increased calls to control rooms due to panic created in the community.
- The initial reports on damage may not give a clear picture of the extent of damage to communication network.
- The affected site may cut off from the state control rooms and the officials on site and find difficulty in communicating to the District/State EOC

**Nodal Agency** : Bharat Sanchar Nigam Limited (BSNL)

**Supporting Agencies** : NIC, Police/private telecom/mobile operator.

##### **SOPS for Nodal Agency :**

- Team Leader (TL) of Communication ESF will activate the ESF on receiving the intimation of occurrence of the disaster from the District EOC.
- TL would inform Nodal Officers (NOs) of support agencies about the event and ESF activation.

- TL requests for reports from local ESF contact persons (this would be the local office of ESF Nodal Agency) to understand the current situation and action taken.
- Based on information given by the supporting agencies, TL decides on the need to launch an assessment mission to estimate the extent of damage to telecom services and network as well as to come up with possible arrangements to establishing reliable and appropriate network.
- TL communicates situation to supporting agencies and also requests to provide details on the status of equipment and infrastructure in the affected area (s).
- TL informs the Incident Commander on the status of telecom services.
- TL works out a plan of action for private telecom companies and convenes a meeting of all ESF members to discuss and finalize the modalities.
- TL issues orders to establish systems and reports to District EOCs on the action taken. New phone numbers and details of contact persons would also be communicated. If required mobile exchanges would be deployed.
- TL gets the temporary telephone facilities established for the public. Prior information on this would be announced through media.
- TL sends the District Quick Response team at the affected site with the required equipments and other resources.

#### **SOPS for Quick Response Team on Communication**

- The QRT (Quick Response Team) members will reach to the nodal office as soon as they will get instructions from the TL.
- Once the QRTs receive any intimation from the nodal officer to reach at the site they would rush to the site.
- At the emergency site QRT members will take stock of the situation from the IC and would also know about their counter parts.
- QRTS would assess the ground situation and would send sectoral report to the District ESF agency.
- A sectoral report would contain following :

- An assessment of overall damage, listing specifically.
  - Overhead route damage (in miles/kilometers).
  - Cable damage (in yards/meters).
  - Specific equipment damaged.
  - Establish a temporary communication facility for use by the public.
  - Identify requirements of manpower, vehicles and other materials and equipments Give priority and concentrate on repairs and normalization of communication system at disaster-affected areas.
- Begin restoration by removing and salvaging wires and poles from the roadways with the help of casual laborers.
  - Carry out temporary building repairs to establish a secured storage area for the equipments and salvaged materials.
  - Report all activities to head office.
  - Begin restoration by removing and salvaging wires and poles from the roadways through recruited casual laborers.
  - Establish a secure storage area for incoming equipments and salvaged materials.

### **PRESS BRIEFINGS**

Press briefings play a very important role in Disaster Management. Daily press briefs will be issued at .....hours. Written information will be issued.

### **MESSAGE TO PUBLIC**

Message to public over All India Radio Aizawl, Lunglei, District AI&PRO, RL Cable Network, KT Cable Network and Local Papers should be specific. Apart from the warning, it should include the following three points.

- a) Remain alert.
- b) Take shelter in nearest pucca building/save Shelters/School & Other safe places.
- c) Keep cattle tied in open spaces/let free.
- d) Keep sufficient dry food for emergency.

1. Regular contact at intervals with D.C, Addl. D.C, SDO's, SDM's, BDO's and all the nodal officers of line department, SP Police Civil Defense, Police Control Room.
2. Written orders shall be issued for identifying places for **starting free kitchens** for at least 3 days.
3. Keep **spare copies of District maps**. Jurisdiction maps of all irrigation divisions shall be kept ready in good numbers.
4. Place requisition with SP for supply of temporary VHF sets for CMO, DVO, PWD, PHE, P&E and concerned officials.
5. Contact Meteorology Department/Geology Department, Mizoram.
6. **Requisition** School/College for Army/Police forces.
7. Direct all **field officers to hire generators** and keep sufficient oil for running them.
8. Direct all police stations to keep **spare batteries for VHF**.
9. Looking at the onset of emergency and after making quick preparations **convene Emergency meeting** of important official and non-official agencies. Give them clear instructions on the above manner.
10. Make a **Duty Roster** of Important Officials for uninterrupted functioning of DCR & immediate implementation of the Relief/Rescue Programme.

**PROFORMA FOR “IN” MESSAGE REGISTER**

Sl. No.	Date	Time of receipt	In Message Sr. No.	Received From	Address to	Message Transferred to	Copies to	Mode (WL/Tel/Mess age) of receipt	Instructi on/ follow-up to be done
01									
02									
03									

## PROFORMA FOR “OUT” MESSAGE REGISTER

Sl. No.	Date	Time of receipt	Out Message Sr. No.	Related in Message No. if any	Address from	Address to	Copies to	Mode (WL/Tel/Mess age) of receipt	Instructi on/ follow-up to be done
01									
02									
03									

### ESF 2 : EVACUATION

#### **Background :**

The ESF on evacuation is primarily responsible for establishing evacuation plans, identification of fastest evacuation routes and alternate routes and coordinating evacuation logistics during field operations.

#### **Situation Assumptions**

- Most of the buildings would be damaged and would not remain serviceable.
- Many structures would be damaged and there would be an urgent need to evacuate.

**Nodal agency** : Office of the Deputy Commissioner, Lawngtlai

**Supporting agencies** : Police, Fire Services, Civil Defense, NCC, Army, 71 RCC, PWD, PHE

#### **SOPS for Nodal Agency :**

- Team leader (TL) of Evacuation ESF would activate the ESF on receiving the warning of the disaster from District EOC.
- TL would inform Nodal Officers (NOs) of supporting agencies about the event and ESF activation.
- TL will direct the QRTs to be deployed at the affected site.
- TL will gather information on availability of predefined evacuation routes.



- Where the predefined evacuation routes are not available, the nodal officer would coordinate through District EOC with other ESFs nodal officers and the support agencies about clearing of routes and identifying alternate routes.

**SOPS for Quick Response Team on evacuation**

- The QRT members will reach the nodal office as soon as they get instructions to do so from the TL.
- Once the quick response teams receive an order from the nodal officer for reaching the site they would rush to the site.
- On reaching at the site the QRT members will take stock of the situation from the Incident Management Team at the site and their counter parts.
- The quick response teams with the help of local task forces will start evacuating peoples to safe shelters or open areas.
- The QRT members should concentrate more on evacuation in areas that have been worst affected by the disasters.
- Reporting about all the activities to head office.

**ESF 3 : SEARCH AND RESCUE**

**Background :**

Search and Rescue operations are one of the primary activities taken up in a post disaster situation, the promptness in these operations can make a remarkable difference in the amount of loss of life and property.

**Situation Assumptions**

- Local community task force will initiate search and rescue at residential level.
- Spontaneous volunteers will require coordination,
- Access to affected areas will be limited.
- Some sites may be accessible only through air routes only.

**Nodal Agency** : Police, Fire Service.

**Support Agency** : Civil Defence, NCC, Army and Health Department, MRHG, P&E.

### **SOPS for Nodal Agency**

- IC will call the TL of Primary Agency and get the ESF activated.
- TL of primary agency will call nodal officers of supporting agencies.
- TL would activate the District Quick Response Team.
- Quick Assessment of the S&R operations through surveys.
- Assessments of the specific skill sets and the other equipments required.
- Using IDRN network to check and map the availability of resource in and round the disaster site.

### **SOP for Quick Response Team on Search and Rescue**

- Assessment of damage (locations, number of structures damaged, severity of damage).
- The QRTs will be deployed at the affected site.
- Enlisting the types of equipment required for conducting the S&R.
- QRTs will report the situation and the progress in response activities to the respective EOCs.

## **ESF 4 : LAW AND ORDER**

### **Background :**

The ESF on Law and Order maintains the law and protects the property and valuable commodities. It is mainly responsible to control crowd and avoid riots situations.

### **Situation Assumptions**

- There would be panic and people will gather at a place.
- The crowds may go out of control.
- Riots may also take place.

**Nodal Agency** : Police

**Support Agencies** : Home guards, Civil Defense, Army, Assam Rifle.

### **SOPS for Nodal Agency**

- IC will call the TL of Primary Agency and get the ESF activated.
- TL of primary agency will call nodal officers of supporting agencies.
- TL would activate the District Quick Response Team.
- The QRTs will be deployed at the affected site.
- Cordoning of area to restrict movement of onlookers, vehicular and pedestrian traffic should be done.
- Any additional requirements at site to be taken care of.

### **SOP for Quick Response Team on Law and Order**

- Quick assessment of law and order situation in affected areas.
- Support and coordinate with Local Administration.
- Prepare updates on the law and order situation every 4- 6 hours and brief the Authorities.
- Controlling situations like rioting and looting, and cordon off sensitive areas QRTs will guide property and valuables in affected areas.
- Control and monitor traffic movement.
- QRTs will provide diversion of traffic on alternate routes as and when it is necessary especially heavy traffic or congested roads.
- The QRTs will also provide information about traffic flow along various corridors, QRTS will communicate to police control rooms, details on the field activities including deployment and reinforcement of staff and resources and communicate nature of additional requirements.

## **ESF 5 : MEDICAL RESPONSE AND TRAUMA COUNSELING**

### **Background :**

The ESF on Medical Response and Trauma Counseling will look after emergency treatment for the injured people immediate after the disaster take place.

### **Situation Assumptions**

- Emergency Medical service will be required by affected population.

- Likely outbreaks of epidemic diseases after the disaster.
- Hospital services would be affected.

**Nodal Agency** : State Health Department

**Support Agencies** : Civil Defense, NSS, DHS

**SOPS for Nodal Agency**

IC will call the TL of Primary Agency and get the ESF activated.

Team Leader (TL) of Primary Agency and get the ESF activated.

- In coordination with the transportation ESF, it will ensure a critical number of medical professionals to be reached at the site including specialists from other Districts.
- If temporary housing arrangements are being made for the affected population, the ESF must ensure high standards of sanitation in settlements in order to reduce epidemic outbreak.
- Ensuring the provision and continuous supply of medical facilities. (medicines, equipments ambulances, doctors and manpower etc) required at the disaster affected site and the hospital health centers catering to disaster victims.
- In case of orthopedic care required in disasters like earthquakes the immediate response would have to be complimented by a follow up treatment schedule for a majority of the patients in/near their place of residence.
- Trained professionals should be mobilized by psychosocial support.
- Ensuring setting up of temporary information centers at hospitals with the help of ESF through help lines and warning dissemination system.
- TL will coordinate, direct and integrate state level response to provide medical and sanitation health assistances.
- On the recommendations of the EOC, the TL also responsible to:
  - Send required medicines, vaccines, drugs, plasters, syringes, etc.
  - Arrange for additional blood supply. Send additional medical personnel equipped with food, bedding and tents etc.
  - Send vehicles and any additional medical equipment.

## **SOP for Quick Response Team (QRT) on Medical Response and Trauma Counseling**

- QRTs will provide situation and progress reports on the action taken by the team to the respective EOCs.
- QRTs will assess type of injuries, number of people affected and possible medical assistance needs.
- QRTs will ensure timely response to the needs of the affected victims such as :
  - Establishing health facility and treatment centers at disaster sites.
  - Providing medical services as reported by the District Civil Surgeon with District EOC and State EOCs.
  - Procedures should be clarified in between
    - Peripheral hospitals
    - Private hospitals
    - Blood banks'
    - General hospitals and
  - Health services established at transit camps, relief camps and affected villages.
- QRTs should maintain check posts and surveillance at all entry and exit points from the affected area, especially during the treat or existence of an epidemic.

### ***IMPORTANT TIPS***

- 1. Check up the stock of medicines, bleaching powder and halogen tablets. If necessary, send immediate requisition to CMO.***
- 2. Start movement of medicines, bleaching powder, etc. to PHCs/CHCs.***
- 3. Ensure that medical officers are in place at the PHCs and CHCs through CMO, SDMO, Police Stations, Blocks. CMO shall decide the locations of camps.***
- 4. All CDPOs shall be teamed up with the MO of PHC/CHC/SC with their vehicles and supervisors.***

## **ESF 6 : WATER SUPPLY**

### **Background :**

The ESF on drinking water and water supply will ensure provision of basic quantity of clean drinking water and water for other purposes in a manner that does not allow the spread of diseases through the contamination of water.

### **Situation Assumptions :**

- Existing water storage bodies will be damaged and unusable.
- There would be an urgent need of water to assist victims in rescue operation.
- Break down of sanitation system.
- Contamination of water due to outflow from sewers or due to breakage of water pipelines.

**Nodal Agency** : PHE

**Support Agency** : LAD(District Council)

### **SOPS for Nodal Agency**

- Team leader (TL) of ESF on Water Supply will activate the ESF on receiving the intimation of the disaster from District EOC.
- TL would inform Nodal Officers (NOs) of support agencies about the event and ESF activation.
- TL will ensure special care for women with infants and pregnant women.
- Provide for sending additional support along with food, bedding, tents.
- Send vehicles and any additional tools and equipments needed.

### **SOP for Quick Response Team (QRT) on Water Supply**

- QRTs will ensure that supply of drinking water is made available at the affected site and relief camp.
- QRTs will ensure the temporary sewerage lines and drainage lines are kept separate.
- QRTs will report the situation and the progress on action taken by the team to the EOC.
- QRTs will intimate their TL of the additional resources needed.

- Carry out emergency repairs of all damages to water supply systems.
- Assist health authorities to identify appropriate sources of potable water.
- Identify unacceptable water sources and take necessary precautions to ensure that no water is accessed from such sources, either by sealing such arrangements or by posting the department guards.
- Arrange for alternate water supply and storage in all transit camps, feeding centers, relief camps, cattle camps, and also the affected areas, till normal water supply is restored.
- Ensure that potable water supply is restored as per the standards and procedures laid down in “Standards for Potable Water”.
- Plan for emergency accommodations for staff from outside the area.
- QRTs will ensure timely response to the needs of the affected victims.
- QRTs will set up temporary sanitation facilities at the relief camps.

**ESF 7 : RELIEF (FOOD AND SHELTER)**

**Background :**

In the event of a disaster there would be a need of disbursing relief materials due to massive destruction of life and property taken place. The ESF on Relief should ensure coordination of activities involving with the emergency provisions of temporary shelters, emergency mass feeding and bulk distribution of relief supplies to the disaster victims as also the disaster managers and relief workers.

**Situation Assumptions**

- Probability of shortage of critical resources.
- Immediate assistance to the community at the time of resource shortage particularly when affected area is larger.

**Nodal Agency** : Department of Food and Civil Supplies

**Support Agency** : NGOs

### **SOPS for nodal Agency**

- TL will activate the ESF on receiving the information of the disaster from District EOC.
- TL would inform Nodal Officers (NGOs) of support agencies about the event and ESF activation.
- TL will coordinate with all state and district level suppliers as identified with under IDRN.
- TL will coordinate with other ESFs related to transportation, debris and road clearance to ensure quality supply chain management of relief materials.
- Ensuring composite relief with availability of complimentary relief materials.

### **SOP for Quick Response Team (QRT) on Relief**

- QRTs will report to site of the relief camps.
- QRTs will be responsible to management and distribute relief items to the affected victims.
- QRTs will be responsible for reporting the progress on action taken by the team to the EOC.
- QRTs will provide information to their TL about the need of additional resources.
- Clearing of the areas to establish relief camps.
- Setting up relief camps and tents using innovative methods that can save time.
- Assist local authorities to set up important telecom and other service related facilities.
- Initiate, direct and market procurement of food available from different inventories and ensuring food supplies to the affected population.
- Preparing take – home food packets for the families.
- Ensuring distribution of relief material to the all the people including vulnerable groups of the target area such as women infants, pregnant women, children, aged people and handicapped.
- Ensuring support to Local Administration.
- Locating adequate relief camps based on damage survey.
- Develop alternative arrangements for population living in structures that might be affected even after the disaster.



## **ESF 8 : EQUIPMENT SUPPORT, DEBRIS AND ROAD CLEARANCE**

### **Background :**

The importance of this ESF emanates from the fact that most large-scale hazards such as earthquakes, cyclones and floods primarily affect the building structures.

