

# **DISTRICT DISASTER MANANGEMENT PLAN 2019-20**



**OFFICE OF THE  
DEPUTY COMMISSIONER/DISTRICT MAGISTRATE  
SENAPATI DISTRICT, MANIPUR**

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## ABBREVIATION

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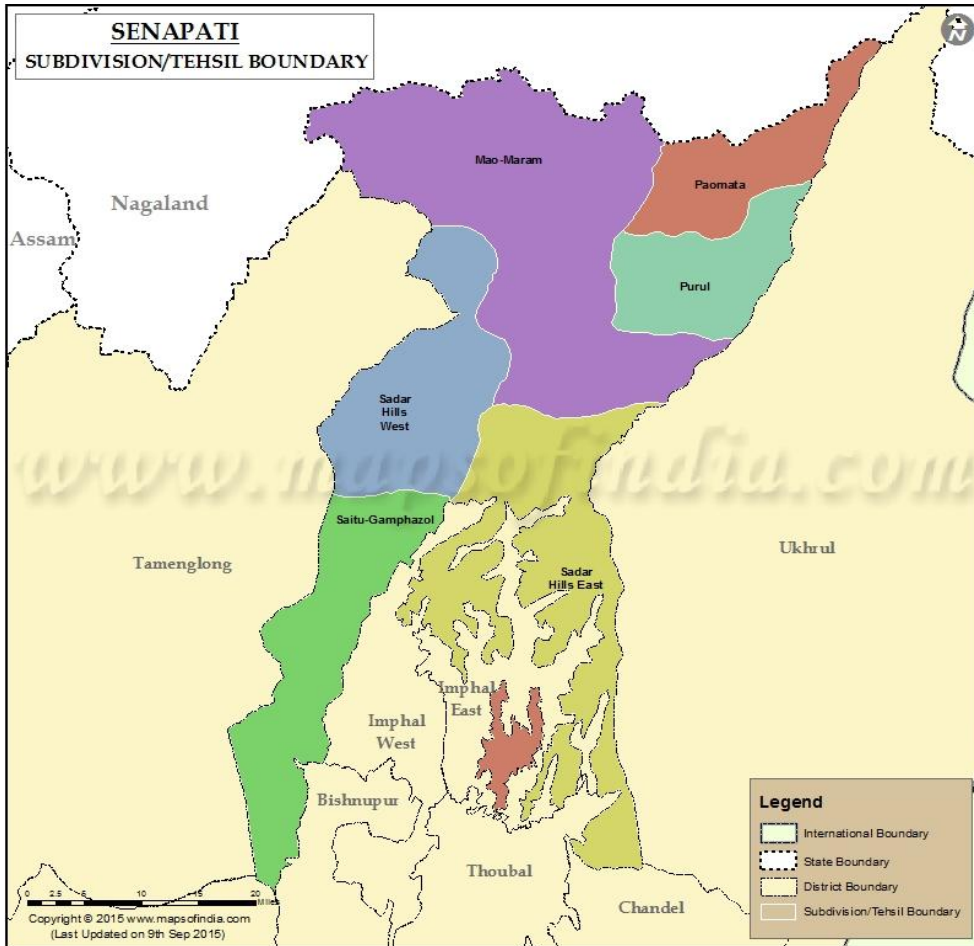
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**\* To be prepared by the District administration**

# Chapter 1: Introduction

## 1.1. District Profile.



Source: [www.mapofindia.com](http://www.mapofindia.com)

The district is one of the five hill districts of Manipur and is situated in the northern region of the state. The Senapati District is located in the northern part of Manipur. It is bounded on the east by Ukhrul District, on the west by Tamenglong District, on the north by Phek District of Nagaland and on the south by Imphal East District and Imphal West District.

The Senapati District was earlier known as Manipur North District which came into existence on 14 November 1969 with its headquarters at Karong. Later the district headquarters was shifted to Senapati on 13 December 1976. The District came to be known as Senapati District on 15 July 1983.

The District is endowed with a kaleidoscopic landscape of blue hills, green valleys, serpentine streams and rivers flowing through mountains and deep gorges. Rich varieties of flora and fauna adorn the land. Agriculture is the main occupation of the people and terrace cultivation

is generally practiced by the people. Paddy, Maize, Cabbage, Potato, cereals are the main crops of the District. 80% of the area is covered by forest and remaining 20% is arable land.

## 1.2. Administrative

The administration of the district is headed by the District Magistrate-cum-Deputy Commissioner (District Collector). He is assisted by an Additional Deputy Commissioner/Additional District Magistrate, other Sub-Divisional Officers, Sub-Deputy Collectors and such other officers of various levels and staff as are appointed from time to time. Maintenance of law and order, revenue administration and other developmental activities of the district are the basic duties of the district administration.

The district is divided into a number of administrative units known as sub-division. Each subdivision is in charge of a Sub-divisional Officer (SDO) who is also concurrently a Sub-Divisional Magistrate. Senapati district has six sub-divisions and within each sub-division there are smaller administrative circles headed by Sub-Deputy Collectors known as sub-divisional circles. The district has 6 Tribal Development Blocks, which is the same as the Community Development Blocks in the valley areas, the jurisdictions of which are co-terminus with the boundary of each of the subdivisions and is headed by the Sub-divisional Officer/Block Development Officer. Other district heads are Superintendent of Police, District Officer (Horticulture and Soil Conservation), Chief Medical Officer, Deputy Director of Forest, Deputy Director of Agriculture, Deputy Director of Animal Husbandry, Zonal Education Officer, etc.

The administrative setup in Senapati District is as below:

Sl.no.	Divisions in Senapati	Name
1.	Sub-Division	1. Mao-Maram 2. Purul 3. Paomata 4. Sadar Hills West 5. Saitu-Gamphazol 6. Sadar Hills East
2.	TD Block	1. Mao-Maram, 2. Purul, 3. Paomata, 4. Kangpokpi, 5. Saitu-Gamphazol, 6. Saikul.
3.	Total Villages	687 (2011 Census)
4.	District Council	1. Manipur North Autonomous District Council. 2. Senapati and Sardar Hills Automonous District Council, Kangpokpi.

5.	<b>Assembly Constituency</b>	<ol style="list-style-type: none"> <li>1. 46-Saikul,</li> <li>2. 47-Karong,</li> <li>3. 48-Mao,</li> <li>4. 49-Tadubi,</li> <li>5. 50-Kangpokpi,</li> <li>6. 51-Saitu.</li> </ol>
6.	<b>Police Station</b>	<ol style="list-style-type: none"> <li>1. Mao,</li> <li>2. Tadubi,</li> <li>3. Senapati,</li> <li>4. Kangpokpi,</li> <li>5. Saparmeina,</li> <li>6. Saikul,</li> <li>7. New Keithelmanbi</li> <li>8. Chalwa.</li> </ol>
7.	<b>Police Outposts</b>	<ol style="list-style-type: none"> <li>1. Motbung,</li> <li>2. Leimakhong,</li> <li>3. Singda Dam</li> </ol>

Source: Census of India, 2011.

### 1.3. Location & Geography

Senapati district which has an area of 3,271 sq.km. as supplied by the Surveyor General of India lies on the northern most portion of the Manipur state bounded by Nagaland state on the north, on the east by Ukhrul district, on the south by Imphal East and Imphal West districts, on the west by Tamenglong district, on the south west by Churachandpur and Bishnupur districts and on the south east by Senapati and Chandel districts.. The headquarters of the district is at Senapati which is 62 km. from Imphal, the capital of the state, is on the ImphalDimapur Road on the national highway no. 39. In terms of area the district occupies the 5th position among the 9 districts and covers 14.65 per cent of the total geographical area of the state. The district lies approximately between 24°37'21" N and 25°35'27" N latitudes and 93°40'48" E to 94°27'18" E longitudes. The district is almost entirely hilly except only a small area at the base of the hills adjacent to the valley districts. In general, the district slopes towards the south and the rivers and the streams flow mainly towards the south.

### 1.4. Climate

The district enjoys on the whole a very pleasant climate throughout the year. The temperature is neither very hot nor very cold. The district comes under humid sub-tropical and temperate sub alpine climate with temperature ranging from 3°C to 35°C during winter

and summer respectively. The annual rainfall ranges from 1102 mm to 2500 mm and the relative humidity ranges from 82% to 96% with occasional occurrence of frost in winter. The seasons can be conveniently classified into spring, rainy season, autumn and winter. By far March and October are the most pleasant months of the year. April and May are hot seasons. Temperatures rise from March onwards and day temperatures are highest in April and May.

From the month of October the temperature begins to go down and by the beginning of November winter season starts and continues up to the end of February. December and January are the coldest months of the year. Frost and fog could be seen till late in the morning hours during the winter months. The rainfall and sunshine are abundant and the district enjoys adequate rainfall which supports different varieties of vegetation's throughout the year. The average annual rainfall at Kangpokpi is 230.15 cm. Rainy season starts as early as March and continues up to October. June and July are months of heavy rainfall. The rainfall during the summer months is under the influence of the south-west monsoon originating from the Indian Ocean while during the winter months some rains could be noticed from the north-east monsoon coming from the Himalayas. Pre monsoon showers also occur from the western disturbances. Most of the rains fall during the period from April to October but the monsoon season from June to September accounts for more than half of the total annual rainfall.

During the recent years some variations in the climatic pattern could be seen in the district like shortening of the winter season and lengthening of the summer season.

## **1.5. Roads**

Roads are the lifeline of the people of the district of Senapati as there are practically no other means of transport and communication. 17 National Highway 39 passes through the district from the south end to the north end. I-T road, Maram- Paren road, Tadubi-Tolloi-Ukhrul road, Maram-Ngari- Kachai road, Karong-Purul-Liyai road, Senapati- Khongdei-Phaibung road are other important roads in the district.

The inter-district road density in 2002 for Senapati was 23.73 km per 100 square km, which is much lower than the state average of 51.2 km per 100 square km. Altogether 47 percent villages in the district are connected by all-weather roads. Pathetic road condition in the hill districts of the state has always been detrimental for their development. In most of the villages inter village road are not surfaced. Same is the condition of other district roads. National Highway 106.00 State Highway 107.00 Major District Road 20.00 Other District Road 54.00 Inter Village Road 522.00 District total 809.00 kms as per 2002 report.

## **1.6. Rivers & lakes**

The Barak and its tributaries like the Dzuko, the Radaki and the Irang is the most important river in the district and drains the northern and north western portions of the district. Originating from LiyaiKhullen, a village on the north eastern part of the Paomata sub-division the Barak follows a south western direction uptoKangpokpi wherefrom it turns north uptoLairouching and then follows a western course meeting on its way a number of



tributaries including the Radaki. The Dzuko river which forms the boundary of Manipur and Nagaland on the north meets the Barak at the junction of Tamenglong and Senapati districts and flows towards the south through Tamenglong district upto Leimatak in Churachandpur district where it meets with the Tuivai river and then follows a north direction where it joins with the Jiri river before finally entering into Sylhet district of Bangladesh as the Surma river.

The Irang river flows south and makes the district boundary between Senapati and Tamenglong. This river joins the Barak in the Tamenglong district. The Sedzu river forms state boundary between Manipur and Nagaland near Pudunamei village. The Akhonglo river demarcates the district boundary between Senapati district and Ukhrul district covering whole portions of Paomata and Purul subdivisions. The Khobri river also makes the state boundary and meets the Akhonglo river. Another important river originating from this district is the Imphal river. The river originates near Maohing village which has an elevation of 2,332 meters above the mean sea level near Kangpokpi and flows south meeting on its course other tributaries like the Koubru and the Sekmai and joins the Iril river which originates from Lakhamai village on the northern part of the district at Lilong. The Imphal river (also known as the Manipur river) falls into the Chindwin Drainage. The Barak and its tributaries like the Dzuko, the Radaki and the Irang is the most important river in the district and drains the northern and north western portions of the district. Originating from Liyai Khullen, a village on the north eastern part of the Paomata sub-division the Barak follows a south western direction upto Kangpokpi wherefrom it turns north upto Lairouching and then follows a western course meeting on its way a number of tributaries including the Radaki. The Dzudko river which forms the boundary of Manipur and Nagaland on the north meets the Barak at the junction of Tamenglong and Senapati districts and flows towards the south through Tamenglong district upto Leimatak in Churachandpur district where it meets with the Tuivai river and then follows a north direction where it joins with the Jiri river before finally entering into Sylhet district of Bangladesh as the Surma river. The Irang river flows south and makes the district boundary between Senapati and Tamenglong. This river joins the Barak in the Tamenglong district. The Sedzu river forms state boundary between Manipur and Nagaland near Pudunamei village. The Akhonglo river demarcates the district boundary between Senapati district and Ukhrul district covering whole portions of Paomata and Purul subdivisions. The Khobri river also makes the state boundary and meets the Akhonglo river. Another important river originating from this district is the Imphal river. The river originates near Maohing village which has an elevation of 2,332 meters above the mean sea level near Kangpokpi and flows south meeting on its course other tributaries like the Koubru and the Sekmai and joins the Iril river which originates from Lakhamai village on the northern part of the district at Lilong. The Imphal river (also known as the Manipur river) falls into the Chindwin river of Myanmar outside the state.

## 1.7. Hills

As per the Regional Divisions of India - a Cartographic Analysis Series, Manipur published by the Registrar General, India in 1980 the district is divided into three hilly regions, viz., i) Northern Hilly Region, ii) Eastern Hilly Region and iii) Western Hilly Region.

The Northern Hilly Region spreads over the district on the northern side and covers about half of the Mao-Maram sub-division. Its geology is related to Barail Series and Simsang formation and Jaintia Series and Disang Series with faults and thrusts. Soils are Udalfs-Ochrepts in general. The Eastern Hilly Region extends over the south eastern part of the district occupying whole of the Sadar Hills East sub-division and some parts of Mao-Maram sub-division and a small portion of Sadar hills West sub-division. The soil is of Udalfs-Ochrept and Orthents-Udalfs and is formed over Barail Series and Disang Series with transported alluvium. The Western Hilly Region extends over the south western part of the district occupying more than half of the Sadar Hills and SaituGamphazol sub-divisions and some portions of Mao-Maram subdivision. The soil is of Udalfs-Ochrept, Udalfs- Orthents and Orthents-Udalfs and the region is spread over Barail Series and Disang Series. Mount Tenipu which is 2,995 metres above the mean sea level is the highest peak in Manipur and is located in the Northern Hilly Region on the northern side near Mao, a town bordering the state of Nagaland. During the winter months frozen snow could be seen at the peak at the morning hours. The other important peaks of the district are Laikot (2,832 meters), Shoyangjang (2,249 meters) and Laishan (2,261 meters)

## 1.8. Agriculture

Agriculture is the most important source of livelihood for the people of the district. More than 70 per cent of the total population of the district is directly or indirectly depended on agricultural activities. Both terrace and shifting cultivation is practiced in the district. Rice, Maize, Cabbage, Potato, cereals are the main crops of the district. The village people are mostly engaged in Jhumming activity near the National Highway (No. 39). In some cases the shifting cultivation is practiced in small pockets keeping the adjoining area for regeneration. Thus, after 2-3 years they cultivate a fresh piece of land which was kept under forest for about 8-10 years which gives better yield. Rice accounts for more than 90 percent of the total land area under cultivation. Although the average land holding is one of the lowest in India, yield per acre is comparatively high. With the increasing use of fertiliser and the modern methods of cultivation there is a great scope for increasing the overall production.

### Major Land Use / Land Cover Categories (1989-90 )

Sl. No	Category	Area (Ha)	% to the total District Area
1.	Settlement	6569.1	2.01
2.	Agricultural Land	9675.02	2.96
3.	Forest Cover	288330.98	88.15
4.	Land with /without scrub	148347.82	45.35
5.	Water Bodies		
	(a) Group - A	0	0
	(b) Group - B	0	0

6.	Others	4077.08	1.25
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Source : Manipur Remote Sensing Application Centre

### 1.8.1. Horticulture

In Senapati district, the horticultural potential area (ha) is 45567.

Sl.no	Major Horticulture Crop	Type
1	Fruits	Pineapple, Passion fruit.
2	Vegetable	Cabbage, Pea, French Bean.
3	Root & tuber	Tapioca.
4	Spices	Chillies, Ginger.

Source:hortimanipur.nic.in

### 1.9. Flora and Fauna

The State of Manipur is rich in her plant resources distributed among various agro-climatic zones. Invariably, the rich flora meets the day to day needs of the people living therein. In the Senapati district lots of species of plants are found. Most of them are very useful to the people and use as MEDICINAL plants. Some of the resource plants found in this district are given below: Abrusprecatorius Linn (Chaning), Acacia pruinescensKurz (Te-bam), Adiantumaethiopicum Linn (MayurPambi), Adiantumcapillus-veneris Linn (Hansraj), Artemisia maritima Linn (Leibakngou-manba).

### 1.10. Demographic Profile

According to the 2011 census Senapati district has a population of 479148, roughly equal to the nation of Belize. This gives it a ranking of 565th in India (out of a total of 640). The district has a population density of 109 inhabitants per square kilometre (280/sq mi). Its population growth rate over the decade 2001-2011 was 25.16%. Senapati has a sex ratio of 939 females for every 1000 males, and a literacy rate of 75%.

Mao Naga, Maram, Thangal, Poumai, Thangal, Zemai, Liangmai, Rongmei(Kabui), Tangkhul, Meetei, Thadou, Nepalese, Vaiphei, Chothe, Chiru, Maring are the major inhabitants of this district.

Sl.no.	Description	Rural	Urban
1	Population (%)	98.44%	1.56%
2	Total Population	471672	7476
3	Male Population	243603	3720
4	Female Population	228069	3756
5	Sex Ratio	936	1010
6	Child Sex Ratio (0-6)	891	969
7	Child Population (0-6)	62319	1016
8	Male Child (0-6)	32947	516
9	Female Child (0-6)	29372	500
10	Child Percentage (0-6)	13.21%	13.59%
11	Male Child Percentage (0-6)	13.52%	13.87%
12	Female Child Percentage (0-6)	12.88%	13.31%
13	Literates	258978	5499
14	Male Literates	145129	2883
15	Female Literates	113849	2616
16	Average Literacy	63.27%	85.12%

17	Male Literacy	68.89%	89.98%
18	Female Literacy	57.30%	80.34%

Source: Census of India, 2011

### 1.11. Topography

Physio-graphically, Senapati District as a whole has hilly terrain with total geographical area of 3271 sq. km. and altitude of the district ranges from 800 to 2800 m from the mean sea level. The District is endowed with kaleidoscopic landscape of blue hills, green valleys, serpentine streams and rivers flowing through mountains and deep gorges. Rich varieties of flora and fauna adorn the land. Agriculture is the main occupation of the people and terrace cultivation is generally practiced by the people. Paddy, Maize, Cabbage, Potato, cereals are the main crops of the District. 80% of the area is covered by forest and remaining 20% is arable land. The agro ecological situation of the district can be categorized into three situations as given below:

Situation	Description	Percentage
AES-I	Temperate/high hill/steep and mild/red sandy	55.8
AES-II	Sub-tropical/foot hill/riverine, undulated clay and sandy loam	6
AES-III	Sub-tropical/medium hill red sandy	38.2

Source: ATMA Senapati.

