

**GOVERNMENT OF NAGALAND
HOME DEPARTMENT
NAGALAND STATE DISASTER MANAGEMENT AUTHORITY**

**DISTRICT DISASTER MANAGEMENT PLAN
WOKHA**



**PREPARED BY:
DISTRICT DISASTER MANAGEMENT AUTHORITY
WOKHA : NAGALAND**

Contents

Chapter 1	.....
Introduction	.....
1.1	Vision.....
1.2	Policy
1.3	Theme
1.4	Objectives of the plan
1.5	Trigger Mechanism.....
1.6	Level of Disasters
1.7	Plan Activation.....
1.8	Stakeholders of the State DM Plan
1.9	Roles & Responsibility
Chapter 2	.....
Hazard, Risk and Vulnerability profile of Nagaland	.....
2.1	State Profile.....
2.2.	History of Vulnerability
2.3	Hazard Risk assessment and vulnerability mapping.....
Chapter 3	.....
Preventive Measures	.....
3.1	Strategy
3.2	Prevention and Mitigation measures.....
Chapter 4	.....
Preparedness Measures	.....
4.1	Resource Availability.....
4.2	Community First Responder
4.3	Training, capacity building and other proactive measures
4.4	Medical Preparedness
4.5	Knowledge Management
4.6	Communication.....
Chapter 5	.....
Disaster Response	.....
5.1	Institutional Arrangements.....
5.2	Incident Respond system System(IRS).....
5.3	Early Warning
5.4	Search & Rescue
5.5	Coordination with Armed Forces, Airport Authority of India (AAI) and Indian Railways
5.6	Subsistence, shelter, health and sanitation
5.7	Infrastructure and essential services
5.8	Security
5.9	Communication.....
5.10	Preliminary damage assessment
5.11	Funds generation.....
5.12	Finalizing relief payouts and packages
5.13	Post-relief assessment

Chapter 6

Partnership with Other Stakeholders

6.1 NSDMA

6.2 State Disaster Response Force (SDRF)

6.3 Fire & Emergency Services

6.4 Sub-Divisional Disaster Management Authority

6.5 Village Disaster Management Authority (VDMA)

6.6 Non Governmental Organization (NGO's)

6.7 Media

Chapter 7

Rehabilitation & Reconstruction

7.1 Detailed damage assessment

7.2 Assistance to restore houses and dwelling units

7.3 Relocation (need based)

7.4 Finalizing reconstruction & rehabilitation plan

7.5 Funds generation

7.6 Funds disbursement and audit

7.7 Project management

7.8 Information, Education and Communication

7.9 Dispute resolution mechanisms

7.10 Implementing initiatives for recovery of reconstruction costs

Chapter 8

Plan Maintenance

8.1 Introduction

8.2 Plan Testing

8.3 Debrief and Evaluation-Mock Drills

8.4 Review / Updation of Plan

Introduction

This plan will be known as **“District Disaster Management Plan”** and will be applicable in District of Wokha Nagaland.

1.1 Vision

Making Nagaland where communities react to disasters with sense of urgency but in a planned way to minimize human, property and environmental loss.

1.2 Policy

Saving of human lives will be at the highest priority however, plan will also address minimum loss of property and environment.

1.3 Theme

It comprises risk and vulnerability assessment of disasters in the District. It provides planning for prevention and mitigation, mainstreaming disaster in development plans/ programmes/ projects, Capacity building and preparedness measures, the role and responsibilities of each government departments and other stakeholders, risk transfer mechanism and effective programme management for future disasters. It also provides for reviewing and updating plan annually.

1.4 Objectives of the District Disaster Management Plan

The main objectives for formulation of this District Plan have been initiated by the Wokha District Disaster Management Committee with a view of its proneness to earthquake of high risk zone i.e. Zone V. However, the plan prepared has been made with flexibility and has its attempt and approach to deal with any other natural or man-made disasters. Some of the Basic objectives for coming up with this Plan have been specified as given below:

- To mitigate impact of natural and man-made disasters through preparedness at District, Sub-Division and Village level.
- To assist the line departments, circle 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 and development process
- To have response system in place to face any eventuality
- To Delegate the roles and responsibilities of various teams to response to any kind of disaster effectively with minimum cost and time frame.
- To prepare for multi-disaster approach or multi-hazards management plan.
- To trigger the plan/ SOPs to be tested and subsequently validate updation through periodical drills.
- To ensure active participation by the government administration, communities, NGOs and volunteers in responding to any emergency incident

1.5 Trigger Mechanism

The DDMA executive unit shall inform the Chairman of DDMA cum Deputy Commissioner for declaration of Emergency in Districts.

1.6 Level of Disasters

L concept has been developed to define different levels of disasters in order to facilitate the responses and assistances to Districts.

L0 level denotes normal times which will be utilized for close monitoring, documentation, prevention and preparatory activities. Training on search and rescue, rehearsals, evaluation and inventory updation for response activities will be carried out during this time.

L1 level specifies disaster that can be managed at the District level, however, the State and Centre will remain in readiness to provide assistance if needed.

L2 level disaster situations are those, which require assistance and active participation of the State, mobilization of its resources for management of disasters.

L3 level disaster situation is in case of large scale disaster where the State and District authorities have been overwhelmed and require assistance from the Central Government for reinstating the State and District machinery as well as for rescue, relief, other response and recovery measures. In most cases, the scale and intensity of the disaster as determined by the concerned technical agency like IMD are sufficient for the declaration of L3 disaster.

The District Disaster Management Authority will determine the scale and intensity of the disaster for declaration of L3 disaster

1.7 Plan Activation

The disaster response structure will be activated on the receipt of disaster warning/on the occurrence of the disaster. The occurrence of disaster may be reported by the concern monitoring authority to the Deputy Commissioner /DDMA Chairman by the fastest means. The Deputy Commissioner /DDMA Chairman will activate all departments for emergency response including the District EOC, and ERCs. Also, they will issue instructions to include the following details:

- Exact quantum of resources (in terms of manpower, equipments and essential items from key departments/stakeholders) that is required.
- The type of assistance to be provided
- The time limit within which assistance is needed
- Details of other Task/Response Forces through which coordination should take place

The District EOC, ERCs and district control rooms should be activated with full strength. The State Government may publish a notification in the official gazette declaring such areas to be disaster-affected area under NSDMR Section 14 (1) xii.

Once the situation is totally controlled and normalcy is restored, the Deputy Commissioner declares End of Emergency Response and issues instructions to withdraw the staff deployed in emergency duties.

1.8 Stakeholders of the District DM Plan

The District Disaster Management Authority and the Office of the Deputy Commissioner, is the institution in the District that deal with all the phases of disaster management. All the major line departments of the State Government the Deputy Commissioner at the District along with the other technical institutions, community at large, local self governments, NGOs etc. are the stakeholders of the District disaster management plan.

The role of the stakeholders have been prepared with the avowed objective of making the concerned organizations understand their duties and responsibilities regarding disaster management at all levels, and accomplishing them.

1.9 Roles & Responsibility

1.9.1 The Deputy Commissioner

- Facilitate and, coordinate with, local Government bodies to ensure that pre and post - disaster management activities in the district are carried out.
- Assist community training, awareness programmes and the installation of emergency facilities with the support of local administration, non-governmental organizations, and the private sector.
- Take appropriate actions to smoothen the response and relief activities to minimize the effect of disaster.
- Recommend Home Commissioner and State Government for declaration of disaster.

1.9.2 Local Authority

- Provide assistance to DDMA, Deputy Commissioner in disaster management activities.
- Ensure training of its officers and employees and maintenance of resources so as to be readily available for use in the event of a disaster.
- Ensure that all construction projects under it conform to the standards and specifications lay down.
- Each department of the Government in a district shall prepare a disaster management plan for the district. Carry out relief, rehabilitation and reconstruction activities in the affected area within its jurisdiction.

1.9.3 Private Sector

- The private sector should ensure their active participation in the pre-disaster activities in alignment with the overall plan developed by the DDMA or the Deputy Commissioner.
- They should also adhere to the relevant building codes and other specifications, as may be stipulated by relevant local authorities.

1.9.4 Community Groups and Voluntary agencies

- Local community groups and voluntary agencies including NGOs should actively assist in prevention and mitigation activities under the overall direction and supervision of the DDMA or the Deputy Commissioner.
- They should actively participate in all training activities as may be organised and should familiarise themselves with their role in disaster management.

1.9.5 Citizen

It is a duty of every citizen to assist the Deputy Commissioner or such other person entrusted with or engaged in disaster management whenever his aid is demanded generally for the purpose of disaster management.

1.9.6 ROLE OF DIFFERENT DEPARTMENTS IN DISASTER MANAGEMENT:

(1) **Police:** The Police is the leading agency which works under the operational control of the District Superintendent of Police. The role of Police department will include:

I. Evacuation of the affected people

II. Security of the property of affected people and maintenance of law and order in the affected area.

III. Traffic management leading to the affected area.

V. Activate SDRF

(2) **Fire and Emergency Service:** In case of fire related disaster, the nearest Fire Station/ Sub station from the disaster site will take the responsibility of managing the incident. It will be headed by Officer In-charge of that Station. As soon as Fire and Emergency services gets the information about the disaster, the nodal officer/ duty officer arrange trips of water or provide water from the nearest source available as early as possible.

(3) **Home Guards:** The Home Guards is the leading combat agency, which works under the operational control of the police and overall administrative control of the Deputy Commissioner. The role of the Home Guards will include: I. Search & rescue of people II. Evacuation of people from affected areas. The Home Guards will work in close co-ordination with the Police under the supervision of S.P Wokha.

(4) **Power & Electricity:** In the event of natural calamities, the State Load Dispatching Centre (SLDC) will be used as a Nodal Cell within the Department. This Cell is responsible for carrying out all necessary actions in connection with restoration of power supply after the occurrence of disaster anywhere in district.

(5) **Wireless:** Wireless communication could be our last resort of communication during and after disaster as all the terrestrial infrastructures would be destroyed. The control room can be accessed by telephone lines and whatever information is fed to this Control Room, it will be

conveyed to the concerned District Authorities. The numbers by which the Control Room can be accessed are given below:-

1. Phone No. : 03860-242015(0)/ 242063(R)
2. Phone No: 9856791863

The Control Room will have a wireless communication link with the Emergency Operation Centre at the district level under the chairman of the Deputy Commissioner.

(6) **BSNL & Private Mobile Operators:** BSNL is primarily responsible for restoration of communication facilities. It should ensure the smooth flow of information that can cater to those needed in a time sensitive manner at the state level in any disaster response efforts. Though BSNL is primarily responsible for restoration of communication facilities, private operators should also ensure the smooth flow of information within the area in a time-sensitive manner at the state level in disaster response efforts.

(7) **I & PR Department:** The following tasks will be taken up by the department of I&PR in liaison with the District Disaster Management Authority/Committee.

Press briefing: Press briefings play a very important role in disaster management. Daily press briefs will be issued at 11:00 AM at the D.C's Chamber or DCs Conference Hall.

(8) **Public Works Department:** The duty of PWD in disaster situations shall be –

1. Equipment support
2. Debris and road clearance
3. Ensure proper corpse disposal and post-mortem by coordinating with medical team
4. Assess the possibility of further disaster in the affected area.

(9) **PHED:** PHE will ensure provision of basic quantity of clean drinking water and water for other purposes in a manner that does not allow the spread of diseases through the contamination of water. It will also take initiatives on-

1. Quick assessment of water line damage and contamination levels and taking steps to restore clean drinking water.
2. Supply of water tankers to disaster affected communities.
3. Deploy response teams to repair and restore water supply lines that may be damaged after disaster.

(10) **Department of Transport:** The responsibility of DTO in any crisis situation is arrangement of vehicle for- Emergency Support Functionaries engaged in the disaster response activities and transportation of victims and needy people from the affected site to safe areas

(11) **Army/Para Military Forces:** The Army/Para Military forces here denote the Paramilitary Forces operating in the district, like – the Assam Rifles, CRPF, and BSF etc. Though they are under the direct supervision of the Central Government, their services are very useful especially in the Search & Rescue works and First Aid management. They are to participate actively to complement civil and police administration in times of disaster if requested to do so. It is therefore recommended that these forces may be informed and requested by the District Disaster Management Authority to extend their help especially in the Search & Rescue and First Aid response.