### **Situation Assumptions**

- Access to disaster-affected area would depend upon the re-establishment of ground and water routes.
- Early damage assessment may be incomplete, inaccurate and general. A rapid assessment may be required to determine response time.
- Engineers and masons may be required in large scale for the inspection of present buildings.

**Nodal Agency** : PWD

**Support Agency** : LAD (District Council)

### **SOPS for nodal Agency**

- Team Leader (TL) will activate the ESF on receiving the information of the disaster from District EOC.
- TL would inform Nodal Officers (NGOs) of support agencies about the event and ESF activation.
- TL will coordinate with the supporting agency to mobilize equipments from the ware houses through IDRN database.
- The respective supporting agencies will contact their respective personal to move the equipments to central warehouse.
- The equipments like JCB, concrete cutters identified as per the need will be transported to the site.
- As per the information the nodal officer of Debris road clearance will make an assessment on of the damages of roads and built structures at the site and surrounding areas.
- The nodal officers of Supporting Agencies will immediately start debris clearance operation to enable movement to the affected site.

- Review of the current situation is taken up by the nodal agency to update the support agencies and to delegate their respective personnel to take precautionary measures to plan de-routes for the transportation ESF's to be operational.
- All supporting agencies will inspect the road and rail network and structures within the disaster site and surrounding.
- TL will also ensure proper corpse disposal and post mortem by coordinating with ESF on medical response.

**SOP for Quick Response Team on Equipment support, debris and Road (QRT) on Relief Clearance**

- Damage assessment including locations, number of structures damaged and severity of damage.
- The QRTs will be deployed at the affected site.
- Enlisting the types of equipments as compiled from IDRN resource inventory required for conducting the debris clearance.
- and relief camps, and medical facilities for disaster victims.
- The QRTs will report the situation and the progress in response activities to the respective EOCs.
- Undertake construction of temporary roads to serve as access to temporary transit and relief camps, and medical facilities for disaster victims.
- Repairing of all paved and unpaved road surface including edge metalling, pothole patching and any failure of surface, foundations in the affected areas by maintenance engineer's staff and keeps monitoring their conditions.

**ESF 9 : HELP LINES, WARNING DISSEMINATION**

**Background :**

The ESF on help lines and warning dissemination should process and circulate information about the welfare of citizens of affected area and managing the tremendous flow of information. The help lines will be responsible for providing directing and coordinating logistical operations.

### **Situation Assumptions**

- There may be a flood of information and confusion about the injured population.
- The communication with affected area may be partially impaired.

**Nodal Agency** : DC, Lawngtlai

**Support Agency** : NIC/NGO Reps

### **SOPS for nodal Agency**

- IC will call the TL of Primary Agency and get the ESF activated.
- TL of primary agency will call nodal officers of supporting agencies.
- TL would activate the District Quick response Team.
- The QRTs will be deployed at the affected site.
- QRTs will report the situation and the progress in response activities to the respective EOCs.
- Sending flash news of latest updates/donation requirements for disaster area all over the state.
- Assisting the EOC in providing updated information to national as well as at the District level.
- Setting up of toll free numbers for emergency information assistance.

### **SOP for Quick Response Team on Help Lines, Warning Dissemination**

- The QRT members will reach to the nodal office as soon as they will get instructions.
- QRT teams would reach to the site immediately after receiving instructions from the nodal officer.
- On the site QRT members will take stock of the situation from the IC at the site and their counter parts.
- The QRTs will coordinate, collect, process, report and display essential elements of information and facilitate support for planning efforts in response operations.

## **ESF 10 : ELECTRICITY**

### **Background :**

ESF on electricity will facilitate restoration of electricity distribution systems after a disaster. In the event of a disaster there would be major electricity failure and many power stations damaged.

### **Situation Assumptions**

Prolonged electricity failure.

- The affected victims may be panicked.
- Halt of all activities specially jamming communication-networking systems in the affected site.

**Nodal Agency** : P&E

### **SOPS for nodal Agency**

- IC will call the TL of Primary Agency and get the ESF activated.
- TL of primary agency will call nodal officers of supporting agencies.
- TL would activate the District Quick response Team.
- The QRTs will be deployed at the affected site.
- TL will dispatch emergency repairs teams equipped with tools, tents and food.

### **SOP for Quick Response Team (QRT) on Electricity**

- QRTs members will reach the nodal office as soon as they get instructions to do so from the TL.
- QRT members would reach to the site immediately after receiving instruction from the nodal officer.
- On the site QRT members will take stock of the situation from the IC at the site and their counter parts.
- The QRTs will coordinate, collect, process, report and display essential elements of information and facilitate support for planning efforts in response operations.
- Begin repairing and reconstruction work.
- Assisting hospitals in establishing an emergency supply by assembling generators and other emergency equipments, if necessary.

- The members of QRTs will establish temporary electricity supplies for transit camps, feeding centers, relief camps, District Control Room and on access roads to the same.
- The members of QRTs will establish temporary electricity supplies for relief material go-downs.
- Compile an itemized assessment of damage, from reports made by various electrical receiving centers and sub-centers.
- Report about all the activities to the head office.

## **ESF 11 : TRANSPORTATION**

### **Background :**

The ESF on Transport should ensure smooth transportation links at state and district level. Within the disaster context, quick and safe movement of material and humans are a priority. It should coordinate the use of transportation resources to support the needs of emergency support forces requiring transport capacity to perform their emergency response, recovery and assistance missions.

### **Situation Assumptions**

- The state civil transportation infrastructure will sustain damage, limiting access to the disaster area.
- Access will improve as routes are cleared and repaired.
- The movement of relief supplies will create congestion in the transportation services.

**Nodal Agency** : Department of Transport

**Support Agencies** : PWD

### **SOPS for nodal Agency**

- TL of Transportation ESF will activate the ESF on receiving the intimation of the disaster from District EOC.
- TL would inform Nodal Officers (NOs) of support agencies about the event and ESF activation.
- TL establishes contact with the district EOC for FIR.
- TL requests for reports from local Transportation ESF contact person.

- TL communicates situation to support agencies and requests for detailed information on the status of transportation infrastructure in the affected area(s).

**SOP for Quick Response Team (QRT) on Transport**

- The QRT members will reach to the nodal office as soon as they will get instructions to do so from the TL.
- As quick response teams will receive instructions from the nodal officer they would reach to the site immediately.
- QRTs would report the situation and the progress on action taken by the team to the respective EOCs.
- QRTs will send a requirement schedule for the different modes of transportation e.g. trucks, boats, helicopters to be put on stand-by.
- QRTs will ensure timely re-establishment of the critical transportation links.
- The members of QRTs will establish temporary electricity supplies for relief material go downs.
- Compile an itemized assessment of damage, from reports made by various electrical receiving centers and sub-centers.
- Reporting about all activities to the head of offices.

## CHAPTER – 9

# VILLAGE LEVEL DISASTER MANAGEMENT COMMITTEES/TEAMS

It is said that village should be given top priority in giving Information, Communication and Education about the possibility of different disaster and its mitigation strategies. Each and every village is obligated to set up a committee known as Village Disaster Management Committee under the Chairmanship of VCP/a reliable local resident. It will comprise members from different walks of life – viz.

- 1) NGO's representative.
- 2) Political Party's representative.
- 3) Prominent Citizens.
- 4) VC Members.
- 5) Teachers.

The committee is responsible for giving awareness to public, making Disaster Management Plan, mitigation plan, undertaking rescue works after disasters and pre-disaster activities. Under its supervision, following village level Task Forces/Disaster Management Teams will be formed.

- 1) First Aid and Medical.
- 2) Search and Rescue.
- 3) Shelter Management.
- 4) Food and Water Management.
- 5) Relief Co-ordination.
- 6) Information and Damage Assessment.
- 7) Trauma counseling.

### **1) FIRST AID AND MEDICAL :**

This team will attend to all the casualties in the event of any disaster. They will be provide with First Aid kits and they will be trained by Health Department.

### **2) SEARCH AND RESCUE :**

This team will also perform evacuation besides search and rescue operation. They will undergo training on

- (i) drowning,
- (ii) fire fighting and
- (iii) search and rescue of collapse building victims.

**3) SHELTER MANAGEMENT :**

This team will identify building for accommodation of shelter less people due to disaster.

**4) FOOD AND WATER MANAGEMENT :**

This team will ensure that sufficient food stuff and water is available for emergency response. They will be responsible for fair distribution of food and water during relief works.

**5) RELIEF CO-ORDINATION :**

This team will operate collection and distribution of all other collection and distribution of all other relief material except food and water supply.

**6) INFORMATION AND DAMAGE ASSESSMENT :**

This team will act as a warning group for any eminent disaster. They will be trained to understand radio warnings and act fast to disseminate the same throughout the village. They will also conduct on the spot assessment of the damage sustained by the village and report their findings through a specified format to the VDCM who will in turn forward the same to the BDO/SDO/DC.

**7) TRAUMA COUNSELING :**

This team will extend their helping hands by counseling the affected families, casualties etc. to reduce their burdensome out of disaster.



## **S.O.P FOR COMMUNITY TASK FORCES/ DISASTER MANAGEMENT TEAM**

### **DMT 1 : WARNING AND COMMUNICATION GROUP**

#### **Pre-Disaster**

1. Ensure that communication equipments are in working order.
2. Ensure an emergency contact directory with all relevant numbers.
3. Carry a hazard map demarcating the most vulnerable/safe area and households.

#### **On receipt of warning**

1. Assembly in a central location and listen to radio together to determine the situation .
2. Pay attention to local warnings and their interpretation.
3. Crosscheck the warning received on radio, with the nearest control room.
4. Disseminate the warning using megaphones/mikes sirens etc., door-to-door.

#### **During Disaster**

Remain in the safe shelters and provide the evacuees with regular updates.

#### **After Disaster**

1. Get the de-warning from District Control Room and announce the same.
2. Disseminate precautionary information on post disaster health hazards and remedies.
3. Give immediate assessment to the authority on damage, massive casualty etc.
4. Guide the search and rescue team with geographic information and high damage.

**DMT 2 : EVACUATION AND TEMPORARY SHELTER MANAGEMENT GROUP**

**Pre-Disaster**

1. Monitor the infrastructure needs of the Community such as roads, school etc.
2. Co-ordinate with the local authority to identify/location for setting relief camps.
3. Check for plaster cracks and damp patches in safe shelters that require repairs.
4. Stock dry food and other safe food stocks, fuels, etc.
5. Ensure that the shelters are easily approachable.
6. Ensure that the shelters are cleaned regularly.

**On Receipt of Warning**

1. Evacuate people from their homes and clear the area as soon as possible. Move stocks of dry food, fuel and medicines to the shelter.
2. Organise space to house evacuee families.
3. Help the old, disabled, pregnant women, children etc. to settle in the shelter.
4. Ensure that strict sanitary practices are adhered to in the shelter.
5. Register the evacuees and give them identification slips/cards.

**During Disaster**

1. If caught inside withstand with their backs against a strong indoor wall.
2. If outside during disaster, run to an open space away from trees, buildings etc.
3. If in a moving vehicle, stop and stay inside.

**Pre-Disaster**

1. To ensure that evacuees are fed and housed until the de-warning is received.
2. Organise tents and materials for construction of temporary shelters.

3. Collect stocks of food, clothing and fuel etc.
4. Clean and disinfect the shelter all throughout the stay and before leaving.
5. Help NGOs and their engineers in conducting meeting and rehabilitation activity.
6. Monitor the rehabilitation and reconstruction process of the community.

**DMT 3 : DAMAGE ASSESSMENT GROUP**

**Pre-Disaster**

1. Carry a hazard map demarcating the most vulnerable/safe areas and households.
2. Prepare and store sufficient number of assessment formats required.

**During Disaster**

1. Remain in the safe shelters and provide the evacuees with regular updates.
2. Call emergency meeting of the group and assign duties and area of assessment.

**After a Disaster**

1. Give immediate assessment to the authorities on damage, missing, casualty etc.
2. Give detailed report of assessment to the authority.
3. Guide the search and rescue team with geographic information.

**DMT 4 : SEARCH AND RESCUE GROUP**

**Pre-Disaster**

1. Familiarize themselves with existing response mechanism of the government.
2. Arrange for the necessary S&R equipment from Govt. and Pvt. Agencies.

3. Use the equipment properly and maintain it well.
4. Have a detailed map of the Community indicating vulnerable areas/safe areas.
5. Organise themselves into pairs (buddy system)
6. Prepare back up teams ready for rotation of personnel.

#### **On Receipt of Warning**

1. Organise a meeting of the S&R members.
2. Contact the administration for detailed information.
3. Identify the vulnerable areas in which their help is required and decide the action plan.
4. Gather the equipments required.
5. Assist the evacuation team in moving people to the safe shelter.
6. Co-ordinate with the First Aid team to provide primary health care.
7. Shift the seriously injured persons to hospital/PHC.

#### **Post Disaster**

1. Conduct a general hazard assessment to determine the possible hazards.
2. Make a quick head count and maintain a list of missing persons.
3. Clear debris and fallen trees in order to reach trapped victim.
4. Communicate with the sub-division and District levels on additional assistance.
5. Coordinate closely with the first aid team for primary health care to rescued victims.
6. Coordinate with the evacuation team to shift rescued persons to open space/tents.

### **DMT 5 : FIRST AID AND TRAUMA COUNSELING GROUP**

#### **Pre-Disaster**

1. Maintain a list of pregnant women, infants, disabled, sick, old etc.

2. Keep First Aid kits ready and ensure that expired drugs are replaced with new ones.
3. Distribute basic medicines and demonstrate their use.
4. To keep stretchers/local alternative ready to carry injured people.

**On receipt of Warning**

1. Ensure that contents of all First Aid kits are satisfactory.
2. Move into the safe shelter.
3. If caught inside, stand with their backs against a strong in door wall (in EQ).
4. If outside during the earthquake, run to an open space (in EQ).
5. If in a moving vehicle, will stop and stay inside (in EQ).

**Post Disaster**

1. Attend to the injured people.
2. Counsel the traumatized people.
3. Listen to and calm the victims affectionately and patiently.
4. Help doctors and paramedics shift the ill and the injured to hospitals.
5. Isolate the cases with infectious diseases and prevent them from spreading.
6. Provide preventive medication if there is danger of cholera, dysentery.

**DMT 6 : RELIEF CO-ORDINATION GROUP**

**Pre-Disaster**

1. Familiarize with damage and needs assessment formats.
2. Assess the estimated need of relief materials.
3. mobilize stocks of food grains and medicines from government, NGOs, etc.
4. Stocks materials like ropes, bamboos, tarpaulin etc. in the safe shelter identified.
5. Keep a record of the stock available and maintain and dispatch them as required.

6. Always be impartial and sincere to the duty the victims.
7. Be transparent in the accounting and stocks by giving timely correct information.

#### **On receipt of Warning**

1. Coordinate with the evacuation and temporary shelter management team to move stocks of food, water and so on to the safe shelter.
2. Move to the safe shelter.
3. If caught inside, will stand with their backs against a strong indoor wall (in EQ).
4. If outside, run to an open space away from trees, buildings and electric lines (in EQ).
5. In a moving vehicle, will stop and stay inside (in EQ).

#### **Post Disaster**

1. Conduct a complete damage and need assessment.
2. Based on a preliminary need assessment as follows, communicate preferences to the District Control Room. The size, scope of the relief items required likely duration of the distribution of relief material, the estimated number of people affected local capacity, resources and external help the immediate needs of the victims.
3. Communicate the assessment findings to other Task Force groups and local authorities.
4. Establish a distribution centre or community kitchen begin distribution.
5. Ensure that food and other materials are distributed in an equitable manner.
6. Priorities the elderly persons, pregnant women, children etc.
7. Make a physical inventory of stocks when external assistance arrive.
8. Work closely with the communication group to stay in touch with control room.
9. Organise a meeting to evaluate the experience, internalize learning.