### 1.12. Major social and cultural events:

**Thounii :**

The new year cultural festival of PoumaiNagas is celebrated on 5 January to mark cultural resurgence, social interaction, family reunion.

**Laonii :**

The sacred festival of PoumaiNagas is celebrated on completion of paddy transplantation which usually falls in the last fortnight of July. A festival of male sanctification, this is an occasion to interact and renew ties with brothers and sisters.

**Chiithuni :**

The six day annual festival of Mao Nagas celebrated from 25th day of Chuthunikhro (Dec-Jan), meaning 'feast of dawn', is an occasion to rejuvenate the cultural heritage of the Mao

**Nagas.**

**Saleni :**

It is a customary festival of Mao Nagas, celebrated in the month of Salekhro (July) on completion of paddy transplantation. The whole men folk have to purify themselves by taking bath early in the morning in the pond.

**Ponghi :**

The seven day customary festival of MaramNagas is celebrated on 20th day of Ponghi-kii (July) on completion of paddy transplantation.

**Kanghi :**

The seven day customary festival of MaramNagas held in the month of Kanghi-kii (December). Wrestling is played during the festival in the Khullakpa's compound in stark naked to get shy away the devils so as to obviate misfortune and injury.

**Christmas -**

The tribes of Churachandpur who have converted into Christianity celebrate Christmas with great joy and grandeur. The tribes who celebrate this festival are mainly the Kuki, Naga and Hmar tribes. Offering prayers, reading of gospels, eating, dance, feasting, singing of hymns, lectures on Christ, sports etc. mark the festival. It is celebrated on 24th and 25<sup>th</sup> December.

**Kutfestival :**

This is a Post-Harvest festival celebrated in the month of November by the Kuki tribe. It is a state holiday on this festival. The festival is marked by various cultural events such as traditional dances, folk dances, songs, sports and the most popular Miss Kut contest. It is a festival of peace and thanksgiving to the Almighty for the harvests.

**Gan-Ngaifestival :**

This is celebrated by the KabuiNagas for five days in December-January. It is a colorful blend of rituals, feasts and dances. In addition to the tribal festivals, the other communities celebrate their festivals like Holi, Diwali, Sankranti, Dussera, Navratri, Shivratri etc.

### **1.13. Tourism**

**Senapati :** A new township and District Headquarters, Senapati is 62 km from Imphal. More than 30 government offices are located in the district headquarters. People of various ethnic communities are enjoying harmonious life in the town.

**MaramKhullen :** One of the biggest villages in the district, MaramKhullen is a very old and primitive village. It is an attractive destination for the anthropologist, research scholar and the like.

**Yangkhullen :** Yangkhullen is the largest Zemei village

located 47 km from Maram Centre in Peren road. The primitive social and economic life is still prevailing in the village. It is situated amidst the steep cliff of beautiful landscape.

**Mao :** The last town of Manipur bordering Nagaland state, 107 km from Imphal and 28 km to Kohima, Mao is a very busy town. It is the granary of the surrounding villages and the gateway of the state.

**Liyai :** The village, 33 km from Tadubi towards the east is the home of various historical places like the stone monolith, the water pools, the Banyan tree, the male house and female house.

The river Barak originates from the village.

**Makhel :** Makhel is a sacred place for many ethnic communities where they settled and migrated long back. There are historical monuments like i) The sacred Banyan trees which are believed to have grown from the tomb of the Naga mother. ii) The farewell monolith. iii) The triomonolith (3 km south to Makhel). iv) The dispersal tree at Sajouba (2 km north to Makhel). v) The hailstorm stone. vi) Village settlement stone. vii) The lucky stone etc.



**Dzuko Valley:** A most enchanting place, the valley can be reached by trekking from the border town of Mao. One can observe snowfall in winter and budding flowers of Dzuko lily in spring season.



**Purul :** 19 km from Maram in NH 39,

Purul is the home of indigenous games Toutou and wrestling. Toutou is played during New Year festival and wrestling is traditionally played on the eve of paddy transplantation festival which is known as Paoki falling in the first fortnight of May.

**Koubru Mountain:** This Mountain is one of the highest peaks in Manipur. People climb the mountain in summer season only. They climb mountain in the group. People say that in mythological day Pandavas were visited here. There is a long cave where people pass through.



**KoubruLaikha:** KoubruLaikha is one of the famous Shiv Temples in Manipur. There will be a herd of people during the time of Shivratri and Kanwad. People say that putted milk on the Koubru Mountain comes here. This temple is situated on the bank of ImphalRiver. National Highway 2 Passes through here.

**SaduChiru Water Fall:** A popular tourist and picnic spot in Sadu(near IchumKeirap village) 27 km (17 mi) from Imphal, in Sadar hill area, Senapati district. Hundreds of tourist flocks to this place enjoy the view of this waterfall and the natural beauty surrounding it. Consisting of three falls with the first about thirty meters high. On the side newly park or garden- 'Agape park' is situated. It is owned and managed by KamlunTelien of IchumKeirap.



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**WillongKhullen(Megalith):** WillongKhullen is a village located some 37 km (23 mi) from NationalHighway 2 (India) (Maram) on the Maram-PerenRoad. It is home to a stone erection very similar toStonehenge. Some of the tallest stones are seven meters tall and one meter thick. The village of Yangkhullen is built on a steep slope on the hills.

#### 1.14. Economic Activity

Sr no	Sub- Divisio n	Total Popul ation	Total Worke r (main + margin al worker )	Category of Workers							
				Cultiv ators		Agricul tural Labour s		House hold Indust ry Work ers		Other worker s	
				No.	%	No.	%	No.	%	No.	%
1	Mao- Maram	16338 0	78591	58 14 6	73. 99	26 14	3.3 3	11 37	1.4 5	16 69 4	21. 24
2	Paoma ta	53901	30550	27 77 3	90. 91	18 5	0.6 1	29 9	0.9 8	22 93	7.5 1
3	Purul	68123	36416	30 22 1	82. 99	10 58	2.9 1	42 5	1.1 7	47 12	12. 94
4	Sardar Hills West	71844	28156	20 26 1	71. 96	17 57	6.2 4	71 9	2.5 5	54 19	19. 25
5	Saitu- Gamph azol	58536	29148	17 53 9	60. 17	27 84	9.5 5	76 8	2.6 3	80 57	27. 64
6	Sardar	63364	30761	21	68.	28	9.1	16	5.3	51	16.

	<b>Hills East</b>			<b>187</b>	<b>88</b>	<b>12</b>	<b>4</b>	<b>30</b>	<b>0</b>	<b>32</b>	<b>68</b>
<b>Tot al</b>		<b>479148</b>	<b>233622</b>	<b>175127</b>	<b>74.96</b>	<b>11210</b>	<b>4.80</b>	<b>4978</b>	<b>2.13</b>	<b>42307</b>	<b>18.11</b>

Source: Census 2011

Sr. no.	TD-BLOCK	Total Population	Total Worker (main + marginal worker)	Category of Workers							
				Cultivators		Agricultural Labours		Household Industry Workers		Other workers	
				No.	%	No.	%	No	%	No.	%
<b>1</b>	<b>Mao-Maram</b>	<b>163380</b>	<b>78591</b>	<b>58146</b>	<b>73.99</b>	<b>2614</b>	<b>3.33</b>	<b>1137</b>	<b>1.45</b>	<b>16694</b>	<b>21.24</b>
<b>2</b>	<b>Paomata</b>	<b>53901</b>	<b>30550</b>	<b>27773</b>	<b>90.91</b>	<b>185</b>	<b>0.61</b>	<b>299</b>	<b>0.98</b>	<b>2293</b>	<b>7.51</b>
<b>3</b>	<b>Purul</b>	<b>68123</b>	<b>36416</b>	<b>30221</b>	<b>82.99</b>	<b>1058</b>	<b>2.91</b>	<b>425</b>	<b>1.17</b>	<b>4712</b>	<b>12.94</b>
<b>4</b>	<b>Kangpokpi</b>	<b>71844</b>	<b>28156</b>	<b>20261</b>	<b>71.96</b>	<b>1757</b>	<b>6.24</b>	<b>719</b>	<b>2.55</b>	<b>5419</b>	<b>19.25</b>
<b>5</b>	<b>Saitu-Gamp hazol</b>	<b>58536</b>	<b>29148</b>	<b>17539</b>	<b>60.17</b>	<b>2784</b>	<b>9.55</b>	<b>768</b>	<b>2.63</b>	<b>8057</b>	<b>27.64</b>
<b>6</b>	<b>Saikul</b>	<b>63364</b>	<b>30761</b>	<b>21187</b>	<b>68.88</b>	<b>2812</b>	<b>9.14</b>	<b>1630</b>	<b>5.30</b>	<b>5132</b>	<b>16.68</b>
<b>Tot al</b>		<b>479148</b>	<b>233622</b>	<b>175127</b>	<b>74.96</b>	<b>11210</b>	<b>4.80</b>	<b>4978</b>	<b>2.13</b>	<b>42307</b>	<b>18.11</b>



## Chapter-2: Multi Hazard Disaster Management Plan

Disaster refers to a serious disruption of the functioning of a society, causing widespread human, material, or environmental loss, which exceeds the ability of the affected society to cope using its own resources. To put it in other words, it is the occurrence of a sudden mishap/calamity/grave occurrence that disrupts the basic fabric and normal functioning of a society (or community).

### Types of Disasters:

Natural Disaster	Man- Made Disaster
Earthquake	Road Accident
Flood	Ethnic Clash
Landslide	Bandh/Blockade
Cyclone	Chemical
Drought	Biological
Heat Wave	Radiological
Hailstorm/Thunderstorm	Nuclear
Pest Attack	
Forest Fire	

### 2.1 WHY IS IT?

The purpose of preparing District Disaster Management Plan (DDMP) is –

- To ascertain the status of existing resources and facilities available with the various agencies involved in the management of disaster in the District.
- Assess their adequacies and short falls if any in providing a multi- disaster response.
- Suggest institutional strengthening, technology support, up gradation of information system and data management for improving the quality of administrative responses to disaster at the district level and finally,
- To evolve DDMP as an effective managerial tool.

### 2.2 Aim:

*“Fail proof communication with accurate database and proper documentation and plan activation in the shortest possible time with active participation of the administration, communities and volunteers at all levels, making optimal utilization of human and material resources to prevent/minimize loss to lives and property and to ensure fastest restoration of the situation.”*

### 2.3 Objectives:

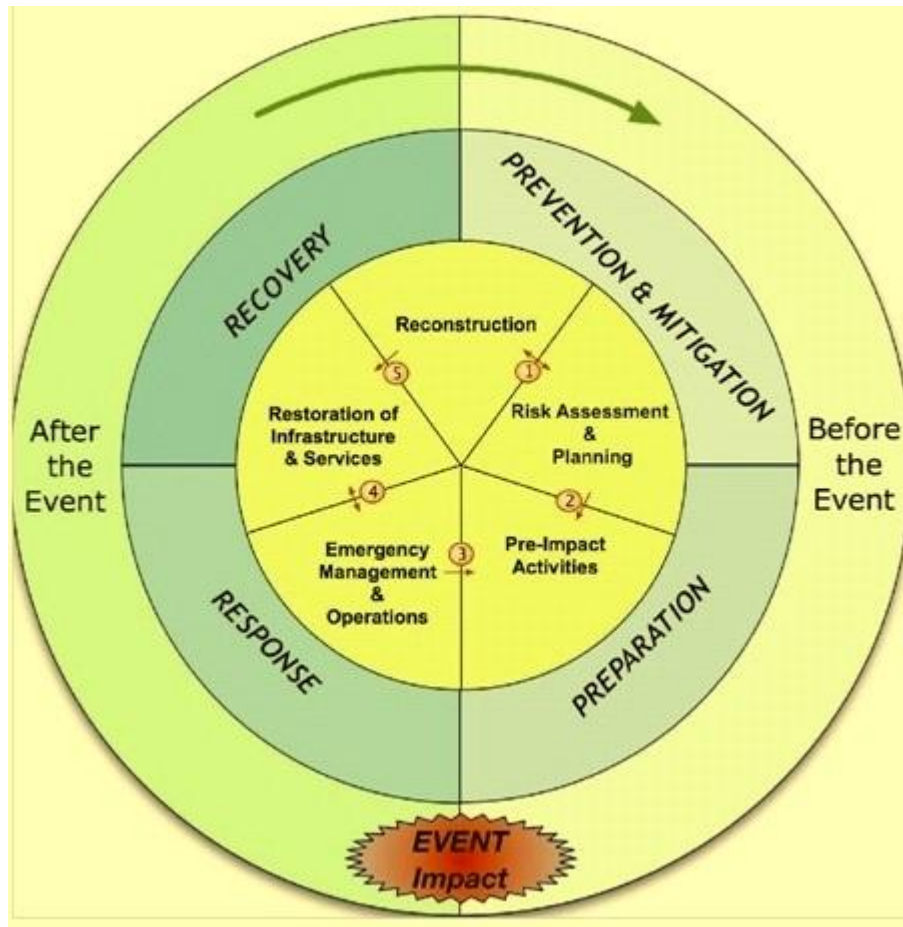
**The objectives behind the preparation of the District Disaster Management Plan are:**

- To mitigate impact of natural and man-made Disasters through preparedness at District, Block, Gram Autonomous District Council and Village level.
- To provide effective support and resources to all the concerned individuals, groups and departments in Disaster.
- To assist the line departments, block administration, communities in developing compatible skills for Disaster preparedness and management.
- To disseminate factual information in a timely, accurate and tactful manner while maintaining necessary confidentiality.
- To develop immediate and long-term support plans for vulnerable people in/during Disasters.
- To create awareness among the people about hazard occurrence and increase their participation in preparedness, prevention, development, relief, rehabilitation and reconstruction process
- To have response system in place to face any eventuality
- To affect or elicit the least possible disruption to the normal life process when dealing with individuals in Disaster
- To ensure active participation by the government administration, communities, NGOs, CBOs and volunteers at all levels making optimal utilization of human and material resources at the time of Disaster.
- To have effective disaster preparedness and effective emergency response plan.
- To provide relief and humanitarian assistance.
- To enable faster recovery through comprehensive reconstruction and rehabilitation.
- To take up measures for effective prevention, mitigation and response for disasters.
- To assist the line departments, block administrator, communities in developing compatible skills for disaster preparedness and management.
- To create awareness among the people about hazard occurrence and increasing their participation in preparedness, prevention, development, relief, rehabilitation and reconstruction process.

**2.4. Types of Disasters: Experienced in the District.**

<b>Natural</b>	<b>Man-made Disasters</b>
<b>* Earthquake</b>	<b>* Fire</b>
<b>* Landslide</b>	<b>* Communal riot</b>
<b>* Flood</b>	<b>* Road accident</b>
<b>* Cyclone</b>	<b>* Insurgency</b>
<b>* Drought</b>	<b>* Chemical hazards</b>

**2.5. Disaster Management Cycle**



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## Chapter- 3: Hazard, Vulnerability, Capacity and Risk

**District is prone to severe Earthquake and other Natural Hazards like Floods, Cyclones, Landslide, Drought, Fire and Manmade Disaster like Road Accident, Ethnic Violence and Insurgency etc.**

### **3.1. Vulnerability to Earthquake**

Senapati is one of the Districts of Manipur and is located in one of the most hazardous regions of the world i.e., Zone-V. Historically, the district experienced the effects of some of the major earthquakes occurred at some of the adjoining areas of the state. Presently, records of the frequent smaller shocks are being monitored by instruments installed at some centres,

outside and within the state. The Recent earthquake that hit the state on 4<sup>th</sup> January, 2016 has caused extensive damages to life and properties in the district. Hazards of earthquake cannot be taken easily.

### 3.2. Vulnerability to Floods

Major flood is not frequent in the district. However, flash floods are frequent during the rainy season. Major floods may strike the state for every 6-10 years according to the recorded figures found during the last 50 years and the district will not be spared. The average annual rainfall of Manipur state is 1500mm, so the hazard of flood cannot be taken easily. Preparedness, precaution and prevention plans may be taken up quite in advance flood areas.

### 3.3. Vulnerability to Landslide

National Highway-39 is the only lifeline of the state of Manipur. The sector between Karong and Mao is highly landslide prone and frequently blocked the NH-39. The area is represented by Disang and Barail Groups of rock. Landslide susceptibility zonation map reveals that 57% of the facets belong to low susceptible zone. It is followed by moderate susceptible zone (33%), high susceptible zone (9%) and very low susceptible zone (1%). All the facets of high susceptible zone are concentrated along the road section of NH-39, especially Maram-Mao sector.

### 3.4. Thunderstorm & Hailstorm

Cases of thunderstorm with heavy hailstorms associated with high velocity winds are occasionally found in some parts of the district causing widespread damage of crops and other properties. Last year, crops worth lacs of rupees were damaged due to heavy hailstorms in some parts of the district. Frequent lightning and thunder not only causes the damage of property but also stems the life of some individuals.

### 3.5. History of Disaster

Type of Hazards	Year of Occurrence	In Unit/Percentage				
		Area Affected	Population Affected	Impact on Life	Livelihood	livestock
Earthquake						
Floods						
Landslides						
Lightning/ Thunderstorm						
Drought						
Forest Fire						
Epidemics						
Others(Please Specify)						

- District authority has to fill the matrix.