(12) **Medical department:** On receipt of a warning of an impending Disaster from the District EOC, CMO will immediately put their doctors and the paramedical staff on alert for preventing outbreak of epidemic. All the staff of the CMOs will immediately report for duty to their concerned controlling authorities/ District Hospital/CHC/ PHC or the health sub centre, as the case may be. The CMO will try to mobilize additional manpower from the area not affected by calamity to supplement the local resources of the affected area. The CMOs will identify the external sources in the community and the market for procuring equipment

and medicine with the assistance of the DDMA. CMO can request the services of the medical officers working in Private Hospitals, Private Doctors and Nurses, and during the periods of such requisition such medical officers can work under the administrative control of CMO.

(13) **School Education Department:** On receipt of information about occurrence of disaster from the District EOC or any other source, the District Education Officer will come up to help the district authorities especially in relief and shelter management activities. It may be mentioned here that schools are one of the most convenient places for temporary lodging of the disaster-hit families. The DEO is, therefore, expected to do all related activities in this connection.

(14) **Social Welfare Department:** On receipt of information, the District Social Welfare Officer will take actions relating to Trauma Counseling. He/she shall depute reliable officer and staff to go to the spot and do the counseling work. In disaster situation, the affected people will panic and may need immediate counseling. It is an important task to keep the victim's hope alive in such situation.

The above teams will function under the guidance of Deputy Commissioner.

1.10 Emergency Contact Numbers of Wokha District

POLICE STATION			
Police Stations	Officer-In-Charge	Telephone	Mobile
Wokha P.S	Manoj Kumar	03860-222011	9502928543
Bhandari P.S	Toshimonen Ao		8415003904
Sungro P.S	Yanbemo Kithan		7085613824
Ralan P.S	Akumnungsang		9856277771
Champang P.S	Huchu Dazo		8794417269
Sanis P.S	Renthungo Lotha		9862280855
Women Cell Wokha	Lochumbeni Lotha		9402017026
Doyang Police Outpost	Tsanthungo Lotha		9402017026
Control Room			03860-222131
FIRE & EMERGENCY SERVICE			
Wokha	03862-242215		
HOSPITALS			
District Hospital Wokha	8014143866 / 8575866426		

1.11 District Disaster Management Authority Members (DDMA)

Sl. No.	Designation	Position
1	Dy. Commissioner, Wokha	Chairman
2	Superintendent Police, Wka.	Member
3	Addl. Dy. Commissioner, Wka.	Nodal Officer
4	SDO (C)Wokha HQ	Members/Secretary
5	SDO Sanis	Member
6	ADC Bhandari	Member
7	SDO Ralan	Member
8	District Disaster Management Officer (DDMO)	Member Secretary
9	SDO (C)-II, Wokha HQ	Member
10	C.M.O., Wokha	Member
11	M.S. , Wka.	Member
12	Dist. Commandant, HG&CD	Member
13	D.P.R.O., Wokha	Member
14	S.S. (NST), Wokha	Member
15	D.T.O. (Transport), Wokha	Member
16	SDO, E.E. PWD(R&B), Wokha	member
17	E.E. PHED, Wokha	member
18	E.E. Electrical, Wokha (SDO)	Member
19	E.E. I. & F. C. (SDO), Wokha	Member
20	S.D.O. (Housing), Wokha	member
21	Asst. Engineer, C.A.W.D., Wka.	member
22	Project Director, DRDA, Wka.	member
23	DFO(Forest), Wokha	member
24	LRSO, Wokha	Member
25	DPO (Land Resource), Wokha	Member
26	DAO, Wokha	Member
27	DLO (Laprosy), Wokha	Member
28	DHO, Wokha	Member
29	DV & AHO, Wokha	Member
30	DPO (Planning), Wokha	Member
31	DWO, Wokha	Member
32	DSCO, Wokha	Member
33	Town Planner,AUDO, Wokha	Member
34	A.D.S. Food & Civil Supply.	Member
35	Education Department (DEO)	Member
36	C.O. Assam Rifles., Wokha	Member
37	Chairman, Lotha Hoho.	Member
38	President, Lotha Students Union	Member
39	BSNL (SDO)	Member
40	Animal Husbandry & Veterinary	Member
41	District Project Associate (DPA)	Member

Hazard, Risk and Vulnerability profile of Nagland

2.1 District Profile

2.1.1 WOKHA DISTRICT AT A GLANCE

1	Total Population Census 2011	166,343
2	Male	84,505
3	Female	81,838
4	Literacy Rate	87.69%
5	Sex Ratio	968

As per the Population Census 2011 data, following are some quick facts about Wokha district.

	Total	Male	Female
Children (Age 0-6)	20,138	10,298	9,840
Literacy	87.69%	79.74%	74.32%
Scheduled Caste	0	0	0
Scheduled Tribe	156,621	78,816	77,805
Illiterate	38,135	17,120	21,015

Literacy Rate - Wokha district

Female	84.48%
Male	90.81%
Total	87.69%

List of Circles in Wokha district

Below is list of all Circles in Wokha district with important data such as Population, Literacy rate and Sex Ratio.

#	Circle	Towns & Villages	Population	Literacy	Sex Ratio
1	Aitepyong	Towns & Villages	16,194	78.8%	938
2	Baghty	Towns & Villages	2,697	78.6%	929
3	Bhandari	Towns & Villages	17,124	77.9%	914
4	Changpang	Towns & Villages	5,397	72.2%	950
5	Chukitong	Towns & Villages	10,043	78.3%	985
6	Englan	Towns & Villages	12,856	72.1%	983
7	Lotsu	Towns & Villages	6,338	74.8%	982
8	Ralan	Towns & Villages	8,627	59.1%	954

#	Circle	Towns & Villages	Population	Literacy	Sex Ratio
9	Sanis	Towns & Villages	7,155	78.3%	1,025
10	Sungro	Towns & Villages	13,046	73.9%	1,011
11	Wokha Sadar	Towns & Villages	58,186	81.3%	975
12	Wozhuro	Towns & Villages	8,680	76.1%	977

2.1.2 Important Festivals - (TOKHU EMONG) : 7 November

2.1.3 Administrative Centers :-

1	Wokha	District Hq.
2	Bhandari	ADC
3	Ralan	SDO
4	Sanis	ADC
		Border
5	Merapani	Magistrate
6	Chukitong	EAC
7	Lotsu	EAC
8	Wozhuro	EAC
9	Changpang	EAC
10	Aitepyong	EAC
11	Sungro	EAC
12	Baghty	EAC

2.1.4 Rural Development

Name of Block	Wokha	Chukitong	Wozhuro/ Ralan	Bhandari	Sanis	Total
Village	14	10	21	41	25	111

2.1.5. BRIEF INTRODUCTION OF THE DISTRICT

In the year 1876, the British Government occupied Wokha as the District Hq. of Naga Hill under Assam. In the year 1878, the Hq. was shifted to Kohima and Wokha remained as Sub-Division. Again in 1889, the Sub-Division was shifted to Mokokchung. Only in the year 1957, when Mokokchung become a District through the creation of NHTA Wokha again become a sub-Division. During the first general Election of January 1964, there were 5 Assembly Constituencies in the Sub-Division among the total of 40 Constituencies for the state of Nagaland, then Mon, Tuesang were under the direct supervision of the Governor for a limit of 10 years. In the year 1974, with the additional 20 constituencies for Tuensang and Mon District. It was during his election, in the redistribution of constituencies, the number of Assembly Constituency for Wokha District was reduced to 4 and remains till date.

The Wokha District is situated in the mid western part of Nagaland State, adjacent to Sibsagar plains of Assam state. It is bounded by Mokokchung District in the North, Kohima District in the South, Zunheboto District in the East and the state of Assam in the West. The Wokha District is situated at a latitude 26 '8' North and longitude of 94 ' 18' East.

The Topography of the District is more or less similar with that of other District in the state, having ranges and ridges dissected by seasonal streams. The altitude ranges from 304.4 mtrs to 1313.67 mtrs. (MSL). The climate is warm in the lower plain areas, moderately warm in the upper region during summer but cold in winter. The monsoon starts from May and continuous till October. The annual rainfall varies from 200 cm. to 250 cms.

The District is divided into 3 ranges, which are as follows:

- a. Wokha Ranges or Upper Range which falls in the Upper North part of the District.
- b. Sanis Range or Middle, which covers the middle part of the District
- c. Bhandari Range or Lower Range is the outer most part of the District which extends from Japukong Range of Mokokchung District and gradually slopes down to the Assam plains in the North Western side. Two of the most fertile valleys are in this range and they are Baghty and Churung Valleys.

The highest mountain peak is the Tiyi Enung, with the altitude of 1970 mtrs. Important rivers which flows through the District are District are Doyang, Chubi, Nzhu and Nruk. The district lies in a seismically active earthquake zone.

The District having Geographical areas of 1628 sq.Kms. in inhabited by the Lothas. It is the third smallest District in term of area of the state. As per the 2001 census the population density during 2001 is 99.77 people per Sq Km.

2.1.6. POLICE STATION (2001 CENSUS)

Main Police Station	Out Post	Check post
3	1	2

2.1.7. MEDICAL

Hospital	PHC	CHC	SHC	Dispensar	Sub-	FW Sub-
1	7	2	4	1	38	20

2.1.8 EDUCATION

Name	Collage	GHSS	High	Middle	Primary
Govt.	1	1	8	17	110
Private	1	1	16	18	22
Total	2	2	24	35	132

1. Highest Altitude Mt. Tiyi - 1970 Mtrs.
2. Lowest Altitude Baghty - 304.3 Mtrs
3. Rainfall 200 to 250 Cms
4. Recognised Village 111 (as on 31/03/06)
5. No. of Village provided with Water Supply 65
6. No. of Village not provided with Water Supply 45
7. No. of Village Connected by Road NH- 5
SH- 6
District Road NA
8. No. of Village Connected with Electricity (2001 Census) 108
9. Total Area Forest 25571.91 Ha NA
10. Reserved Forest NA
11. Proposed Reserved Forest 7730.06 Ha
12. Protected Forest 598.85 Ha
13. Village Forest Degraded 24000.00 Ha
14. No. of Post Office 2
15. No. of B. Post Office 2

The entire district is classified as a rural having 111 recognised villages with VDB except for the district Hq, Wokha Town which is classified as urban. There are two small townships called Baghty and Bhandari. The system of the land tenure is divided into three categories:- Village land which is owned by the village; Khel land which is passed from father to son and so. Agriculture predominates the people and over 75% of the total population are cultivators. Through the potentiality of agriculture is ample the people are hardworking, creative and thrifty in general, the District is non self-sufficient in food grains as the farmers do not take up cultivation on a large scale basis, and application of modern advanced technologies is not available due to the reasons which are as follows:-

- a. Most of the cultivated lands are steep slope marginal land.
- b. The land holdings of the cultivation are fragmented and scattered.
- c. Most of the agriculture are mixed and single season cropping consequently the yield per unit of area is low.
- d. Also the deplorable inadequacy of link roads to the steep terrain lands and hills ranges, the vast inaccessible agriculture area cannot be put to full utilization for lack of all infrastructure facilities.
- e. Cultivation is done with the help of spade, hoe and scrapes and not plough as the region is hilly.

Only the valley of Doyang, Baghty and Merapni bullock draw plough is used and practiced.

The main crops of the District are Rice, Maize, Beans, Peas, Yam, Brinjal, Chilly, Pumpkin, Ginger, Tomato, Bitter-gourd etc. Horticulture products consist of Orange, Banana, Pineapple, Papaya, Mosambi, Guava, Plum, Pear, passionfruit etc. The District supplies certain surplus produce from Agriculture and Horticulture like Beans, Yams, Brinjal, Chilly, Tomato, Bitter-Gourd etc. and Orange, Pineapple, Mosambi etc. besides varieties of wild vegetables.

The people of the District also practice certain traditional cottage industries mostly during the off season to meet their local requirements, like black smithy, traditional weaving, carpentry and handicraft etc. Mineral like coal and crude oil are found at Changpang area in the lower range. There is a Hydro Electricity station called Doyang Hydro project across the Doyang river, which has a capacity of 75 MW.

The staple food diets of the people are rice, bamboo shoot of various types, fermented or dried fish, yam, Molasses, Vegetables and Meat, which is a delicacy. Food is mostly boiled and spices are rarely

used. They are very particular, both in their food preparation and habit of taste.