10. Keep the undistributed relief material in a safe place/godown and preserve it.

**DMT 7 : WATER AND SANITATION GROUP**

**Pre-Disaster**

1. Ensure sufficient supplies of chlorine tablets etc. for disinfecting drinking water.
2. Ensure sufficient stocks of lime powder for disinfecting large water bodies.
3. Ensure that sufficient water is stored in proper tanks and jerry cans in safe shelters.
4. Ensure that there is list of contact persons at Dist. Com and PHE for assistance.
5. Raise prior awareness amongst the community about how to treat water resources.
6. Set a minimum standard in advance for distribution of water in emergency.
7. Stock long steel rods, kerosene and fuel wood to dispose corpus and carcasses.
8. Help of the local administration to construct temporary sanitary facilities.
9. Identify the tractors and lab ours required for sanitation purposes.
10. Contact PHE for assistance in acquiring diesel engines and generators.

**On receipt of Warning**

1. Assess the drinking water supply and available water resources.
2. Organise for alternate power supply by procuring generators/diesel engines.
3. Ensure that the sanitation facilities at the safe shelter are in working order.
4. Move into the safe shelter for ones own safety.

### **Post Disaster**

1. Make immediate repairs of broken or burst pipes.
2. Coordinate with PHE/LAD for procurement of water tankers if required.
3. Disinfect large water bodies with lime power.
4. Coordinate with the Sanitary Inspectors for taking drinking water samples.
5. Ensure that water is distributed in an equitable manner.
6. Ensure that sufficient water is available in bathing units and toilets at relief camps.
7. Demarcate areas for safe excreta disposal around the relief camp.
8. Guide the local authorities to construct latrines away from ground water resources.
9. Coordinate with the local authority to construct sufficient bathing cubicles for females.
10. Spray bleaching powder and other disinfectants to prevent infectious disease.
11. Ensure that solid waste is put in refuse containers or buried in a refuse pit.
12. Ensure that there are no medical waste such as needles, drugs etc. lying around.
13. Co-ordinate with the first aid team to inoculate against water borne diseases.
14. Construct temporary soak pits for onsite disposal of wastewater.
15. Co-ordinate with the search and rescue team for disposal of carcasses.
16. Ensure that dead bodies are registered and cremated after legal/religious formalities.



**DISASTER MANAGEMENT/ACTION PLAN FOR  
LAWNGTLAI CIVIL HOSPITAL  
(For Mass Casualty Management)**

**(Courtesy: Chief Medical officer, Lawngtlai District)**

In case of sudden occurrence of disaster causing severe loss of life and casualties, the hospital authority will activate the following action on a need basis.

**10.1 CONTROL CENTRE :**

The Control Centre for disaster operation will be the existing emergency department, i.e., Casualty

**Phone Number : 03835-232802/102**

**10.2 ALERT :**

- Fixation of job-responsibilities of all Medical Staffs already done well ahead.
- The moment an information regarding a disaster reaches the Casualty, the Medical Officer in-charge Civil Hospital, Lawngtlai alerts all those involved in the operation who are to reach their respective area of duty immediately. List of all concerned staffs is to be prepared and put up at a Strategic locations like Casualty department, Medical Office, CMO Office and Nursing Superintendent i/c(Matron) office. List should also be distributed to all concerned.
- Emergency team consisting of Doctor, Nurse, 4<sup>th</sup> grade with saline-set and medicine equipment set in Ambulance should go to the site of disaster for giving First Aid on the spot/resuscitation and transportation to the Hospital.

### **10.3 RECEPTION CENTRE :**

- (a) For moderate load (i.e., between 10-15) patients in a short duration time : The present Emergency Ward and Dressing Room and Male Medical ward will function as the operation area.
- (b) For heavy load (i.e., more than 15) patients :
  - Waiting area of existing old maternity ward is converted into reception centre.
  - In case of over load, new addition centre may be utilized for examining and giving necessary First Aid and treatment.
  - Police and Volunteers (say Young Lai Association) will act as traffic controller directing and assisting patients, relative and the public.

### **10.4 FIRST AID AND SORTING OF CASES:**

- (a) For moderate load : existing Emergency medical team will function for first aid and sorting.
- (b) For heavy load :
  - All the above emergency medical team
  - Additional manpower in terms of doctors, nurses, Paramedics, group D staff residing in medical quarters to be alerted and mobilized.
  - The nearest S/C, M/C, and Private Hospital staffs are also to be mobilized by telephone and utilized.
  - All staffs who can be contacted by telephone.

To avoid thefts, one nursing sister will be detailed to take charge of personals belongings to patients for moderate load.

- Defence Personnel like Police, Home Guard etc will take over this responsibility for heavy load.
- NGOs volunteers like YLA,LWA,MHIP etc will be requested to assist Medical Officer i/c CMO administration.
- All Technicians(Laboratory, X-Ray, OT, Generator Operator etc) to immediately report to their respective department.

## 10.5 RESPONSIBILITIES OF FIRST AID CENTRE:

### (a) Triage (Quick sorting out of Casualties)

- Priority – I : Needing immediate resuscitation
- Priority – II : Needing immediate surgery
- Priority – III : Needing First Aid and possibly surgery
- Priority – IV : Needing only first aid
- Priority – V : 'Brought Dead' cases

### (b) Action

- Priority – I : will be attended to in the reception centre/emergency department
- Priority – II : will be immediately transferred to OT(if not manageable, the patients after resuscitation will be referred to Civil Hospital, Lunglei/Saiha/Aizawl).
- Priority – III : will be given First aid and admitted if bed is available
- # priority – IV : patients will be given First aid and discharged

## 10.6 ADDITIONAL BED SPACE :

- (a) The area marked for conversion into temporary ward : De-addiction Centre/ Female Medical Ward/Post Partum ward/ Corridors, Verandah etc. courtyard of Civil hospital Lawngtlai may be converted into temporary ward by tent/parachute/Silpaulin etc.
- (b) The following categories of patients may be discharge:
- Convalescing patients needing only nursing care.
  - Elective surgical cases.
  - Patients who can have domiciliary care or OPD advice

### **10.7 TEMPORARY MORTUARY :**

Brought in dead cases or those who died while receiving resuscitation treatment will be segregated. Temporary mortuary for keeping dead-bodies will be made in the OPD Block/Khualbuk. Necessary identification and handling over of bodies to the relatives after medico-legal clearance will be done by police personnel in this area.

### **10.8 LINEN STORE :**

Isolation ward is ear-marked for this purpose.

The following items are to be made available in the room;

A : Mattress	-	20
B : Bed sheet	-	60
C : Blankets	-	40
D : Pillows and Covers	-	30
E : I/V stand	-	20
F : oxygen Cylinders	-	10

### **10.9 DRUGS AND EQUIPMENT :**

The Nursing Superintendent in- charge (Matron) and store-keeper (pharmacist) will be called at once to open the store. As an emergency measure, buffer-stock is to be maintained in emergency department which will be utilized in such situations. The district Red-Cross society may be utilized. In case medicines are not available or is in-adequate, the same may be provided through local purchase by CMO, for which a certain amount of fund may kindly be made available by DHS with the CMO.

Action : DHS

- (a) For moderate load : Documentation shall be done at emergency/casualty department.
- (b) For heavy load : Documentation shall be done in OPD Dental Room

- As there is no medical record officer, the Dy. DMO, UDC and LDC of CMO office will do the documentation.
- NGOs volunteers may be engaged to assist the concerned medical recorders.

#### **10.10 FOOD SERVICES :**

The supply of food and drink to patients and emergency duty staffs should be arranged by ANS i/c with Hospital diet suppliers. If unmanageable, district Red- Cross team may be requested to assist in giving food, drink, linen, blankets etc.

#### **10.11 AMBULANCE :**

Medical department vehicles like Ambulance, Bus and gypsy are to be kept tip-top and ready for Emergency services. All concerned drivers are to report to casualty. Facilities for transportation of victims from the site of disaster/accident to the hospital to be provided by Ambulance. These Ambulance should be provided with basic life maintenance support drugs and equipments.

#### **10.12 TRANSPORT :**

In case of high casualty, DC/Transport Department/SP/Home Guard will be requested to provide additional requirements of vehicle for transportation.

In case the disaster situation is unmanageable with the Lawngtlai District resourced, the assistance of the neighbouring district CMOs i.e., Saiha and Lunglei.

#### **10.13 PUBLICITY/INFORMATION SERVICES :**

All information to Press, radio and other media will be issued by the CMO.

#### **10.14 PUBLIC INFORMATION SERVICE :**

A public Information Centre is to be set up at a site, i.e., easily accessible to the general public, i.e., in the hospital courtyard. This

centre will provide all necessary assistance and information about patients receiving treatment, their where-about list of the dead etc. The aid of individual volunteers and organization may be sought availability of PA systems will be the responsibility of CMO. In case of difficulty, the aid of AIPRO will be sought.

#### **10.15 ENGINEERING & MAINTENANCE SERVICES :**

The concerned engineering section like PWD, P&E and PHE will be requested to ensure an electricity supply and road communication to hospital is ensured.

#### **10.16 POLICE & SECURITY SERVICES :**

The assistance of the Police to maintain law & order is vital. They will assist in controlling the crowd and traffic. They will assist in quick disposal of medico-legal cases.

#### **10.17 DISCHARGE PROCEDURE :**

After appropriate treatment, the patients who are found fit to be discharge are discharged. For all cases discharged, a record of their address/destination is to be noted by the hospital and the police informed.

## **CHAPTER – 11**

# **DISTRICT DISASTER MANAGEMENT COMMITTEE – LAWNGTLAI DISTRICT**

The District Disaster Management Committee is the high-powered committee at district level to look after disaster management and emergency response. This high-powered committee in the district is chaired by the Deputy Commissioner, Lawngtlai with all policy makers from the district/nodal officers of each line department/nodal officers from various organizations as its members. The Sub- Divisional Officer(S) is the Member- Secretary of the Committee as well as nodal officer for the district.

### **11.1 POWER & FUNCTIONS :**

Subject to the provisions under the Disaster Management Act, 2005 and in accordance with the guidelines laid down by the National Authority and the State Authority, the District Authority shall act as the planning, coordinating and implementing body for disaster management in the District and shall also be responsible for the following :-

- (i) Prepare a District Management Plan, including District Response Plan for the District.
- (ii) Coordinate and monitor the implementation of National Policy, State Policy, National Plan, State plan and District Plan.
- (iii) Ensure that the areas in the District vulnerable to disaster are indentified and measures for the preventions of disasters and mitigation of its effects are undertaken by all the District Level Government Departments and the local authorities.
- (iv) Ensure that the guide line for prevention of disasters, mitigation of its effects, preparedness and response measures as laid down by the National Authority and the State Authority are followed by all the District level State Government Departments and the local authorities.

- (v) Give directions to different District level authorities and local authorities to take such other measures for the prevention or mitigation of disaster as may be necessary.
- (vi) Monitor the implementation of Disaster Management plan prepared by the District Level Govt. Departments and local authorities.
- (vii) Lay down guidelines to be followed by the District Level State Government departments for the purpose of integration of measures for prevention of disaster and mitigation in their development plans and projects and provide necessary technical assistance therefore, and monitoring the implementation of such measures.
- (viii) Review the capabilities for responding to any disaster or threatening disaster situation in the District and give directions to the relevant Departments or authorities at the District level for their up-gradation as may be necessary.
- (ix) Review the preparedness measures and give directions to the District level or other concerned authorities, where necessary, for bringing the preparedness measures to the levels required for responding effectively to any disaster or threatening disaster situation.
- (x) Organise and coordinate specialized training programme for different levels of officers, employees and voluntary rescue workers in the District.
- (xi) Facilitate Community training and awareness programmes for prevention of disaster or mitigation with the support of local authorities, Governmental and non-governmental organizations.
- (xii) Set up, maintain, review and upgrade the mechanism for early warning and dissemination of proper information to the public.
- (xiii) Prepare, review and upgrade the District level Response Plan and Guidelines.
- (xiv) Coordinate response to any threatening disaster situation of disaster.
- (xv) Ensure that the District Level Government Departments and local authorities prepare their response plans in accordance with the District Response Plan.



- (xvi) Lay down guideline, or give directions to the concerned District Level State Government Departments or any other authorities within the local limits of the District, to take measures to respond effectively to any threatening disaster or disaster.
- (xvii) Advise, assist and coordinate the activities of the District Level State Government Departments, statutory bodies and other governmental or non-governmental organizations engaged in disaster management in the District.
- (xviii) Coordinate with, and give guidance to, local authorities in the District to ensure that measures for the prevention or mitigation or threatening disaster situation or disaster in the District are carried out promptly and effectively.
- (xix) Provide necessary technical assistance or give advice to the local authorities in the District for carrying out their functions effectively.
- (xx) Review the developmental plans prepared by the District level State Government Departments, statutory authorities or local authorities with a view to make necessary provisions therein for prevention of disaster or mitigation.
- (xxi) Examine the construction in any area in the District and, if it is of the opinion that the standards for the prevention of disaster or mitigation laid down for such construction is not being, or has not been followed, may direct the concerned authority to take such actions as may be necessary to secure compliance of such standards.
- (xxii) Identify buildings and places which could, in the event of any threatening disaster or disaster, be used as relief centres and make arrangements for water supply and sanitation in such buildings and places.
- (xxiii) Establish stock piles of relief and rescue materials or ensure preparedness to make such materials available at a short notice.
- (xxiv) Provide information to the State Authority relating to different aspects of disaster management.
- (xxv) Encourage the involvement of NGOs and voluntary social welfare institutions working at the grass root level in the District for disaster management.

- (xxvi) Ensure that communication systems are in order, and disaster management drills are carried out periodically.
- (xxvii) Perform such other functions as the State Government or State Authority may assign to it or as deems necessary for disaster management in the District.

### **11.2. POWERS OF THE CHAIRPERSON**

- (1) The Chairperson of the District Authority shall, in the additions to presiding over the meetings of the District Authority, exercise and discharge such powers and functions of the District Authorities as the District Authority may delegate to him.
- (2) Subject to the expose facto ratifications by the District Authority, the Chairpersons of the District Authority, in the case of an emergency, have the power to exercise all or any of the powers of the District Authority.

**11.3** The District Authority or the Chairperson of the District Authority may, be general or special order in writing, delegate such of its or his powers and functions to the Chief Executive Officer, subject to such conditions and limitations, if any, as it or he deems fit.

**11.4** The District Authority shall meet as and when necessary and at such time and place as the Chairperson may think fit.

### **11.5 ROLE AND RESPONSIBILITY OF DEPUTY COMMISSIONER, LAWNGTLAI DISTRICT AS AN INCIDENT COMMANDER/ CHAIRMAN, DDMC :**

- 1. Management initiatives including Disaster Risk Management.
- 2. Act as Incident Commander during disaster.
- 3. To implement Disaster management Programme in consultation of DDMC at district level.
- 4. To direct and coordinate district administration through various departments and line agencies for the Disaster Management

5. To set up the District Emergency operation Centre (EOC) and facilitate setting up of mobile coordination.
6. To constitute DMCs and DMTs at Sub- Division, Block and Village levels
7. To ensure preparedness among communities by generating awareness and building capacities.
8. To ensure community participation in all the stages of disaster operation in order to maintain community morale and confidence, maximize the use of local resource, reduce the cost of operation and promote a faster recovery.
9. To coordinate activities of voluntary organization and NGOs to ensure community participation.
10. To facilitate DMTs for preparing Community Disaster management Plans
11. To procure/hire/purchase/pre-contract material for the DRM
12. To coordinate with all fields of responses including transit camps, relief camps, feeding centres and cattle camps in an emergency.
13. To facilitate updating of the IDRN and other DM website.
14. To chair the DDMC meeting in a regular period of time
15. To supervise and monitoring of disaster management and relief activities within the district.
16. To implement district level Mock Drills at least bi-annually.
17. Any other as per the need and direction of the higher authority.

#### **11.6 OTHER MEMBERS :**

1. Responsible for disaster management in their own departments.
2. To coordinate with D.C in all activities of the DM carrying out in their own departments.
3. To facilitate and coordinate preparation of Department specific Disaster Management Plans.
4. To exercise department wise mock drills at least bi-annually.
5. To report to D.C. about any eventuality occurred in the district.
6. Any other responsibility as the Incident Commander cum Chairman DDMC allocates, as per the Disaster Management Act.