### 3.6. Seasonal Hazard Analysis (Based on the template below please fill the analysis for Senapati)

Type of Hazards	JAN-MAR	APR-JUNE	JULY-SEPT	OCT-DEC

	H	C	A	I	H	C	A	I	H	C	A	I	H	C	A	I
FLOOD																
DROUGHT																
CYCLONE																
LANDSLIDE																
EARTHQUAKE																
EPIDEMIC																

*H – Human, C - Crop, A - Animal, I - Infrastructure*

**3.7. Disaster Probability (Please modify for any changes if required and identify the vulnerable areas/ village/blocks)**

Sl.No	Type of Disasters	Time of Occurrence	Potential Impact /Probable Damages	Vulnerable Areas
1	Flood	April- August	Crop, Human, Animal, Infrastructure loss	
2	Cyclone	April-September	Crop, Human, Animal, Infrastructure loss	
3	Landslide	May-August	Crop, Human, Animal, Infrastructure loss	
4	Fire	February-May	Human, Animal, Infrastructure loss	
5	Earthquake	Any time	Crop, Human, Animal, Infrastructure loss	
6	Epidemics	Anytime	Human & Animal loss	
7	Lightening	April -October	Human, Animal, Infrastructure loss	
8	Other (Please Specify)			

### 3.8. Risk assessment (Identify the vulnerable areas/blocks)

<b>TYPE OF HAZARD</b>	<b>POTENTIAL IMPACT</b>	<b>VULNERABILITY</b>	<b>VULNERABLE AREAS (BLOCK)</b>
<b>C Y C L O N E</b>	Infrastructure,	<b>Communication network. Road network , Telephone connections, Irrigation System, Drinking Water Systems, Electrical Installations etc.</b>	
	Crop	<b>Agriculture/Horticulture crops</b>	
	House	<b>Private dwelling Houses both kutchha and pucca houses</b>	
	Public property	<b>Community Halls, Market sheds etc.</b>	
	Livestock	<b>Cows, buffalos, Goats, Sheep, poultry</b>	
	Social and economic	<b>Livelihood</b>	
	Health & Education	<b>PHC,PHSC and Schools</b>	
	Vulnerable People	<b>Handicapped, Pregnant Women, Old aged, Children under the age of 5, Sick &amp; ailing etc.</b>	
<b>TYPE OF HAZARD</b>	<b>POTENTIAL IMPACT</b>	<b>VULNERABILITY</b>	<b>VULNERABLE AREAS (BLOCK)</b>
<b>L A N D S L I D E</b>	<b>Infrastructure</b>	<b>Communication network. Road network ,Telephone connections, Irrigation System, Drinking Water Systems, Electrical Installations etc.</b>	
	<b>Crop</b>	<b>Agriculture/Horticulture crops</b>	
	<b>House</b>	<b>Private dwelling Houses both kutchha and pucca houses</b>	
	<b>Public Property</b>	<b>Community Halls, Market sheds etc.</b>	
	<b>Livestock</b>	<b>Cows, buffalos, Goats, Sheep, poultry</b>	
	<b>Social &amp;Economic</b>	<b>Livelihood</b>	
	<b>Health &amp; Education</b>	<b>PHC,PHSC and Schools</b>	
	<b>Vulnerable person</b>	<b>Handicapped, Pregnant Women, Old aged, Children under the age of 5,</b>	

		<b>Sick &amp; ailing etc.</b>	
<b>EARTHQUAKE</b>	<b>Infrastructure</b>	<b>Communication network. Road network , Telephone connections, Irrigation System, Drinking Water Systems, Electrical Installations etc.</b>	
	<b>Public Infrastructure</b>	<b>Police Station, Multipurpose Halls, Government Buildings, Government Qtrs. Etc.</b>	
	<b>Community Assets</b>	<b>Market Shed, Community Hall,</b>	
	<b>Dwelling Houses</b>	<b>Private Dwelling Houses</b>	
	<b>Vulnerable Persons</b>	<b>Handicapped, Pregnant Women, Old aged, Children under the age of 5, Sick &amp; ailing etc.</b>	
	<b>Health</b>	<b>PHC, PHSC, CHC</b>	
<b>VILLAGE FIRE</b>	<b>Loss of property</b>	<b>Loss of property &amp; Life.</b>	
<b>DROUGHT</b>	<b>Loss of crop, livelihood</b>	<b>Crop Loss, Drinking water scarcity</b>	

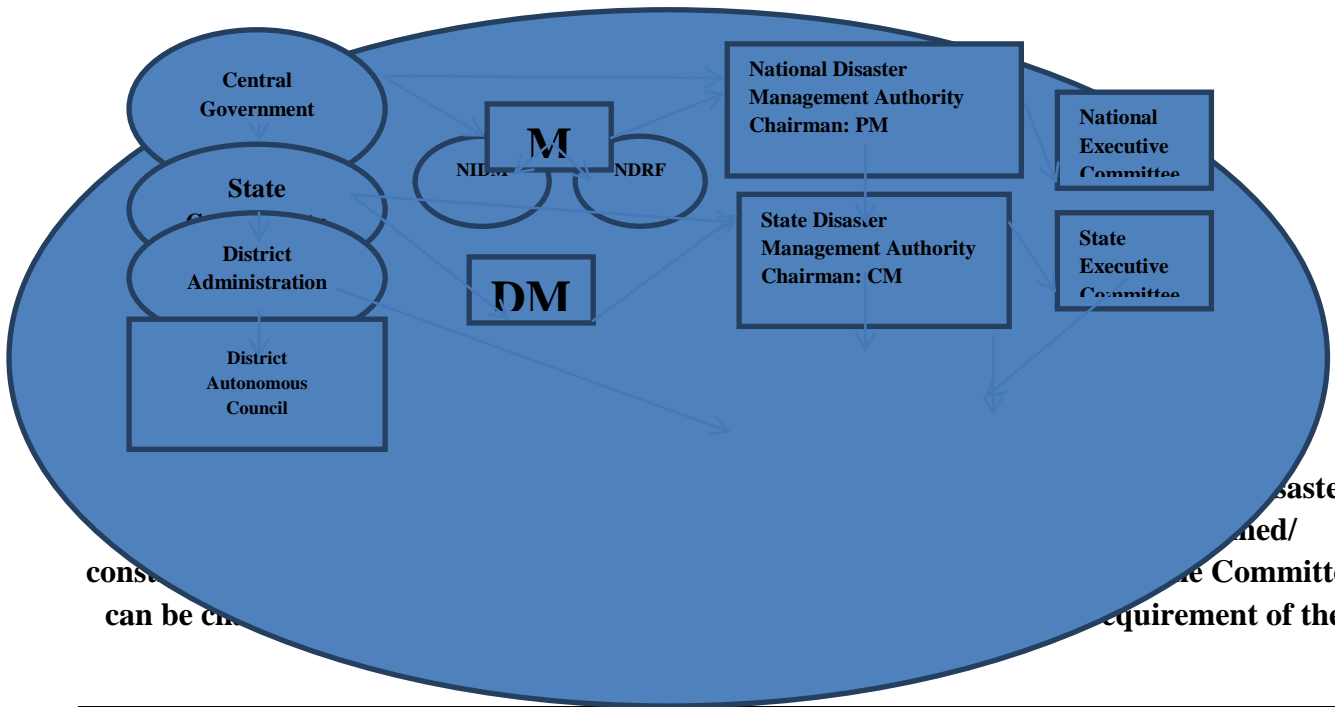
### **3.9. Capability Analysis**

1. **Warning system:-** signal of earthquake and cyclones must be detected timely and seismological observatories must be installed at convenient and safe place.
2. **Transport:** - It is required to evacuate affected/ injured persons.
3. **Machines:** - Cranes, excavators, tractors etc. are required for recovery of injured/ trapped persons and address and contract numbers of owners of the machines must be kept ready.
4. **Polices and paramilitary forces:** - they are required for recovery of injured persons. They must be trained and briefed properly.
5. **Hospital:** - The required doctors, nurses and ambulance must be kept ready for first aids and treatment of injured persons?
6. **Curriculum in text books:** - A curriculum of disaster management must be included in the syllabus of text books to make the students aware of disaster management.
7. **Role of media:** -The district has police communication networks and AIR service must be utilized to forecast warning and other necessary instructions frequently to make the public aware of the calamity and pre-caution. However, announcement through AIR as news items only must be avoided and warning must be broadcasted frequently.
8. **NGOs:** - They must be involved for distribution of relief materials. Nehru Yuva Kendra (NYK) may be tied up to organize training of youths.

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### 4.1. Institutional Setup under DM Act, 2005



cons... can be ch... disaster... ned/... the Committee... requirement of the

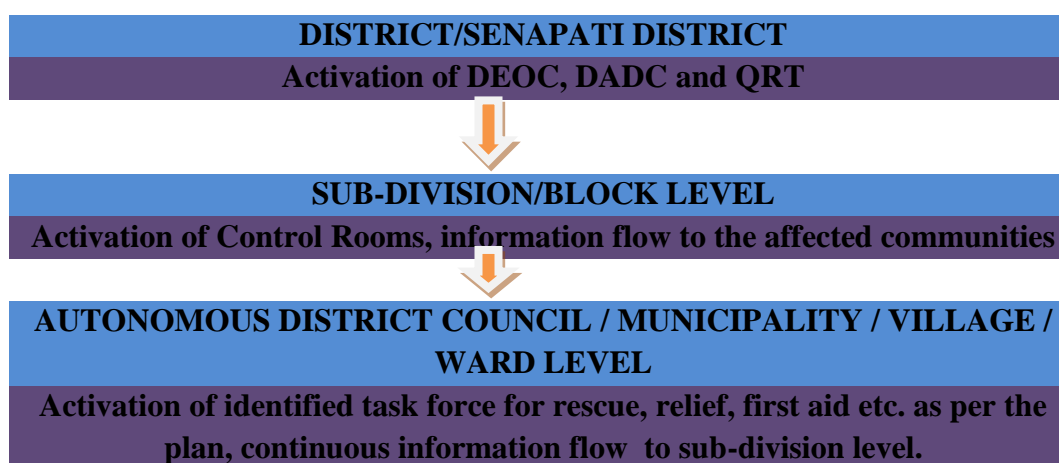
Sl.No	Member of General Body	Designation	Phone No.
1	Deputy Commissioner, Senapati	Chairperson	
2	The Superintendent of Police, Senapati	Member Secretary	
3	The Chief Medical Officer, Senapati	Member	
4	The Jt. Director (Vety), Senapati	Member	
5	The E.E. (PHED), Senapati	Member	
6	The E.E. (Irrigation and Flood	Member	



	Control), Senapati		
7	The E.E. (PWD), Senapati	Member	
8	The E.E. (Electricity), Senapati	Member	
9	The District Agriculture Officer, Senapati	Member	
10	The District Officer (Horti. & SC.), Senapati	Member	
11	The District Fishery Officer, Senapati	Member	
12	2(two) NGOs of the District (to be identified by the Committee)	Member	

**Further, Block Disaster Management Authority, Gram Autonomous District Council DM Authority, the Village DM Authority, Autonomous District Council/Small Town Committee DMA, Ward/Village DMA Vide Government of Manipur, Secreteriat: Relief and Disaster Management Department orders No. 12/2/99-RLF/II dated 29th Nov.2006.**

### **4.3. D.M. organizational structure at the district level**



### **4.4. District Disaster Management Committee (Natural Calamity Committee)**

**The District Disaster Management and Natural Calamity Committee is the apex planning body at the district level and will play a major role in preparedness and mitigation.**

**A District Disaster Management/Natural Calamity Committee has to be formed in the district to assist the Collector in**

- Reviewing the threat of disasters
- Vulnerability of the district to different disasters
- Evacuation process to reduce risk and emergency response
- Considering suggestions for improvement of the response document i.e. District Disaster Management Plan

#### **Responsibility of the Committee**

- To educate the public on different flood and cyclone hazards and what Protective steps should be taken
- To make arrangements for emergency action
- To effect evacuation from the Coastal Villages when necessary
- Rescue and Rehabilitation
- Post Flood and Cyclone action and review

**The District Disaster Management Committee will meet at least once in six months i.e. in the month of May and November before the Disaster season (Cyclone) of Manipur coast under the chairmanship of the Deputy Commissioner to update the plan. For this one month's prior notice should be given to all concerned departments before convening the meeting. Collector should review the work of DDMA/NCC regularly.**

**The Deputy Commissioner should include in the agenda of the District Coordination Meeting, the subject of up-dating of the district disaster management plan by incorporating the changes in names of officers, of telephone numbers and addresses of the officers concerned. The Deputy Commissioner should also take review of changes in other indicators pertaining to the district like creation of additional infrastructure, development shelf of projects, changes in inventories, etc. and incorporate these changes while updating the Plan. The members should substantiate/assist the Committee with all the updated information about their concerned areas of operation from time to time.**

#### **4.5. ROLES & RESPONSIBILITIES**

##### **Roles & Responsibilities of the Deputy Commissioner**

###### **Roles:**

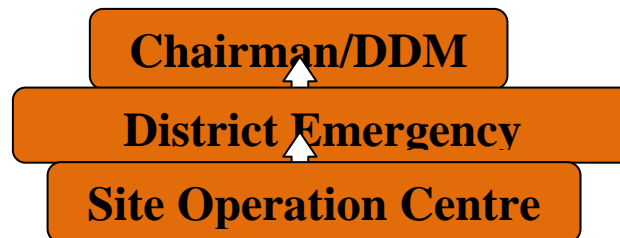
- The Deputy Commissioner will co-ordinate all disaster management efforts of the district as the Chairman of Disaster Management Authority/Committee.
- The Deputy Commissioner will coordinate the district level response with the concerned line departments assisting him and a core group of officers constituting the District Disaster Management Committee. The Disaster Management/Natural Calamity Committee will consist of the Superintendent of Police, Chief Medical Officer, Executive Engineer PWD, Executive Engineer IFCD, District Supply Officer, ADC/SDO at District HQ.
- The Deputy Commissioner may co-opt any other officers or specialists to assist him/her in carrying out the activities of the Disaster Management/Natural Calamity Committee.

###### **Responsibilities of Deputy Commissioner**

- Preparation of the District Disaster Management Plan with the assistance of ADM/SDO.
- Setting up the District Control Room at District Police Head Quarters Encouraging the formation of Mutual Aid and Response Groups (MARGs) consisting of Sub-divisional Officer other local Authorities, Civil Defence volunteers, Home Guards, NGOs.
- Under the District Disaster Management Committee at the district level and other agencies would be responsible for directing field agencies right from the stage of warning to relief and rehabilitation.
- At the disaster site, specific tasks will be given to the designated officers to manage the disaster.
- The Site Operations Centre (SOC), which will be supervised by the concerned Sub-Deputy Collector to assist the DC.
- A Site Operation Manager (SDC/BDO) who would be deployed by the Collector will be the head of Site Operation Centre.
- The Site Manager will coordinate the activities at various campsites and affected areas.
- The Site Operations Centre will report to the District Control Room directly and from there the information will pass to the Collector.

- The Deputy Commissioner will coordinate all the field responses. Field Responses include setting up Transit Camps, Relief Camps and Cattle Camps and will respond to the State Relief Commissioner and SDMA accordingly.

#### 4.5.1. Reporting Chart:



#### 4.5.2. Roles & Responsibilities of ADM

- Liaison with all the line depts. /officials of the dist. in conducting Disaster Management / Natural Calamity Committee meeting to be conducted twice in a year, tentatively in May and November.
- Supervise the activity of Dist. Control Room and communicate the information to the Deputy Commissioner,
- Co-ordinate the programme during preparedness, disaster and natural calamity, rescue operation, relief operation, resettlement and rehabilitation,
- Monitor the programme during relief operation, rescue operation etc.
- Evaluation of the operation process,
- Report return and forward to dist. Collector for approval, sanction and onward action.

#### 4.5.3. Roles & Responsibilities of Emergency Officer (EO):

**The Emergency officer/DSP (HQ) will be the in charge of the Dist. Control Room. His roles and responsibilities will be to monitor, Co-ordinate and implement the actions for disaster management. He should look after the safety and well keeping of the infrastructure available at Dist. Control Room. He should look at the facilities provided in D.C.R., which should always be in good working condition, and the Control Room should be manned round the clock with its contact numbers widely alerted/made known to everybody.**

**The responsibilities of the Emergency Officer are to:**

- Ensure that all warning and communication systems, instruments are in working condition.
- Receive information on disaster on a routine basis from the district departments on the vulnerability of the various GPs and villages through proper channel (Tehsil and Block).
- He will receive reports on preparedness from the relevant district lever departments and other departments, as per information details. These will be forwarded to the Emergency Operations Centre, Special Relief Commissioner and SDMA through Collector on fixed regular basis.
- Update data bank and maintain an inventory of resources half yearly as per the table given below heading Inventory of resources, materials and equipment accessible to DCR.
- Inform Dist. Collector, Special Relief Commissioner, Manipur and SDMA of any changes including updating of data bank and Annexure/Formats.
- Monitor preparedness measures, training activities including simulation exercise undertaken by various departments.
- Ensure proper dissemination of Dist. Disaster Management Plan at the district level, local level and disaster prone areas.
- Organise post-disaster evaluation and update Dist. Disaster Management Plan accordingly.

- Prepare reports and documents on district level disaster events and submit the same to Dist. Collector, Special Relief Commissioner, Manipur and SDMA. The document should include:
  - Source and cause of the disaster
  - Description of the response efforts
  - Recommendations for preventive and mitigation measures
  - Plans for upgrading emergency preparedness and response plans.

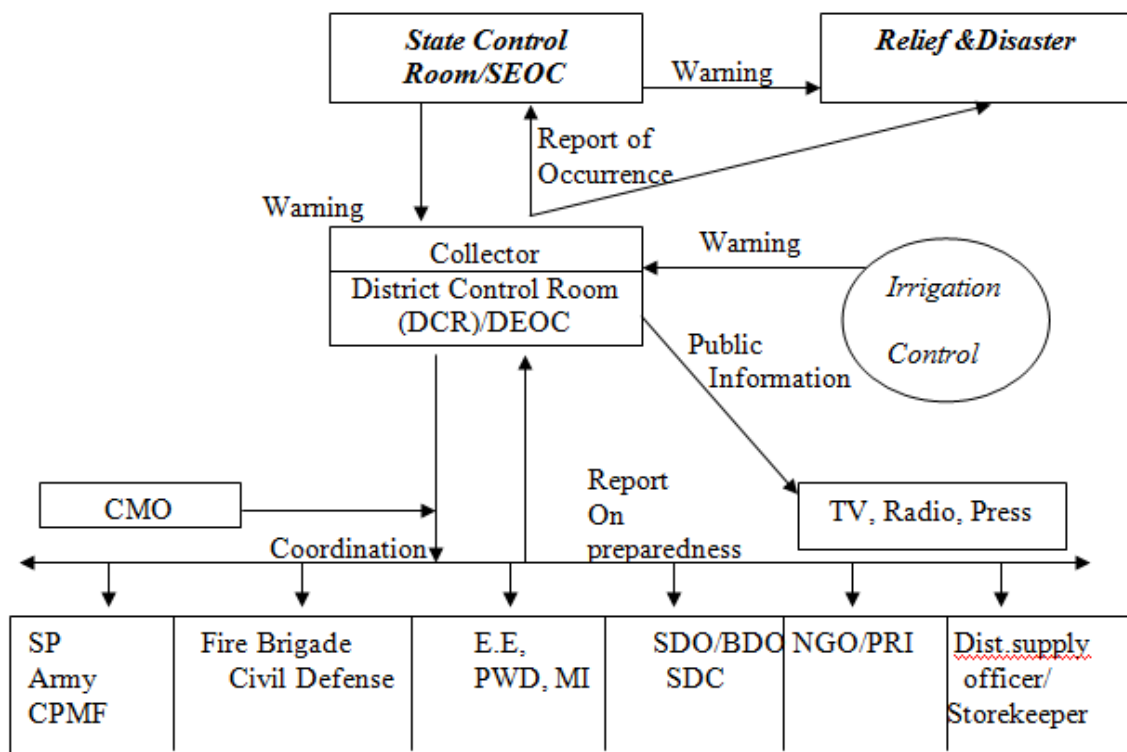
#### **4.5.4. Roles and Responsibilities of Police/Armed Force:**

- The Superintendent of Police in the district will get in touch with the Deputy Commissioner for assistance in rescue, evacuation and emergency relief measures under intimation to the State Relief Commissioner. As disaster and natural calamities can occur at any point of time hence Army may be called up on to assist the civil authorities in rendering rescue and relief operation.
- The Superintendent of Police must work in close co-ordination with the Deputy Commissioner on receipt of a warning or alert on an emergency situation.
- The Superintendent of Police must designate three senior officers of the Deputy Commissioner for co-coordinating the activities of the police Department in the District Control Room/District Emergency Operation Centre.
- The senior officers deputed by the Superintendent of police for the District Control Room will work in three shifts in the control Room.
- During normal times, the police department under the Superintendent of Police must assess the preparedness level and report the same as per format to the District Control Room every six months.
- They should have continued contact with the District Control Room over VHF other available mode of communication such as cell phones during the crisis.
- The Police Department under the Superintendent of Police must maintain a list of disaster prone areas in the district, along with the details of nearest police Stations and their contact phone numbers. In this regard, assistance from Revenue, line departments and village level officers may be sought for.
- The police Department under the Superintendent of police must organize training programmes on handling of hazardous chemicals for Police Officers in collaboration with Deputy Director of industrial Safety and health to facilitate more effective handling of road accidents involving hazardous substances.
- The Police Department under the Superintendent of Police must identify a police Station in the city, which can be used as a public information centre for disseminating information to the public.
  - Scope of Work Police/ Armed Force
    1. To regulate vehicular traffics
    2. Road cut off, repairing and Building of approach road.
    3. Rescue operation / evacuation
    4. Escort/convoy the relief material
    5. Referring the dropping zone (Breach sites, Cut off and marooned areas) do the air dropping
    6. Relief and Rehabilitation operation

#### **4.5.5. Roles and Responsibilities of Home Guards/NSS/NCC & Voluntary Organisations:**

- They will circulate weather warnings among the people after getting such messages from the SEOC.
- Inform local medical staff about outbreak of epidemic.
- Assist the Officials of different Departments for clearance of fallen trees and debris etc. from the roads.
- Inform the concerned department for damage of electric installations.
- Help Veterinary staff for disposal of carcasses.
- Act as guide to the rescue party/Army rescue party if deployed for rescue and relief operations.
- Assist the Relief Officers in distribution of relief materials.
- Regularly listen to weather bulletin from All India Radio and disseminate the same to the local people.
- Assist the Sub-zone Officer in evacuating the people from low-lying areas.