2.1.9 DEFINITION

Disaster means an occurrence of a sudden major mishap or calamity, which disturbs the basic fabric, and normal functioning of a society or community. It is an event or a series of events causing widespread human, material, property, essential services or environmental loss on a scale which exceeds the ability of an affected society or community beyond the capacity to cope using its own resources.

Hazard is an event or occurrence that has the potential for causing injuries to life and damaging property and the environment.

Vulnerability is a condition or acts of condition that reduces people's ability to prepare for, withstand or respond to a hazard.

Risk is the probability that a community structure or geographical area is to be damaged or disrupted by the impact of particular hazards, on account of their nature, construction and proximity to a hazardous area.

OR

Risk is a measure of expected losses or chances due to hazard event of a particular magnitude occurring in a giving area. The level of Risk depends on a nature of hazard, vulnerable of elements which are effected.

Risk= Hazard + Vulnerability:-

Hazards are the "or an event or occurrence that has the potential for causing injuries to life and damaging property an^H environment.

There are four basics types of hazardous events that put society at risk.

1. Based in nature: Earthquake, drought, flood, landslide etc.
2. Based in violent: War, terrorism, insurgency, communal riots etc.
3. Based in deterioration: Health and sanitation, education, social services, environmental degradation.
4. Based in Industrialization: Technological failures, factory explosion, oil spillage, fires, gas leakage, transport accident etc.

Vulnerability is defined as "The extent to which community, structure, services or geographic area is likely to be damage or disrupted by the impact of a particular hazard".

Or in other words, it is condition or sets of condition that reduces people's ability to prepare for, withstand or respond to a hazard.

Types of Disasters

1. **Natural:** Flood, cyclones, Earthquake, Landslide, Forest Fire, Drought, Heat wave, Hailstorms etc.

2. **Man-Made:** Industrial accident, roads, Rail, Air accidents, riots, Civil strife, war, pollution, communal violence etc.

FLOOD: The River along with their branches and tributaries can hardly hold the large volume of water, which passes through them during the rainy season (June to October) which causes heavy and widespread inundation of settlement areas due to improper drainage system.

CYCLONE: The term “Cyclone” is derived from Greek word meaning “The Coil of a Snake”. A tropical cyclone when fully developed, is a vast violent whirl of 150 to 180 Kms. of radius. The speed of wind in a nature storm is generally 50-100 Kms. per hour. The wind associated with such storms is among the most violent and rainfall is heavy.

DROUGHT: Most of the paddy growing areas depend upon the rainfall. The monsoon commences around the middle of June. For timely agricultural operation, a few shower of pre-monsoon rain is absolutely necessary. Regular rainfall till the middle of October can ensure a good harvest but, if the rainfall at any circumstances does not take place this will lead to improper agricultural operation and growth of crop resulting in drought, therefore drought is caused due to failure of rains in a season

HAILSTORM: Although hailstorms rarely involve loss of human lives, their economic impact can be severe. The damage appears to be a function of the intensity and duration of storm and the size of the hailstones, which has it produce. The damage itself is often caused not only by the impact of falling hailstones, but also by the high winds and torrential rain, which is part of the hailstorm.

HEATWAVE: A period of usually hot and often humid summer that last for several days is commonly referred to as a “heat wave”. The temperature that constitutes a heat wave varies among regions with different normal summer conditions. When the maximum temperature at a station remains 45°C or more for two days or more, the condition is sunstroke causing casualties. This sometimes also leads to fire accident.

LANDSLIDE: Landslide is caused due to horizontal and vertical movements of a portion of Hill mass in downwards direction under its own weight due to various reasons.

Cause of landslides

Natural: 1) Geological weak materials

2) Intense Rainfall

3) Erosion

4) Earthquake (Shaking)

5) Volcanic Eruption

Man-Made: 1) Human Excavation

2) Various constructional activities

3) Deforestation

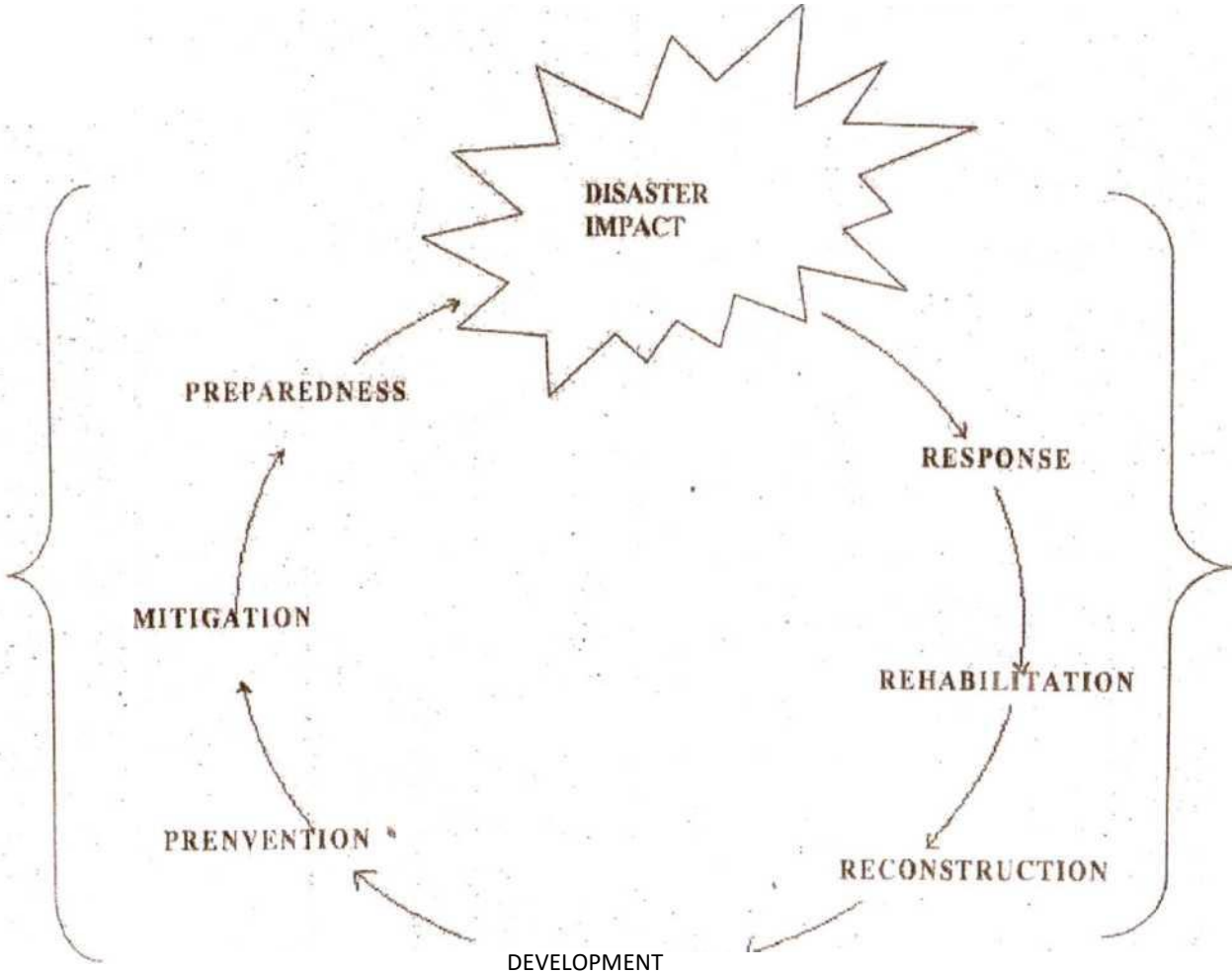
4) Jhum

Cultivation

DISASTER MANAGEMENT CYCLE

R
I
S
K

M
A
N
A
G
E
M
E
N
T



D
I
S
A
S
T
E
R

M
A
N
A
G
E
M
E
N
T

2.1.12 History of Disaster, Wokha District.

As of now, Wokha District has not experienced any major natural disaster by the grace of Heavenly father. However, some of the remarkable events/ incidents that has occurred in the district and has been traced out through primary and secondary source of data collection uptill the preparation of the District Disaster Management Plan have been specified as given below:

DISASTER	YEAR	REMARK
Earthquake (8.7 R.S.)	1950	NA
Earthquake (6.6 R.S.)	1988	NA
Bus Accident	2007	NA
Landslide & Flash Flood (Nzhu River)	Almost every Year	Destruction of House and Terrance Fields
Drought	1979	Damage of Crops
Bus Blast Accident (Dma to Wka)	2000	4 died and 20 injured
Tuensung Bus Accident (Satsupen Area)	2004	Above 15 person died
Bus Accident (Kma- Wka)	2006	9 person died
Fire Accident (Tsumang Colony)	2007	House Guttred, Property Damaged & One person died
Fire Accident (Tsumang Colony)	1998	House Guttred & Property Damaged
Fire Accident (Tsumang Colony)	2000	House Guttred & Property Damaged
Fire Accident (DIS Office)	1994	House Guttred, Property Damaged and Documents Damaged.
Forest Fire (Mt.Tiyi, Wokha)	2005	Environmental Damage society unrest.
Forest Fire (Mt.Tiyi, Wokha)	2006	Environmental Damage society unrest
Boat Capsize (Doyang)	2004	4 people died
Landslide, New Bhandari Town	1960's	NA
Landslide, Sanis	1970's	NA

Baghty road		
Landslide, Mentsu, Wokha town	1970's	NA
Landslide, Woka-Mkg Road, Wokha Village	1974	NA
Landslide, Lotsu Hq.	1980's	NA
Landslide, Wokha-Merapani road, Sanis	1984	NA
Landslide, Wokha-Merapani road, Baghty	1984	NA
Landslide, DHEP, Doyang	1989	NA
Landslide, Enongchu, Yikhum	1994	NA
Landslide, Wka-Mkg Road, Tsungiki area	1996	NA
Landslide, Mahanto area, Wokha	1997	NA
Landslide, Longtsangchu area, Yikhum	1998	NA
Landslide, New Riphyim Area	1999	NA
Landslide, CMHS Area, Wka	2002	NA
Landslide, (Project Colony)	2007	House Damaged
Land fall accident, Akuk	2008	5 people died

Table below shows the detail data of Disaster that occurred at Wokha Dist. 2017-23

SL. No	Nature of Disaster	Location of Disaster	Date of Occurrence	Extent of Damage	No. of affected/properties /infrastructure
1	Windstorm	Ralan Village	9th April 2017	Totally Damage	10
2				Severely Damage	9
3				Partially Damage	23
4	Hailstorm	Khumchoyan Village	9th April 2017	Severely Damage	9
5	Windstorm	Bhandari Town	9th April 2017	Severely Damage	4
6	Landslide	Merapani- Bhandari road	30th June 2017	Severely Damage	No Human Casualty
7	Landslide	Chukitong area NH-2	31st June 2017	Severely Damage	No Human Casualty
8	Landslide	At 2 km and 3.5 km @ Koio-Nungying Village road	1st August 2017	Road Block and clogged drainage lines	Nil
9	Landslide	At 6km and 7km @ Wokha-Doyang	18th July 2017	Road Block and clogged drainage lines	Nil
10	Damaged RCC Culvert	Wokha-Bokajan road @ 9km from Zero Point	4th June 2017	Abutment Displaced	1
11	Landslide	Etssuchukha road below DC office	27th Sept 2017	Road Block and clogged drainage lines	Nil
12	Soil Erosion	59th km Wokha-Merapani NEC	19th June 2017	10 metre length of Road formation was	3/4 of road width, badly affected