### **11.7 EMERGENCY OPERATION CENTRE :**

Lawngtlai District shall have an exclusive Emergency Operation Centre (EOC) at district headquarters. This shall be round the clock set up with sufficient man-power and most modern equipments. Considering the unique responsibility of the district EOC, the equipments provided to it shall not be taken on any purpose other than disaster management. This Centre is intended to co-ordinate all disaster related activities in the district starting from preparedness to rehabilitation and reconstruction.

*The telephone numbers of the EOC shall be:*

**03835 - 232805/232640/232222/232252**

There shall be permanent sitting place for each emergency support functions in the EOC and they shall be provided with sufficient telephone connections. Only the Nodal ESFs are to sit in the EOC and co-ordinate the disaster management activities in the district with their support agencies. There shall be dedicated telephone lines and other communication facilities.

### **11.8 ROLE OF EMERGENCY OPERATION CENTRE IN NORMAL TIME :**

The Deputy Commissioner of Lawngtlai District may be empowered to appoint one officer as Officer in-charge of EOC. He will be responsible for effective functioning of the EOC. Responsibilities of EOC in-charge in normal time include:

1. Ensure that all the equipments in the EOC are in working conditions.
2. Collect data on routine basis from line departments for disaster management.
3. Develop status reports of preparedness and mitigation activities in the district.

4. Ensure appropriate implementation of DDMP
5. Maintenance of data bank with regular updating.
6. Activate the trigger mechanism on receipt of disaster warning/ occurrence of disaster.

### **11.9 ROLE OF EOC DURING DISASTER :**

On the basis of message received from the forecasting agencies, warning has to be issued for the general public and the departments, which play a vital role during emergencies. Issuing correct and timely warning would be one of the prime responsibilities of EOC. For effective dissemination of warning, EOC should have a well planned line of communication. The DC shall be the competent authority to disseminate a disaster warning. The warning on occurrence of a disaster will also be communicated to:

1. All Emergency Support Functions.
2. Members of DDMC, Lawngtlai
3. Hospitals in the disaster area.
4. State Relief Commissioner.
5. EOC in the neighbouring districts.
6. National or State EOCs
7. People's representatives from the district.

Apart from this the district EOC must arrange desks for the ESF in its complex for better co-ordination and help. Simultaneously the Onsite EOCs are to be set up with the help of the district EOC. Constant communication between the State EOC, District EOC and Onsite EOC is mandatory for updates on the disaster, which happened.

### **11.10 ONSITE EMERGENCY OPERATION CENTRES (OEOC) :**

Onsite Emergency Operation Centres (OEOC) are complementary units to District Emergency Operation Centre in the district (EOC), which will operate close to the disaster sites and will be linked directly with the district Emergency Operation Centre.

Lawngtlai district shall designate the OEOCs , which are located in the two Sub-Divisional Office complex at Chawngte and Sangau.

These strategic locations will help to cover operations in a calamity in the district in a few minutes time.

The concerned SDO(C) will be the Commander-in-Chief at this level. The OEOCs will be physically activated only in time of a disaster. The concerned SDO of the OEOC unit would be responsible to execute activities at disaster site, however tasks would be controlled and coordinate from EOC through nodal desk officers.

**APPENDIX – I**  
**(A)**

GOVERNMENT OF MIZORAM  
RELIEF & REHABILITATION DEPARTMENT

**NOTIFICATION**

*Dated Aizawl, the 23<sup>rd</sup> May, 2006*

No. B. 13011/17/2006 – REH In pursuance of the provision under Sec. 14 of the Disaster Management Act, 2005, the Governor of Mizoram is pleased to constitute the State Disaster Management Authority for Mizoram with the following composition with immediate effect and until further orders:

- |     |   |   |   |
|-----|---|---|---|
| 1.  | The Chief Minister                            | : | Chairperson                             |
| 2.  | Minister, Relief & Rehabilitation             | : | Vice-Chairperson                        |
| 3.  | Minister, Planning & Programme Implementation | : | Member                                  |
| 4.  | Minister, Finance                             | : | Member                                  |
| 5.  | Minister, PHE                                 | : | Member                                  |
| 6.  | Minister Rural Development                    | : | Member                                  |
| 7.  | Minister, LAD                                 | : | Member                                  |
| 8.  | Minister, Health & Family Welfare             | : | Member                                  |
| 9.  | Minister, PWD                                 | : | Member                                  |
| 10. | Chief Secretary                               | : | Chief Executive Officer<br>(Ex-officio) |
2. The terms of office of the State Authority shall be 3 years.
3. Powers and Functions :
- Subjects to the provision of the Disaster Management Act, 2005, the State Authority shall be responsible for the following.
- (i) Lay down the state disaster management policy.
  - (ii) Approve the State Plan in accordance with the guidelines laid down by the National Authority.
  - (iii) Approve the disaster management plans prepared by the state Govt. Departments.
  - (iv) Lay down guidelines to be followed by the State Govt. Departments for the purpose of integration of measures for prevention of disaster and mitigation in their development plans and projects and provide necessary technical assistance there in.
  - (v) Coordinate the implementation of the State Plan.
  - (vi) Recommend provision of funds for mitigation and preparedness measures.
  - (vii) Review the development plans of different State Govt. Departments and ensure that preventions and mitigation measures are integrated there in.

- (viii) Review the measures being taken for mitigation, capacity building and preparedness by the State Govt. Departments and issue such guidelines as may be necessary.
  - (ix) Lay down Guidelines for providing standards of relief to persons affected by disaster in the State, provided that such standards shall in no case be less than the minimum standards in the Guidelines laid down by the National Authority.
4. Subject to ex-post facto ratification by the State Authority, the chairperson shall, in case of emergency, have the power to exercise all or any of the powers of the State Authority.
5. The State Authority shall meet as and when necessary and at such place and time as the chairperson of the State Authority may think fit.

Sd/- ROCHILA SAIAMI  
Commissioner/Secretary to the Govt. of  
Mizoram  
Relief & Rehabilitation Department

*Memo No. B. 13011/17/2006 – REH : Dated Aizawl, the 23<sup>rd</sup> May`06*

*Copy to :*

- 1) *Secretary to the Governor, Mizoram.*
- 2) *PS to Speaker/Dy. Speaker.*
- 3) *PS to Chief Minister.*
- 4) *PS to all Ministers/MOS*
- 5) *All Administrative Departments.*
- 6) *All Head of Departments.*
- 7) *All Deputy Commissioners.*
- 8) *Chief Executive Member, Mara Autonomous District Council, Saiha/Lai Autonomous District Council, Lawngtlai/Chakma Autonomous District Council, Chawngte.*
- 9) *Controller, Printing & Stationery with 7 (seven) spare copies for publication in the Mizoram Gazette.*

( ROCHILA SAIAMI )  
Commissioner/Secretary to the Govt. of  
Mizoram  
Relief & Rehabilitation Department



**APPENDIX – I**  
**(B)**

GOVERNMENT OF MIZORAM  
RELIEF & REHABILITATION DEPARTMENT

**NOTIFICATION**

*Dated Aizawl, the 23<sup>rd</sup> May, 2006*

No. B. 13011/17/2006 – REH : In pursuance of the provisions under Sec 20 of the Disaster Management Act, 2005, and in order to assist the State Disaster Management Authority in the performance of its functions and to coordinate actions in accordance with the guidelines laid down by the State Authority and ensure compliance of directions issued by the State Government under the said Act, the Governor of Mizoram is pleased to constitute the ‘State Executive Committee’ with the following compositions with immediate effect and until further orders :

- |    |                                       |                    |
|----|---------------------------------------|--------------------|
| 1. | Chief Secretary, Govt. of Mizoram     | - Chairperson      |
| 2. | Commissioner, Planning/Finance        | - Member           |
| 3. | Commissioner/Secretary Home Deptt     | - Member           |
| 4. | Engineer-in-Chief, PWD                | - Member           |
| 5. | Commissioner, Relief & Rehabilitation | - Member Secretary |

2.1 Powers & Functions

The State Executive Committee shall have the responsibility for implementation of the National Plan and State Plan and act as the coordinating and monitoring body for disaster management in the State.

2.2 Without prejudice to the generality of the provisions of sub-section (1) of Sec. 22 of the Disaster Management Act, 2005, the Executive Committee may –

- (a) coordinate and monitor the implementation of the National Plan and State plan.
- (b) examine the vulnerability of the different parts of the State to different forms of disasters and specify measures to be taken for their prevention and mitigation.
- (c) lay down guidelines for preparation of disaster management plans by the departments of the Government of the State and District Authorities.

- (d) monitor the implementation of disaster management plans prepared by the department of the Government of the State and District Authorities.
- (e) monitor the implementation of the guidelines laid down by the State Authority for integrating of measures for prevention of disasters and mitigation by the departments in their development plans and projects.
- (f) evaluate preparedness at all governmental or non-governmental levels to respond to any threatening disaster situation or disaster and give directions, where necessary, for enhancing such preparedness.
- (g) coordinate response in the event of any threatening disaster situation or disaster.
- (h) give directions to any Department of the Government of the State or any other authority or body in the State regarding actions to be taken in response to any threatening disaster situation or disaster.
- (i) promote general education, awareness and community training in regard to the forms of disasters to which different parts of the State are vulnerable and the measures that may be taken by such community to prevent the disaster, mitigate and respond to such disaster.
- (j) advise, assist and coordinate the activities of the Departments of the Government of the State, district Authorities, statutory bodies and other governmental and non-governmental organizations engaged in disaster management.
- (k) provide necessary technical assistance or give advice to District Authorities and local authorities for carrying out their functions effectively.
- (l) advise the State Government regarding all financial matters in relation to disaster management.
- (m) examine the construction, in any local area in the State and, if it is of the opinion that the standards laid for such construction for the prevention of disaster is not being or has not been followed, may direct the District Authority or the local authority, as these may be, to take such action as may necessary to secure compliance of such standards;
- (n) provide information to the National Authority relating to different aspects of disaster management.
- (o) lay down, review and update State level response plans and guidelines and ensure that the district level plans are prepared, reviewed and updated.
- (p) ensure that communication system are in order and the disaster management drills are carried necessary.

- (g) perform such other functions as may be assigned to it by the State Authority or as it may consider necessary.
3. For the purpose of, assisting and protecting the community affected by disaster or providing relief to such community or, preventing or combating disruption or dealing with the effects of any threatening disaster situation, the State Executive Committee may –
- (a) control and restrict, vehicular traffic to, from or within, the vulnerable on effected area.
  - (b) control and restrict the entry of any person into, his movement within and departure from, a vulnerable or affected area.
  - (c) remove debris, conduct search and carry out rescue operations.
  - (d) provide shelter, food, drinking water, essential provisions, healthcare and services in accordance with the standards laid down by the National Authority and State Authority.
  - (e) give direction to the concerned Department of the Government of the State, and District Authority or other authority or other authority, within the local limits of the State to take such measures or steps for rescue, evacuation or providing immediate relief saving lives or property, as may be necessary in its opinion.
  - (f) require any department of the Government of the State or nay other body or authority or person in charge of any relevant resources to make available the resources for the purposes of emergency response, rescue and relief.
  - (g) require experts and consultants in the field of disasters to provide advice and assistance for rescue and relief.
  - (h) procure exclusive or preferential use of amenities from any authority or person and when required.
  - (i) construct temporary bridges or other necessary structure and demolish unsafe structures which may be hazardous to public.
  - (j) ensure that non-governmental organizations carry out their activities in an equitable and non-discriminatory manner.
  - (k) disseminate information to public to deal with any threatening disaster situation or disaster.
  - (l) take such steps as the Central Government or the State Government may direct in this regard or take such other steps as are required or warranted by the form of any threatening disaster situation or disaster.
4. The Chairperson of the State Executive Committee shall exercise such powers and such functions as may be prescribed by the State

Government and such other powers and functions as may be delegated to him by the State Authority.

5. The procedure to be followed by the State Executive Committee in exercise of its powers and discharge of its functions shall be such as prescribed by the State Government.
6. The State Executive Committee may, as and when considers necessary, constitute one more sub-committees, for efficient discharge of its functions. The Chairperson of the sub-committee shall be appointed by the State Executive Committee from amongst its members.

Sd/- ROCHILA SIAWI  
Commissioner/Secretary to the Govt. of Mizoram  
Relief & Rehabilitation Department

*Memo No. B. 13011/17/2006 – REH : Dated Aizawl, the 23<sup>rd</sup> May, 2006*

*Copy to :*

- 1) *Secretary to the Governor of Mizoram.*
- 2) *PS to Speaker/Dy. Speaker.*
- 3) *PS to Chief Minister.*
- 4) *PS to all Minister/Minister of State.*
- 5) *All Administrative Departments.*
- 6) *All Head of Department.*
- 7) *All Deputy Commissioners.*
- 8) *Chief Executive Member, Mara Autonomous District Council, Saiha/Lai Autonomous District Council, Lawngtlai/Chakma Autonomous District Council, Chawngte.*
- 9) *Controller, Printing & Stationery with 7 (seven) spare copies for publication in the Mizoram Gazette.*

Sd/- ROCHILA SIAWI  
Commissioner/Secretary to the Govt. of Mizoram  
Relief & Rehabilitation Department

**APPENDIX – I**  
**(C)**

GOVERNMENT OF MIZORAM  
RELIEF & REHABILITATION DEPARTMENT

**NOTIFICATION**

*Dated Aizawl, the 23<sup>rd</sup> May, 2006*

No. B. 13011/17/2006 – REH : In pursuance of the provisions under Section 25 of the Disaster Management Act, 2005, the Governor of Mizoram is pleased to constitute the “District Disaster Management Authority” for every District in Mizoram with the following composition, with immediate effect and until further orders :

1. Chairperson : Deputy Commissioner (Ex-Officio)
2. Co-Chairperson : Project Director, DRDA (CEM MADC/LAD/LADC for sixth Scheduled areas)
3. Members :
  - 1) Superintendent of Police.
  - 2) Chief Medical Officer.
  - 3) Executive Engineer, PWD (Govt. nominated)
  - 4) Executive Engineer, PHE (Gove. Nominated)
4. Chief Executive : Additional Deputy Commissioner Officer

**2. Power & Functions :**

Subject to the provisions under the Disaster Management Act, 2005 and in accordance with the guidelines laid down by the National Authority and the State Authority, the District Authority shall act as the planning, coordinating and implementing body for disaster management in the District and shall also be responsible for the following :-

- (i) Prepare a District Management Plan, including District Response Plan for the District.
- (ii) Coordinate and monitor the implementation of National Policy, State Policy, National Plan, State plan and District Plan.
- (iii) Ensure that the areas in the District vulnerable to disaster are indentified and measures for the preventions of disasters and mitigation of its effects are undertaken by all the District Level Government Departments and the local authorities.
- (iv) Ensure that the guide line for prevention of disasters, mitigation of its effects, preparedness and response measures

as laid down by the National Authority and the State Authority are followed by all the District level State Government Departments and the local authorities.

- (v) Give directions to different District level authorities and local authorities to take such other measures for the prevention or mitigation of disaster as may be necessary.
- (vi) Monitor the implementation of Disaster Management plan prepared by the District Level Govt. Departments and local authorities.
- (vii) Lay down guidelines to be followed by the District Level State Government departments for the purpose of integration of measures for prevention of disaster and mitigation in their development plans and projects and provide necessary technical assistance therefore, and monitoring the implementation of such measures.
- (viii) Review the capabilities for responding to any disaster or threatening disaster situation in the District and give directions to the relevant Departments or authorities at the District level for their upgradation as may be necessary.
- (ix) Review the preparedness measures and give directions to the District level or other concerned authorities, where necessary, for bringing the preparedness measures to the levels required for responding effectively to any disaster or threatening disaster situation.
- (x) Organise and coordinate specialized training programme for different levels of officers, employees and voluntary rescue workers in the District.
- (xi) Facilitate Community training and awareness programmes for prevention of disaster or mitigation with the support of local authorities, Governmental and non-governmental organizations.
- (xii) Set up, maintain, review and upgrade the mechanism for early warning and dissemination of proper information to the public.
- (xiii) Prepare, review and upgrade the District level Response Plan and Guidelines.
- (xiv) Coordinate response to any threatening disaster situation of disaster.
- (xv) Ensure that the District Level Government Departments and local authorities prepare their response plans in accordance with the District Response Plan.
- (xvi) Lay down guideline, or give directions to the concerned District Level State Government Departments or any other authorities within the local limits of the District, to take measures to respond effectively to any threatening disaster or disaster.