#### 4.6. District Control Room and Linkages with Other Control Room at State and District Levels



##### 4.6.1. DISTRICT CONTROL ROOM / DISTRICT EMERGENCY OPERATION CENTRE (DCR/DEOC):

The District Control Room aims for an effective and holistic District Disaster Management Plan with fail proof communication, accurate databases in order to make optimal utilization of Men, Material and Resources to prevent the loss to lives as well as minimize the loss of property ensuring fastest restoration of the situations.

##### 4.6.2. PURPOSE OF DISTRICT CONTROL ROOM

**The District Control Room is under control of the Deputy Commissioner, which will be operational round the clock and is the nerve centre for the following activities.**

- To monitor Co-ordinate and Implement the actions/activities for effective disaster responses as well as management of available resources.
- In a disaster time the District Control Room will operate under the central authority of the Deputy Commissioner, exercising emergency power to issue directives to all departments to provide emergency response service.
- DCR will co-ordinate with the State disaster response machinery like State Relief & Disaster Management Commissioner, of Manipur State Disaster Management Authority (SDMA) for appropriate support and smooth flow of information.
- The Control Room will be manned round the clock for emergency responses.
- The District Control Room will be placed in the Emergency Section of the District Collector.

**The Control Room shall be in overall charge of the Collector. In the absence of Collector, ADM (Emergency), PD, DRDA, District Development Officer, Emergency Officer or any other Officer on duty at that point of time shall remain in charge of Control Room. The person in charge of the Control Room shall be personally responsible for implementation of the Standard Operating Procedure (SOP). She or he shall be responsible to take all decisions as outlined below and signed on behalf of the Collector on all reports mentioned below.**

#### **4.6.3. Preparatory Actions for DCR:**

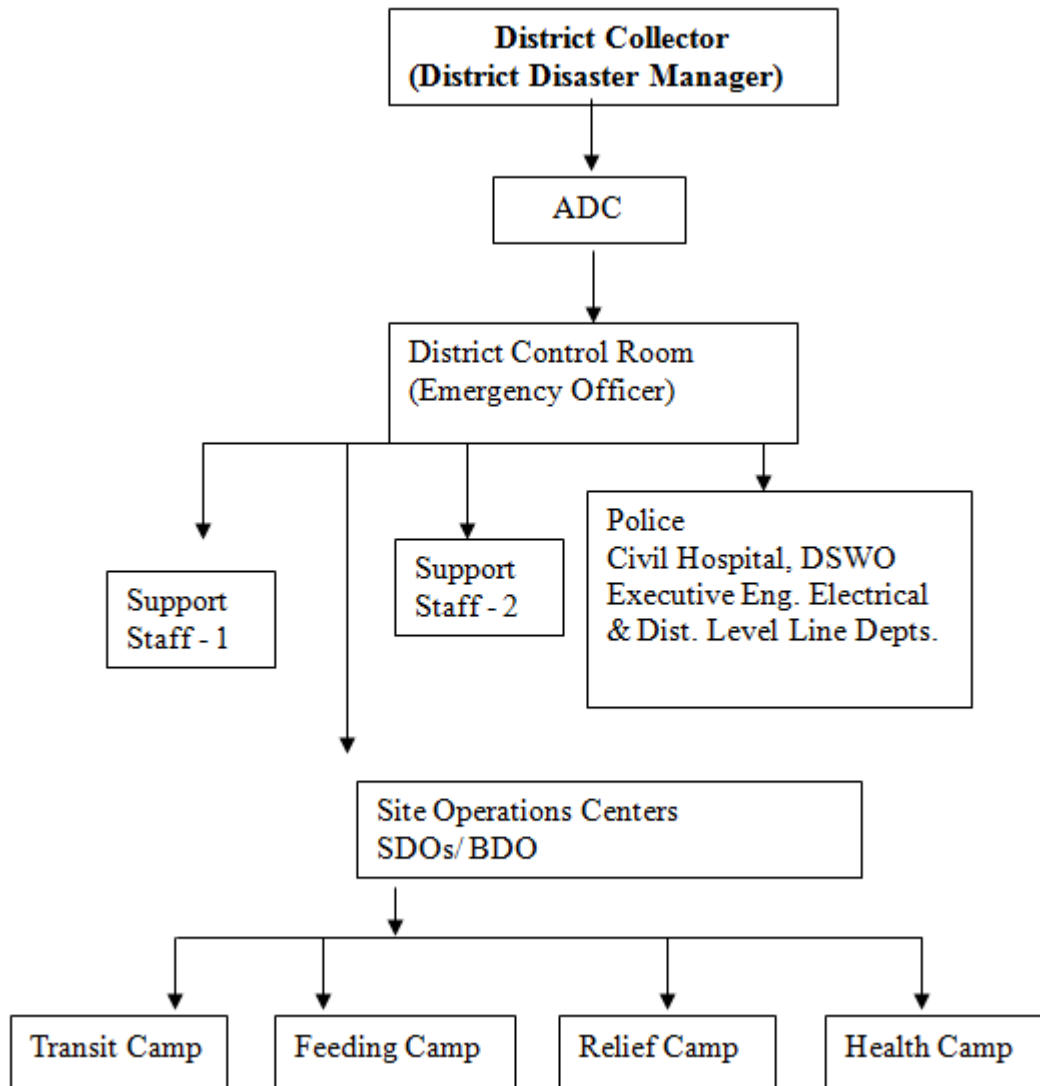
**Following preparatory steps will be taken up for keeping the Control Room functional during emergency:**

- Shift one more phone line to Control Room.
- Keep the Radio with new batteries ready, Generators sets to be kept ready as standby.
- Kerosene as well as petrol to be stocked for running the generators.
- Charge the VHF sets and testing to be done.
- Keep two four wheelers ready for emergency operations.
- Alert all field officers like SDOs, SDCs, BDOs ,MOs/ Telephone Operators/Agriculture/ICDS/Irrigation/PHD/PWD/Autonomous District Council/ MLAs /MPs/Station Director, AIR/DIPR who will inform the Media.

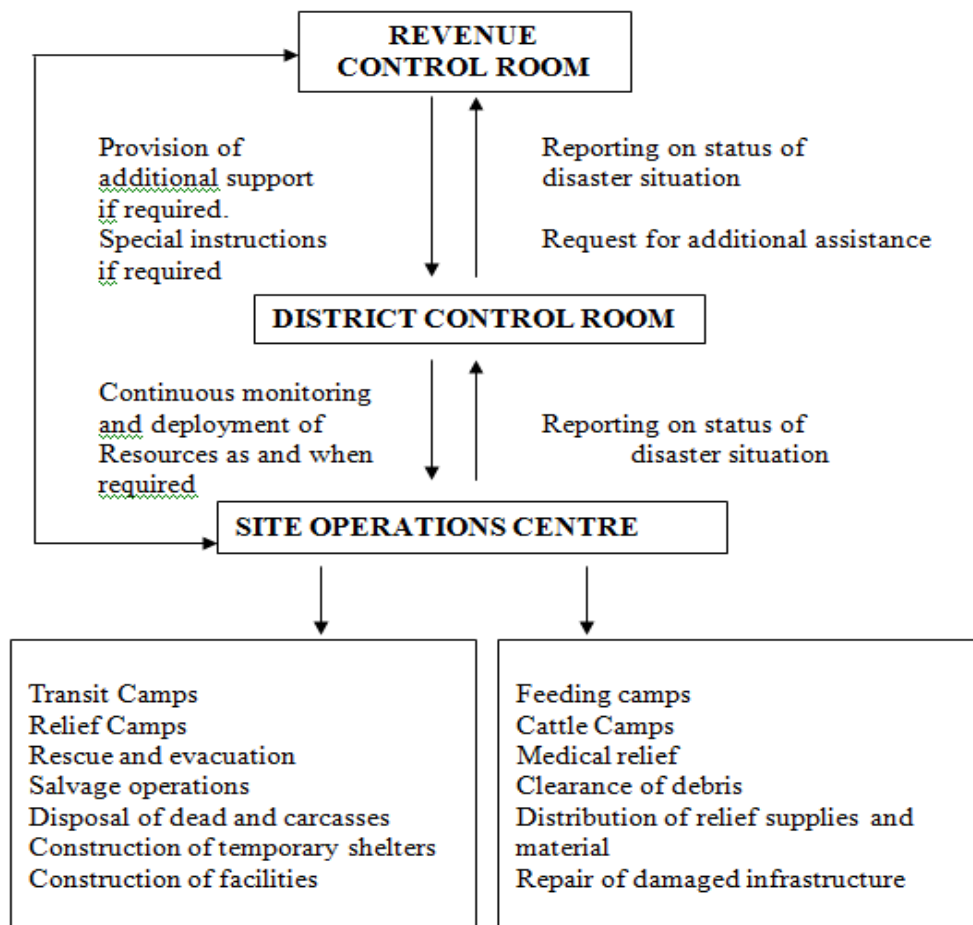
#### **4.6.4. Staffing for District Control Room:**

**The Control Room will act as the nerve centre office for the district to tackle the emergency situations and the staffs will coordinate with the line departments for timely response in Disaster Preparedness and Management at the District level. For Normal time and Emergency situations an Emergency Officer and two Support staff will be placed in the District Control Room. Apart from these permanent staff other staff will be support at the time of need on a temporary basis.**

#### **4.7. Co-ordination Structure at District Level:**



**4.8. Activity Wise Flow of Informaion:**



### Scope of work for the District Control Room

#### A. Normal Time Activity

The normal time activities of the DCR under the guidance of the Deputy Commissioner are to:

- Ensure that all warning and communication systems, instructions are in working condition.
- Receive information on a routine and regular basis from the departments on the vulnerability of the various Gram Autonomous District Councils and Villages to disaster. Woman, Children (Age group 0-15), Old Aged, Physically and Mentally challenged people are the most vulnerable groups in a disaster. Hence, specific and special arrangement for these people would be made.
- Receive reports on preparedness from the relevant district level departments and other departments. Based on these reports, the DCR will forward the Preparedness Measures details on behalf of the Collector to the Revenue Control Room, Relief & Disaster Management Commissioner, Revenue Commissioner and SDMA.
- Upgrade and update District level disaster mitigation action plan according to changing scenarios in the district
- Data bank updating and maintain an inventory of resources.
- Update all information in the GIS/MIS.
- Inform Emergency Operations Centre (EOC) under Relief Commissioner of any changes including updating of data bank and annexure if any.



- Monitor preparedness measures including simulation exercises undertaken by various departments
- Ensure proper dissemination of DDMP at the district level, local level and disaster prone areas.
- Identify appropriate NGOs/Civil society Organization, with their capacities who can be mobilised during the time of disaster and can be helpful in community level disaster preparedness.
- Organise post-disaster evaluation and update DDMP accordingly
- Prepare reports and documents on district level disaster events and submit the same to EOC.

**B. During Emergency**

- **Weather tracking and early warning dissemination**
    - **To collect and transmit information regarding matter relating to natural calamity.**
      - **Mapping of vulnerable areas**
      - **Database on civil society organizations and their activities**
        - **Database on volunteers**
    - **Facilitate regular meetings of civil society organizations and issue updates**
    - **Flow of information to central control room in Relief Commissioner’s office and SDMA.**
    - **District level extensive training of officials and NGOs in emergency response**
    - **Men and material management in emergencies with proper inventorisation**
- Flood and whether warning system notices received from central flood forecasting control room stations, or any such weather warning notices received from Govt./ Board of Rev /IMD will immediately be transmitted to the control room of the Sub-Deputy collectors by the control room stationed at district headquarters for keeping the people of the areas alert.**
- The Sub-Deputy Collectors will transmit the weather warning and other warning to the Village level officers and other officers who will take steps to alert the people of their respective areas. Dist. Information Officer of this district will also alert people of their respective jurisdiction through PA system, if situation so warrants.**

<b>WARNING DISSEMINATION PHASE:</b>				
<b>COLLECTOR:</b>				
<b>To collect information on:</b>	<b>Activity</b>	<b>Person Responsible</b>	<b>Resources required- to be sourced from</b>	<b>Time frame and remarks.</b>
<b>Weather warning</b>	<b>Regular monitoring of the activities of The District Control Room.</b>	<b>DCR, DIO</b>	<b>Communication equipment to be procured much before disaster season.</b>	<b>48 hours prior to any warning.</b>

<b>Rain forecast</b>	<b>Monitoring of rain recording at block HQ.</b>	<b>BDOs/Dist. Agri Officer/IFCD</b>	<b>Proper functioning of rain gauge.</b>	<b>Within 24 hours.</b>
	<b>Monitoring of weather sites by staff</b>	<b>Person Responsible for District Control Room</b>	<b>Internet connectivity at District Control Room</b>	<b>On daily basis from the occurrence of event.</b>
<b>Water level in the Dam &amp; Release of water from Dam.</b>	<b>Standing orders to EE, Irrigation to provide details of water level</b>	<b>EE, IFCD SENAPATI.</b>	<b>Close communication with the EE, Irrigation</b>	<b>On daily basis from the occurrence of event.</b>
<b>Warning to district authorities in the downstream side of Dams</b>	<b>Inform officials positioned at the downstream through DIO &amp; IFCD Officials.</b>	<b>DIO, Volunteers &amp; Rain watcher of IFCD</b>	<b>VHF, Internet, VSAT Phone, Cell phones Jeeps with Loud Speakers</b>	<b>12 hours before release of water from the dam.</b>
<b>CDMO:</b>				
<b>Keep close contact with the Collector and the Emergency Officer.</b>	<b>Give latest report on any health hazard, Epidemic or death due to natural causes like heat wave, lightening etc.</b>	<b>Doctors and other Paramedical staff of the district.</b>	<b>Telephone, Fax, Computer, Internet.</b>	<b>Immediately.</b>
<b>Ensure Information reached to the health workers at field level.</b>	<b>Keep a database of all the contact Telephone numbers/other means of communication,</b>	<b>Doctors and paramedical staff of the district.</b>	<b>Vehicles of health department and a few can also be outsourced from private. Operators.</b>	<b>Immediately upon receipt of message.</b>
<b>Collect information on health status on a daily basis.</b>	<b>Activate and constantly monitor the disease surveillance</b>	<b>Members of the disease Surveillance Team,</b>	<b>Telephone, Fax, Computer, Internet ,Cells</b>	<b>Daily.</b>

	system.			
<b>Feed back to the Collector.</b>	<b>Give a daily feedback on the action taken and anticipated Problems.</b>	<b>Doctors, MOs, Media</b>		<b>Daily.</b>

<b>S.P.:</b>				
<b>To collect information on:</b>	<b>Activity</b>	<b>Person Responsible</b>	<b>Resources required- to be sourced from</b>	<b>Time frame and remarks.</b>
<b>Alert the Police force to be vigilant and take hold of the Law and order situations.</b>	<b>Messages to all P.S through VHF and Telephones</b>	<b>OICs, VHF Control, Telephone Operators</b>	<b>Proper functioning of the equipment.</b>	<b>Immediately upon receipt of warning</b>
<b>To arrest and take into custody the Rumours mongrels.</b>	<b>Similar instruction to all PS and outposts</b>	<b>Staff of the police department</b>		<b>Immediately upon receipt of warning</b>
<b>Deployment of force in the calamity Area</b>	<b>Delegate forces to the areas likely to Face any disaster.</b>	<b>Staff of the police department</b>		<b>-do-</b>
<b>Alert fire brigade for action.</b>	<b>Contact the Fire officer.</b>	<b>Staff of adjoining Fire Stations.</b>		<b>-do-</b>
<b>Calm down general public through Welfare Service &amp; Counselling.</b>	<b>Give proper warning with careful use of Word to prevent chaos among public.</b>	<b>Women Officers &amp; Lady Staff. Appropriate instruction to people about facts &amp; reality. Disseminating warning of any sort.</b>		<b>-do-</b>
<b>Emergency Officer:</b>				
<b>Publicity of warning received.</b>	<b>Through public address system. News bulletins through DIO.</b>	<b>RTO, DIO, Station Director AIR</b>	<b>Jeeps with loudspeakers</b>	

<b>Inform Relief Commissioner and other district authorities</b>	<b>Prior collection of telephone &amp; contact numbers of all persons with disaster MgMaster Trainee Experience</b>	<b>Staff of emergency cell.</b>	<b>Computer, Stationery etc.</b>	<b>Normal times and updated at regular intervals</b>
<b>Alert all other depts. like PHD, PWD etc.,</b>	<b>Inform them about the gravity of the situation</b>	<b>Officials of all depts.</b>		

#### **4.9. CONTROL ROOM AT SUB-DIVISION, TEHSIL AND BLOCK/TRIBAL BLOCK LEVEL**

**Similar to the District Control room, at lower level control room are also formed at Sub-division, Tehsil and Block levels which will be supervised by the Zone Officer during emergency periods. The procedures lay down for these control rooms are as follows:**

- I. Control Rooms are to be managed by a clerk/Revenue Supervisor Kanungo/Extension officer and a peon.
- II. Immediately after getting warning about flood/cyclone, one Gazette Officer along with the above staff should be deployed in the control room.
- III. The Head of office will ensure proper working of the control room telephones.
- IV. A register will be maintained in the control room to record the messages and warning received over telephones and action taken thereon.
- V. The Sub-ordinate Control Rooms will keep constant touch with the District Control Room during and after occurrence of any calamity.
- VI. In case any message of devastating nature is received, this should immediately be passed on to Collector/Addl. Dist. Magistrate/concerned Sub-Collector and necessary action to be taken according to their instructions.