		Road		damaged	
13	Landslide	58th km Wokha-Merapani NEC Road	22nd June 2017	Huge mass of soil fell on the road completely halting traffic movement	Entire Wokha District citizens were affected
14	Blockage of H/P Culverts	56.5th km Wokha-Merapani NEC Road	23rd June 2017	Blocked the hume pipe with sand gravels and stones	A long stretch of road length was flooded with water and damaged the road pavement
15	Mudslide, Soil Erosion and sinking	53km,53.05km to 53.15km Wokha-Merapani NEC Road	25th June 2017	Unaccounted and not measurable. Daily restoration on spot	Citizen of the area
16	Soil Erosion	49th Km Wokha-Merapani NEC Road	26th June 2017	Damaged road pavement	Citizen of the area
17	Soil Erosion	48.6th km Wokha-Merapani NEC Road	26th June 2017	Damaged road pavement	Citizen of the area
18	Soil Erosion	47th km Wokha-Merapani NEC Road	27th June 2017	Damaged road pavement	Citizen of the area
19	Soil Erosion	46.5 km Wokha-Merapani NEC Road	27th June 2017	Damaged road pavement	Citizen of the area
20	Soil Erosion	46th km Wokha-Merapani NEC Road	28th June 2017	Damaged road pavement	Citizen of the area
21	Soil Erosion	43rd km Wokha-Merapani NEC Road	29th June 2017	Damaged road pavement	Citizen of the area
22	Flood damaged road	24th km to 62nd km of Wokha-Merapani NEC Road	4th -17th July 2017	Huge pot holes in large scale	Citizen of the area
23	Flood damaged Culvert	Merapani to Serika Road 2nd Km	17-Aug-17	Approach road to culvert completely washed away	Citizen of the area
24	Flood damaged road	Merapani to Serika Road 0km to 7th km	4th - 9th Aug 2017	Large scale pot holes	Citizen of the area
25	Flood damaged road	Bhandari Town road	4th-17th Aug 2017	Pot holes	Citizen of the area
26	Flood damaged road	Sanis to Lakhuti Road 0km to 24km	4th-17th Aug 2017	Landslides,soil Erosion,damage of culverts and pot holes	Citizen of the area
27	Flood damaged road	Doyang to Okotso 0km to 18km	4th-17th Aug 2017	Landslides, Damage of drainages, blocking of culverts,pot holes ets	Citizen of the area
28	Flood damaged road	Doyang Bridge 24th km	4th-17th Aug 2017	Bridge deck slab	Citizen of Wokha District
29	Flood damaged road	Sanis to Woroku 0km to 24th km	4th-17th Aug 2017	Road pavement	Citizen of the area
30	Normal	Other Bridges viz,	4th-17th Aug	Paintings, Screws,	Citizen of the area

	Rainfall	Chupi Bridge, Baghty River Bridge, Tsungzametong Bridge etc	2017	bolts and nuts	
31	Flood damaged road and Landslides	Bhandari Village junction Yimpang Village	4th-17th Aug 2017	Damaged of road pavement and road formation width	Citizen of the area
32	Flood damaged road	Baghty Town to Soku Village Road	4th-17th Aug 2017	Developed huge pot holes	Citizen of the area
33	Landslide	53km Wokha-Merapani	3rd August 2017	Severely Damage	3 Electrical poles 33 kv
34	Landslide	ADC Compound Bhandari	13th Sept 2017	Severely Damage	Whole Compound
35	Landslide	Road to Rest House Bhandari	13th Sept 2017	Severely Damage	50 ft
36	Mudslide	Bhandari Sub-Division	Jul-17	Severely Damage	45 Villages affected
37	Rainfall	10th km Bokajan road	July & August 2017	12th ft (Severely Damage)	Culvert
38	Heavy Rain	NH-2	Jul-17	Severely Damage	NH affected
39	Heavy Rain	NH-2 Saron Colony	Jul-17	Severely Damage	One House affected
40	Landslide	Sanis to Bhandari	12th August 2017	Severely Damage	20km of OFC and BLP PVC pipe
41	Lightning	Chukitong Exchange	17th June 2017	Severely Damage	100 Amp(1+4) HCL power plant and 600AH battery set
42	Lightning	Wokha 3	21st July 2017	Severely Damage	100 Amp(1+4) HCL power plant and 600AH battery set
43	Fire	Wokha HQ	26th Feb 2018	Severely Damage	1 Household
44	Windstorm	Merapani	3rd March 2018	Severely Damage	20 Household
45	Fire	Wokha HQ	7th March 2018	Fully Damaged	1 Household
46	Covid-19	Wokha Dist	2019-20		12 Deceased
47	Fire	Longsa	13 th Sept' 2019	Fully	1 house
48	Landslide	Wokha Hq	4 th Oct' 2018	Damaged road pavement	Citizen of the area
49	Landslide	Meriyan	15 th Oct 2018	Damaged road pavement	Citizen of the area
50	Wild Animal attack	Mekokla	17 th Nov' 2018	1 Died	1 deceased
51	Wild Animal attack	Mekokla	17 th Nov' 2018	1 injured	1 injured
52	Wild Animal attack	Mekokla, Lakhuti, Okotso, Aitepyong	25 th Dec' 2018	Damaged Horti Crops & plantation	10 households
53	Wild Animal attack	Pyotchu, Sanis	31 st Dec' 2018	Farm house & plantation	13 households
54	Wild Animal attack	Okotso vill, Sanis	4 th Jan 2019	Horti crops	11 households
55	Ex- gratia/ drown	Nzhu river	19 th March 2019	1 dead	1 deceased
56	Wild Animal	Lotsu, Sanis	7 th March 2019	Horti & plantation	35 households

	attack			crops	
57	Hailstorm	Ralan Sub Division	15 th April 2019	House & plantation	44 households
58	Lightning	Chukitong	8 th March 2019	Electrocuted 1	1 Deceased
59	Cyclonic Storm	Sanis sub division	18 th Aug 2019	House, plantation, agri crops	40-50
60	Storm	Koio,Chukitong	20 th May 2019	House & crops	7 households
61	Fire	Bhandari	3 rd June 2019	Pharmacy Shop	1 houde
62	Mudslide	Airfield, W/T	24 th May 2018	1 dead	1 deceased
63	Wild animal Attack	Yanmhon	8 th July 2019	Damaged crops & plantation	9 households
64	Lightning	Sanis sub division	1 st July 2019	1 dead	1 deceased
65	Wild animal Attack	Aitepyong, Lakhuti	9 th Oct' 2019	Damaged crops & plantation	12 households
66	Fire	Wokha Town	22 nd Oct' 2019	House	10 household
67	Landslide	Wka-Bokajan road	04 th Dec' 2019	Damaged road pavement	Citizen of the area
68	Landslide	Lakhuti, Sanis	11 th Dec' 2019	Damaged road pavement	Citizen of the area
69	Landslide	Liphi – Yanmhon	12 th Dec 2019	Damaged road pavement	Citizen of the area
70	Wild Animal Attack	Mekokla	2 nd Jan 2020	Seriously injured	1 person
71	Landslide	Yimpang, Bhandari	12 th Feb 2020	Damaged road pavement	Citizen of the area
72	Fire	Wokha	31 st March 2020	1 dead	1 deceased
73	Landslide	Ralan	13 th June 2020	Damaged road pavement	Citizen of the area
74	Landslide	Wka-Bokajan road	19 th April 2020	Damaged road pavement	Citizen of the area
75	Fire	Upper NSt W/town	31 st March 2020	3 dead	3 deceased
76	Landslide	Tourist colony	30 th July 2020	House damaged Severely	1 household
77	Landslide	CHMS W/Town	30 th July 2020	P/ wall Severely	1 household
78	Fire	Lotsu	27 th July 2020	Rubber Plantation	1 household
79	Landslide	Changpang	10 th Nov 2020	Damaged road pavement	Citizen of the area
80	Wild animal attack	Okotso, Sanis	14 th Nov 2020	Horti & plantation	17 households
81	Landslide	New Changsu	25 th Oct'2020	Kutch house severeley	1 household
82	Landslide	Etsutchukha W/Town	5 th Oct 2020	P/Wall	1 household
83	Landslide	Wka-Bokajan Road	12 th Oct' 2020	Damaged road pavement	Citizen of the area
84	Landslide	Sankiton	23 rd Oct' 2020	P/ Wall	1 household
85	Landslide	Akuk-Mekokla road	19 th Nov' 2020	Damaged road pavement	Citizen of the area
86	Landslide	Mekirang	13 th Nov' 2020	Damaged road pavement	Citizen of the area
87	Landslide	Etsutchukha	24 th Nov' 2020	Damaged road pavement	Citizen of the area
88	Hailstorm	Changsu vill	25 th Oct' 2020	Kutch house	1 household
89	Fire	Baghty	18 th March 2021	1 dead	1 deceased
90	Flashflood	Wokha	2th April 2021	Damaged road pavement	Citizen of the area

91	Road clearance	Hankuv-N/longchum	5 th may 2021	Damaged road pavement	Citizen of the area
92	Wild animal Attack	Bhandari sub division	18th March 2021	1 dead	1 deceased
93	Fire	Sanis Town	15 th Sept' 2022	Kutch house fully	1 household
94	Hailstorm	Upper Mt. Tiya collger	2 nd April 2021	Kutch house	1 household
95	Landslide/ Drainage clearance	Suren colony W/Town	1 st Sept' 2021	Damaged road pavement	Citizen of the area
96	Landslide road clearance	Moilan vill, Sanis	17 th Nov' 2021	Damaged road pavement	Citizen of the area
97	Wild animal Attack	Old Changsu	29 th Nov' 2021	1 dead	1 deceased
98	Wild animal Attack	Mungya	9 th Oct' 2021	Hutch house severely damaged	1 household
99	Landslide	Forest Colony	8 th Feb' 2022	Pucca House severely damaged	1 household
100	Wild animal Attack	Ekhoan	19 th Dec' 2022	Horti & plantation crops	8 household
101	Landslide road clearance	Yimparasa	29 th Nov' 20021	Damaged road pavement	Citizen of the area
102	Landslide road clearance	Yanmhon old	31 st May 2022	Damaged road pavement	Citizen of the area
103	Landslide road clearance	Zuvotong W/Town	19 th May 2022	Damaged road pavement	Citizen of the area
104	Landslide	GA project & SaronW/Town	08 th June 2022	Kutch house severely damaged	2 households
105	Landslide	Wka-Chukitong road	08 th June 2022	Plantation	2 household
106	Fire	Mekokla	29 th March 2022	Kutch house fully damaged	2 household
107	Fire	Zuvotong	22 nd June 2023	Kutch house Severely damaged	1 household
108	Search & rescue operation	Wokha vill	28 th June 2023	1 missing person	Not found
109	Search & rescue operation	Wokha vill	01 st July 2023	1 missing person	Not found
110	Landslide	Longsa Vill, Wokha	3 rd July 2023	Damaged road pavement, 1 injure person	Citizen of the area, 1 injured
111	Landslide	Tsumang B W/Town	7 th July 2023	Kutch house & P/Wall	1 household
112	Landslide	Wka vill, 0' Point	21st Aug 2023	P/Wall & Kutch house	1 household
113	Landslide	Satsuphen Wka-Kma road	19 th Aug 2023	Kutch house severely	1 household
114	Landslide	Vungoju & GHSS W/Town	29 th Aug 2023	Pucca House & P/Wall	2 household
115	Landslide	Lower Mt. Tiya College, W/Town	13 th Sept' 2023	Pucca house severely damaged	1 household

2.1.13

Hazards

i) **Cracking of Earth caused by Doyang River/ Dam near Riphyim**

Village.: In Riphyim area, it has been reported that there are cracks/ sinkings in certain patches due to construction of the dam at Doyang which is causing environmental degradation.

ii) **Forest Fire:** Forest fire is not uncommon in the district as major population of the district engaged in agriculture are practicing Jhum cultivation. However, some unintentional or natural forest fires are also seen during dry seasons i.e. March-May.

iii) **Landslide:** Wokha district being geologically fragile, it is a slide prone hilly place. Occurrence of landslides could be observed almost every year during the rainy season of the calendar.

Landslide prone area of Wokha District

DISTRICT	SEVERE TO HIGH	HIGH	MODERATE TO LOW	UNLIKELY	TOTAL AREA
WOKHA	258	959	342	7	1566

iv) **Vehicle Accident:** The connectivity, conditions, space and geographical terrains of the road pose much vulnerable for motor collision and falling below the roads.

v) **Flood.:** Flood is not common for the entire district but can be make out at the low lying areas of Assam border.

vi) **Poor Dumping Area:** Industrial related waste are not available in the district, however systematic dumping of domestic waste products is to be improved viewing drainage blockage and other related health hazards that it could have.

vii) **Flash Flood:** Flash flood is very common in the district during the rainy season due to its hilly terrains. It is also common at the river bank like Nzhu, Doyang, etc.