- (xvii) Advise, assist and coordinate the activities of the District Level State Government Departments, statutory bodies and other governmental or non-governmental organizations engaged in disaster management in the District.
- (xviii) Coordinate with, and give guidance to, local authorities in the District to ensure that measures for the prevention or mitigation or threatening disaster situation or disaster in the District are carried out promptly and effectively.
- (xix) Provide necessary technical assistance or give advice to the local authorities in the District for carrying out their functions effectively.
- (xx) Review the developmental plans prepared by the District level State Government Departments, statutory authorities or local authorities with a view to make necessary provisions therein for prevention of disaster or mitigation.
- (xxi) Examine the construction in any area in the District and, if it is of the opinion that the standards for the prevention of disaster or mitigation laid down for such construction is not being, or has not been followed, may direct the concerned authority to take such actions as may be necessary to secure compliance of such standards.
- (xxii) Identify buildings and places which could, in the event of any threatening disaster or disaster, be used as relief centres and make arrangements for water supply and sanitation in such buildings and places.
- (xxiii) Establish stock piles of relief and rescue materials or ensure preparedness to make such materials available at a short notice.
- (xxiv) Provide information to the State Authority relating to different aspects of disaster management.
- (xxv) Encourage the involvement of NGOs and voluntary social welfare institutions working at the grass root level in the District for disaster management.
- (xxvi) Ensure that communication systems are in order, and disaster management drills are carried out periodically.
- (xxvii) Perform such other functions as the State Government or State Authority may assign to it or as deems necessary for disaster management in the District.

### **3. Powers of the Chairperson**

- (1) The Chairperson of the District Authority shall, in the additions to presiding over the meetings of the District Authority, exercise and discharge such powers and functions of the District Authorities as the District Authority may delegate to him.

- (2) Subject to the expost facto ratifications by the District Authority, the Chairpersons of the District Authority, in the case of an emergency, have the power to exercise all or any of the powers of the District Authority.
4. The District Authority or the Chairperson of the District Authority may, be general or special order in writing, delegate such of its or his powers and functions to the Chief Executive Officer, subject to such conditions and limitations, if any, as it or he deems fit.
5. The District Authority shall meet as and when necessary and at such time and place as the Chairperson may think fit.

Sd/- ROCHILA SAIAMI  
Commissioner/Secretary to the Govt. of Mizoram  
Relief & Rehabilitation Department

*Memo No. B. 13011/17/2006 – REH : Dated Aizawl, the 6<sup>th</sup> June, 2006*

*Copy to :*

- 1) Secretary to the Governor of Mizoram.*
- 2) PS to Speaker/Dy. Speaker.*
- 3) PS to Chief Minister.*
- 4) PS to all Minister/Minister of State.*
- 5) All Administrative Departments.*
- 6) All Head of Department.*
- 7) All Deputy Commissioners.*
- 8) Chief Executive Member, Mara Autonomous District Council, Saiha/Lai Autonomous District Council, Lawngtlai/Chakma Autonomous District Council, Chawngte.*
- 9) Controller, Printing & Stationery with 7 (seven) spare copies for publication in the Mizoram Gazette.*

Sd/- (JOHNY T.O)  
Joint Secretary to the Govt. of Mizoram  
Relief & Rehabilitation Department



**APPENDIX - II**

**THE DISASTER MANAGEMENT ACT, 2005**  
**No. 53 of 2005**

[23<sup>rd</sup> December, 2005]

An Act to provide for the effective management of disasters and for matters connected therewith or incidental thereto.

BE it enacted by Parliament in the Fifty-sixth Year of the Republic of India as follows:-

**CHAPTER - I**

**PRELIMINARY**

1. (1) This Act may be called the Disaster Management Act, 2005.
  - (2) It extends to the whole of India.
  - (3) It shall come into force on such date as the Central Government may, by notification in the Official Gazette appoint; and different States, and any reference to commencement in any provision of this Act in relation to any State shall be construed as a reference to the commencement of that provision in that State.
2. In this Act, unless the context otherwise requires –
    - (a) “affected area” means an area or part of the country affected by a disaster;
    - (b) “capacity-building” includes
      - (i) identification of existing resources and resources to be acquired or created;
      - (ii) acquiring or creating resources identified under sub-clause (i);

- (iii) organization and training of personnel and coordination of such training for effective management of disasters;
- (c) “Central Government” means the Ministry or Department of the Government of India having administrative control of disaster management;
- (d) “disaster” means a catastrophe, mishap, calamity or grave occurrence in any area, arising from natural or man made cause, 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 it of such a nature or magnitude as to be beyond the coping capacity of the community of the affected area;
- (e) “disaster management” means a continuous and integrated process of planning, organizing, coordinating and implementing measures which are necessary or expedient for
  - (i) Prevention of danger or threat of any disaster;\
  - (ii) Mitigation or reduction of risk of any disaster or its severity or consequences;
  - (iii) Capacity-building.
  - (iv) Preparedness to deal with any disaster;
  - (v) Prompt response to any threatening disaster situation or disaster;
  - (vi) Assessing the severity or magnitude of effects of any disaster;
  - (vii) Evacuation, rescue and relief;
  - (viii) Rehabilitation and reconstruction.
- (f) “District Authority” means the District Disaster Management Authority constituted under sub-section (1) of section 25;
- (g) “District Plan” means the plan for disaster management for the district prepared under section 31;
- (h) “local authority” includes Panchayati Raj institutions, municipalities, a district board, cantonment board, town planning authority or Zila Parishad or any other body or authority, by whatever named called, for the time being

invested by law, for rendering essential services or, with the control and management of civic services, within a specified local area;

- (i) “mitigation” means measures aimed at reducing the risk, impact or effects of a disaster or threatening disaster situation;
- (j) “National Authority” means the National Disaster Management Authority established under sub-section (1) of section 3;
- (k) “National Executive Committee” means the Executive Committee of the National Authority constituted under sub-section (1), of section 8;
- (l) “National Plan” means the plan for disaster management for the whole of the country prepared under section 11;
- (m) “preparedness” means the state of readiness to deal with a threatening disaster situation or disaster and the effects thereof;
- (n) “prescribed” means prescribed by rules made under this Act;
- (o) “reconstruction” means construction or restoration of any property after a disaster;
- (p) “resources” includes manpower, services, materials and provisions;
- (q) “State Authority” means the State Disaster Management Authority established under sub-section (1) of section 14 and includes the Disaster Management Authority for the Union Territory constituted under that section;
- (r) “State Plan” means the plan for disaster management for the whole of the State prepared under section 23.

## CHAPTER II

### THE NATIONAL DISASTER MANAGEMENT AUTHORITY

3. (1) With effect from such date as the Central Government may, by notification in the Official Gazette appoint in this behalf, there shall be established for the purposes of this Act, an authority to be known as the National Disaster Management Authority.
- (2) The National Authority shall consist of the Chairperson and such number of other members, not exceeding nine, as may be prescribed by the Central Government and, unless the rules otherwise provide, the National Authority shall consist of the following :
  - (a) the Prime Minister of India, who shall be the Chairperson of the National Authority, ex officio;
  - (b) other members, not exceeding nine, to be nominated by the Chairperson of the National Authority.
- (3) The Chairperson of the National Authority may designate one of the members nominated under clause (b) of sub-section (2) to be the Vice-Chairperson of the National Authority.
- (4) The term of office and conditions of service of members of the National Authority shall be such as may be prescribed.
  - (1) The National Authority shall meet as and when necessary and at such time and place as the Chairperson of the National Authority may think fit.
  - (2) The Chairperson of the National Authority shall preside over the meetings of the National Authority.
  - (3) If for any reason the Chairperson of the National Authority is unable to attend any meeting of the National Authority, the Vice-Chairperson of the National Authority shall preside over the meeting.
- (5) The Central Government shall provide the National Authority with such officers, consultants and employees, as it considers necessary for carrying out the functions of the National Authority.

- (6) (1) Subject to the provisions of this Act, the National Authority shall have the responsibility for laying down the policies, plans and guidelines for disaster management for ensuing timely and effective response to disaster.
- (2) Without prejudice to generality of the provisions contained in sub-section.
- (1) the National Authority may –
- (a) lay down policies on disaster management;
  - (b) approve the National Plan;
  - (c) approve plans prepared by the Ministries or Departments of the Government of India in accordance with the National Plans;
  - (d) lay down guidelines to be followed by the State Authorities in drawing up the State Plan;
  - (e) lay down guidelines to be followed by the Ministries or Departments of the Government of India for the purpose of integrating the measures for prevention of disaster or the mitigation of its effects in their development plans and projects;
  - (f) coordinate the enforcement and implementation of the policy and plan for disaster management;
  - (g) recommend provision of funds for the purpose of mitigation;
  - (h) provide such support to other countries affected by major disasters as may be determined by the Central Government.
  - (i) take such other measures for the prevention of disaster, or the mitigation, or preparedness and capacity building for dealing with the threatening disaster situation or disaster as it may consider necessary;
  - (j) *lay* down broad policies and guidelines for the functioning of the National Institute of Disaster Management.
  - (k) The Chairperson of the National Authority shall, in the case of emergency, have power to exercise all or any of the powers of the National Authority

but exercise of such powers shall be subject *to ex post facto* ratification by the National Authority.

- (7)
  - (1) The National Authority may constitute an advisory committee consisting of experts in the field of disaster management and having practical experience of disaster management at the national, state or district level to make recommendations on different aspects of disaster management.
  - (2) The members of the advisory committee shall be paid such allowances as may be prescribed by the Central Government in consultation with the National Authority.
  
- (8)
  - (1) The Central Government shall, immediately after issue of notification under sub-section (1) of section 3, constitute a National Executive Committee to assist the National Authority in the performance of its functions under this Act.
  - (2) The National Executive Committee shall consist of the following members, namely :
    - (a) the Secretary to the Government of India in charge of the Ministry or Department of the Central Government having administrative control of the disaster management, who shall be Chairperson, *ex officio*;
    - (b) the Secretaries to the Government of India in the Ministries or Departments having administrative control of the agriculture, atomic energy, defence, drinking water supply, environment and forests, finance (expenditure), health, power, rural development, science and technology, space, telecommunication, urban development, water resources and the Chief of the Integrated Defence Staff of the Chiefs of Staff Committee, *ex officio*.
  - (3) The Chairperson of the National Executive Committee may invite any other officer of the Central Government or a State Government for taking part in any meeting of the National Executive Committee and shall exercise such powers and perform such functions as may be prescribed by the Central Government in consultation with the National Authority.

- (4) The procedure to be followed by the National Executive Committee in exercise of its powers and discharge of its functions shall be such as may be prescribed by the Central Government.
- (9) (1) The National Executive Committee may, as and when it considers necessary, constitute one or more sub-committees, for the efficient discharge of its functions.
- (2) The National Executive Committee shall, from amongst its members, appoint the Chairperson of the sub-committee referred to in sub-section (1).
- (3) Any person associated as an expert with any sub-committee may be paid such allowances as may be prescribed by the Central Government.
- (10) (1) The National Executive Committee shall assist the National Authority in the discharge of its functions and have the responsibility for implementing the policies and plans of the National Authority and ensure the compliance of directions issued by the Central Government for the purpose of disaster management in the country.
- (2) Without prejudice to the generality of the provisions contained in sub-section (1), the National Executive Committee may –
- (b) lay down policies on disaster management;
- (c) act as the coordinating and monitoring body for disaster management;
- (d) (prepare the National Plan to be approved by the National Authority;
- (e) coordinate and monitor the implementation of the National Policy;
- (f) lay down guidelines fore preparing disaster management plans by different Ministries or Departments of the Government of India and the State Authorities;
- (g) provide necessary technical assistance to the State Governments and the State Authorities for preparing their disaster management plans in accordance with the guidelines laid down by the National Authority;

- (h) monitor the implementation of the National Plan and the plans prepared by the Ministries or Departments of the Government of India.
- (i) monitor the implementation of the guidelines laid down by the National Authority for integrating of measures for prevention of disasters and mitigation by the Ministries or Departments in their development plans and projects;
- (j) monitor, coordinate and give directions regarding the mitigation and preparedness measures to be taken by different Ministries or Departments and agencies of the Government.
- (k) evaluate the preparedness at all governmental levels for the purpose of responding to any threatening disaster situation or disaster and give directions, where necessary, for enhancing such preparedness;
- (l) plan and coordinate specialized training programme for disaster management for different levels of officers, employees and voluntary rescue workers;
- (m) coordinate response in the event of any threatening disaster situation or disaster;
- (n) lay down guidelines for, or give directions to, the concerned Ministries or Departments of the Government of India, the State Governments and the State Authorities regarding measures to be taken by them in response to any threatening disaster situation or disaster;
- (o) require any department or agency of the Government to make available to the, National Authority or State Authorities such men or material resources as are available with it for the purposes of emergency response, rescue and relief;
- (p) advise, assist and coordinate the activities of the Ministries or Departments of the Government of India, State Authorities, statutory bodies, other governmental or non-governmental organizations and others engaged in disaster management;
- (q) provide necessary technical assistance or give advice to the State Authorities and District Authorities for carrying out their functions under this Act;
- (r) promote general education and awareness in relation to disaster management and



- (s) perform such other functions as the National Authority may require it to perform.
- 11.
- (1) There shall be drawn up a plan for disaster management for the whole of the country to be called the National Plan.
  - (2) The National Plan shall be prepared by the National Executive Committee having regard to the National Policy and in consultation with the State Governments and expert bodies or organizations in the field of disaster management to be approved by the National Authority.
  - (3) The National Plan shall include
    - a) measures to be taken for the prevention of disasters, or the mitigation of their effects;
    - b) measures to be taken for the integration of mitigation measures in the development plans;
    - c) measures to be taken for preparedness and capacity building to effectively respond to any threatening disaster situations or disaster.
    - d) roles and responsibilities of different Ministries or Departments of the Government of India in respect of measures specified in clauses (a), (b) and (c).
  - (4) The National Plan shall be reviewed and updated annually.
  - (5) Appropriate provisions shall be made by the Central Government for financial the measures to be carried out under the National Plan.
  - (6) Copies of the National Plan referred to in sub-sections (2) and (4) shall be made available to the Ministries or Departments of the Government of India such Ministries or Departments shall draw up their own plans in accordance with the National Plan.
12. The National Authority shall recommend guidelines for the minimum standards of relief to be provided to persons affected by disaster, which shall include,
- (a) the minimum requirements to be provided in the relief camps in relation to shelter, food, drinking water, medical cover and sanitation;
  - (b) the special provisions to be made for widows and orphans;

- (c) *ex gratia* assistance on account of loss of life as also assistance on account of damage to houses and fore restoration of means of livelihood;
  - (d) such other relief as may be necessary.
13. The National Authority may, in cases of disasters of severe magnitude, recommend relief in repayment of loans or for grant of fresh loans to the persons affected by disaster on such concessional terms as may be appropriate.

### **CHAPTER III**

## **STATE DISASTER MANAGEMENT AUTHORITIES**

14. (1) Every State Government shall, as soon as may be after the issue of the notification under sub-section (1) of section 3, by notification in the Official Gazette, establish a State Disaster Management Authority for the State with such, name as may be specified in the notification of the State Government.
- (2) A State Authority shall consist of the Chairperson and such number of other members, not exceeding nine, as may be prescribed by the State Government and, unless the rules otherwise provide, the State Authority shall consist of the following members, namely :
- (a) the Chief Minister of the State, who shall be Chairperson, *ex of officio*;
  - (b) the Chairperson of the State Executive Committee, *ex officio*.
- (3) The Chairperson of the State Authority may designate one of the members nominated under clause (b) of sub-section (2) to be the Vice-Chairperson of the State Authority.
- (4) The Chairperson of the State Executive Committee shall be the Chief Executive Officer of the State Authority, *ex officio*.

Provided further that the Lieutenant Governor of the Union Territory of Delhi shall be the Chairperson and the Chief

Minister thereof shall be the Vice-Chairperson of the State Authority.