Over the years and especially after experiencing severe disasters in the recent past, today there is a paradigm shift in the approach to disaster management; from a culture of relief and rehabilitation to that of preparedness and mitigation. Disaster management in the contemporary times focuses a lot on preparedness and mitigating measures the idea being to reduce or lessen the vulnerabilities and therefore the impact of any calamity. The more the disaster preparedness, the lesser the vulnerabilities. In the district there shall be two types of approaches in Disaster mitigation viz. structural mitigation and non-structural mitigation.

### **5.1. Structural Mitigation Measures**

It is immensely important for the planning community to respond towards disaster management positively. The Plan should clearly come out with provisions prescribed in the amended legislations related to disaster management. Urban disaster management is intimately connected to the wholesome process of urban development and therefore needs a sincere incorporation in the development planning itself.

The industrial relocation/location, unauthorized-regularization issue, slumming, over densification and continuous influx of population are some of the open concerns and these besides being a planning challenge are a concern for disaster management.

The district shall take steps for structural mitigation for disaster management. The departments that are associated with development of residential and commercial plots shall stick to the NOC norms. The Building Codes shall be strictly enforced in the district. Only seismically oriented engineers, contractors and masons shall be given certificates for multi storied constructions. Simultaneously retrofitting will also be promoted with expert advice.

The two possible structural measures for disaster protection are

- Retrofitting of the existing buildings and
- Construction with Earthquake Resistant technology.

#### **Retrofitting**

For an existing building, retrofitting or seismic strengthening is the only solution to make it disaster resistant. In the district, all lifeline buildings such as major hospitals, Schools, Colleges, District Administration offices and other vital installations shall be retrofitted. For retrofitting, a panel of experts shall be approached for assessing the structure and to suggest the type of retrofitting required.

#### **Earthquake Resistant Construction**

Promotion of Earthquake resistant construction mainly includes construction safety, quality control and proper inspection. Previously there were no specific guidelines on

**earthquake resistant constructions and seismic strengthening. Due to this very fact, most of the buildings till 1990s were built without any safety measures. But in the present scenario, there are building byelaws and guidelines to construct earthquake resistant structures. Civil bodies like Autonomous District Council and PWD in the district shall try to enforce these laws.**

**In addition to these the following points have been found in the context:**

- Pockets with high rise buildings or ill-designed high-risk areas exist without specific consideration of earthquake resistance.
- Similarly, unplanned settlements with sub-standard structures are also prone to heavy damage even in moderate shaking.
- So far as housing is concerned, vulnerability analysis has never been carried out and preliminary estimate of damages is not available for strengthening of structures under normal development improvement schemes.

**All construction except load bearing buildings up to 3 storeys shall be carried out under the supervision of the Construction engineer on Record or Construction Management Agency on Record for various seismic zones. They shall be given a certificate based on the norms on completion of the construction.**

**Illegal construction, encroachments, unapproved additions, alternations etc. of residential buildings and conversion of residential building to commercial purpose etc. shall be checked by the District Administration with strict measures. These unauthorized activities may lead to disasters in that particular area.**

## **5.2. Non-Structural Mitigation Measures**

**The entire Meerut falls in earthquake Zone-IV, which indicates it is at high risk to earthquake. In addition to this fire is also a major concern for the district. The non-structural mitigation is basically framed in such a way that the whole population of the district will be sensitized on disaster management and their capacity shall be developed to cope up with hazardous situations.**

### **Preparedness Methodology**

**In the disaster management cycle, preparedness shall be the first step, instead of waiting for a disaster to occur and then manage it. This plan contains a series of measures for preparedness in schools, colleges, hospitals and communities. People of every part of the district will be guided to prepare themselves or to prepare their own coping mechanism. In this regard, the DDMA shall suggest the proper methodology for preparedness on regular basis and the district shall plan various activities.**

### **Awareness generation program**

**Disaster strikes everywhere and everyone irrespective of caste, creed or gender. It doesn't differentiate the rich from the poor. The district administration has been trying to generate awareness at all levels in the district. A series of awareness programmes has been organized to reach out to the local residents and general public of the district and the programmes are continuing throughout the district. Awareness /sensitization programmes have been conducted at schools, colleges, communities etc. Basic information related to different kind of disasters is given in the form of Information, Education and**

**Communication (IEC) materials. Different kinds of strategies are being evolved to address different audiences.**

**Special efforts are being made to address the most vulnerable groups during disasters e.g. women, children, the disabled and the old. The district administration intends to reach as many people as possible and different methods are being adopted to spread awareness i.e.**

- Public meetings
- Distribution of reading materials/ pasting of posters
- Street plays
- Involvement of Electronic media
- Audio/video shows
- Banners and Public Hoardings
- Painting/ quiz competition especially in schools, rallies involving students
- Observing Disaster Management Week, Fortnight, Month etc. etc.

### **Training and Capacity Building**

**A number of training program shall be and are already being organized for specialized groups like, district DMTs, sub division and community level office bearers, school teachers and principals, architects, engineers, doctors, masons, etc.**

**The professionals from all departments and sections shall be trained.**

**All the volunteer based organizations (VBOs) like Civil Defence, NYKS, NSS, NCC etc. in the district, which have thousands of volunteers working with them will also be sensitized and given training on disaster management. Besides, RWAs and NGOs in the district will also be given training on disaster management. All the VBOs, RWAs and NGOs shall also be encouraged and supported to organize awareness campaigns in their areas. These haven been identified as organizations which can help percolate the idea deeper into the society.**

### **5.3. Sector wise Vulnerability Reduction Measures in Senapati District:**

Type of Sector	Sub sector	Mitigation measures	Responsible Dept.	Time Frame
Infrastructure Development	IEC activities	Distribution of leaflets, manuals, meetings, trainings	DIO PWD, RD, Block, District	Regular Interval
	Road	Construction and repairing	PWD, RD, Block, District	
	Embankment	Construction and repairing	IFCD, PWD, RD, Block, District	
	Bridges	Construction and repairing	IFCD, PWD, RD, Block, District	
	Safe Shelters	Construction	Block, RD, District	
	Communication	Installation of VHF, WLL	Police, BSNL, NIC	During Normal Time
	Drinking water and sanitation	Installation and repairing of tube wells and pipelines, supply of bleaching powder	PHED, Health	
	Power	Installation of electric lines and back up	Electricity, PWD	
	Technology dissemination	Demonstration of EQ resistant houses	PWD, Block, RD, District	
Health/ Animal Husbandry	IEC activities	Distribution of leaflets, manuals, meetings, trainings	Health, AH, RD, Block, DIO, District	During Normal Period
	Vaccination	Vaccines to Children, Pregnant women, other needy persons, cattle	Health, AH	During Normal Period
	Training	First aid	Health	During Normal Period
Livelihood Sector	Awareness	Distribution of leaflets, manuals, meetings, trainings	RD, Block, DIO, District	During Normal Period
	Agriculture	Promotion of water resistant variety paddy, multi cropping in hilly areas, cropping of small duration paddy and vegetables	Agriculture, RD, Block, District	During Normal Period



	<b>Fishery</b>	<b>Rising of pond embankments, Pisciculture</b>	<b>Block, District</b>	<b>During Normal Period</b>
	<b>Allied activities</b>			
	<b>Horticulture</b>	<b>Promotion of high yield variety of oranges, betel leaves, pine apples</b>	<b>Horticulture, Block, District</b>	<b>During Normal Period</b>
<b>Insurance</b>	<b>IEC activities</b>	<b>Distribution of leaflets, manuals, meetings, trainings</b>	<b>RD, Block, DIO, District</b>	<b>During Normal Period</b>
	<b>Infrastructure</b>	<b>Encourage people</b>	<b>RD, Block, DIO, District</b>	<b>During Normal Period</b>
	<b>Livelihood</b>	<b>Encourage people</b>	<b>RD, Block, DIO, District</b>	<b>During Normal Period</b>
	<b>Life</b>	<b>Encourage people</b>	<b>RD, Block, DIO, District</b>	<b>During Normal Period</b>

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## Chapter- 6 Preparedness Measures

### 6.1. Identification of Stakeholder involve in Disaster Management

### 6.1.1. Early warning

The early warning systems for different disasters should be in place so that the concerned administrative machinery and the communities can initiate appropriate actions to minimize loss of life and property. These should give an indication of the level of magnitude of the mobilization required by the responders. The goal of any warning system is to maximize the number of people who take appropriate and timely action for the safety of life and property. All warning systems start with the detection of the event and with their timely evacuation. Warning systems should encompass three equally important elements viz. detection and warning, dissemination of warning down to the community level and the subsequent quick response. The State acknowledges the crucial importance of quick dissemination of early warning of impending disasters and every possible measure will be taken to utilize the lead-time provided for preparedness measures. As soon as the warning of an impending calamity is received, the EOCs at the State, District and Block levels will be on a state of alert. The Incident Commander will take charge of the EOC and oversee the dissemination of warning to the community. The District Collector will inform the District Disaster Management Committees who will alert the block and Village level DADCs and DMTs to disseminate the warning to the community. On the basis of assessment of the severity of the disaster, the State Relief Commissioner (Incident Commander) shall issue appropriate instructions on actions to be taken including evacuation to the District Collector, who will then supervise evacuation. In situations of emergency, the District Collector will use his own discretion on the preparedness measures for facing the impending disaster. At the village level, members of the VDADCs and DMTs or village level will coordinate the evacuation procedures to the pre-designated relief centres, taking special care of the vulnerable groups of women, children, old people etc. according to the plans laid down earlier.

The list of agencies competent for issuing warning or alert is given below:

Sl.No.	Type of Disaster	Agencies
1	Earthquakes	IMD, MERI,
2	Floods	Meteorology Department, Irrigation Department
3	Cyclones	IMD
4	Epidemics	Health/PHED
5	Road Accidents	Police
6	Fire	Fire & Emergency Services, Police
	Any other information may please be added.	

### 6.1.2. Search & Rescue

It is the duty of the DDMA to provide specialized lifesaving assistance to district and local authorities. In the event of a major disaster or emergency its operational activities include locating, extricating and providing on site medical treatment to victims trapped in collapsed structures. In the event of any disaster the Home Guards along with the support of the Police dept. form teams to locate injured and dead and try to rescue the ones in need. There are other bodies too that help these departments in this work, like the PWD, Health dept, Fire dept and also the people that voluntarily form teams to help the ones in need. Proper training for search and rescue process needs to be undertaken so as to minimize the time taken in rescuing someone. Also proper methodology and resources are needed to carry

out a search & rescue mission. The tactics used in the search & rescue process vary accordingly with the type of disaster that we are dealing with. In case of flood, a boat and trained swimmers are a must while in case of an earthquake sniffer dogs and cutting tools with trained manpower is a binding requirement. The household register that is maintained by the warden should be maintained for every village as it proves to be of great help in case of a disaster like an earthquake. Because in case of the aforementioned disaster people get trapped in the debris of buildings and houses and it becomes difficult to estimate how many people are present in the debris. But if a household register is maintained then the task becomes quite easy and effective to find out almost correctly that how many people would be present in any building/house at any given time. Thus the resources can be justifiably distributed and more lives can be saved. This kind of process is highly recommended in this particular district which lies in high earthquake prone region.

For flood it is recommended that the boats that are used should be light weight and the motor should be of 'luma' type, so that it becomes easy for the rescue team to lift the boat and carry it to the spot

**Search & Rescue Team: (District Authority has to fill it)**

*(Please Note that the Search & Rescue team is formed as and when required and the members & equipment are taken according to the nature of the disaster and also on their availability)*

Sl.No.	Designation of Trained Search & Rescue Team	Quantity

### 6.1.3. Evacuation:

Evacuation is a risk management strategy, which may be used as a means of mitigating the effects of an emergency or disaster on a community. It involves the movement of people to a safer location. However, to be effective, it must be correctly planned and executed. The process of evacuation is usually considered to include the return of the affected community. Shelter provides for the temporary respite to evacuees. It may be limited in facilities, but must provide protection from the elements as well as accommodate the basic personal needs, which arise at an individual level in an emergency. The plan must allocate responsibility for management of each of the elements of shelter. Considering the wide range of services, agencies and issues to be managed, it becomes essential for 'shelter' to be managed within a structure, which facilitates the coordination of agencies and services and support of emergency workers. The following factors may need consideration:

- i. Identification of appropriate shelter areas based on safety, availability of facilities, capacity and number of victims.
- ii. Approaches to the shelter location in light of disruption due to hazard impact and traffic blockades.
- iii. Temporary accommodation

- iv. Provision of essential facilities like drinking water, food, clothing, communication, medical, electrical and feeding arrangements, etc.
- v. Security
- vi. Financial and immediate assistance
- vii. First-aid and counselling

### **Types of evacuation**

**For the purpose of planning, all evacuations may be considered to be one of two generic types:**

- (a) Immediate evacuation, which allows little or no warning and limited preparation time as in the case of earthquakes and air accident.**
- (b) Pre-warned evacuation resulting from an event that provides adequate warning and does not unduly limit preparation time as in the case of flood and cyclones.**

### **Principles of Evacuation Planning**

- a. Establishment of a management structure for organization, implementation, coordination and monitoring of the plan.
- b. Determination of legal or other authority to evacuate.
- c. Clear definition of rules and responsibilities.
- d. Development of appropriate and flexible plans.
- e. Effective warning and information system.
- f. Promoting awareness and encouraging self-evacuation.
- g. Assurance of movement capability.
- h. Building confidence measures and seeking cooperation of the affected community.
- i. Availability of space for establishment of relief camps having requisite capacity and facilities.
- j. Priority in evacuation to be accorded to special need groups like women, old and sick, handicapped and children.
- k. For effective evacuation, organization and running of relief centres, cooperation and involvement of all agencies viz. Community, volunteers, NGOs, NCC / NSS, Home guards and civil defence, district and village bodies be ensured.
- l. Security arrangement and protection of lives and property.
- m. Preparation and updating of resource inventories.
- n. Appropriate welfare measures throughout all stages
- o. Test exercise of prepared plans and recording of lessons learnt
- p. Documentation.

### **Stages of Evacuation**

**There are five stages of evacuation as under:**

- i. Decision of authorities to evacuate victims
- ii. Issue of warning and awareness
- iii. Ensuring smooth movement of victims to designated relief camps
- iv. Ensuring provision of all requisite facilities like security, safe-housing, feeding, drinking-water, sanitation, medical and allied facilities
- v. Safe return of personnel on return of normalcy.

### **Decision to Evacuate**

**Vulnerability analysis may indicate that for certain hazards and under certain conditions, sheltering in place could well be the best protection. Available lead-time may influence the decision to evacuate the public before the impact of emergency (e.g. floods) and reducing the risk to lives and property. Decision would also be dependent on factors like ready**

**availability of suitable accommodation, climatic condition, and severity of likely hazard and time of the day.**

**The Collector would be the authoritative body to issue directions for evacuation. The OIC of DEOC would convey directions to Desk Officers of concerned agencies, which are responsible to execute evacuation.**

#### **Basic consideration for Evacuation**

**The DCMG will define area to be evacuated as also the probable duration of evacuation on the basis of meteorological observations and intimations by the concerned forecasting agencies. It should also identify number of people for evacuation, destination of evacuees, lead-time available, welfare requirements of evacuees as also identify resources to meet the needs of victims, viz. manpower, transport, supplies equipments, communications and security of the evacuated area.**

**The evacuating agency should set priorities for evacuation in terms of areas likely to be affected and methodology to execute evacuation:**

- Delivery of warning
- Transport arrangement
- Control and timing of movement
- Fulfil welfare needs including medical treatment
- Registration of evacuees

**All agencies involved in evacuation operation like Home guards, Police, PWD, PHED, etc. will coordinate in field. They will remain in touch with the Desk officials in the DEOC for issuing warning, information and advise the public.**

#### **Evacuation Warning**

**An evacuation warning must be structured to provide timely and effective information. Factors, which may influence the quality and effectiveness of warning, include time, distance, visual evidence, threat characteristic and sense of urgency e.g. the more immediate the threat, the greater the resilience of people to accept and appropriately react to the warning. The warning should be clear and target specific. The warning statement issued to the community should be conveyed in a simple language. The statement should mention:**

- The issuing authority, date and time of issue
- An accurate description of likely hazard and what is expected
- Possible impact on population, area to be in undated or affected due to earthquake
- Need to activate evacuation plan
- Do's and Don'ts to ensure appropriate response
- Advise to the people about further warnings to be issued, if any

#### **6.1.4. Damage & Loss Assessment**

**Immediately after the disaster there is an urgent need of damage assessment in terms of loss of life, injury and loss of property. The objectives of damage assessment are to mobilize resources for better rescue and relief, to have detailed information of damage extent and severity of disaster and to develop strategies for reconstruction and restoration facilities.**

**Damage is assessed with regard to building stock, standing crops, agricultural area, livestock lost, forest cover decimated, vital installations etc. In damage assessment of building**

stock, generally three types of flags are used; green, yellow and red. The green colour is given to the buildings that are safe and require 2-3 days to return to their original function. Yellow flags depict the considerable damage to the buildings and considered to be unsafe for living, as they require proper structural repairs and careful investigation. The red flag is assigned to buildings that are partially or completely collapsed. Immediately after a disaster event, damage assessment will be conducted in 2 phase's viz. Rapid Damage Assessment and Detailed Damage Assessment.