- viii) **Oil Leakage and natural gas leak in Changpang Area:** These chemical related hazards at champang area pose not only for the environmental degradation but also stands as dangerous for health. Soil and water condition in the area have became poor for usage.
- ix) **Sinking Area, Wokha to Chukitong Road:** As mentioned above about the geological instability of the locating district, sinking in major portion at patches can be observed. Best example being Wokha- Chukitong road, Wokha Village area.
- x) **Damage of Crops by Pest/ animal:** One very interesting character of the nagas are that some insects like grasshoppers are consumable, but crop damage are done by other inconsumable insects and pests. Animal related crop damage is also common especially by elephants

2.1.14 Vulnerability.

Some prospect of underlying vulnerabilities and their factors of the district are listed as given below:

- i). Untrained Officials or Unskilled Human Resources.
- ii). Forest, shrub and grass are ample for Fire Incident during Dry Season.
- iii). Entire north east or the state is prone to Earthquake zone-v which is a high risk zone, so is the wokha district.
- iv). Storms at western part which are of rural settlers are prone to damage of thatch houses and agricultural crops.
- v). Any outbreak of Epidemics could be major due to its poor developmental coping mechanism.
- vi). Majority of the Population, both Urban and rural due to lack of awareness as well as interest among the people.
- vii). Wokha to Merapani Road condition being in bad shape is vulnerable for road accident.
- viii). Disabled, old aged, children and pregnant or lactating women population being significant are vulnerable.
- ix). Oil spilt for fire incident, environmental degradation and other health hazards.
- x). Natural gas leak for health hazards and environmental degradation.
- xi). 75-90% of the buildings are poorly constructed.
- xii). Geologically unstable location that cause landslides problem during rainy season.

2.1.15 Vulnerability for disabilities:

Government of India has launched the Indira Gandhi National Disabilities Pension Scheme (IGNDPS) during February 2009. Persons with severe or multiple disability in between the age group of 18-64 years and belonging to a household below the poverty line will be eligible to get a pension @ Rs.300 per month in the above scheme. Subsequently the Government of India has revised the age limit to 18-59 years w.e.f 1/4/2011 and further raised the age group to 18-79 years w.e.f 1/10/12. The number of beneficiaries under IGNDPS for Zunheboto district is 132. (Source: Ministry of Social Justice and Empowerment)

Preventive Measures

3.1. Disaster Probability.

Basing on the history of disasters, hazards and vulnerability of the district, the disaster probability are mentioned as specified below:

- i) Earthquake.
- ii) Landslide.
- iii) Road Accident.
- iv) Fire Incident.
- v) Flash Flood.
- vi) Road Cut-off due to Landslide.
- vii) Pests' outbreak.
- viii) Epidemics, fire incident and environmental damage at Champang oil spilt area.

3.1.1 Strategy for Prevention and Mitigation of Disaster.

- i) DDMA shall act as district disaster control board and approach must be integrated, multidisciplinary, comprehensive involving technical experts, administration, planner, municipal, wards/colonies.
- ii) Objectives categorized to control, stabilization, minimization, prevention or avoidance of any disaster occurrence.
- iii) Target can be immediate, short term, medium or long term.
- iv) Remedial measures be low cost, easy, durable and effective.
- v) Awareness for Fire Safety Measures at Home, School and Community based.

- vi) Awareness at School for Plantation and Awareness to masses on Landslide Management.
- vii) Earthquake Awareness at all levels and setting up of teams which has to be Practical.
- viii) Burning of Jungles in Jhum Cultivation has to be alternated by different pattern of agriculture.
- ix) Road and Drainage system should be improved.
- x) Proper Trainings, Seminar and Mock Drills to be imparted from time to time.
- xi) Maintenance of PHC in all Sub-Division.
- xii) Trained volunteers are to streamlined for their duties to be performed during response action.

3.2 Prevention and Mitigation measures

- In the face of increasing menace of hazards, mitigation would remain the key and the most effective strategy to reduce the risks of these hazards. District has to decide its own mitigation strategy according to its own risks, resources and capabilities. Broadly such strategies would be twofold: structural and non-structural.
- Structural mitigation measures generally refer to capital investment on physical constructions or other development works, which include engineering measures and construction of hazard resistant and protective structures and other protective infrastructure. Non-structural measures refer to awareness and education, policies techno-legal systems and practices, training, capacity development etc.

3.2.1 Manmade Disaster

Manmade disasters are unpredictable and can spread across geographical boundaries. Some disasters in this class are entirely manmade while other may occur because of natural disasters, equipment failures, or workers having inadequate training or fatigue and make errors.

Technological disasters include a broad range of incidents. Routes of exposure through water and food, airborne releases, fires and explosions, and hazardous materials or waste (e.g., chemical, biological, or radioactive) released into the environment from a fixed facility or during transport. Fires, explosions, building or bridge collapses, transportation crashes, dam or levee failures, and breaks in water, gas, or sewer lines are other examples of technological disasters.

The structural and non-structural prevention/mitigation measures for the industrial (chemical) disaster are mentioned below;

3.2.2 Natural Disasters

- The State approach for disaster prevention and mitigation will be multi-hazard as it is vulnerable to all-major natural hazards such as Drought, Flood, Storm, Earthquake, Landslide, Fire, Peat Attack, Wild animals attack etc. due to its geo-climatic, geological and physical features as described in detail in previous chapter.
- There are several prevention/mitigation activities which will be common for natural hazards (as discussed in previous chapter). The same are describe below. Hazard specific measures are mentioned thereafter in the chapter.

All Hazard structural & non structural measures

Sl. No.	Task	Activities	Responsibility
Structural Measure			
1	Land use planning	1. Land use planning of the State in view of hazard, risk and vulnerability of the State	<ul style="list-style-type: none"> • Revenue Deptt. • Land Resource & Survey Deptt.
		1. To ensure development schemes of the State are undertaken in view of hazard, risk, vulnerability and microzonation	<ul style="list-style-type: none"> • Planning Deptt. • Deptt. Of RD and UD • DDMA
2	Mainstreaming Disaster Management in development programmes	1. Ensure that each development programme /scheme in the State should be sanctioned/undertaken only if it meets the requirement of disaster management	<ul style="list-style-type: none"> • Planning Deptt. • Municipal/ Town Committee • Deptt. Of RD and UD • Line Deptt.
		2. Ensure the programme/ scheme/ project is facilitated with the provision for adequate funds of disaster management	<ul style="list-style-type: none"> • Line Deptt.
3	Adaption of new technology	1. Application of Science and technology and engineering inputs to improve infrastructures including dams and reservoirs, building design, construction , etc.	<ul style="list-style-type: none"> • IT Deptt. • Line Deptt.
4	Tech-legal Regime	1. Review and revision of building by laws	<ul style="list-style-type: none"> • UD Deptt.
		1. Review and revision of town planning Act & Rules	<ul style="list-style-type: none"> • UD Deptt.
		2. Ensure strict implementation of Code and Rules	<ul style="list-style-type: none"> • DDMA • UD Deptt.
		3. Monitoring of quality construction	<ul style="list-style-type: none"> • DDMA. • UD Deptt. • Line Deptt.
5	Safety Audit	1. Carrying out structural safety audit of all critical lifeline structures	<ul style="list-style-type: none"> • Deptt. Of UD and RD • Line Deptt.
6	Capacity Building	1. Construction/Strengthening of EOC/ERC at all level	<ul style="list-style-type: none"> • DDMA
Non-Structural Measures			

Sl. No.	Task	Activities	Responsibility
1.	Planning	<ol style="list-style-type: none"> 1 Prepare Multi hazard disaster management plan <ul style="list-style-type: none"> • Prepare hazard wise contingency planning • Ensure hazard wise departmental action plan and SOP • Conduct mock drills at regular intervals • Update the plan as per the requirement • Monitor similar activities at district & taluka level 	<ul style="list-style-type: none"> • DDMA • Line Deptt.
2	Capacity Building	<ol style="list-style-type: none"> 1. Develop multi-hazard IEC material for Publication & Distribution 2. Media campaign for awareness generation in general public 3. Organize training programmes, seminars and workshops 4. Include disaster related topics in curriculum 5. Encourage disaster insurance 6. Encourage favourable taxation/incentive 	<ul style="list-style-type: none"> • DDMA • PR Deptt. • HG & CD
3	Community based Disaster Management	<ol style="list-style-type: none"> 1. Strengthening capacity of local self government entities to understand local vulnerability and risk, disaster prevention needs, preparedness and response capabilities through participatory approach 	<ul style="list-style-type: none"> • DDMA • Municipal/Town/Ward members • VC/VDB • VDMA

3.2.2.1 Earthquake

In most earthquakes, the collapse of structures like houses, schools, hospitals and public buildings results in the widespread loss of lives and damage. Nagaland being located in the highest earthquake prone area, measures for reduction of losses in terms of lives and properties have been envisaged. It is advisable that the structures in earthquake-prone areas built in accordance with earthquake-resistant construction techniques. The earthquake specific mitigation activities are described below

Structural & Non-Structural Measures

S. No.	Task	Activities	Responsibility
Structural Measures			
1	Micro-zonation	<ol style="list-style-type: none"> 1. To undertake micro zonation study according to priority area 2. To provide or make available seismic microzonation map 	<ul style="list-style-type: none"> • Deptt. Of Geography/ Geology, NU • GIS
		<ol style="list-style-type: none"> 3. Provide vulnerability and risk assessment map 	<ul style="list-style-type: none"> • Deptt. Of Geography/ Geology, NU • GIS
2	Earthquake Resistance Design for different earthquake zones	<ol style="list-style-type: none"> 1. To develop earthquake resistant design features for the construction of public utility structures 2. To develop earthquake resistant design features for the construction of residential structures 3. To provide earthquake resistant design for incorporating in different types of structures to the line departments 	<ul style="list-style-type: none"> • PWD/PHED/UD/RD/ MUNICIPAL TOWN COUNCIL. • PWD • PWD/PHED/UD
3	Retrofitting of existing structure	<ol style="list-style-type: none"> 1. Create a database of existing structure in the State A. Public B. Private 2. Identify the available resources 3. Identify structures that require retrofitting 4. Prepare a scheme/programme for retrofitting 5. Identification and removal of unsafe buildings/structure 	<ul style="list-style-type: none"> • GIS • PWD • PWD • GIS/PWD • DDMA/PWD • MUNICIPAL TOWN COUNCIL
4	Monitoring of seismic activities	<ol style="list-style-type: none"> 1. Establish seismological network and round the clock monitoring 2. Dissemination of information and reporting 3. Conduct seismological research 	<ul style="list-style-type: none"> • DDMA • DEOC • Deptt. Of Geography
Non Structural Measures			

1	Capacity Building	<ol style="list-style-type: none"> 1. Departmental earthquake contingency plan 2. Ensure earthquake related departmental action plan and SOP 3. Include earthquake engineering topics in curriculum 4. Provide professional training about earthquake resistance construction to engineers and architects 5. Provide training to masons. 6. Encourage soil and material testing in laboratories 	<ul style="list-style-type: none"> • LINE DEPARTMENTs • -do- • DEPARTMENT OF EDUCATION. • ATI • MASTER TRAINERs/TOTs • DEPARTMENT OF GEOLOGY
2	Awareness	<ol style="list-style-type: none"> 1 To disseminate earthquake risk to general public residing in earthquake prone zones 2 Campaign for Earthquake safety tips 	<ul style="list-style-type: none"> • IPR • DDMA

3.2.2.2 Landslides

The unstable and evolution of young folded terrain in the State of Nagaland have faced with numerous sinking of land and landslides. Landslide is a major occurrence in Nagaland especially triggered by heavy rainfall during the monsoon season every year. Damaged to house, infrastructure and livelihood is a common calamity that is observed in the State. Some of the measures to be taken up to mitigate the impact are described as below:

Structural & Non-Structural Measures

S. No	Task	Activities	Responsibility
Structural Measures			
1	Micro-zonation	<ol style="list-style-type: none"> 1. To undertake micro zonation study according to priority area 2. To provide or make available landslide microzonation map 	<ul style="list-style-type: none"> • Deptt. Of Geology, NU • GIS
		<ol style="list-style-type: none"> 1. Provide vulnerability and risk assessment map 2. To develop landslide data 	<ul style="list-style-type: none"> • Deptt. Of Geology, NU • GIS
2	Infrastructure Development	1. Construction of retaining walls, Brace Walla, Drainage, Culvert, Terracing, Land slopping, etc.	<ul style="list-style-type: none"> • BRO • PWD
		2. Matting, Planting deep rooted plants, other method for preventing landslides	<ul style="list-style-type: none"> • BRO/ PWD • Forest Deptt
		3. Temporary shelter	<ul style="list-style-type: none"> • RD Deptt.
		4. Construction of missing roads and bridges in cyclone prone areas	<ul style="list-style-type: none"> • BRO/ PWD