- (5) The term of office and conditions of service of members of the State Authority shall be such as may be prescribed.
15.
  - (1) The State Authority shall meet as and when necessary and at such time and place as the Chairperson of the State Authority may think fit.
  - (2) The Chairperson of the State Authority shall preside over the meetings of the State Authority.
  - (3) If for any reason, the Chairperson of the State Authority is unable to attend the meeting of the State Authority, the Vice-Chairperson of the State Authority shall preside at the meeting.
16. The State Government shall provide the State Authority with such officers, consultants and employee, as it considers necessary, for carrying out the functions of the State Authority.
17.
  - (1) A State Authority may, as and when it considers necessary, constitute an advisory committee, consisting of experts in the field of disaster management and having practical experience of disaster management to make recommendations on different aspects of disaster management.
  - (2) The members of the advisory committee shall be paid such allowances as may be prescribed by the State Government.
18.
  - (1) Subject to the provisions of this Act, a 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 therefore;
- (e) coordinate the implementation of the State Plan;
- (f) recommend provision of funds for mitigation and preparedness measures;
- (g) review the of the different departments of the State and ensure that prevention and mitigation development plans measures are integrated therein;
- (h) review the measures being taken for mitigation, capacity building and preparedness by the departments of the Government of the State and issue such guidelines as may be necessary.

(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.

19. The State Authority shall lay down detailed guidelines soft providing standards of relief to persons affected by disaster in the State:

Provided that such standards shall in no case be less than the minimum standards in the guidelines laid down by the National Authority in this regard.

20. (1) The State Government shall, immediately after issue of notification under subsection (1) of section 14, constitute a State Executive Committee to assist the State Authority in the performance of its functions and to 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.

(2) The State Executive Committee hail consist of the following members, namely –

- (a) the Chief Secretary to the State Government, who shall be Chairperson, *ex officio*;
  - (b) four Secretaries to the Government of the State of such departments as the State Government may think fit, *ex officio*.
  - (3) The Chairperson of the State Executive Committee shall exercise such powers and perform such functions as may be prescribed by the State Government and such other powers and functions as may be delegated to him by the State Authority.
  - (4) The procedure to be followed by the State Executive Committee in exercise of its powers and discharge of its functions shall be such as may be prescribed by the State Government.
21. (1) The State Executive Committee may, as and when it considers necessary, constitute one or more sub-committees, for efficient discharge of its functions.
- (2) The State Executive Committee shall, from amongst its members, appoint the Chairperson of the sub-committee referred to in sub-section (1).
- (3) Any person associated as an expert with any sub-committee may be paid such allowances as may be prescribed by the State Government.
22. (1) The State Executive Committee shall have the responsibility for implementing the National Plan and State Plan and act as the coordinating and monitoring body for management of disaster in the State.
- (2) Without prejudice to the generality of the provisions of sub-section (1), the State Executive Committee may
- (a) coordinate and monitor the implementation of the National Policy, the National Plan and the State Plan;
  - (b) examine the vulnerability of different parts of the State to different forms of disasters and specify measures to be taken for their prevention or mitigation.

- (c) lay down guidelines for preparation of disaster management plans by the departments of the Government of the State and the District Authorities.
- (d) monitor the implementation of disaster management plans prepared by the departments of the Government of the State and District Authorities.
- (e) monitor the implementation of the guidelines laid down by the State Authority for integrating of measures for prevention of disasters and mitigation by the departments in their development plans and projects;
- (f) evaluate preparedness at all governmental or non-governmental levels to respond to any threatening disaster situation or disaster and give directions, where necessary, for enhancing such preparedness.
- (g) coordinate response in the event of any threatening disaster situation or disaster.
- (h) give directions to any Department of the Government of the State or any other authority or body in the State regarding actions to be taken in response to any threatening disaster situation or disaster.
- (i) promote general education, awareness and community training in regard to the forms of disasters to which different parts of the State are vulnerable and the measures that may be taken by such community to prevent the disaster, mitigate and respond to such disaster.
- (j) advise, assist and coordinate the activities of the Departments of the Government of the State, District Authorities, statutory bodies and other governmental and non-governmental organizations engaged in disaster management.
- (k) provide necessary technical assistance or give advice to District Authorities and local authorities for carrying out their functions effectively;

- (l) advise the State Government regarding all financial matters in relation to disaster management;
  - (m) examine the construction, in any local area in the State and, if it is of the opinion that the standards laid for such construction for the prevention of disaster is not being or has not been followed, may direct the District Authority or the local authority, as the case may be, to take such action as may be necessary to secure compliance of such standards;
  - (n) provide information to the National Authority relating to different aspects of disaster management.
  - (o) lay down, review and update State level response plans and guidelines and ensure that the district level plans are prepared, reviewed and updated;
  - (p) ensure that communication systems are in order and the disaster management drills are carried out periodically;
  - (q) perform such other functions as may be assigned to it by the State Authority or as it may consider necessary.
23. (1) There shall be a plan for disaster management for every State to be called the State Disaster Management Plan.
- (2) The State Plan shall be prepared by the State Executive Committee having regard to the guidelines laid down by the National Authority and after such consultation with local authorities, district authorities and the people's representatives as the State Executive Committee may deem fit.
- (3) The State Plan prepared by the State Executive Committee under sub-section(2) shall be approved by the State Authority.
- (4) The State Plan shall include,
- (a) the vulnerability of different parts of the State to different forms of disasters;
  - (b) the measures to be adopted for prevention and mitigation of disasters;

- (c) the manner in which the mitigation measures shall be integrated with the development plans and projects;
  - (d) the capacity-building and preparedness measures to be taken;
  - (e) the roles and responsibilities of each Department of the Government of the State in relation to the measures specified in clauses (b), (c) and above;
  - (f) the roles and responsibilities of different Departments of the Government of the State in responding to any threatening disaster situation or disaster.
- (5) The State Plan shall be reviewed and updated annually.
  - (6) Appropriate provisions shall be made by the State Government for financing for the measures to be carried out under the State Plan.
  - (7) Copies of the State Plan referred to in sub-sections (2) and (5) shall be made available to the Departments of the Government of the State and such Departments shall draw up their own plans in accordance with the State Plan.
24. For the purpose of, assisting and protecting the community affected by disaster or providing relief to such community or, preventing or combating disruption or dealing with the effects of any threatening disaster situation, the State Executive Committee may
- (a) require any department of the Government of the State or any other body or authority or person in charge of any relevant resources to make available the resources for the purposes of emergency response, rescue and relief;
  - (b) require experts and consultants in the field of disasters to provide advice and assistance for rescue and relief;
  - (c) procure exclusive or preferential use of amenities from any authority or person as and when required;
  - (d) construct temporary bridges or other necessary structures and demolish unsafe structures which may be hazardous to public;



- (e) ensure that non-governmental organizations carry out their activities in a equitable and non-discriminatory manner;
- (f) disseminate information to public to deal with any threatening disaster situation or disaster;
- (g) take such steps as the Central Government or the State Government may direct in this regard or take such other steps as are required or warranted by the form of any threatening disaster situation or disaster.

#### **CHAPTER IV**

### **DISTRICT DISASTER MANAGEMENT AUTHORITY**

25. (1) Every State Government shall, as soon as may be after issue of notification under sub-section (1) of section 14, by notification in the Official Gazette, establish a District Disaster Management Authority for every district in the State with such name as may be specified in that notification.
- (2) The District Authority shall consist of the Chairperson and such number of other members, not exceeding seven, as may be prescribed by the State Government, and unless the rules otherwise provide, it shall consist of the following, namely :-
- (a) the Collector of District Magistrate or Deputy Commissioner, as the case may be, of the district who shall be Chairperson, *ex Wick*;
  - (b) the elected representative of the local authority who shall be the co-Chairperson, *ex officio*;

Provided that in the Tribal Areas, as referred to in the Sixth Schedule to the Constitution, the Chief Executive Member of the district council of autonomous district, shall be the co-Chairperson, *ex officio*;

- (c) the Chief Executive Officer of the District Authority, *ex officio*;

- (d) the Superintendent of Police, *ex-officio*;
  - (e) the Chief Medical Officer of the district, *ex officio*;
  - (f) not exceeding two other district level officers, to be appointed by the State Government.
- (3) In any district where zila parishad exists, the Chairperson thereof shall be the co-Chairperson of the District Authority.
- (4) The State Government shall appoint an officer not below the rank of Additional Collector or Additional District Magistrate or Additional Deputy Commissioner, as the case may be, of the district to be the Chief Executive Officer of the District Authority to exercise such powers and perform such functions as may be prescribed by the State Government and such other powers and functions as may be delegated to him by the District Authority.
26. (1) The Chairperson of the District Authority shall, in addition to presiding over the meetings of the District Authority, exercise and discharge such powers and functions of the District Authority as the District Authority may delegate to him.
- (2) The Chairperson of the District Authority shall, in the case of an emergency, have power to exercise all or any of the powers of the District Authority but the exercise of such powers shall be subject to *ex post facto* ratification of the District Authority.
- (3) The District Authority or the Chairperson of the District Authority may, by general or special order, in writing, delegate such of its or his powers and functions, under subsection (1) or (2), as the case may be, to the Chief Executive Officer of the District Authority, subject to such conditions and limitations, if any, as it or he deems fit.
27. The District Authority shall meet as and when necessary and at such time and place as the Chairperson may think fit.
28. (1) The District Authority may, as and when it considers necessary, constitute one or more advisor committees and other committees for the efficient discharge of its functions.

- (2) The District Authority shall, from amongst its members, appoint the Chairperson of the Committee referred to in sub-section (1).
  - (3) Any person associated as an expert with any committee or sub-committee constituted under sub-section (1) may be paid such allowances as may be prescribed by the State Government.
29. The State Government shall provide the District Authority with such officers, consultants and other employees as it considers necessary for carrying out the functions of District Authority.
30. (1) The District Authority 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 in accordance with the guidelines laid down by the National Authority and the State Authority.
- (2) Without prejudice to the generality of the provisions of sub-section (1), the District Authority may
- (i) prepare a disaster management plan including district response plan for the district;
  - (ii) coordinate and monitor the implementation of the National Policy, State Policy, National Plan, State Plan and District Plan.
  - (iii) ensure that the areas in the district vulnerable to disasters are identified and measures for the prevention of disasters and the mitigation of its effects are undertaken by the departments of the Government at the district level as well as by the local authorities.
  - (iv) ensure that the guidelines for prevention of disasters, mitigation of its effects, preparedness and response measures as laid down by the National Authority and the State Authority are followed by all departments of the Government at the district level and the local authorities in the district.
  - (v) give directions to different authorities at the district level and local authorities to take such other measures for the

prevention or mitigation of disasters as may be necessary;

- (vi) lay down guidelines for prevention of disaster management plans by the department of the Government at the districts level and local authorities in the district –
- (vii) monitor the implementation of disaster management plans prepared by the Departments of the Government at the district level;
- (viii) lay down guidelines to be followed by the Departments of the Government at the district level for purposes of integration of measures for prevention of disasters and mitigation in their development plans and projects and provide necessary technical assistance therefore;
- (ix) monitor the implementation of measures referred to in clause (viii);
- (x) review the State of Capabilities for responding to any disaster or threatening disaster situation in the district and give directions to the relevant departments or authorities at the district level for their upgradation as may be necessary.
- (xi) review the preparedness measures and give directions to the concerned departments at the district level or other concerned authorities where necessary for bringing the preparedness measures to the levels required for responding effectively to any disaster or threatening disaster situation;
- (xii) organize and coordinate specialized training programmes for different levels of officers, employees and voluntary rescue workers in the district;
- (xiii) facilitate community training and awareness programmes for prevention of disaster of mitigation with the support of local authorities, governmental and non-governmental organization.

- (xiv) set up, maintain, review and upgrade the mechanism for early warnings and dissemination of proper information to public;
- (xv) prepare, review and update district level response plan and guidelines;
- (xvi) coordinate response to any threatening disaster situation or disaster;
- (xvii) ensure that the Departments of the Government at the district level and the local authorities prepare their response plans in accordance with the district response plan;
- (xviii) lay down guidelines for, or give direction to, the concerned Department of the Government at the district level or any other authorities within the local limits of the district to take measures to respond effectively to any threatening disaster situation or disaster;
- (xix) advise, assist and coordinate the activities of the Departments of the Government at the district level, statutory bodies and other governmental and non-governmental organizations in the district engaged in the disaster management;
- (xx) coordinate with, and give guidelines to, local authorities in the district to ensure that measures for the prevention of disaster or mitigation.
- (xxi) provide necessary technical assistance or give advise to the local authorities in the district for carrying out their functions;
- (xxii) review development plans prepared by the Departments of the Government at the district level, statutory authorities or local authorities with a view to make necessary provisions therein for prevention of disaster or mitigation;
- (xxiii) examine the construction in any are in the district and, if it is of the opinion that the standards for the prevention of disaster or mitigation laid down for, such

construction is not being or has not been followed, may direct the concerned authority to take such action as may be necessary to secure compliance of such standards;

(xxiv) identify buildings and places which could, in the event of any threatening disaster situation or disaster, be used as relief centers or camps and make arrangements for water supply and sanitation in such buildings or places;

(xxv) establish stockpiles of relief and rescue materials or ensure preparedness to make such materials available at a short notice;

(xxvi) provide information to the State Authority relating to different aspects of disaster management.

(xxvii) encourage the involvement of non-governmental organizations and voluntary social-welfare institutions working at the grassroots level in the district for disaster management;

(xxviii) ensure communication systems are in order, and disaster management drills are carried out periodically;

(xxix) perform such other functions as the State Government or State Authority may assign to it or as it deems necessary for disaster management in the District.

31. (1) there shall be a plan for disaster management for every district of the State.
- (2) The District Plan shall be prepared by the District Authority, after consultation with the local authorities and having regard to the National Plan and the State Plan, to be approved by the State Authority.
- (3) The District Plan shall include
- (a) the areas in the district vulnerable to different forms of disasters;

- (b) the measures to be taken, for prevention and mitigation of disaster, by the Departments of the Government at the district level and local authorities in the district;
  - (c) the capacity-building and preparedness measures required to be taken by the Departments of the Government at the district level and the local authorities in the district to respond to any threatening disaster situation or disaster;
  - (d) the response plans and procedures, in the event of a disaster, providing for –
  - (e) allocation of responsibilities to the Departments of the Government at the district level and the local authorities in the district;
    - (i) prompt response to disaster and relief thereof;
    - (ii) procurement of essential resources;
    - (iii) establishment of communication links; and
    - (iv) the dissemination of information to the public;
  - (f) such other matters as may be required by the State Authority.
- (4) The District Plan shall be reviewed and updated annually.
- (5) The copies of the District Plan referred to in sub-sections (2) and (4) shall be made available to the Departments of the Government in the district.
- (6) The District Authority shall send a copy of the District Plan to the State Authority which shall forward it to the State Government.
- (7) The District Authority shall, review from time to time, the implementation of the Plan and issue such Instructions to different departments of the Government in the district as it may deem necessary for the implementation thereof.

32. Every office of the Government of India and of the State Government at the district different level and the local authorities shall, subject to the supervision of the District Authority:-
- (a) prepare a disaster, management plan setting out the following, namely;
    - (i) provisions for prevention and mitigation measures as provided for in the District Plan and as is assigned to the department or agency concerned;
    - (ii) provisions for taking measures relating to capacity-building and preparedness as laid down in the District Plan;
    - (iii) the response plans and procedures, in the event of, any threatening disaster situation or disaster;
  - (b) coordinate the preparation and the implementation of its plan with those of the other organizations at the district level including local authority, communities and other stakeholders;
  - (c) regularly review and update the plan; and
  - (d) submit a copy of its disaster management plan, and of any amendment thereto, to the District Authority.’
33. The District Authority may be order require any officer or any Department at the district level or nay local authority to take such measures for the prevention or mitigation of disaster or to effectively respond to it, as may be necessary, and such officer or department shall be bound to carry out such order.
34. For the purpose of assisting, protecting or providing relief to the community, in response to any threatening disaster situation or disaster, the District Authority may
- (a) give directions for the release and use of resources available with any Department of the Government and the local authority in the district;



- (b) control and restrict vehicular traffic to, from and within, the vulnerable or affected areas;
- (c) control and restrict the entry of any person into, his movement within and departure from, a vulnerable or affected areas;
- (d) remove debris, conduct search and carry out rescue operations;
- (e) provide shelter, food, drinking water and essential provisions, healthcare and services;
- (f) establish emergency communication systems in the affected area;
- (g) make arrangements for the disposal of the unclaimed dead bodies;
- (h) recommend to any Department of the Government of the State or any authority or body under that Government at the district level to take such measures as are necessary in its opinion;
- (i) require experts and consultants in the relevant fields to advise and assist as it may deem necessary;
- (j) procure exclusive or preferential use of amenities from any authority or person;
- (k) construct temporary bridges or other necessary structures and demolish structures which may be hazardous to public or aggravate the effects of the disaster;
- (l) ensure that the non-governmental organizations carry out their activities in an equitable and non-discriminatory manner;
- (m) take such other steps as may be required or warranted to be taken in such a situation.