## 6.2. Training, Capacity Building & Other Proactive Measures

<b>Task</b>	<b>Activity</b>	<b>Responsibilities</b>
<b>Training</b>	<b>1. Training to civil defence personal in various aspect of disaster management 2. Training to home Guards personal in various aspect of disaster management including search and rescue</b>	<b>Home Department, Civil Defence, District Home Guards</b>
	<b>Training to NCC,NSS &amp; NYK personal in various aspect of disaster management</b>	<b>DDMA</b>
	<b>Training to educational and training institutions personal in various aspect of disaster management</b>	<b>DDMA</b>
	<b>Training to civil society, CBOs and corporate entities in various aspect of disaster management</b>	<b>DDMA</b>
	<b>Training to fire and emergency service personal in various aspect of disaster management</b>	<b>DDMA, Fire Department</b>
	<b>Training to police and traffic personal in various aspect of disaster management</b>	<b>DDMA, Home Department</b>
	<b>Training to media in various aspect of disaster management</b>	<b>DDMA,IT</b>
	<b>Training to govt. officials in various aspect of disaster management</b>	<b>DDMA</b>
	<b>Training to engineers, architects, structural engineers, builders and masons in various aspect of disaster management</b>	<b>DDMA</b>
<b>Awareness</b>		
<b>IEC</b>	<b>Advertisement, hording, booklets, leaflets, banners, shake-table, demonstration, folk dancing and music, jokes, street play, exhibition, TV Spot, radio spot, audio-visual and documentary, school campaign, - Planning and Design - Execution and Dissemination</b>	<b>All Line Departments, Education Departments, DDMA, Other District Authorities</b>

### **NGO and Other stake Holder coordination**

**For arrangement of water supply, temporary sanitation facilities, search and Rescue activity, Relief distribution can be sought with help of special agencies, NGOs and CBOs.**

### **Seasonal preparedness**

**Natural disasters make all of us acutely aware of our vulnerabilities to disaster.**

**Fortunately, catastrophes of a large magnitude are rare, but disaster can strike in many ways.**

**Large or small, natural or man-made, emergencies put collections in danger. Hazards can often be mitigated or avoided altogether by a comprehensive, emergency-preparedness plan.**

**Such plans provide a means for recognizing and responding effectively to emergencies. The goal is to hopefully prevent damage or, at least, to limit the extent of the damage.**

### **Identifying Risks**

**A prudent first step is to list geographic and climatic hazards and other risks that could jeopardize the building and collections. These might include geographical susceptibility to hurricanes, Hailstorm/thunderstorm, flash flooding, earthquakes, or forest fires, and even the possibility of unusual hazards such as volcanic eruptions. Consider man-made disasters such as power outages, sprinkler discharges, fuel or water supply failures, chemical spills, arson, bomb threats, or other such problems. Take note of the environmental risks that surround you. Chemical industries, shipping routes for hazardous materials, and adjacent construction projects all expose you to damage. Any event that is a real possibility should be covered under your Emergency Preparedness Plan. Although there may be a wide range of disaster scenarios, the most common are water, fire, physical or chemical damage, or some combination of these. The specific procedures of a disaster plan focus on the prevention and mitigation of these types of damage.**

### **Decreasing Risks**

**Once your hazards are specified, the disaster planner should devise a program with concrete goals, identifiable resources, and a schedule of activities for eliminating as many risks as possible. An inventory will provide a basic list of resources both man and machines, and this database will enable to assess the level of preparedness for specific vulnerabilities.**

### **Identifying Resources**

**An important step in writing your plan is to identify sources of assistance in a disaster. Research these services thoroughly--it is an essential part of the planning process. These can range from police, fire, and ambulance services to maintenance workers, insurance adjustors, and utility companies. If possible, invite local service providers to visit in order to become familiar with your site plan and collections in advance of an emergency.**

## **6.3. India Disaster Resource Network (IDRN)**

**IDRN, a web based information system, is a platform for managing the inventory of equipments, skilled human resources and critical supplies for emergency response. The primary focus is to enable the decision makers to find answers on availability of equipments and human resources required to combat any emergency situation. This database will also enable them to assess the level of preparedness for specific vulnerabilities. Total 226 technical items listed in the resource inventory. It is a nationwide district level resource database. Each user of all districts of the state has been given unique username and password through which they can perform data entry, dataupdatation on IDRN for resources available in their district.**

**The IDRN network has functionality of generating multiple query options based on the specific equipment, skilled human resources and critical supplies with their location and contact details.**

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## **Chapter- 7    Response Measures**

**Response measures are those which are taken instantly prior to, and following, a disaster aimed at limiting injuries, loss of life and damage to property and the environment and rescuing those who are affected or likely to be affected by disaster. Response process begins as soon as it becomes apparent that a disastrous event is imminent and lasts until the disaster is declared to be over. Since response is conducted during periods of high stress in a highly time-constrained environment and with limited information and recourses (in majority of the cases), it is by far, the most complex of four functions of disaster management. Response includes not only those activities that directly address the immediate needs, such as search and rescue, first aid and shelters, but also includes systems developed to coordinate and support such efforts. For effective response, all the stakeholders need to have a clear perception/vision about hazards, its consequences and actions that need to be taken in the event of it. The Revenue Department of the State is the Nodal Department for controlling, monitoring and directing measures for organizing rescue, relief and rehabilitation. All other concerned line departments should extend full cooperation in all matters pertaining to the response management of the disaster whenever it occurs. The District EOC, ERCs and other control rooms at the District level should be activated with full strength.**

**Disasters cause sudden disruption to the normal life of a society and cause damages to property and lives to such an extent that normal social and economic mechanisms available to the society all get disturbed. People and officials are both caught unaware and in the circumstances lose their sense of initiative and direction. Consequently, relief work is hampered and unnecessarily delayed.**



**In such cases, the existence of a disaster preparedness plan can be extremely useful. The distraught officials then have at their hand, a complete set of instructions which they can follow and also issue directions to their subordinates and the affected people. This has the effect of not only speeding up the rescue and relief operations, but also boosting the morale of victims.**

**The response plan is of two kinds:**

1- Short-term Plan and

**2- Long-term Plan.**

### **7.1. Short-term Plan**

**Short-term plans are action based and aimed at restoring normalcy in the shortest possible time. One of the foremost requirements of any plan would be to define the area where it would be applicable and the agencies that would be responsible for its implementation and coordination. Once the boundaries are defined, the following inputs would be required;**

- I. The amount of resource material required to be mobilized as relief may be based on the statistics of the intensity and spread of various disasters in the area in the past disaster records.
- II. Certain areas are prone to disaster and each time relief is provided, a number of shortcomings come to light; these become lessons to serve as inputs for future planning of relief and rescue exercises.
- III. Short-term plans should be based on the declared vulnerability of the area to particular types of disasters. Forecasts on future disasters should be usefully interpreted in action plans on exercises which would be most required.
- IV. Short-term plans should incorporate suggestions and capabilities of all departments concerned of the district/state, non-government organizations and community based organizations. Therefore plans may be prepared by setting up committees at appropriate level to incorporate their inputs.

#### **After Disaster: Rescue Operations**

**After disaster immediately, the District Magistrate would act as the focal point for control and co-ordination of all activities. His/her responsibilities have been identified as follow:**

- Get in touch with the local Army/ Navy/ Air Force units for Assistance in rescue, evacuation and relief;
- He/she will have the authority to requisition resources, materials and equipment from all the Departments/Organizations of the government and also from the private sector;
- He/she will have the power to direct the industry to activate their onsite and offsite disaster management plans;
- He/she will set up 'Site Operations Centre'(SOC) in the affected area with desk arrangements;
- He/she will authorize the establishment of transit and/or relief camps, feeding centres and cattle camps;
- He/she will send 'Preliminary Information Report' and 'Action Taken Report' to the State Relief Commissioner and Divisional Commissioner;
- He/she will authorize immediate evacuation, whenever necessary.

**Traditionally, the concerned SDM office and local police station, both are the main government agencies below the district level, which initiate trigger mechanism for emergency operations in the event of major accidents / disaster threats. In view of limited availability of resources for disaster management, below the district level, the DDMP has not proposed any administrative structure for co-ordinated operation during emergency. In the event of less serious disaster threat/accident, the SDM office or police station would continue to initiate trigger mechanism and provide an emergency response with the help of locally available resources. The DDMA on receipt of information, from any of the two agencies, would take appropriate decision to augment local resources and give appropriate instructions to the concerned response agencies.**

#### **Relief Operations**

**After 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 office of District Magistrate is responsible for providing relief to the victims of either natural or human-made disasters like earthquake, fire, flood, riots, terrorist attack etc. in the district.**

#### **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 DDMA.**

### **7.2. Long-term Plan**

**The situation may not always warrant long-term plans, but such plans should have the ability to build a culture of disaster mitigation and be aimed at reducing vulnerability of the area. As such any long-term plan should incorporate policy directives on preparedness as well as post disaster reconstruction and rehabilitation phases (the later as a follow up of the short-term contingency plans).**

- I. The foremost requirement for the preparation of a long-term plan is establishing its need in an area. Need may be established on the basis of the vulnerability of the area and the resource trade-off between the cost of its implementation and other competing needs for overall development. In this context the long-term disaster mitigation plan or rehabilitation plan as part of overall development plan becomes significant.
- II. In case of rehabilitation plan, the level of damage that has taken place in the community decides whether long-term intervention is required or not. The strategies of the rehabilitation would depend considerably on the damage assessment report.
- III. A detailed survey of the community, which studies its needs and expectations in detail and seeks out their traditions and customs which they would like to preserve, has to be carried out. This would serve as an input in deciding an intervention strategy that is acceptable to the community.
- IV. The long-term plan should seek an objective of achieving overall development and satisfying basic needs-shelter, economic and social of the community. Reducing disaster vulnerability should be a means to achieve the objective and not an end in itself.
- V. Long-term plans are resource intensive; many of the interventions decided therein should be based on resources available. In many cases, where the need for rehabilitation through relocation is established the same may not be implemented due to non-availability of land.

- VI. Long-term plans may be implemented successfully only through partnerships with NGOs and community participation. The involvement of these bodies should be solicited at the outset itself while deciding the interventions required.

### **7.3. Role of District Administration/ District Magistrate**

**The District Magistrate will be the focal point at the district level for directing, supervising and monitoring relief measures for disasters and for the preparation of district level plans. The District Magistrate will exercise coordinating and supervisory powers over functionaries of all the departments at the district level. During actual operations for disaster mitigation or relief, the powers of all Collectors/ DCs are considerably enhanced, generally, by standing instructions or orders on the subject, or by specific Governments order, if so required. Sometimes, the administrative culture of the concerned state permits, although informally, the Collector/DC to exercise higher powers in emergency situations and the decisions are later ratified by the competent authority. The District Magistrate will maintain close liaison with the state, central government authorities in the district, namely army, air force and ministry of water resources etc, who supplement the effort of the district administration in the rescue and the relief operations. The District Magistrate will also coordinate all voluntary efforts by mobilizing the non-government organizations capable of working in such situations.**

#### **Duties at the time of disaster**

- Maintenance of law and order; prevention of trespassing, looting, keeping roads clear from sightseeing persons so that free movement of rescue vehicles is assured, etc.
- Evacuation of people
- Recovery of dead bodies and their disposal
- Medical care for the injured
- Supply of food and water and restoration of water supply lines
- Temporary shelters like tents, metal sheds
- Restoring lines of communications and information
- Restoring transport routes
- Quick assessment of damage and demarcation of damaged areas according to grade of damage
- Cordoning off of severely damaged structures that are liable to collapse during aftershocks
- Temporary shoring of certain precariously standing buildings to avoid collapse and damage to other adjoining buildings

#### **Duties post-disaster**

- i. Particular attention is paid to women views in the assessment stage.
- ii. Women's actual responsibility in domestic (in terms of household subsistence, health, and child care) and production and economic activity beyond the subsistence level are taken into account in determining the consultation process.
- iii. Women representatives are included at all level of planning, decision-making, implementation, and evaluation.
- iv. The particular constraints faced by households maintained by women are taken explicitly into account in designing and implementing relief programs.
- v. Special attention is provided to unaccompanied women, lone parents and widows.
- vi. Issue of legal, sexual and physical protection are properly identified and addressed.

### **7.4. Action Plan for ESF in the District**

<b>Name of the</b>	<b>Response Activation</b>	<b>Action to be taken</b>
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<b>Department</b>		
<b>Police Department</b>	<p>The Nodal Officer from Police will activate the Quick Response Teams. The Quick Response Teams will be deployed at the onsite EOCs</p> <p>As per the information from IMTs, adequate officers will be sent to site.</p>	<ol style="list-style-type: none"> <li>1. The saving of life in conjunction with other emergency services</li> <li>2. Co-ordination of the emergency services and other organizations</li> <li>3. Traffic and crowd control</li> <li>4. The investigation of the incident in conjunction with other investigating bodies where applicable.</li> <li>5. The collation and dissemination of causality information</li> <li>6. Identification of victims</li> <li>7. The restoration of normalcy at the earliest opportunity</li> </ol>
<b>District Fire Service, Senapati</b>	<p>The Nodal Officer of District Fire Service, Senapati District will activate the Quick Response Teams</p> <p>The Quick Response Teams will be deployed at the onsite EOCs</p> <p>As per the information from IMTs, adequate officers may be sent to site.</p>	<ol style="list-style-type: none"> <li>1. 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 centres, hotels, hospitals, public buildings and any other area having large gathering.</li> <li>2. Locate the damaged and collapsed structures and rescue the population buried and trapped in rubble.</li> <li>3. The injured people should be taken out of damaged buildings etc. with utmost care.</li> <li>4. Special care should be given to women and children groups as they are expected to be more affected and helpless in case of any emergency situation</li> <li>5. 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.</li> </ol>
<b>Civil Defence</b>	<p>The Nodal Officer will reach the EOC and activate the</p>	<ol style="list-style-type: none"> <li>1. Support and coordinate with the Incident Command System for Law</li> </ol>

	<p><b>Quick Response Teams</b>  <b>The Quick Response Teams will be deployed at the onsite EOCs</b>  <b>As per the information from IMTs, adequate officers may be sent to site</b></p>	<p><b>&amp; order, Search and rescue and Medial response and Trauma Counselling</b>  <b>2. Locate the damaged and collapsed structures and rescue the affected people, Special care to women and children groups as they are expected to be more affected and helpless in case of any emergency situation.</b>  <b>3. Helping in First aid to the affected people along with the Medical team</b></p>
<p><b>Autonomous District Council (ADC)</b></p>	<p><b>The Nodal Officer of ADC will activate the Quick Response Teams</b>  <b>The Quick Response Teams will be deployed at the onsite EOCs</b>  <b>As per the information from IMTs, adequate officers may be sent to site.</b></p>	<p><b>1. ADC will bring debris of heavy RCC structures and put dummies beneath the debris. This will facilitate demonstration of search and rescue operations. Soon after search and rescue team leave the site, ADC will mobilize equipments for debris clearance.</b>  <b>2. ADC will assume main role in equipment support for debris and road clearance.</b>  <b>3. ADC will transport the equipments like JCB, concrete cutters required as per the need</b>  <b>4. The Supporting Agencies Nodal Officers will call for personnel to immediately start debris clearance operation to enable movement to the affected site.</b>  <b>5. All supporting agencies will inspect the road/rail network and structures within the disaster site and surrounding.</b>  <b>6. ADC will also ensure proper corpse disposal and post mortem by coordinating with ESF on medical response</b>  <b>7. The QRTs will report the situation and the progress in response activities to the respective EOCs</b>  <b>8. Undertake construction of temporary roads to serve as access to</b></p>

		<p>temporary transit and relief camps and medical facilities for disaster victims</p> <p>9. ADC should ensure the provision of medicine and other medical facilities required at the disaster site and the hospital heal centres catering to disaster victims</p> <p>10. ADC will coordinate, direct and integrate state level response to provide equipment support, relief camps establishment, sanitation and health assistances</p>
<p><b>PWD</b></p>	<p><b>The Nodal Officer of PWD will activate the Quick Response Teams</b></p> <p><b>The Quick Response Teams will be deployed at the onsite EOCs</b></p> <p><b>As per the information from IMTs, adequate officers may be sent to site.</b></p>	<p>1. PWD will bring debris of heavy RCC structures and put dummies beneath the debris. This will facilitate demonstration of search and rescue operations. Soon after search and rescue team leave the site, ADC will mobilize equipments for debris clearance.</p> <p>2. PWD will assume main role in equipment support for debris and road clearance.</p> <p>3. PWD will transport the equipments like JCB, concrete cutters required as per the need</p> <p>4. The Supporting Agencies Nodal Officers will call for personnel to immediately start debris clearance operation to enable movement to the affected site.</p> <p>5. All supporting agencies will inspect the road/rail network and structures within the disaster site and surrounding.</p> <p>6. PWD will also ensure proper corpse disposal and post mortem by coordinating with ESF on medical response.</p> <p>7. The QRTs will report the situation and the progress in response activities to the respective EOCs.</p>

		<p>8. Undertake construction of temporary roads to serve as access to temporary transit and relief camps and medical facilities for disaster victims.</p> <p>9. PWD should ensure the provision of medicine and other medical facilities required at the disaster site and the hospital heal centres catering to disaster victims.</p> <p>10. PWD will coordinate, direct and integrate state level response to provide equipment support, relief camps establishment, and sanitation and health assistances.</p> <p>11. Undertake repair of all paved and unpaved road surfaces including edge metaling, patching and nay failure of surface and keep monitoring the condition.</p>
<b>PHED</b>	<p>The Nodal Officer of PHED will activate the Quick Response Teams The Quick Response Teams will be deployed at the onsite EOCs As per the information from IMTs, adequate officers may be sent to site.</p>	<p>1. Quick assessment of water line damage and contamination 2. Supply of water tankers to disaster affected communities 3. Deploy response teams to repair and restore water supply lines. 4. Quick assessment of water contamination levels and taking steps to restore clean drinking water.</p>
<b>IFCD</b>	<p>The Nodal Officer of Irrigation and Flood Control Department will activate the Quick Response Teams The Quick Response Teams will be deployed at the onsite EOCs As per the information from IMTs, adequate officers may be sent to site.</p>	<p>1. QRTs will coordinate with team leader for water supply 2. QRTs will coordinate for providing Temporary Shelters 3. QRTs will coordinate in restoration of infrastructure 4. QRTs to report of situation and progress of action to the EOC</p>
<b>FCS</b>	<p>The Nodal Officer will activate the Quick Response Teams</p>	<p>1. Coordinating with ESFs related to transportation to ensure quality supply of relief materials.</p>

	<p>The Quick Response Teams will be deployed at the onsite EOCs</p> <p>As per the information from IMTs, adequate officers may be sent to site.</p>	<p>2. Continuing free kitchens for the affected people</p> <p>3. QRTs to report to site relief camps</p> <p>4. QRTs to manage the distribution of food items to affected victims.</p> <p>5. QRTs to report on progress of action taken to EOC</p>
<b>Transport</b>	<p>The Nodal Officer will activate the Quick Response Teams</p> <p>The Quick Response Teams will be deployed at the onsite EOCs</p> <p>As per the information from IMTs, adequate officers may be sent to site.</p>	<p>1. QRTs will help in Evacuation</p> <p>2. QRTs will assist the nodal office in providing Temporary Shelters</p> <p>3. Team leader communicates situation to support agencies and requests for detailed information on the status of transportation infrastructure in the affected area.</p>
<b>Health</b>	<p>Nodal officer will call nodal officers of supporting agencies</p> <p>In coordination with the transportation ESF, it will ensure adequate number of medical professionals and assistants to reach the sites with sufficient medicines and required materials.</p> <p>Ensure setting up of temporary information centres at hospitals with the help of ESF on help lines and warning dissemination.</p>	<p>1. To make ready all hospitals for managing large number of casualties and severely injured victims.</p> <p>2. Sufficient stock of required medicines, vaccines, plasters, drugs etc</p> <p>3. Provide systemic approach to patient care.</p> <p>4. Maintain patient tracking system to keep record of all patients treated</p> <p>5. Deploy mobile hospitals as required</p> <p>6. QRTs will report the situation and the progress on action taken by the team to the respective EOCs</p> <p>7. QRTs will ensure timely response to the needs of the affected victims</p> <p>8. To provide ambulance service</p> <p>9. To help in ready all hospitals for managing large number of casualties and severely injured victims.</p> <p>10. To help in arranging sufficient stock of required medicines, vaccines, plasters, drugs etc.</p> <p>11. Deploy mobile hospitals as required</p> <p>12. QRTs will report the situation</p>