		5. Strengthening/repair of existing roads and bridges in cyclone prone areas.	<ul style="list-style-type: none"> • BRO/ PWD
3	Landslide Proofing	1. Specific building by laws for landslide area	<ul style="list-style-type: none"> • UD Deptt.
4	Techno-legal regime	1. Enactment and enforcement of laws regulating developmental activities in landslide area.	<ul style="list-style-type: none"> • UD Deptt • Municipal/Town Councils.
			•
			•
			•
			•
			•
			•
4	Monitoring of seismic activities	<ol style="list-style-type: none"> 1. Establish seismological network and round the clock monitoring 2. Dissemination of information and reporting 3. Conduct seismological research 	<ul style="list-style-type: none"> • DDMA • SEOC • Deptt. Of Geography
Non Structural Measures			
1	Capacity Building	<ol style="list-style-type: none"> 7. Departmental earthquake contingency plan 8. Ensure earthquake related departmental action plan and SOP 9. Include earthquake engineering topics in curriculum 10. Provide professional training about earthquake resistance construction to engineers and architects 11. Provide training to masons. 12. Encourage soil and material testing in laboratories 	<ul style="list-style-type: none"> • LINE DEPARTMENTs • DEPARTMENT OF EDUCATION. • ATI • MASTER TRAINERS/TOTs • DEPARTMENT OF GEOLOGY
2	Awareness	<ol style="list-style-type: none"> 3 To disseminate earthquake risk to general public residing in earthquake prone zones 4 Campaign for Earthquake safety tips 	<ul style="list-style-type: none"> • IPR • NSDMA
3	Evacuation & rehabilitation	1. Identification of site for rehabilitation	<ul style="list-style-type: none"> • PWD
		2. Escape route mapping	<ul style="list-style-type: none"> • GIS
		3. Temporary shelter	<ul style="list-style-type: none"> • RD Deptt.
		6. Relief	<ul style="list-style-type: none"> • DDMA

3.2.2.3. Storm

High winds, storm surges and very heavy rainfall having its own impact on human and livestock, with their course of action. Of these, storm and heavy rainfall are responsible

for major lives, properties and livelihood. The mitigation measures are described as below;

Structural & Non-Structural Measures

S. No.	Task	Activities	Responsibility
Structural Measures			
1	Shelterbelt	1. Shelterbelt plantation and afforestation	<ul style="list-style-type: none"> • Forest deptt.
2	Providing temporary Shelters	1. Construction of temporary shelters in storm prone areas.	<ul style="list-style-type: none"> • RD Deptt.
3	Strengthening of infrastructure	1. Construction of public utilities	<ul style="list-style-type: none"> • PWD • Line Deptt.
4	Forecasting and Warning	1. Strengthening and Upgradation of existing storm forecasting system 2. Establish infrastructure for storm warning and dissemination of information 3. Develop specific warning dissemination system.	<ul style="list-style-type: none"> • SEOC • IPR Deptt.
Non-Structural Measures			
1	Capacity building	1. Departmental storm contingency plan 2. Storm related departmental action plan and SOP 3. Imparting training to the stakeholders involved in storm mitigation and mgt.	<ul style="list-style-type: none"> • NSDMA • Line Deptt. • HG&CD
2	Awareness	1. Disseminate storm risk to general public 2. Campaign for storm safety tips	<ul style="list-style-type: none"> • DDMA • IPR/Media

3.2.2.3 Flash flood

Flash floods and flood is not uncommon natural disaster in Nagaland though 94% is a hilly area. It experience flash flood and floods during the heavy rainfall season, and flood being a major disaster in the foothills and plain areas. In order to cope up with the problem, a need to take effective and sustained mitigation measures is required. Various measures, structural and non-structural, have been described below;

Structural & Non-Structural Measures

S. No.	Task	Activities	Responsibility
Structural Measures			
1	Construction	<ol style="list-style-type: none"> 1. Improvement of design for irrigation and flood protective structures 2. Construction of flood protection wall, flood diverting channels, drainage system etc. 3. Strengthening/repair of existing roads and bridges and other critical infrastructure in flood plains. 4. Strengthening of dams and canals. 	<ul style="list-style-type: none"> • Flood & Irrigation Deptt. • PWD
2	Development of catchment area	<ol style="list-style-type: none"> 1. Development of catchment area of the flood plain <ul style="list-style-type: none"> ○ Forestation ○ Land sloping ○ Small reservoirs/Check dams/ponds etc. 	<ul style="list-style-type: none"> • Flood & Irrigation Deptt. • Wasteland Deptt.
3	Flood Proofing	<ol style="list-style-type: none"> 2. Specific building by laws for flood plains 	<ul style="list-style-type: none"> • Flood & Irrigation Deptt.
4	Techno-legal regime	<ol style="list-style-type: none"> 1. Enactment and enforcement of laws regulating developmental activities in flood plain 	<ul style="list-style-type: none"> • Flood & Irrigation Deptt.
5	Forecasting and Warning	<ol style="list-style-type: none"> 1. Strengthening and Upgradation of existing Flood forecasting system 2. Establish infrastructure for flood warning and dissemination. 	<ul style="list-style-type: none"> • Flood & Irrigation Deptt.
Non-Structural Measures			
1	Capacity building	<ol style="list-style-type: none"> 1. Departmental flood contingency plan 2. Flood related departmental action plan and SOP 3. Imparting training to the stakeholders involved in flood mitigation and management. 	<ul style="list-style-type: none"> • DDMA • Line Deptts. • HG&CD
2	Awareness	<ol style="list-style-type: none"> 1. Disseminate flood risk to general public residing in flood prone zones 2. Campaign for Flood safety tips 	<ul style="list-style-type: none"> • IPR Deptt. • Flood & Irrigation Deptt.
3	Review of rules	Review of operational rules for reservoirs	<ul style="list-style-type: none"> • NSDMA/ Flood & Irrigation Deptt.

3.2.2.4 Drought

It is very difficult to prevent droughts, usually because it is caused by lack of rainfall due to climatic change, which is beyond our control. However, by taking effective mitigation

measures effect of drought can be minimized. The drought prevention measures are given below;

Structural & Non-Structural Measures

S. No.	Task	Activities	Responsibility
Structural Measures			
1	Construction	<ol style="list-style-type: none"> 1. Construction of dams, reservoirs, lift irrigation, tube wells and canals for surface irrigation 2. Construction of percolation tanks, check dams, farm ponds, etc. 3. Construction of warehouses and cold storages for preservation/storage of food grains. 	<ul style="list-style-type: none"> • Flood & Irrigation Deptt. • Food supply Deptt.
2	Repairs, upgradation and strengthening	<ol style="list-style-type: none"> 1. Repairs, upgrading and strengthening of dams, reservoirs, lift irrigation and canals for surface irrigation 2. Repairs, upgrading and strengthening of percolation tanks, check dams, farm ponds, etc. 	<ul style="list-style-type: none"> • Flood & Irrigation Deptt.
3	Techno-legal regime	<ol style="list-style-type: none"> 1. Enactment and enforcement of laws regulating ground water level and exploitation of natural recourses 	<ul style="list-style-type: none"> • Flood & Irrigation Deptt.
4	Adaption of new technology	<ol style="list-style-type: none"> 1. Application of advanced Agro-Science technology and agro-engineering inputs to improve agriculture production 	<ul style="list-style-type: none"> • Flood & Irrigation Deptt. • Agriculture Deptt.
5	Forecasting and Warning	<ol style="list-style-type: none"> 1. Strengthening and Upgradation of existing Drought forecasting system 2. Establish infrastructure for drought warning and dissemination. 	<ul style="list-style-type: none"> • Flood & Irrigation Deptt. • IPR Deptt.
Non-Structural Measures			
1	Capacity building	<ol style="list-style-type: none"> 1. Departmental drought contingency plan 2. drought related departmental action plan and SOP 3. Imparting training to the stakeholders involved in drought mitigation and management. 4. Encourage people to use advance technology of drip and sprinkler irrigation 5. Encourage water harvesting 6. Encourage farmers to understand crop pattern to be adopted in their area 	<ul style="list-style-type: none"> • Flood & Irrigation Deptt. • HG&CD • Agriculture Deptt.

S. No.	Task	Activities	Responsibility
		7. Rational use of fertilizers and pesticides 8. Encourage the adaptation of technique for preservation of green fodder	
2	Awareness	1. Disseminate drought risk to general public residing in drought prone zones 2. Campaign for drought tips for agriculture, general public and industries	<ul style="list-style-type: none"> • Flood & Irrigation Deptt. • IPR Deptt.

Note: Plan will be forwarded to concern State departments and asked to prioritize and implement preventive and mitigation measures derived in the plan.

Preparedness Measures

4.1 Resource Availability

IDRN is in the process of compilation for the District of Wokha.

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, data updation 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.

4.2 Community First Responder (CFR)

- Community is not only the victim but invariably the first responder in any disaster
- Any disaster revolves around the coping capacity of the community
- Therefore, community should be closely associated with prevention, mitigation, preparedness, training, capacity building, response, relief, recovery i.e. short term and long term, rehabilitation and reconstruction.

Task	Activity	Responsibility
Community Preparedness	1. Selecting vulnerable community and most vulnerable groups at risk (keep gender issues in mind)	<ul style="list-style-type: none"> • DDMA • HG& CD • CBOs
	2. Disseminate information about vulnerability and risk to the community	
	3. Promote local level disaster risk management planning through participatory approach	
	4. Advice and issue direction wherever necessary for community disaster prevention, mitigation and preparedness through local	

Task	Activity	Responsibility
	resources and participatory approach	
	5. Provide necessary resources and support for disaster risk reduction at community level	
	6. Promote community managed implementations	
	7. Review the preparedness at community level	
	8. Take appropriate actions to enhance community preparedness	
	9. Promote community education, awareness and training	
	10. Ensure fail safe mechanism for timely dissemination of forecasting and warning of impending disaster to the community	
	11. Disseminate information to community to deal with any disaster situation	

4.3 Knowledge Management

Task	Activity	Responsibility
Knowledge Management	<ul style="list-style-type: none"> - Documentation of disasters and to make it available in easy accessible format - Undertake research studies and application of outcomes in disaster management practices <ul style="list-style-type: none"> - Documenting field data, experience and indigenous technological knowledge from local community - Development of plan by using available resources like IDRN, etc. - Sharing of data/information/reports/proceeding through consultation meeting/seminars etc. - Use of Information and communication technology at disaster management centres, state, district, sub-division, village EOCs. 	<ul style="list-style-type: none"> • DDMA • Education Deptt.. • DEOC

4.4 Communication

Task	Activity	Responsibility
Fail safe	- Undertake study to establish fail safe two way	• IT Deptt.

Task	Activity	Responsibility
communication and last mile connectivity	<p>communication – information system from state level to disaster site connecting state, district, sub-division and city level.</p> <ul style="list-style-type: none"> - Undertake study to establish alert/siren with multi-lingual recorded messages in coastal areas - To procure the system and run a pilot project - Establishment of multiple/alternative system - Training/IEC campaign for general public of the vulnerable areas. - Plan for re-establishment of disrupted system 	<ul style="list-style-type: none"> • IPR Deptt.
Plan testing	<ul style="list-style-type: none"> - Provide copy of the plan to each stakeholder - Organize mock drills and rehearsal for plan testing - Lesson learnt through mock drill; identification of gaps through feedbacks and modification of plan - Organize annual mock drill and updation of plan 	<ul style="list-style-type: none"> • DDMA

Disaster Response

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 resources (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 DDMA of the District is responsible 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 and other control rooms at the District level as well as district control rooms should be activated with full strength.

5.1 Institutional Arrangements

Under this District Disaster Management Plan, all disaster specific mechanisms would come under a single umbrella allowing for attending to all kinds of disasters. The existing arrangements therefore will be strengthened by defining this administrative arrangement. This arrangement proposes Deputy Commissioner as the head supported by the Additional Deputy Commissioner through the branch arrangements at the Emergency Operations Centres (EOC), District level.

The detail on the disaster response structure is mentioned in *Para 9* in chapter 1.

5.1.1 Emergency Operations Centre

Emergency Operation Center (EOC) is a physical location and normally includes the space, facilities and protection necessary for communication, collaboration, coordination and emergency information management.