## CHAPTER V

### MEASURES BY THE GOVERNMENT FOR DISASTER MANAGEMENT

35. (1) Subject to the provisions of this Act, the Central Government shall take all such **measures** as it deems necessary or expedient for the purpose of disaster management.
- (2) **In** particular and without prejudice to the generality of the provisions of sub-section (1), the measures which the Central Government may take under that sub-section include measures with respect to all or nay of the following matters, namely;
- (a) coordination of actions of the Ministries or Departments of the Government of India, State Governments, National Authority, State Authorities, governmental and non-governmental organizations in relation to disaster management;
  - (b) ensure the integration of measures for prevention of disasters and mitigation by Ministries or Departments of the Government of India into their development plans and projects;
  - (c) ensure appropriate allocation of funds for prevention of disaster, mitigation, capacity-building and preparedness by the Ministries or Departments of the Government of India;
  - (d) ensure that the Ministries or Departments of the Government of India take necessary measures for preparedness to promptly and effectively respond to any threatening disaster situation or disaster;
  - (e) cooperation and assistance to State Governments, as requested by them or otherwise deemed appropriate by it;

- (f) deployment of naval, military and air forces, other armed forces of the Union or any other civilian personnels as may be required for the purposes of this Act;
  - (g) coordination with the United Nations agencies, international organizations and governments of foreign countries for the purposes of this Act.
  - (h) establish institutions for research, training, and developmental programmes in the field of disaster management.
  - (i) such other matters as it deems necessary or expedient for the purpose of securing effective implementation of the provisions of this Act;
- (3) The Central Government may extend such support to other countries affected by major disaster as it may deem appropriate.

36. It shall be the responsibility of every Ministry or Department of the Government of India to –

- (a) take measures necessary for prevention of disasters, mitigation, preparedness and capacity-building in accordance with the guidelines laid down by the National Authority.
- (b) integrate into its development plans and projects, the measures for prevention or mitigation of disasters in accordance with the guidelines laid down by the National Authority;
- (c) respond effectively and promptly to any threatening disaster situation or disaster in accordance with the guidelines of the National Authority or the directions of the National Executive Committee in this behalf;
- (d) review the enactments administered by it, its policies, rules and regulations, with a view to incorporate therein the provisions necessary for prevention of disasters, mitigation or preparedness.

- (e) allocate funds for measures for prevention of disaster, mitigation, capacity-building and preparedness.
  - (f) provide assistance to the National Authority and State Governments for
  - (r) drawing up mitigation, preparedness and response plans, capacity building, data collection and identification and training of personnel in relation to disaster management;
    - (i) carrying out rescue and relief operations in the affected area;
    - (ii) assessing the damage from any disaster;
    - (iii) carrying out rehabilitation and reconstruction;
  - (h) take such other actions as it may consider necessary for disaster management.<sup>37</sup>.
  - (g) make available its resources to the National Executive Committee or a State Executive Committee for the purposes of responding promptly and effectively to any threatening disaster situation or disaster, including measures for
    - (i) providing emergency communication in a vulnerable or affected area; (it) transporting personnel and relief goods to and from the affected area;
    - (ii) providing evacuation, rescue, temporary shelter or other immediate relief;
    - (iii) setting up temporary bridges; jetties and landing places;
    - (iv) providing, drinking water, essential provisions, healthcare, and services in an affected area;
37. (i) Every Ministry or Department of the Government of India shall-
- (a) prepare a disaster management plan specifying the following particulars, namely:
  - (b) the measures to be taken by it for prevention and mitigation of disaster in accordance with the National plan;

- (ii) the specifications regarding integration of mitigation measures in its development plans in accordance with the guidelines of the National Authority and the National Executive Committee;
  - (iii) its roles and responsibilities in relation to preparedness and capacity building to deal with any threatening disaster situation or disaster;
  - (iv) its roles and responsibilities in regard to promptly and effectively responding to any threatening disaster situation or disaster;
  - (v) the present status of its preparedness to perform the roles and responsibilities specified in sub-clauses (iii) and (iv);
  - (vi) the measures required to be taken in order to enable it to perform its responsibilities specified in sub-clauses (iii) and (iv);
    - (b) review and update annually the plan referred to in clause (a);
    - (c) forward a copy of the plan referred to in clause (a) or clause (b), as the case may be, to the Central Government shall forward a copy thereof to the National Authority for its approval.
- (2) Every Ministry or Department of the Government of India shall
- (a) make, while preparing disaster management plan under clause (a) of subsection (1), provisions for financial the activities specified therein;
  - (b) furnish a status report regarding the implementation of the plan referred to in clause (a) of sub-section (1) to the National Authority, as and when required by it.
38. (1) Subject to the provisions of this Act, each State Government shall take all measures specified in the guidelines laid down by the National Authority and such further measures as it deems necessary or expedient, for the purpose of disaster management.

- (2) The measures which the State Government may take under sub-section (1) include measures with respect to all or any of the following matters, namely;
- (a) coordination of actions of different departments of the Government of the State, the State Authority, District Authorities, local authority and other non-governmental organization;
  - (b) cooperation and assistance in the disaster management to the National Authority and National Executive Committee, the State Authority and the State Executive Committee,, and the District Authorities;
  - (c) cooperation with, and assistance to, the Ministries or Departments of the Government of India is disaster management, as requested by them or otherwise deemed appropriate by it;
  - (d) allocation of funds for measures for prevention of disaster, mitigation, capacity-building and preparedness by the departments of the Government of the State in accordance with the provisions of the State Plan and the District Plans;
  - (e) ensure that the integration of measures for prevention of disaster mitigation by the departments of the Government of the State in their development plans and projects;
  - (f) integrate in the State Development plan, measures to reduce or mitigate the vulnerability of different parts of the State to different disasters;
  - (h) establishment of adequate warning systems up to the level of vulnerable communities;
  - (i) ensure that different departments of the Government of the State and the District Authorities take appropriate preparedness measures;
  - (j) ensure that in a threatening disaster situation or disaster, the resources of different departments of the Government of the State are made available to the

National Executive Committee or the State Executive Committee or the District Authorities, as the case may be, for the purposes of effective response, rescue and relief in any threatening disaster situation or disaster;

- (k) provide rehabilitation and reconstruction assistance to the victims of any disaster; and
- (l) such other matters as it deems necessary or expedient for the purpose of securing effective implementation of provisions of this Act,

39. It shall be the responsibility of every department of the Government of a State to –

- (a) take measures necessary for prevention of disasters, mitigation, preparedness and capacity-building in accordance with the guidelines laid down by the National Authority and the State Authority;
- (b) integrate into its development plans and projects, the measures for prevent\* of disaster and mitigation;
- (c) allocate funds for prevention of disaster, mitigation, capacity-building and preparedness;
- (d) respond effectively and promptly to any threatening disaster situation or disaster in accordance with the State Plan, and in accordance with the guidelines or directions of the National Executive Committee and the State Executive Committee;
- (e) review the enactments administered by it, its policies, rules and regulations with a view to incorporate therein the provisions necessary for prevention of disasters, mitigation or preparedness;
- (f) provide assistance, as required, by the National Executive Committee, the State Executive Committee and District Authorities, for –
  - (i) drawing up mitigation, preparedness and response plans, capacity-building, data collection and

identification and training of personnel in relation to disaster management;

(ii) assessing the damage from any disaster;

(iii) carrying out rehabilitation and reconstruction;

(g) make provision for resources in consultation with the State Authority for the implementation of the District Plan by its authorities at the district level;

(h) make available its resources to the National Executive Committee or the State Executive Committee or the District Authorities for the purposes of responding promptly and effectively to any disaster in the State, including measures for

(i) providing emergency communication with a vulnerable or affected area;

(ii) transporting personnel and relief goods to and from the affected area;

(iii) providing evacuation, rescue, temporary shelter or other immediate relief;

(iv) carrying out evacuation of persons or live-stock from an area of any threatening disaster situation or disaster.

(v) setting up temporary bridges, jetties and landing places;

(vi) providing drinking water, essential provisions, healthcare and services in an affected area;

(vii) such other actions as may be necessary for disaster management.

40. (1) Every department of the State Government, in conformity with the guidelines laid down by the State Authority, shall

(a) prepare a disaster management plan which shall lay down the following :

(i) the types of disasters to which different parts of the state are vulnerable;



- (ii) integration of strategies for the prevention of disaster or the mitigation of its effects or both with the development plans and programmes by the department;
  - (iii) the roles and responsibilities of the department of the State in the event of any threatening disaster situation or disaster and emergency support function it is required to perform;
  - (iv) present status of its preparedness to perform such roles or responsibilities or emergency support function under sub-clause (iii);
  - (v) the capacity-building and preparedness measures proposed to be put – into effect in order to enable the Ministries or Departments of the Government of India to discharge their responsibilities under section 37;
- (b) annually review and update the plan referred to in clause (a); and
  - (c) furnish a copy of the plan referred to in clause (a) or clause (b), as the case may be, to the State Authority.
- (2) Every department of the State Government, while preparing the plan under sub-section (1), shall make provisions for financing the activities specified therein.
- (3) Every department of the State Government shall furnish an implementation status report to the State Executive Committee regarding the implementation of the disaster management plan referred to in sub-section (1).

## **CHAPTER VI**

### **LOCAL AUTHORITIES**

41. (1) Subject to the directions of the District Authority, a local authority shall –
- (a) ensure that its officers and employees are trained for disaster management;
  - (b) ensure that resources relating to disaster management are so maintained as to be readily available for use in the event of any threatening disaster situation or disaster.
  - (c) ensure all construction projects under it or within its jurisdiction conform to the standards and specifications laid down for prevention of disasters and mitigation by the National Authority, State Authority and the District Authority;
  - (d) carry out relief, rehabilitation and reconstruction activities in the affected area in accordance with the State Plan and the District Plan.
- (2) The local authority may take such other measures as may be necessary for the disaster management.

## **CHAPTER VII**

### **NATIONAL INSTITUTE OF DISASTER MANAGEMENT**

42. (1) With effect from such date as the Central Government may, by notification in the Official Gazette appoint in this behalf, there shall be constituted an institute to be called the National Institute of Disaster Management.

- (2) The National Institute of Disaster Management shall consist of such number of members as may be prescribed by the Central Government.
- (3) The term of office of, and vacancies among, members of the National Institute of Disaster Management and manner of filling such vacancies shall be such as may be prescribed.
- (4) There shall be a governing body of the National Institute of District Management which shall be constituted by the Central Government from amongst the members of the National Institute of Disaster Management in such manner as may be prescribed.
- (5) The governing body of the National Institute of Disaster Management shall exercise such powers and discharge such functions as may be prescribed by regulations.
- (6) The procedure to be followed in exercise of its powers and discharge of its functions by the governing body, and the term of office of, and the manner of filling vacancies among the members of the governing body, shall be such as may be prescribed by regulations.
- (7) Until the regulations are made under this section, the Central Government may make such regulations; and any regulation so made may be altered or rescinded by the National Institute of Disaster Management in exercise of its powers.
- (8) Subject to the provisions of this Act, the National Institute of Disaster Management shall function within the broad policies and guidelines laid down by the National Authority and be responsible for planning and promoting training and research in the area of disaster management, documentation and development of national level information base relating to disaster management policies, prevention mechanisms and mitigation measures.
- (9) Without prejudice to the generality of the provisions contained in sub-section (8), the National Institute, for the discharge of its functions, may –

- (a) develop training modules, undertake research and documentation in disaster management and organize training programmes;
- (b) formulate and implement a comprehensive human resource development plan covering all aspects of disaster management;
- (c) provide assistance in national level policy formulation;
- (d) provide required assistance to the training and research institutes for development of training and research programmes for stakeholders including Government functionaries and undertake training of faculty members of the State level training institutes;
- (e) provide assistance to the State Governments and State training institutes in the formulation of State Level policies, strategies, disaster management framework and any other assistance as may be required by the State Governments or State training institutes for capacity-building of stakeholders, Government including its functionaries, civil society members, corporate sector and people's elected representatives.
- (f) develop educational materials for disaster management including academic and professional courses;
- (g) promote awareness among stakeholders including college or school teachers and students, technical personnel and other associated with multi-hazard mitigation, preparedness and response measures;
- (h) undertake, organize and facilitate study courses, conference, lectures, seminar within and outside the country to promote the aforesaid objects;
- (i) undertake and provide for publication of journals, research papers and books and establish and maintain libraries in furtherance of the aforesaid objects;
- (j) do all such other lawful things as are conducive or incidental to the attainment of the above objects; and

- (k) undertake any other function as may be assigned to it by the Central Government.
43. The Central Government shall provide the National Institute of Disaster Management with such officers, consultants and other employees, as it considers necessary, for carrying out its functions.

## **CHAPTER VIII**

### **NATIONAL DISASTER RESPONSE FORCER**

44. (1) There shall be constituted a National Disaster Response Force for the purpose of specialist response to a threatening disaster situation or disaster.
- (2) Subject to the provisions of this Act, the Force shall be constituted in such manner and, the conditions of service of the members of the Force, including disciplinary provisions therefore, be such as may be prescribed.
45. The general superintendent, direction and control of the Force shall be vested and exercised by the National Authority and the command and supervision of the Force shall vest in an officer to be appointed by the Central Government as the Director General of the National Disaster Response Force.

## **CHAPTER IX**

### **FINANCE, ACCOUNTS AND AUDIT**

46. (1) The Central Government may, by notification in the Official Gazette, constitute a fund to be called the National Disaster Response Fund for meeting any threatening disaster situation or disaster and there shall be credited thereto.

- (a) an amount which the Central Government may, after due appropriation made by Parliament by law in this behalf provide;
    - (b) any grants that may be made by any person or institution for the purpose of disaster management.
  - (2) The National Disaster Response Fund shall be made available to the National Executive Committee to be applied towards meeting the expenses for emergency response, relief and rehabilitation in accordance with the guidelines laid down by the Central Government in consultation with the National Authority.
47. (1) The Central Government may, by notification in the Official Gazette, constitute a Fund to be called the National Disaster Mitigation Fund for projects exclusively for the purpose of mitigation and there shall be credited thereto such amount which the Central Government may, after due appropriation made by Parliament by law in this behalf, provide.
- (2) The National Disaster Mitigation Fund shall be applied by the National Authority.
48. (1) The State government shall, immediately after notifications issued for constituting the State Authority and the District Authorities, establish for the purposes of this Act the following funds, namely;
- (2) The State Government shall ensure that the funds established
- (i) under clause (a) of sub-section (1) is available to the State Executive Committee;
  - (ii) under sub-clause (c) of sub-section (1) is available to the State Authority;
  - (iii) under clause (b) and (d) of sub-section (1) are available to the District Authority.
49. (1) Every Ministry or Department of the Government of India shall make provisions, in its annual budget, for funds for the purposes of carrying out the activities and programmes set out in its disaster management plan.

- (2) The provisions of sub-section (1) shall, mutatis mutandis, apply to departments of the Government of the State
50. Where by reason of any threatening disaster situation or disaster, the National Authority or the State Authority or the District Authority is satisfied that immediate procurement of provisions or materials or the immediate application of resources are necessary for rescue or relief.
- (a) it may authorize the concerned department or authority to make the emergency procurement and in such case, the standard procedure requiring inviting of tenders shall be deemed to be waived;
- (b) a certificate about utilization of provisions or materials by the controlling officer authorized by the National Authority, State Authority or District Authority, as the case may be, shall be deemed to be a valid document or voucher for the purpose of accounting of emergency, procurement of such provisions or materials.