		<p>and the progress on action taken by the team to the respective EOCs</p> <p>13. QRTs will ensure timely response to the needs of the affected victims</p> <p>14. Helping in arranging additional beds and additional bloods and medicines for the casualties.</p>
Telecom service providers	<p>The Nodal Officer will reach at the EOC and activate the Quick Response Teams</p> <p>The Quick Response Teams will be deployed at the site</p> <p>As per the information from IMTs, adequate officers may be sent to site.</p> <p>BSNL is primarily responsible for restoration of communication facilities</p> <p>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.</p>	<ol style="list-style-type: none"> <li>1. Team Leader will dispatch emergency repair teams equipped with required tools, tents and food.</li> <li>2. Communicate situation to other support agencies i.e. private telephone operators</li> <li>3. Work out a plan of action for private telecom companies and convene a meeting to discuss and finalize the modalities</li> <li>4. Establish telephone facilities for the public and information on this should be announced through media.</li> <li>5. Make available various types of equipment/material and services if required.</li> <li>6. Inform district as well as state authorities on action taken.</li> </ol>
DIPR	<p>Setting up of a control room to provide authentic information to public regarding impending emergencies.</p> <p>Daily press briefings at fixed times at district level to provide official version.</p> <p>Media report &amp; feedback to field officials on a daily basis from L1 onwards.</p> <p>Keep the public informed about the latest emergency situation (area affected, lives lost, etc).</p> <p>Keep the public informed about various post-disaster assistances and recovery</p>	<ol style="list-style-type: none"> <li>1. Creation of public awareness regarding various types of disasters through media campaigns.</li> <li>2. Dissemination of information to public and others concerned regarding do's and don'ts of various disasters</li> <li>3. Regular liaisoning with the media.</li> </ol>

	<b>programmes.</b>	
<b>RD&amp;PR</b>	<p><b>Train up the G.P. Members and Support for timely and appropriate delivery of warning to the community. Clearance of blocked drains and roads, including tree removal in the villages. Construct alternative temporary roads to restore communication to the villages.</b></p> <p><b>PRIs to be a part of the damage survey and relief distribution teams to ensure popular participation. Operationalize emergency relief centres and emergency shelter.</b></p> <p><b>Sanitation, drinking water and medical aid arrangements.</b></p> <p><b>IEC activities for greater awareness regarding the role of trees and forests for protection during emergencies and also to minimise environmental impact which results owing to deforestation like climate change, soil erosion, etc.</b></p> <p><b>Increasing involvement of the community, NGOs and CBOs in plantation, protection and other forest protection, rejuvenation and restoration activities.</b></p> <p><b>Plan for reducing the incidence, and minimise the impact of forest fire.</b></p>	<ol style="list-style-type: none"> <li><b>1. Develop prevention/mitigation strategies for risk reduction at community level.</b></li> <li><b>2. Training of elected representatives on various aspects of disaster management.</b></li> <li><b>3. Public awareness on various aspects of disaster management.</b></li> <li><b>4. Organise mock drills.</b></li> <li><b>5. Promote and support community-based disaster management plans.</b></li> <li><b>6. Support strengthening response mechanisms at the G.P. level (e.g., better communication, local storage, search &amp; rescue equipments, etc.).</b></li> <li><b>7. Clean drainage channels, trimming of branches before cyclone season.</b></li> <li><b>8. Ensure alternative routes/means of communication for movement of relief materials and personnel to marooned areas or areas likely to be marooned.</b></li> <li><b>9. Assist all the government departments to plan and prioritise prevention and preparedness activities while ensuring active community participation.</b></li> </ol>
<b>FISHERY</b>	<p><b>Ensure warning dissemination to fishing communities living in</b></p>	<ol style="list-style-type: none"> <li><b>1. Registration of boats and fishermen.</b></li> <li><b>2. Building community awareness on</b></li> </ol>

	<p>vulnerable pockets. Responsible for mobilising boats during emergencies and for payment of wages to boatmen hired during emergencies. Support in mobilisation and additional deployment of boats during emergencies. Assess the losses of fisheries and aquaculture assets and the needs of persons and communities affected by emergency.</p>	<p>weather phenomena and warning system especially on Do's and Don'ts on receipt of weather related warnings. 3. Assist in providing lifesaving items like life jackets, hand radios, etc. 4. Certifying the usability of all boats and notifying their carrying capacities. 5. Capacity building of traditional fishermen and improvisation of traditional boats which can be used during emergencies. 6. Train up young fishermen in search &amp; rescue operation and hire their services during emergency.</p>
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### **7.5. Action plan for NGOs, NSS & NYK:**

Emerging trends in managing natural disasters have highlighted the role of non-governmental organizations (NGOs) as one of the most effective alternative means of achieving an efficient communications link between the disaster management agencies and the effected community. In typical disaster situation, they can be of help in preparedness, relief and rescue, rehabilitation and reconstruction and also in monitoring and feedback.

The role of NGOs is a potential key element in disaster management. The NGOs operating at grassroots level can provide a suitable alternative as they have an edge over governmental agencies for invoking community involvement. This is chiefly because; the NGO sector has strong linkages with the community base and can exhibit great flexibility in procedural matters vis-à-vis the government.

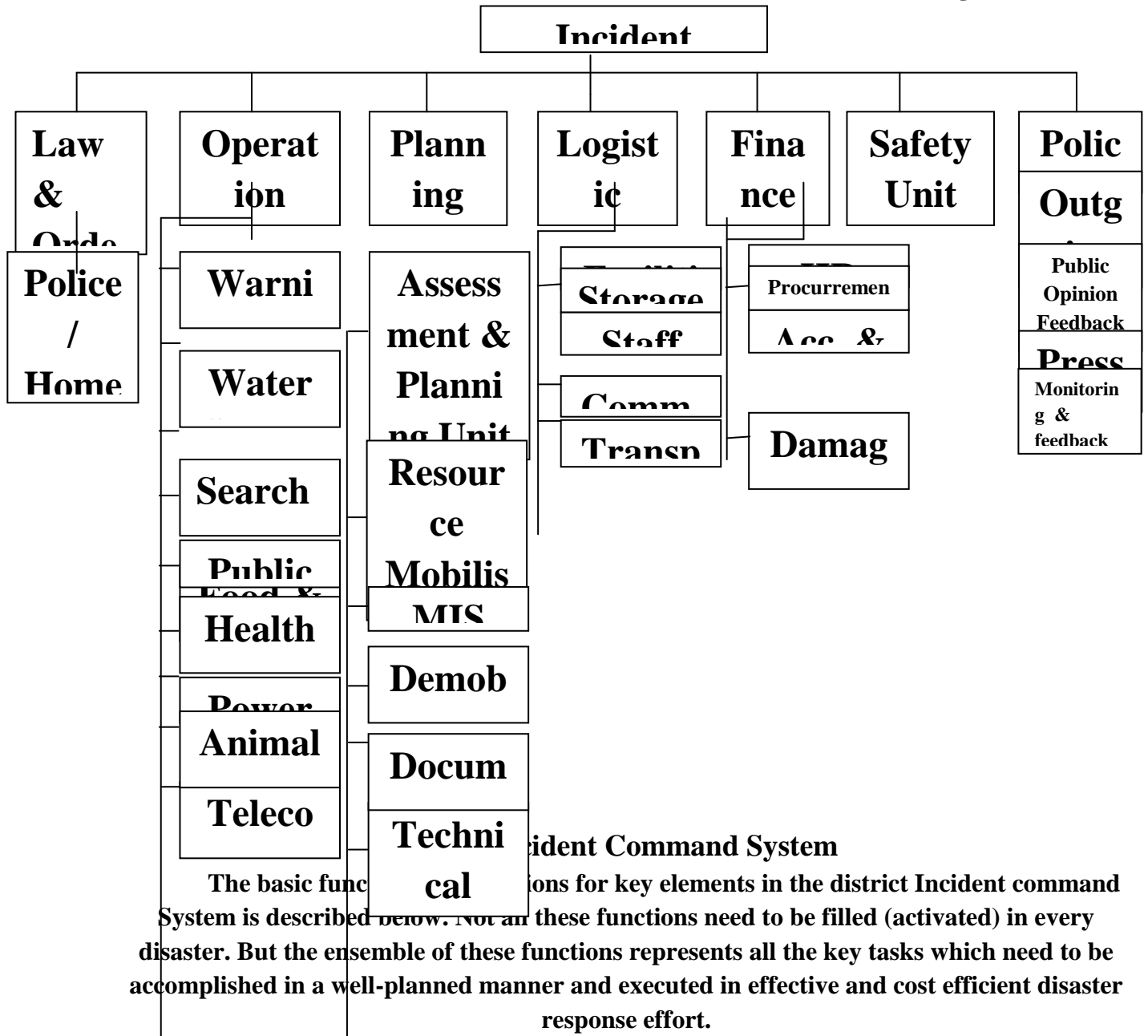
Based on the identified types of NGOs and their capabilities, organised action of NGOs can be very useful in following activities in different stages of disaster management.

#### **7.5.1. Organized activities of NGOs/NSS/NYKS at different stages of Disaster Management:**

<b>Stage</b>	<b>Activity</b>
Pre-Disaster	Awareness and information campaigns, Training of local volunteers, Advocacy and planning
During Disaster	Immediate rescue and first-aid, including psychological aid, supply of food, water, medicines and other immediate need materials ensuring sanitation and hygiene damage assessment
Post-Disaster	Technical and material aid in reconstruction assistance in seeking financial aid monitoring

### **7.6. Disaster Response and District Incident Command System**

The response to disasters in the district will be organized according to the Incident command System as adapted to conditions in Manipur State. The argument for the ICS is that its fundamental elements –unity of command, clarity of objectives and efficient resource use are common to the effective response to any disaster. In Senapati district, the multi-hazard response plan focused on sector specific action plans unlike the department specific planning approach. The disaster response is led by the District Emergency Operation Centre (DEOC) under the command and control of the District Collector/District Magistrate.



The basic functions for key elements in the district Incident command System is described below. Not all these functions need to be filled (activated) in every disaster. But the ensemble of these functions represents all the key tasks which need to be accomplished in a well-planned manner and executed in effective and cost efficient disaster response effort.

**I. Incident Command:**

Responsible for overall management of an incident based on clearly stated mandate from higher authority and based on focused objectives responding to the immediate impact of the incident.

The Incident command is led by an Incident Commander, who can be assisted by a Dy. Incident Commander. In each incident will have as many as many commanders and other

**staff as there are shifts in the incident operation. Shifts will normally not exceed 12 hours at a time and should be standardized to 8 hours each as soon as possible after the start of the incident.**

## **II. Command Staff Units**

### **Safety unit:**

**Responsible for ensuring the safe accomplishment of all activities undertaken in response to the incident. This task is accomplished through developing incident specific safety guidance documents, reviewing and advising on the safety of plans and monitoring actual operations to ensure safety of personnel and survivors**

### **Protocol and Liaison unit:**

**Responsible for all official visits as well as liaison between the incident command and organizations providing personnel or material support being used to manage the incident. The first point of contact for NGOs and others coming to the disaster as well as responsible for managing coordination meetings (some of which may actually be held by taskforces or sections).**

### **Public Information Unit:**

**Responsible for all media and public information tasks related to the incident. To accomplish its task, the unit can have the following sub units:**

- I. Public inquiries: to handle non media requests for information
- II. Outgoing public information: to handle public information dissemination
- III. Public opinion feedback: to collect information from the public (incident survivors and the non-affected)
- IV. Media centre: to provide a single point of contact for all media involved in the incident.
- V. Press release and media access: produce all releases and provide a single point of contact to arrange media access to the incident.
- VI. Monitoring and Feedback: to monitor media reports and provide feedback to the incident management on coverage of the incident and to also take corrective measures and issue contradictions if required.

## **III. Law and Order Section**

**Responsible for assuring the execution of all laws and maintenance of order in the area affected by the incident. The law and order section incorporates law and order taskforce which may be created to deal with a disaster.**

**Police functions: as determined by the normal mandate for and special duties assigned to the police service**

**Home guard: as determined by the normal mandate for and special duties assigned to the home guard**

**Volunteers: supporting police and home guards in non-enforcement tasks, such as patrolling, monitoring and evacuations**

## **IV. Operation Section**

**Responsible for assuring specific operations according to objectives and plans to address the immediate impacts of the incident. Taskforces under the operation section will**

deal with specific functional tasks, such as search and rescue, the provision of water or shelter.

The composition and size of these taskforces depends on the nature of the incident.

The District administration of SENAPATI has identified 16 expected task forces for key response operation functions that are described below. Additional taskforces can be added under the operations section as needed by the circumstances of a disaster. Each Taskforce is led by one organization and supported by other organizations.

<b>Emergency Operation Task Force</b>	<b>Functions</b>
<b>Coordination &amp; Planning</b>	<b>Coordinate early warning, Response &amp; Recovery Operations</b>
<b>Administration &amp; protocol</b>	<b>Support Disaster Operations by efficiently completing the paper work and other Administrative tasks needed to ensure effective and timely relief assistance</b>
<b>Warning</b>	<b>Collection and dissemination of warnings of potential disasters</b>
<b>Law &amp; Order</b>	<b>Assure the execution of all laws and maintenance of order in the area affected by the incident.</b>
<b>Search &amp; Rescue</b>	<b>Provide human and material resources needed to support local evacuation, search and rescue efforts.</b>
<b>Public Works</b>	<b>Provide the personnel and resources needed to support local efforts to re-establish normally operating infrastructure.</b>
<b>Water</b>	<b>Assure the provision of sufficient potable water for human and animal consumption (priority), and water for industrial and agricultural uses as appropriate.</b>
<b>Food &amp; Relief Supplies</b>	<b>Assure the provision of basic food and other relief needs in the affected communities.</b>
<b>Power</b>	<b>Provide the resources to re-establish normal power supplies and systems in affected communities.</b>
<b>Public Health &amp; Sanitation</b>	<b>Provide personnel and resources to address pressing public health problems and re-establish normal health care systems.</b>
<b>Animal Health &amp; Welfare</b>	<b>Provision of health and other care to animals affected by a disaster.</b>
<b>Shelter</b>	<b>Provide materials and supplies to ensure temporary shelter for disaster-affected populations</b>
<b>Logistics</b>	<b>Provide Air, water and Land transport for evacuation and the storage and delivery of relief supplies in coordination with other task forces and competent authorities.</b>
<b>Damage Assessment Survey</b>	<b>Collect and analyse data on the impact of disaster, develop estimates of resource needs and relief plans, and compile reports on the disaster as required for District and State authorities and other parties as appropriate.</b>
<b>Telecommunications</b>	<b>Coordinate and assure operation of all communication systems (e.g.; Radio, TV, Telephones, and Wireless) required</b>

	<b>to support early warning or post disaster operations.</b>
<b>Media &amp; Public Information</b>	<b>Provide liaison with and assistance to print and electronic media on early warning and post-disaster reporting concerning the disaster.</b>

**V. Planning Section**

**Responsible for collecting and analysing information and developing plans to address the objectives set to address the incident. The overall work of the planning section will include efforts undertaken by any planning and coordination taskforce which is established as part of the response to a disaster. Units under the section include:**

- 1. Assessment and planning**
- 2. Resources and Requirements**
- 3. Management information system**
- 4. Documentation**
- 5. Demobilization and**
- 6. Technical specialists**

**VI. Logistic section**

**Responsible for all task and functions related to provision of material and other resources needed for operations and the physical and material support and operation of the incident management team. This section includes transportation taskforce established to support disaster operations. Logistics tasks are through the following units:**

- 1. Storage and supply**
- 2. Facilities**
- 3. Staff support**
- 4. Communications**
- 5. Transportation (include ground, air water).**

**VII. Finance and Administration**

**Responsible for managing all financial and administrative tasks related to incident field operations. These tasks may, but would not usually include disbursement of financial aid to those affected by an incident. The task of this section are accomplished through following units: 1. Human resources; 2. procurement; and 3. accounting and records**



## Chapter- 8 Recovery & Reconstruction Measures

Recovery is defined as decisions and actions taken after a disaster with a view to restoring or improving life and assets of the stricken community, while encouraging and facilitating necessary adjustments to reduce disaster risk. Recovery and reconstruction (R&R) or comprehensive rehabilitation is the last step in cycle of disaster management. In addition, this is the phase of new cycle, where the opportunity to reconstruction and rehabilitation should be utilised for building a better and more safe and resilient society.

### 8.1. Strategies for restoring physical infrastructure and lifeline services

**Build Back Better:** This ensures greater resilience, preparedness; and minimum loss in an event of future disaster.

**Participatory Planning:** Infrastructure improvement measures need to be balanced with, or at least be in line with, the social and cultural needs and preferences of beneficiaries

#### Coordination:

A plan of recovery will help better coordination between various development agencies.

**Damage Assessment and Needs Assessment shall be the basis of recovery planning. Various Sectors for recovery process may be:**

- Essential Services- Power, Water, Communication, Transport, Sanitation, Health
- Infrastructural: Housing, Public Building and Roads
- Livelihood: Employment , Agriculture, Cottage Industry, Shops and Establishments

Basic services such as power, water supply, sanitation, wastewater disposal etc. should be restored in shortest possible time. Alternate arrangement of water supply, temporary sanitation facilities can be sought with help of special agencies. Special arrangements for provision of essential services should be ensured. It can include creating temporary infrastructure for storage and distribution of water supply, running tankers, power supply and sanitation facilities.