DDMA is in process of developing a comprehensive network for effective disaster management which includes emergency communication, operation and response management. The network extends to District, sub-division and the local incidence point

with a well defined control and coordination structure supported with adequate and appropriate Information and Communication Technology (ICT) resources tools.

The emergency network will work in all circumstances in synchronisation with the dynamics of “type of emergency”. This network includes 11 District Emergency Operation Centers (DEOCs).

The EOC will be the hub of activity in a disaster situation. This is however, not to underestimate its normal time activities. The EOC, the key organizational structure, is flexible to expand when demand increases, and contracts when the situation comes to normal.

5.1.1.1 Activation of EOC

The EOC is a nodal point for the overall coordination and control of relief work. In case of an L1 Disaster the DEOC will be activated, in case of an L2 disaster SEOC will be activated along with the DEOC.

5.1.1.2 The primary function of an EOC

- Receive, monitor, and assess disaster information.
- Keep track of available resources.
- Monitor, assess, and track response units and resource requests.
- Manage resource deployment for optimal usage.
- Make policy decisions and proclaim local emergencies as needed.
- Provide direction and management for EOC operations through Standard Operations Guide (SOG), set priorities and establish strategies.
- Coordinate operations of all responding units, including law enforcement, fire, medical, logistics etc.
- Augment comprehensive emergency communication from EOC to any field operation when needed or appropriate.
- Maintain EOC security and access control.
- Provide recovery assistance in response to the situations and available resources
- Keep senior, subordinate and tenant officials informed.
- Keep local jurisdictions (Village/town/City, district and State) informed.
- Operate a message center to log and post all key disaster information.
- Develop and disseminate public information warnings and instructions.
- Provide information to the news media.
- Manage donation / aids.

5.1.1.3 Command & Control of EOCs

The EOC, its system, and procedures are designed in such a way that information can be promptly assessed and relayed to concerned parties. Immediate dissemination of information contributes to quick response and effective decision-making during emergency. Being the main coordination and control point for all disaster specific efforts, the EOC is the place of decision-making, under a unified command.

The EOC in normal circumstances will work under the supervision of Deputy Commissioner at the State level and under the Deputy Commissioner at the district level. It is the nerve centre to support, co-ordinate and monitor the disaster management activities at the district level. In a disaster situation, the EOC will come under the direct control of Deputy Commissioner or any other person designated by the Deputy Commissioner as Chief of Operations.

5.2 Alert Mechanism – Early Warning

On the receipt of warning or alert from any such agency which is competent to issue such a warning, or on the basis of reports from Deputy Commissioner of the occurrence of a disaster, the response structure of the State Government will be put into operation. The Chief Secretary/Home Commissioner will assume the role of the Chief of Operations during the emergency situation.

The details of agencies competent enough for issuing warning or alert pertaining to various types of disasters are given below;

Disaster	Agencies
Earthquakes	NSDMA
Flash floods/Floods	Flood & Irrigation Deptt.
Landslides	GSI
Storms	NSDMA
Drought	Flood & Irrigation Deptt.
Road accident	Traffic Unit, police Deptt.
Wild animal attack	Forest/Agriculture Deptt.
Fire	Fire & Emergency Service Deptt.

5.2.1 The occurrence of the disaster will be communicated to

At District Level:

- Deputy Commissioner, Superintendent of Police, DDMA, F&EC, HG&CD, DEOC

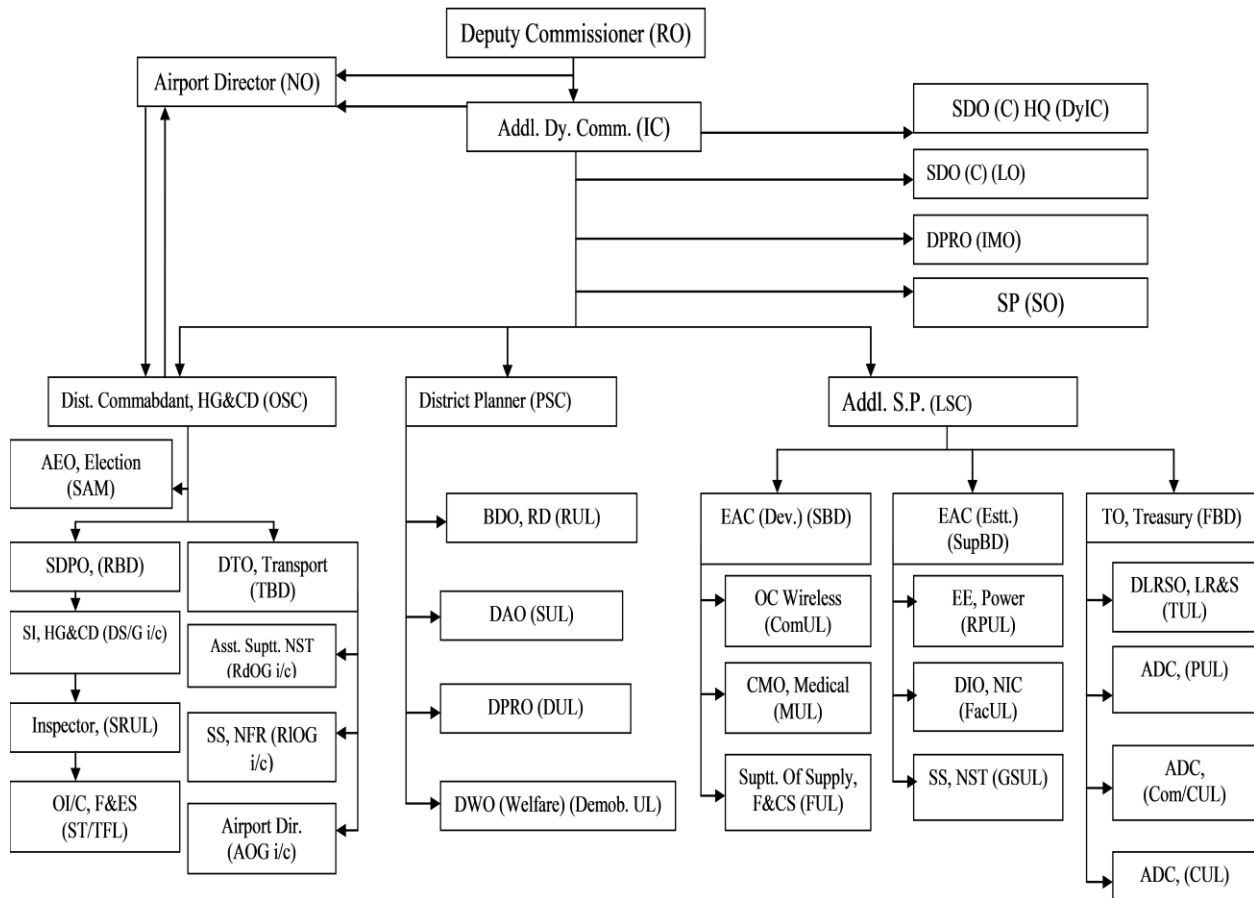
5.2.2 The occurrence of the disaster would essentially bring into force the following:

- The EOCs will be put on full alert and expanded to include Branch arrangements, with responsibilities for specific tasks, depending on the nature of disaster and extent of its impact. The number of branches to be activated will be decided by the Chief of Operations. i.e. the Deputy Commissioners at the District level.
- All Branch Officers and Nodal Officers will work under the overall supervision and administrative control of the Chief of Operations. All the decisions taken in the EOC have to be approved by the Chief of Operations.
- Immediate access to the disaster site through various means of communications such as mobiles, VSAT, wireless communication and hotline contact.

The EOCs in its expanded form will continue to operate as long as the need for emergency relief and operations continue and the longer term plans for rehabilitation are finalised. For managing long-term rehabilitation programmes, such as reconstruction of houses, infrastructure and other social amenities, the responsibilities will be that of respective line departments through a well structured R & R Programme. This will enable EOCs to attend to other disaster situations, if the need be.

5.3 Incident Respond System

INCIDENT RESPONSE TEAM STRUCTURE AT DISTRICT LEVEL



5.3.1 INCIDENT RESPONSE SYSTEM (IRS):

The Indian adapted version of Incident Command System (ICS) is called Incident Response System (IRS), whereas the functions remaining more or less the same.

- **IRS is a mechanism which reduces adhocism in response through a well conceived team.**
- **It incorporates all the tasks that may need to be performed during the response.**
- **It identifies and pre-designates officers to perform various duties and get them trained in their roles.**
- **It is a flexible system and only those Sections / Branches may be activated in the team which is required to meet the disaster situation.**

Functional Responsibilities:

1. Responsible Officer- Primarily responsible for effective response.
2. Command- Overall in-charge of Incident Response Team and its effective functioning.
3. Operations- Direct and supervise all Tactical actions.
4. Planning- Collect/ Analyze data, workout need of required resources and prepare action plan.
5. Logistics & Finance- Provide Logistic support, Procurement and Cost Accounting.

Features of IRS:

1. Management by objectives & incident action plan.
2. Flexibility
3. Span of Control
4. Multi tasking
5. Accountability
6. Resource Management
7. Common terminology
8. Unity of command & Chain of command
9. Transfer of command
10. Unified Command
11. Medical Plan
12. Communication Plan

5.3.2 IRS Positions and suitable Officers at District level:

Sl. No.	IRS Position	Suitable Officer
1	Incident Commander	Addl. Deputy Commissioner
2	Deputy Incident Commander	Sub Divisional Officer (Civil), Head Quarter
3	Information & Media Officer	District Commandant, HG&CD (CO, DEOC)
4	Safety Officer	Dy. Superintendant of Police
5	Liaison Officer	District Public Relation Officer
6	Operation Section	Addl. Superintendant of Police
7	Planning Section	Addl. DC/ SDO(C), Sadar
8	Logistic Section	Extra Asst. Commissioner (Estt.)
9	Relief Operation Section	Extra Asst. Commissioner (Dev.)

Sl. No.	IRS Position	Suitable Officer
Operation Section		
1	Operation Section Chief	Addl. Superintendant of Police
2	Staging Area Commander	Asst. Election Officer
3	Response Branch Director	Sub Division Police Officer
4	Division Supervisor/ Group I/C	Sub Inspector, HG&CD
5	Task Force/ Strike Team	Officer Incharge, Fire & Emergencies Service
6	Single Resource Unit	Inspector, Police
7	Transportation Unit	District Transport Officer, NST
I	Road Group I/C	Asst. General Manager, NST
Ii	Vehicle Coordinator	Motor Vehicle Inspector
Iii	Loading and unloading I/C	District Labour Officer

Sl. No.	IRS Position	Suitable Officer
Planning Section		
1	Planning Section Chief	Addl. DC/ SDO(C), Sadar
2	Resource Unit	Block Development Officer
3	Check-in Status Recorder	District Statistical Officer
4	Situation Unit	District Evaluation Officer
5	Display Processor	Agriculture Officer
6	Field Observer	Officer from Para-military
7	Weather Observer	District Soil & Water Conservation Officer
8	Documentation Unit	Information Officer, DPRO
9	Demobilization Unit	District Planning Officer
10	Technical Specialist	Asst. Information Officer, NIC

Sl. No.	IRS Position	Suitable Officer
Logistic Section		
1	Logistic Section Chief	Extra Asst. Commissioner (Estt.)
2	Service Branch Director	Dy. District Education Officer
3	Communication Unit	Dy. Superintendant of Police, NPTO
4	Medical Unit	Deputy Chief Medical Officer
5	Support Branch Director	Principal, District Govt. College
6	Resource Provisioning Unit	Sub-Divisional Officer, Power
7	Facility Unit	Chairman, Chamber of Commerce
8	Ground Support Unit	Youth Resource Officer

9	Time Unit	Land Record & Survey Officer
10	Procurement Unit	DDMA
11	Cost Unit	DDMA
12	Finance Branch	Treasury Officer

Sl. No.	IRS Position	Suitable Officer
Relief Operation Section		
1	Relief Operation Section Chief	Extra Asst. Commissioner (Dev.)
2	Food Unit	Inspector of Supply, Food & Civil Supplies
3	Non-food Materials Unit	Child Development Project Officer
4	First Aid Unit	Medical Officer
5	Shelter Unit	Jr. Engineer, PWD (Housing)
6	Godown/ Storage Unit	Sub-Inspector of Supply
7	Compensation/ Claims Unit	DPO/DMO, DDMA
8	WatSan Unit	Jr. Engineer, PHED

** As soon as disaster strikes, all the DDMA members are to be reported to District Emergency Operation Centre (DEOC).

5.4 Search & Rescue

The first priority in the aftermath of a disaster is to minimise loss of lives by undertaking rescue efforts for the affected people and providing medical treatment. People who are trapped under destroyed buildings or are isolated due to any disaster need immediate assistance.