## **CHAPTER X**

### **OFFENCES AND PENALTIES**

51. Whoever, without reasonable cause
- (a) obstructs any officer or employee of the Central Government or the State Government, or a person authorized by the National Authority or State Authority or District Authority in the discharge of his functions under this Act; or
- (b) refuses to comply with any direction given by or on behalf of the Central Government or the State Government or the National Executive Committee or the State Executive Committee or the District Authority under this Act,

Shall on conviction be punishable with imprisonment for a term which may extend to one year or with fine, or with both, and if such obstruction or refusal to comply with directions results in loss of lives

or imminent danger thereof, shall on conviction be punishable with imprisonment for a term which may extend to two years.

52. Whoever knowingly makes a claim which he knows or has reason to believe to be false for obtaining any relief, assistance, repair, reconstruction or other benefits consequent to disaster from any officer of the Central Government, the State Government, the National Authority, the State Authority or the District Authority, shall, on conviction be punishable with imprisonment for a term which may extend to two years, and also with fine.
53. Whoever, being entrusted with any money or materials, or otherwise being, in custody of, or dominion over, any money or goods, meant for providing relief in any threatening disaster situation or disaster, misappropriates or appropriates for his own use or disposes of such money or materials or any part thereof or willfully compels any other person so to do, shall on conviction be punishable with imprisonment for a term which may extend to two years, and also with fine.
54. Whoever makes or circulates a false alarm or warning as to disaster or its severity or magnitude, leading to panic, shall on conviction, be punishable with imprisonment which may extend to one year or with fine.
55. (1) Where an offence under this Act has been committed by any Department of the Government, the head of the Department shall be deemed to be guilty of the offence and shall be liable to be proceeded against and punished accordingly unless he proves that the offence was committed without his knowledge or that he exercised all due diligence to prevent the commission of such offence.
- (2) Notwithstanding anything contained in sub-section (1), where an offence under this Act has been committed by a Department of the Government and it is proved that the offence has been committed with the consent or connivance of, or is attributable to any neglect on the part of, any officer, other than the head of the Department, such officer shall be deemed to be guilty of that offence and shall be liable to be proceeded against and punished accordingly.
56. Any officer, on whom any duty has been imposed by or under this Act and who ceases or refuses to perform or withdraws himself from the



duties of his office shall, unless he has obtained the express written permission of his official superior or has other lawful excuse for so doing, be punishable with imprisonment for a term which may extend to one year or with fine.

57. If any person contravenes any order made under section 65, he shall be punishable with imprisonment for a term which may extend to one year or with fine or with both.
58. (1) Where an offence under this Act has been committed by a company or body corporate, every person who at the time the offence was committed, was in charge of, and was responsible to, the company, for the conduct of the business of the company, as well as the company, shall be deemed to be guilty of the contravention and shall be liable to be proceeded against and punished accordingly.

Provided that nothing in this sub-section shall render any such person liable to any punishment provided in this Act, if he proves that the offence was committed without his knowledge or that he exercised due diligence to prevent the commission of such offence.

- (2) Notwithstanding anything contained in sub-section (1), where an offence under this Act has been committed by a company, and it is proved that the offence was committed with the consent or connivance of or is attributable to any neglect on the part of any director, manager, secretary or other officer of the company, such director, manager, secretary or other officer shall also, be deemed to be guilty of that offence and shall be liable to be proceeded against and punished accordingly.

*Explanation* – For the purpose of this section –

- (a) “company” means any body corporate and includes a firm or other association of individuals; and
- (b) “director”, in relation to a firm, means a partner in the firm.
59. No prosecution for offences punishable under section 55 and 56 shall be instituted except with the previous sanction of the Central

Government or the State Government, as the case may be, or of any officer authorized in this behalf, by general or special order, by such Government.

60. No court shall take cognizance of an offence under this Act except on a complaint made by
- (a) the National Authority, the State Authority, the Central Government, the State Government, the District Authority or any other authority or officer authorized in this behalf by that Authority or Government, as the case may be; or
  - (b) any person who has given notice of not less than thirty days in the manner prescribed, of the alleged offence and his intention to make a complaint to the National Authority, the State Authority, the Central Government, the State Government, the District Authority or any other authority or officer authorized as aforesaid

## **CHAPTER XI**

### **MISCELLANEOUS**

61. While providing compensation and relief to the victims of disaster, there shall be no discrimination on the ground of sex, caste, community, descent or religion.
62. Notwithstanding anything contained in any other law for the time being in force, it shall be lawful for the Central Government to issue direction in writing to the Ministries or Departments of the Government of India, or the National Executive Committee or the State Government, State Authority, State Executive Committee, statutory bodies or any of its officers or employees, as the case may be, to facilitate or assist in the disaster management and such Ministry or Department or Government or Authority, Executive Committee, statutory body, officer or employee shall be bound to comply with such direction.
63. Any officer or authority of the Union or a State, when requested by the National Executive Committee, any State Executive Committee or

District Authority or any person authorized by such Committee or Authority in this behalf, shall make available to that Committee or authority or person, such officers and employees as requested for, to perform any of the functions in connection with the prevention of disaster or mitigation or rescue or relief work.

64. Subject to the provisions of this Act, if it appears to the National Executive Committee, State Executive Committee or the District Authority, as the case may be, that provisions of any rule, regulation, notification, guideline, instruction, order, scheme or byelaws, as the case may be; are required to be made or amended for the purposes of prevention of disasters or the mitigation thereof, it may require the amendment of such rules, regulation, notification, guidelines, instruction, order, scheme or bye-laws, as the case may be, for that purpose, and the appropriate department or authority shall take necessary action to comply with the requirement.
65. (1) If it appears to the National Executive Committee, State Executive Committee or District Authority or any officer as may be authorized by it in this behalf that
  - (a) any resources with any authority or person are needed for the purpose of prompt response;
  - (b) any premises are needed or likely to be needed for the purpose of rescue operations; or
  - (c) any vehicle is needed or is likely to be needed for the purposes of transport of resources from disaster affected areas or transport of resources to the affected area or transport in connection with rescue, rehabilitation or reconstruction, such authority may, by order in writing, requisition such resources or premises or such vehicle, as the case may be, and may make such further orders as may appear to it to be necessary or expedient in connection with the requisitioning.
- (2) Whenever any resource, premises or vehicle is requisitioned under sub-section (1), the period of such requisition shall not extend beyond the period for which such resource, premises or vehicle is required for any of die purpose mentioned in that sub-section.

- (3) In this section,
- (a) “resources” includes men and material resources;
  - (b) “services” includes facilities;
  - (c) “premises” means any land, building or part of a building and includes a hut, shed or other structure or any part thereof;
  - (d) “vehicle” means any vehicle used or capable of being used for the purpose of transport, whether propelled by mechanical power or otherwise.

66. (1) Whenever any Committee, Authority or officer referred to in sub-section (1) of section 65, in pursuance of that section requisitions any premises, there shall be paid to the persons interested compensation the amount of which shall be determined by taking into consideration the following, namely;

- (i) the rent payable in respect of the premises, or if no rent is so payable, the rent payable for similar premises in the locality.
- (ii) if as consequence of the requisition of the premises the person interested is compelled to change his residence or place of business, the reasonable expenses (if any) incidental to such change;

Provided that where any person interested being aggrieved by the amount of compensation so determined makes an application within the thirty days to the Central Government or the State Government, as the case may be, for referring the matter to an arbitrator, the amount of compensation to be paid shall be such as the arbitrator appointed in this behalf by the Central Government or the State Government, as the case may be, may determine.

Provided further that where there is any dispute as to the title to receive the compensation or as to the apportionment of the amount of compensation, it shall be referred by the Central Government or the State Government, as the case may be, to an arbitrator appointed in this behalf by the Central Government or the State Government, as the case may be, for

determination, and shall be determined in accordance with the decision of such arbitrator.

*Explanation* – In this sub-section, the expression “person interested” means the person who was in actual possession of the premises requisitioned under, section 65 immediately before the requisition, or where no person was in such actual possession, the owner of such premises.

- (2) Whenever any Committee, Authority or officer, referred to in sub-section (1) of section 65 in pursuance of that section requisitions any vehicle, there shall be paid to the owner thereof compensation the amount of which shall be determined by the Central Government or the State Government the case may be, on the basis of the fares or rates prevailing in the locality or the hire of such vehicle:

Provided that where the owner of such vehicle being aggrieved by the amount of compensations so determined makes an application within the prescribed time to the Central Government or the State Government, as the case may be, for referring the matter to an arbitrator, the amount of compensation to be paid shall be such as the arbitrator appointed in this behalf by the Central Government or the State Government, as the case may be, may determine :

Provided further that where immediately before the requisitioning the vehicle or vessel was by virtue of a hire purchase agreement in the possession of a person other than the owner, the amount determined under this sub-section as the total compensation payable in respect of the requisition shall be apportioned between that person and the owner in such manner as they may agree upon, and in default of agreement, in such manner as an arbitrator appointed by the Central Government or the State Government, as the case may be, in this behalf may decide.

67. The National Authority, the State Authority, or a District Authority may recommend to the Government to give direction to any authority or person in control of any audio or audio-visual media or such other means of communication as may be available to carry any warning or advisories regarding any threatening disaster situation or disaster,

and the said means of communication and media as designated shall comply with such direction.

68. Every order or decision of the National Authority or the National Executive Committee, the State Authority, or the State Executive Committee or the District Authority, shall be authenticated by such officers of the National Authority or the National Executive Committee or, the State Executive Committee, or the District Authority, as may be authorized by it in this behalf.
69. The National Executive Committee, State Executive Committee, as the case may be, by general or special order in writing, may delegate to the Chairperson or any other member or to any officer, subject to such conditions and limitations, if any, as may be specified in the order, such of its powers and functions under this Act as it may deem necessary.
70.
  - (1) The National Authority shall prepare once every year, in such form and at such time as may be prescribed, an annual report giving a true, and full account of its activities during the previous year and copies thereof shall be forwarded to the Central Government and that Government shall cause the same to be laid before both Houses of Parliament within one month of its receipt.
  - (2) The State Authority shall prepare once in every year, in such form and at such time as may be prescribed, an annual report giving a true and full account of its activities during the previous year and copies thereof shall be forwarded to the State Government and that Government shall cause the same to be laid before each House of the State Legislature where it consists of two Houses, or where such Legislature consists of one House, before that House.
71. No court (except the Supreme Court or a High Court) shall have jurisdiction to entertain any suit or proceeding in respect of anything done, action taken, orders made, direction, instruction or guidelines issued by the Central Government, National Authority, State Government, State Authority or District Authority in pursuance of any power conferred by, or in relation to its functions, by this Act.
72. The provisions of this Act, shall have effect, notwithstanding anything inconsistent therewith contained in any other law for the time being

in force or in any instrument having effect by virtue of any law other than this Act.

73. No suit or prosecution or other proceeding shall lie in any court against the Central Government or the National Authority or the State Government or the State Authority or the District authority or local authority or any officer or employee of the Central Government or the National Authority or the State Government or the State Authority or the District Authority or local authority or any person working for on behalf of such Government or authority in respect of any work done or purported to have been done or intended to be done in good faith by such authority or Government or such officer or employee or such person under the provisions of this Act or the rules or regulations made there under.
74. Officers and employees of the Central Government, National Authority, National Executive Committee, State Government, State Authority, State Executive Committee or District Authority shall be immune from legal process in regard to any warning in respect of any impending disaster communicated or disseminated by them in their official capacity or any action taken or direction issued by them in pursuance of such communication or dissemination.
75. (1) The Central Government may, by notification in the Official Gazette, make rules for carrying out the purpose of this Act.
- (2) In particular, and without prejudice to the generality of the foregoing power, such rules may provide for all or any of the following matters, namely;
- (a) the composition and number of the members of the National Authority under sub-section (2), and the term of office and conditions of service of members of the National Authority under sub-section (4), of section 3;
  - (b) the allowances to be paid to the members of the advisory committee under sub-section (2) of section 7;
  - (c) the powers and functions of the Chairperson of the National Executive Committee under sub-section (3) of section 8 and the procedure to be followed by the National Executive Committee in exercise of its powers

and discharge of its functions under sub-section (4) of section 8;

- (d) allowances to be paid to the persons associated with the sub-committee constituted by the National Executive Committee under sub-section (3) of section 9;
- (e) the number of members of the National Institute of Disaster Management under sub-section (2), the term of the office and vacancies among members and the manner of filling such vacancies under sub-section (3) and the manner of constituting the Governing Body of the National Institute of Disaster Management under sub-section (4) of section 42;
- (f) the manner of constitution of the Force, the conditions of service of the members of the Force, including disciplinary provisions under sub-section (2) of section;
- (g) the manner in which notice of the offence and of the intention to make a complaint to the National Authority, the State Authority, the Central Government, the State Government or the other Authority or officer under clause (b) of section 60;
- (h) the form in which and the time within which annual report is to be prepared under section 70;
- (i) any other matter which is to be, or may be, prescribed, or in respect of which provision is to be made by rules.

76. (1) The National Institute of Disaster Management, with the previous approval of the Central Government may, by notification in the Official Gazette, make regulations consistent with this Act and the rules made there under to carry out the purposes of this Act.

(2) In particular, and without prejudice to the generality of the foregoing power, such regulations may provide for all or any of the following matters, namely;

- (a) powers and functions to be exercised and discharged by the governing body;



- (b) procedure to be followed by the governing body in exercise of the powers and discharge of its functions;
- (c) any other matter for which under this Act provision may be made by the regulations.

77. Every rule made by the Central Government and every regulation made by the National Institute of Disaster Management under this Act shall be laid, as soon as may be after it is made, before each House of Parliament, while it is in session, for a total period of thirty days which may be comprised of one session or in two or more successive sessions, and if, before the expiry of the session immediately following the session or the successive session aforesaid, both Houses agree in making any modification in the rule or regulation or both House agree in making any modification in the rule or regulation or both Houses agree that the rule or regulation should not be made, the rule or regulation shall thereafter have effect only in such modified form or be of no effect, as the case may be; so, however, that any such modification for annulment shall be without prejudice to the validity of anything previously done under that rule or regulation.

78. (1) “The State Government may, by notification in the Official Gazette, make rules to carry out the provisions of this Act.

(2) In particular, and without prejudice to the generality of the foregoing power, such rules may provide for all or any of the following matters, namely;

- (a) the composition and number of the members of the State Authority under sub-section (2), and the term of office and conditions of service of the members of the State Authority under sub-section (5), of section 14;
- (b) the allowances to be paid to the members of the advisory committee under sub-section (2) of section 17;
- (c) the powers and functions of the Chairperson of the State Executive Committee under sub-section (3), and the procedure to be followed by the Sate Executive Committee in exercise of its powers and discharge of its functions under sub-section (4) of section 20;

- (d) allowances to be paid to the persons associated with the sub-committee constituted by the State Executive Committee under sub-section (3) of section 21;
  - (e) the composition and the number of members of the District Authority under sub-section (2), and the powers and functions to be exercised and discharged by the Chief Executive Officer of the District Authority under sub-section (3) of section 25;
  - (f) allowances payable to be persons associated with any committee constituted by the District Authority as experts under sub-section (3) of section 28;
  - (g) any other matter which is to be, or may be, prescribed, or in respect of which provision is to be made by rules,
- (3) Every rule made by the State Government under this Act shall be laid, as soon as may be after it is made, before each House of the State Legislature where it consists of two Houses, or where such Legislature consists of one House before that House.
79. (1) If any difficulty arises in giving effect to the provisions of this Act, the Central Government or the State Government, as the case may be, by notification in the Official Gazette, make order not inconsistent with the provisions of this Act as may appear to it to be necessary or expedient for the removal of the difficulty;
- Provided that no such order shall be made after the expiration of two years from the commencement of this Act.
- (2) Every order made under this section shall be laid, as soon as may be after it is made, before each House of Parliament or the Legislature, as the case may be.



DISTRICT  
DISASTER MANAGEMENT PLAN

***LAWNGTLAI DISTRICT - 2009***

**Prepared by:**

**Deputy Commissioner,**

**&**

**Chairman**

**District Disaster Management Committee,**

**Lawngtlai District : Mizoram**