### 8.2. Sector Wise Damage and Loss assessment format

Following tables are to be filled after an event of disaster:

#### 8.2.1. Power

Item/Services	No. of	No. of	Population	Recovery	Implementing	Tentative	Budget
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	Unit Damaged	affected Village	affected	Measures	Agency	Duration	
<b>Feeder</b>							
<b>Transformer</b>							
<b>HT Lines</b>							
<b>LT Lines</b>							
<b>Poles</b>							
<b>Conductors</b>							

**\*To be planned after initial damage assessment by department.**

### 8.2.2. Health

	PHC	CHC	Sub Centre	Drug Store	Recovery Measures	Implementing Agency	Duration	Budget
<b>No. of Building Damage</b>								
<b>No. of Health Centre inaccessible</b>								
<b>Drugs and Medicine for Relief Camps</b>								
<b>No. of Ambulance</b>								
<b>Equipment for Storage</b>								

**\*To be planned after initial damage assessment by department.**

### 8.2.3. Social Sector

**People in need of immediate rehabilitation including psychosocial support (due to disaster)**

Village	Men	Women	Children	Total	Recovery Measures	Implementing Agency	Duration	Budget

### 8.2.4. Water

Type	Villa	No.	Populat	Recov	Implemen	Durat	Bud
------	-------	-----	---------	-------	----------	-------	-----

	ge	of Unit affected	ion affected	ery Measu res	ting Agency	ion	get
Well							
Borewells							
Community Pond							
Water Supply Disrupted							
Pipeline Damage							
Stand Post Damaged							
Contamination							
Handpump							

### 8.2.5. Road & Transport

Road Damage	Location	Severity	KMs	Recovery Measures	Implementing Agency	Duration	Budget
Inter Village Road							
State Roads							
National Highway							

### 8.2.6. Communication

Type	Office / Tower Damaged	Village affected	Recovery Measures	Implementing Agency	Duration	Budget
Landline Connectivity						
Mobile Connectivity						

<b>Wireless Tower</b>						
<b>Radio Station</b>						

### 8.2.7. Food and Civil Supplies

Type	No. of Godown damage	Type of Grain perished	Qty. Of Grain perished	Qty. Of grain at Risk	Recovery Measures	Implementing Agency	Duration	Budget
<b>Civil Supply</b>								
<b>Others</b>								

### 8.2.8. Housing

Partial damage		Fully Damage		Programme/ Scheme	Recovery Measures	Implementing Agency	Duration	Budget
Pucca	Kutchra	Pucca	Kutchra					

### 8.2.9. Public Infrastructure

Public Buildings	No. of Partial damage	No. of Fully Damage	Programme/ Schemes	Recovery Measures	Implementing Agency	Duration	Budget
<b>Autonomous District Council</b>							
<b>Educational Buildings</b>							
<b>Anganwadi</b>							
<b>Hospitals</b>							

<b>Market Shed</b>							
<b>Office Buildings</b>							
<b>Police Station</b>							
<b>Communi ty Halls</b>							

**Restoration of Livelihood  
Provisioning of Employment**

<b>Occupational category</b>	<b>No. of workers</b>	<b>Implementing Agency</b>	<b>Tentative Duration (Months)</b>	<b>Budget</b>
Skilled labourers				

Unskilled and Agricultural labourers				
Small and marginal farmers				
Construction workers				
Salt pan workers				
Fisher folk				
Weavers				
Other artisans				

### Land Improvement

Land erosion / siltation (Hectare)	HHs affected	Recovery Measures	Implementing Agency	Tentative Duration (Months)	Budget

### Agricultural

Crop failure (Hectare)	HHs affected	Recovery Measures	Implementing Agency	Tentative Duration (Months)	Budget

### Non farm livelihood

Cottage Industry	Extent of damage/disruption		Recovery Measures	Implementing Agency	Tentative Duration (Months)	Budget
	Tools and equipment (Specify no. and type)	Goods and material (Specify type and qty)				
Handloom						
Pottery						
Food Processing						
Diamond sorting etc						
Printing/ Dying						
Other						

### Shops and establishment

Extent of damage/disruption			Recovery Measures	Implementing Agency	Tentative Duration (Months)	Budget
Building (No. and location)	Tools and equipments (Specify no. and type)	Goods and materials (Specify type and qty)				

### 8.3. Long Term Recovery Programme

Disaster recovery typically occurs in phases, with initial efforts dedicated to helping those affected meet immediate needs for housing, food and water. As homes and businesses are repaired, people return to work and communities continue with clean up and rebuilding efforts. Many government agencies, voluntary organizations, and the private sector cooperate to provide assistance and support.

Some individuals, families and communities that are especially hard hit by a disaster may need more time and specialized assistance to recover, and a more formalized structure to support them. Specialized assistance may be needed to address unique needs that are not satisfied by routine disaster assistance programs. It may also be required for very complex restoration or rebuilding challenges. Community recovery addresses these ongoing needs by taking a holistic, long-term view of critical recovery needs, and coordinating the mobilization of resources at the, and community levels. Oftentimes, committees, task forces or other means of collaboration are formed with the goals of developing specific plans for Community recovery, identifying and addressing unmet or specialized needs of individuals and families, locating funding sources, and providing coordination of the many sources of help that may be available to assist. Some collaboration focuses on the community level and rely on the expertise of community planning and economic development professionals. Other collaborations focus on individual and family recovery and are coordinated by social service and volunteer groups. All such efforts hope to lay the groundwork for wise decisions about the appropriate use of resources and rebuilding efforts.

### 8.4. Grievances Redressal System

Grievance redressal is important aspect in the context of providing need based assistance to affected communities with transparency and accountability. It is also ensures the protection of their rights and entitlements for disaster response services.

No.	Key person/ Establishment	Contact No.	Address


- To Be filled by the District authority.

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## Chapter-9 Financial Arrangement

**(Details to be filled by the District Authority)**

**9.1. Source of Funds at national and State level**

**9.2. State Disaster Response Fund**

**9.3. District Disaster Response Fund**

**9.4. Centrally Sponsored Schemes**

## Chapter- 10 Monitoring, Evaluation, Updation & Maintenance of DDMP

### 10.1. Preparation and updation of DDMP

**The organizational structure suggested in DDMP will be based on following three concepts:**

1. Plans will work only in the case when present organizational structure is responsible to its non-emergency duties i.e. if a job is done well every day; it is best done by that organization during emergency.
2. Crisis should be met at the lowest and most immediate level of government. Plans call for local response supplemented if necessary, by the next higher jurisdiction.
3. Voluntary response and involvement of the private sector should be sought and emphasized. The emergency management partnership is important to all phases of natural and man-made disasters.

**District Disaster Management Plan of the district shall be a public document. The DDMP is the sum and substance of all the Horizontal and Vertical disaster management plans in the district. Horizontal plans include plans prepared by line departments such as Police, Fire Service, MAHUD, I & FC dept, civil Defence and other line departments and the Vertical**

**plans include Sub divisional plans, Community plans, School plans, Hospital plans etc at the lower level and state disaster management plan and National disaster management plan at the higher level.**

- Preparation of the District Disaster Management Plan is the responsibility of the District Disaster Management Committee of the district. The first draft plan is to be discussed in the DDMA and later the Chairperson of the DDMA shall rectify it.
- The same procedure is to be followed in the updation of the plan document. The District Disaster Management Plan is to be updated yearly by the District Disaster Management Authority. In order to update the document, all vertical and horizontal plans shall be collected and incorporated to the District Disaster Management Plan (DDMP).
- After each updation of the District Disaster Management Plan (DDMP), a version number shall be given serially. Copy of the updated document shall be circulated to each stakeholder of disaster management in the district.

#### **Regular Updation of District Disaster Management Plan (DDMP)**

**Every year as a part of pre monsoon DDMA will update plan in the month of May-June and also revise in the month of October-November every year. Besides the above procedure of updation of the DDMP, a regular data collection system shall be set up at the district Emergency Operations Centre (EOC) and the data will be verified and uploaded by the EOC in-charge under the supervision of Chairperson, DDMA.**

#### **Post Disaster Evaluation Mechanism**

**Disasters are always unexpected. Each disaster causes huge loss of human lives and property. And every disaster repeats after a particular interval. Also lessons learnt from a particular disaster will help to plan for another potential hazard. The DDMA Chairman shall make special arrangements to collect data on a particular disaster irrespective of size and vulnerability. This post disaster evaluation mechanism shall be set up with qualified professions, experts and researchers and the collected data shall be thoroughly crosschecked and documented in the EOC for further reference. This document shall be made with proper attention keeping in view the relief and rehabilitation measures.**

#### **10.2. Co-ordination with other agencies for implementation of DDMP**

**The initial response to a disaster is usually provided by the emergency services supported by local authority, but many agencies can become involved. The emergency services have to maintain a state of readiness so that they can provide a rapid response and alert local authorities and other services as soon as possible. All organizations that need to respond quickly to a disaster should have arrangements which can be activated at short notice. These arrangements should be clearly established and promulgated.**

**Although involvement of different emergency services like Police, Fire Brigade and Hospital services is inevitable, some other Public Utility Services, such as local bodies, Railways, Air lines, etc., have to be involved also in most cases for dealing with the situation effectively. All such agencies are very different organizations, with different hierarchies and chains of command and responsibility, all taking different languages with different areas of**

**expertise and priorities. If rescue and recovery work is to be effective, all these different agencies have to work together in a co-ordinated way. All these agencies, therefore, have to be aware of each other's areas of responsibility and systems of working. Comprehensive discussion and agreement among these agencies in the planning stage and communication of the decisions down the chain of command to the lowest functionary of each agency and their training is, therefore, of utmost importance so that they know as to who is responsible for that and are aware of their roles and responsibility and can appreciate the need for Multi-Service Involvement in such a situation.**

## **Chapter- 11      Operational Guidelines of Different Disasters**

### **11.1. Earthquake:**

**“Earthquakes usually give no warning at all.”**

#### **i) Before the earthquake:**

1. Now is the time to formulate a safety plan for you and your family. If you wait until the earth starts to shake, it may be too late. Consider the following safety measures:
2. Always keep the following in a designated place: bottled drinking water, non-perishable food, first-aid kit, torch-light and battery-operated radio with extra batteries. Teach family members how to turn off electricity, gas, etc.
3. Identify places in the house that can provide cover during an earthquake.
4. It may be easier to make long distance calls during an earthquake. Identify an out-of-town relative or friend as your family's emergency contact. If the family members get separated after the earthquake and are not able to contact each other, they should contact the designated relative/friend. The address and phone number of the contact person/relative should be with all the family members.
5. Safeguard your house
6. Consider retrofitting your house with earthquake-safety measures \Reinforcing the foundation and frame could make your house quake resistant. You may consult a reputable contractor and follow building codes.
7. Kutchha buildings can also be retrofitted and strengthened.

#### **During Earthquake:**

1. Earthquakes give no warning at all. Sometimes, a loud rumbling sound might signal its arrival a few seconds ahead of time. Those few seconds could give you a chance to move to a safer location. Here are some tips for keeping safe during a quake.

2. Take cover. Go under a table or other sturdy furniture; kneel, sit, or stay close to the floor. Hold on to furniture legs for balance. Be prepared to move if your cover moves.
3. If no sturdy cover is nearby, kneel or sit close to the floor next to a structurally sound interior wall. Place your hands on the floor for balance.
4. Do not stand in doorways. Violent motion could cause doors to slam and cause serious injuries. You may also be hit by flying objects.
5. Move away from windows, mirrors, bookcases and other unsecured heavy objects.
6. If you are in bed, stay there and cover yourself with pillows and blankets
7. Do not run outside if you are inside. Never use the lift.
8. If you are living in a kutcha house, the best thing to do is to move to an open area where there are no trees, electric or telephone wires.

#### **If outdoors:**

1. Move into the open, away from buildings, streetlights, and utility wires. Once in the open, stay there until the shaking stops.
2. If your home is badly damaged, you will have to leave. Collect water, food, medicine, other essential items and important documents before leaving.
3. Avoid places where there are loose electrical wires and do not touch metal objects that are in touch with the loose wires.
4. Do not re-enter damaged buildings and stay away from badly damaged structures.

#### **If in a moving vehicle:**

1. Move to a clear area away from buildings, trees, overpasses, or utility wires, stop, and stay in the vehicle. Once the shaking has stopped, proceed with caution. Avoid bridges or ramps that might have been damaged by the quake.

#### **After the Earthquake:**

2. Here are a few things to keep in mind after an earthquake. The caution you display in the aftermath can be essential for your personal safety.
3. Wear shoes/chappals to protect your feet from debris
4. After the first tremor, be prepared for aftershocks. Though less intense, aftershocks cause additional damages and may bring down weakened structures. Aftershocks can occur in the first hours, days, weeks, or even months after the quake.
5. Check for fire hazards and use torchlight's instead of candles or lanterns.
6. If the building you live in is in a good shape after the earthquake, stay inside and listen for radio advises. If you are not certain about the damage to your building, evacuate carefully. Do not touch downed power line.
7. Help injured or trapped persons. Give first aid where appropriate. Do not move seriously injured persons unless they are in immediate danger of further injury. In such cases, call for help.
8. Remember to help your neighbours who may require special assistance-infants, the elderly, and people with disabilities.
9. Listen to a battery-operated radio for the latest emergency information.

10. Stay out of damaged buildings.
11. Return home only when authorities say it is safe. Clean up spilled medicines, bleaches or gasoline or other flammable liquids immediately. Leave the area if you smell gas or fumes from other chemicals. Open closet and cupboard doors cautiously.
12. If you smell gas or hear hissing noise, open windows and quickly leave the building. Turn off the switch on the top of the gas cylinder.
13. Look for electrical system damages - if you see sparks, broken wires, or if you smell burning of amber, turn off electricity at the main fuse box. If you have to step in water to get to the fuse box, call an electrician first for advice.
14. Check for sewage and water lines damage. If you suspect sewage lines are damaged, avoid using the toilets. If water pipes are damaged, avoid using water from the tap.
15. Use the telephone only for emergency calls.
16. In case family members are separated from one another during an earthquake (a real possibility during the day when adults are at work and children are at school), develop a plan for reuniting after the disaster. Ask an out of state / district relative or friend to serve as the "family contact". Make sure everyone in the family knows the name address, and phone number(s) of the contact person (s).

## **11.2. Flood**

### **Basic Safety Precaution to be taken:**

1. Listen to radio/ TV for the latest weather bulletins and flood warnings. Pass on the information to the others.
2. Make a family emergency kit which should include; a portable radio/ transistor, torch, spare batteries, a first aid box along with essential medicines, ORS, dry food items, drinking water, matchboxes, candles and other essential items.
3. Keep hurricane lamp, ropes, rubber tubes, umbrella and bamboo stick in your house. These could be useful.
4. Keep your cash, jewellery, valuables, important documents etc. in a safe place. If there is a flood, move along with family members and cattle to safe areas like relief camps, evacuation centres, elevated grounds where you can take shelter.
5. Turn off power and gas connections before leaving your house.

### **During floods:**

1. Don't enter into flood waters; it could be dangerous.
2. Don't allow children to play in or near flood waters.
3. Stay away from sewerage line, gutters, drains, culverts etc.
4. Be careful of snakes; snakebites are common during floods.
5. Stay away from electric poles and fallen power-lines to avoid electrocution.
6. Don't use wet electrical appliances – get them checked before use.
7. Eat freshly cooked and dry food. Always keep your food covered.
8. Use boiled and filtered drinking water.
9. Keep all drains, gutters near your house clean.

10. Stagnation of water can breed vector/ water-borne diseases. In case of sickness seek medical assistance.
11. Use bleaching powder and lime to disinfect the surroundings.

### **11.3. Fire Hazard**

#### **A) High-Rise Fires:**

1. Calmly leave the apartment, closing the door behind you. Remember the keys!
2. Pull the fire alarm near the closest exit, if available, or raise an alarm by warning others.
3. Leave the building by the stairs.
4. Never take the elevator during fire

#### **If the exit is blocked by smoke or fire:**

1. Leave the door closed but do not lock it.
2. To keep the smoke out, put a wet towel in the space at the bottom of the door.
3. Call the emergency fire service number and tell them your apartment number and let them know you are trapped by smoke and fire. It is important that you listen and do what they tell you.
4. Stay calm and wait for someone to rescue you.

#### **If there is a fire alarm in your building which goes off:**

1. Before you open the door, feel the door by using the back of our hand. If the door is hot or warm, do not open the door.
2. If the door is cool, open it just a little to check the hallway. If you see smoke in the hallway, do not leave.
3. If there is no smoke in the hallway, leave and close the door. Go directly to the stairs to leave. Never use the elevator.

#### **If smoke is in your apartment:**

1. Stay low to the floor under the smoke.
2. Call the Fire Emergency Number which should be pasted near your telephone along with police and other emergency services and let them know that you are trapped by smoke.
3. If you have a balcony and there is no fire below it, go out.
4. If there is fire below, go out to the window. **DO NOT OPEN THE WINDOW** but stay near the window.
5. If there is no fire below, go to the window and open it. Stay near the open window.
6. Hang a bed sheet, towel or blanket out of the window to let people know that you are there and need help.
7. Be calm and wait for someone to rescue you.

## **11.4. Landslides**

### **Do's**

1. Prepare tour to hilly region according to information given by weather department or news channel.
2. Move away from landslide path or downstream valleys quickly without wasting time.
3. Keep drains clean,
4. Inspect drains for - litter, leaves, plastic bags, rubble etc.
5. Keep the weep holes open.
6. Grow more trees that can hold the soil through roots,
7. Identify areas of rock fall and subsidence of buildings, cracks that indicate landslides and move to safer areas. Even muddy river waters indicate landslides upstream.
8. Notice such signals and contact the nearest Tehsil or District Head Quarters.
9. Ensure that toe of slope is not cut, remains protected, don't uproot trees unless re-vegetation is planned.
10. Listen for unusual sounds such as trees cracking or boulders knocking together.
11. Stay alert, awake and active (3A's) during the impact or probability of impact.
12. Locate and go to shelters,
13. Try to stay with your family and companions.
14. Check for injured and trapped persons.
15. Mark path of tracking so that you can't be lost in middle of the forest.
16. Know how to give signs or how to communicate during emergency time to flying helicopters and rescue team.

### **Don'ts**

1. Try to avoid construction and staying in vulnerable areas.
2. Do not panic and loose energy by crying.
3. Do not touch or walk over loose material and electrical wiring or pole.
4. Do not built houses near steep slopes and near drainage path.
5. Do not drink contaminated water directly from rivers, springs, wells but rain water if collected directly without is fine.
6. Do not move an injured person without rendering first aid unless the casualty is in immediate danger.

## **11.5. Lightning and Thunderstorm:**

### **Danger during thunderstorms**

**Lightning claims quite a few lives and injures many every year. Quite a large number of injuries from the electric shock received while using fixed telephones during thunderstorms.**

### **Take these precautions during thunderstorms:**

#### **Take action now**

1. Consult an electrician for advice on lightning conductors required for your house.

#### **If caught outdoors**

**If you hear thunder 10 seconds after a lightning flash, it is only about three kilometres away. The shorter the time, the closer the lightning, so find shelter urgently:**

1. Seek shelter in a hardtop (metal-bodied) vehicle or solid building but avoid small open structures or fabric tents.
2. Never take shelter under a small group of (or single) trees.
3. If far from any shelter, crouch (low, feet together), preferably in a hollow. Remove metal objects from head / body. Do not lie down flat but avoid being the highest object.
4. If your hair stands on end or you hear 'buzzing' from nearby rocks, fences, etc, move immediately. At night, a blue glow may show if an object is about to be struck.
5. Do not fly kites during thunderstorms.
6. Do not handle fishing rods, umbrellas or metal rods, etc.
7. Stay away from metal poles, fences, clotheslines etc.
8. Do not ride bicycles or travel on open vehicles.
9. If driving, slow down or park away from trees, power lines, stay inside metal-bodied (hard top) vehicles or in a pucca building but do not touch any metal sections.
10. If in water, leave the water immediately.
11. If on a boat, go ashore to a shelter as soon as possible.
12. Be sure the mast and stays of the boat are adequately secured.

#### **If you are indoors**

1. Before the storm arrives, disconnect external aerial and power leads to radios and television sets. Disconnect computer modems and power leads.
2. Draw all curtains and keep clear of windows, electrical appliances, pipes and other metal fixtures (e.g. do not use the bath, shower, hand basin or other electric equipments)
3. Avoid the use of fixed telephones. In emergencies, make calls brief, (do not touch any metal, brick or concrete) and do not stand bare foot on concrete or tiled floors.

#### **First Aid**

1. Apply immediate heart massage and mouth-to-mouth resuscitation to lightning victims until medical help arrives. (You won't receive a shock from the victim).

#### **Lightning facts and myths**

1. When struck, people do not glow or fry to a crisp but the heart and breathing are often affected.
2. Only about 30% of people struck actually die, and the incidence of long-term disability is low, particularly when appropriate first aid is applied promptly.
3. If your clothes are wet, you are less likely to be seriously injured if struck, as most of the charge will be conducted through the wet clothes rather than your body.