The Deputy Commissioner, in conjunction with local authorities will be responsible for the search and rescue operations in an affected region. In doing so, the Deputy Commissioner will be guided by relevant disaster management plans and will be supported by Government departments and local authorities.

5.5 Coordination with Armed Forces

As described earlier, for the management and control of the adverse consequences of any disaster will require coordinated, prompt and effective response systems at the district and the community levels.

The Armed Forces shall be called upon to assist the Civil administration only when the situation is beyond the coping capability of the District.

5.6 Subsistence, shelter, health and sanitation

Disasters can disrupt food supply, water supply and sanitation mechanisms. They may also force people to abandon their houses, either temporarily or permanently. Such situations typically result in an immediate need for shelter and protection against an incidence of epidemic.

The relevant Government departments and local authorities would provide temporary shelter, health and sanitation services to rescued victims in order to prevent an outbreak of disease as described in preparedness chapter.

5.7 Infrastructure and essential services

Disasters can cripple the infrastructure of the District in terms of roads, public buildings, airfields, ports, communication network etc. An immediate priority after a disaster is to bring the basic infrastructure into operating condition and deal with fires and other hazardous conditions that may exist in the aftermath of the disaster.

The local authorities would work in close coordination with relevant Government departments like R&B, Police etc. to restore infrastructure to normal operating condition.

5.8 Security

Usually, in a disaster situation, the police and security personnel are preoccupied with conducting search and rescue missions. Some people could take advantage of the situation and resort to looting and other anti-social activities. Consequently, it is necessary that security agencies functioning under the administrative control of the district authorities be geared to prevent this and provide a sense of security to citizens. Deputy Commissioners may invoke special powers vested in him/ her by GoN, if existing powers regarding the same are inadequate.

5.9 Communication

The DC, the district administration and local authorities would communicate to the larger community the impact of the disaster and specific activities that are being or need to be undertaken to minimize the impact. Some of these activities could include:

- Media management/ PR: To ensure precise communication of the impact of disaster and relief measures being taken and generate goodwill among community and other stakeholders;
- Community management: This includes communicating to the affected communities with a view to preventing panic reactions, while providing relevant information and handling welfare enquiries;

- Feedback mechanisms: Using various mechanisms, including the communication network to get feedback on relief measures and urgent needs of various agencies involved in emergency relief measures and relief.

5.10 Preliminary damage assessment

In the aftermath of a disaster, the district administration and local authorities receive simultaneous requests for assistance from scores of people and the resources at the disposal of the local administration are over-stretched. Hence, it is necessary to utilize and deploy the resources in the most efficient manner. Such deployment is not possible without undertaking a preliminary damage assessment. Once a disaster strikes, the Government departments and the local authorities shall carry out a preliminary ‘need and loss assessment’ and the district administration shall mobilize resources accordingly.

5.11 Funds generation

Funds may be available through the State Disaster Response Fund (Detail regarding funding of SDRF is described in chapter 1). However, these funds may not be adequate to meet disaster management requirements in the aftermath of large-scale disasters. In such circumstances, the GoN shall explore additional sources of funding through NDRF, aid, grants, loans etc., as identified in the pre-disaster phase.

5.12 Finalizing relief payouts and packages

Relief packages would include details relating to collection, allocation and disbursement of funds to the affected people. Relief would be provided all the affected families without any discrimination of caste, creed, religion, community or sex whatsoever. It will be given out as per the SDRF norms of assistance.

5.13 Post-relief assessment

DDMA, with assistance from Government departments, district administration and local authorities will document learning from the relief experience, which can be inputs into further mitigation, relief or rehabilitation and reconstruction plans.

Media Management

The role of media, both print and electronic, in informing the people and the authorities during emergencies, becomes critical, especially the ways in which media can play a vital role in public awareness and preparedness through educating the public about disasters; warning of hazards; gathering and transmitting information about affected areas; alerting government officials, helping relief organizations and the public towards specific needs; and even in facilitating discussions about disaster preparedness and response. During any emergency, people seek up-to-date, reliable and detailed information.

Partnership with Other Stakeholders

Disaster Management is an inclusive field and requires contribution from all stakeholders in order to effectively manage the emergency situation. Coordination amongst various stakeholders hence becomes extremely important to achieve the desired results.

There are various agencies / organizations / departments and authorities that constitute a core network for implementing various disaster management related functions / activities. It also includes academic, scientific and technical organizations which have an important role to play in various facets of disaster management. A brief note on the role and activities of such functionaries and the existing system of coordination established by the State Government with them is mentioned below.

6.1 Nagaland State Disaster Management Authority (NSDMA)

- **Nagaland State Disaster Management Authority** abbreviated as **NSDMA** is a government agency, runs under Ministry of Home Affairs (India).
- It aims to coordinate response to natural or man-made disasters and for capacity-building in disaster resiliency and crisis response in Nagaland state of India. NSDMA was established in the year 2011 under Home Department, Government of Nagaland.

Objectives

- To protect and minimize the loss of lives and property/infrastructure from disasters.
- To minimize the suffering of people due to disasters.
- To minimize the disaster risk and vulnerability of people and infrastructure in the State.
- Promote a culture of prevention and mitigation through curriculum revision, Information Education Communication (IEC) awareness campaign, DM plans at all level, mock drills, communicating hazards, risk and vulnerability at community level and streamlined and institutional techno-legal framework.
- To build the capacity of all stakeholders in the State to cope with the disasters and promote community based disaster management.
- Mainstreaming disaster management concerns into the developmental planning process.
- Develop efficient disaster response/relief mechanism in the State.
- To provide clarity on roles and responsibilities for all stakeholders concerned with disaster management.
- To ensure co-ordination and promoting productive partnership with all other agencies related to disaster management.
- Commence recovery programme as an opportunity to build better in case of a future disaster by incorporating community in the programme

6.2 State Disaster Response Force (SDRF)

- As per the provisions of the National Disaster Management Act, the District are being encouraged to create response capabilities from within their existing resources on similar pattern of NDRF.
- NSDMA, through the Home Department, has created 8 State Disaster Response Force (SDRF) teams, each having strength of 100 personnel with a total strength of 800 personnel, where 100 are women unit. Equipment have been procured for providing training and facilitating the SDRF. There are 5 Trainer of Trainees in the State supported by HG&CD at CTI in the State for the purpose of training the SDRF.

6.3 State Fire & Emergency Services

- The State Fire & emergency Services are crucial immediate responders during any disaster. They are the first responders (during the Golden Hour after a disaster) and hence play a vital role in saving lives and property immediately after a disaster.
- The State Government has therefore paid apt attention in equipping and strengthening the capacities of the Fire Services in responding to various disasters.
- Continuous training is also being provided to the fire staff in using and maintaining the equipment. Several officers of the rank of Chief Fire Officer are also sent to training organized by NIDM and other institutes of the Central Government from time to time.

6.4 Non Governmental Organization (NGO's)

NGOs are organizations that are nonprofit making, voluntary and independent of government, engaged in activities concerning various societal and developmental issues. The strong linkages which NGOs have with grass root communities can be effectively harnessed for creating greater public awareness on disaster risk and vulnerability, initiating appropriate strategies for strengthening the capacity of stakeholder groups to improve disaster preparedness, mitigation and improving the emergency response capacities of the stakeholders

6.5 Media

- Reducing the losses of life and property caused by natural hazards is a compelling objective now receiving worldwide attention. It is now being increasingly believed that the knowledge and technology base potentially applicable to the mitigation of natural hazards has grown so dramatically that it would be possible, through a concerted cooperative effort, to save many lives and reduce human suffering, dislocation, and economic losses simply by better information, communication and awareness.
- Timely mass media communication about impending disasters can lead to appropriate individual and community action, which is the key to implementing effective prevention strategies including evacuation and survival of people. Such communications can educate, warn, inform, and empower people to take practical steps to protect themselves from natural hazards.

- The role of media, both print and electronic, in informing the people and the authorities during emergencies thus, becomes critical, especially the ways in which media can play a vital role in public awareness and preparedness through educating the public about disasters; warning of hazards; gathering and transmitting information about affected areas; alerting government officials, helping relief organizations and the public towards specific needs; and even in facilitating discussions about disaster preparedness and response. During any emergency, people seek up-to-date, reliable and detailed information.

Rehabilitation & Reconstruction

Reconstruction and rehabilitation activities come under the post-disaster phase. Currently, the activities in this phase are primarily carried out by the local bodies (Village Council, District, Sub-division, Municipal Councils, Town Councils, etc.) and various Government departments and boards. However, their activities in this phase shall be in accordance with the reconstruction and rehabilitation plans framed by DDMA, in conjunction with implementing authorities.

The reconstruction and rehabilitation plan is design specifically for worst case scenario. It is activated in case of L3 type of disaster in which the capacity of District authorities have been overwhelmed and require assistance from the Central Government for re-establishing normalcy in the District.

The key activities in this phase are as below;

7.1 Detailed damage assessment

While a preliminary damage assessment is carried out during disaster phase, a detailed assessment must be conducted before commencing reconstruction and rehabilitation activities. The relevant Government departments and local authorities shall initiate detailed assessment at their respective level for damages sustained in housing, industry/services, infrastructure, agriculture, health/ education assets in the affected regions.

7.2 Assistance to restore houses and dwelling units

GoN may, if needed, will formulate a policy of assistance to help the affected to restore damaged houses and dwellings. This should neither be treated as compensation for damage nor as an automatic entitlement.

7.3 Relocation (need based)

The GoN believes that need-based considerations and not extraneous factors drive relocation of people. The local authorities, in consultation with the people affected and under the guidance of DDMA, shall determine relocation needs taking into account criteria relevant to the nature of the calamity and the extent of damage. Relocation efforts will include activities like:

- Gaining consent of the affected population
- Land acquisition
- Urban/ rural land use planning
- Customizing relocation packages
- Obtaining due legal clearances for relocation
- Getting the necessary authorization for rehabilitation
- Livelihood rehabilitation measures for relocated communities, wherever necessary

7.4 Finalizing reconstruction & rehabilitation plan

The effectiveness of any reconstruction and rehabilitation is based on detailed planning and careful monitoring of the relevant projects. DDMA will oversee reconstruction and rehabilitation work and ensure that it takes into account the overall development plans for the District. DDMA will approve reconstruction and rehabilitation projects based on:

- Identification of suitable projects by relevant departments;
- Project detailing and approval by the relevant technical authority.

7.5 Funds generation

Reconstruction & rehabilitation projects are fairly resource intensive. These projects have been financed in the past primarily through the state exchequer. In the recent past, funds have also been raised from international agencies. GoN shall finalise the fund generation mechanism, including the covenants and measures that govern fund inflow and disbursement and usage. This includes:

- Estimation of funds required based on detailed damage assessment reports and consolidation of the same under sectoral and regional heads;
- Contracting with funding agencies and evolving detailed operating procedures for fund flow and corresponding covenants.

7.6 Project management

Since rehabilitation and reconstruction effort typically involves the co-ordinated efforts of several entities, the GoN shall encourage the respective entities to strengthen program management capabilities to ensure that synergies across and within entities are managed efficiently. In addition, it is also necessary to constantly monitor the activity to ensure that the project is executed on time, in accordance with the technical specifications and to the satisfaction of the beneficiaries. DDMA, in conjunction with relevant Government departments, will monitor the reconstruction activity that is carried out by various implementation agencies. Typical implementation activities would include:

- Disaster proofing and retrofitting of houses;
- Creation/ Retrofitting of structures – including roads, bridges, dams, canals etc that may have been destroyed/ damaged due to the disaster;
- Restoration of basic infrastructure facilities, for example, ports, power stations etc.;
- Creation of health centres, first aid centres, hospitals, groups of doctors and surgeons etc.;
- Restoration of the industrial viability of the affected area.;
- Restoration of livelihood.

7.7 Information, Education and Communication

Communication activities are necessary to convey to the larger community the scope and nature of the proposed reconstruction and rehabilitation effort so as to increase the stakeholder

awareness and buy-in for the ongoing activities. Hence, DDMA and relevant Government departments, district administration and local authorities shall undertake:

- Ongoing media management/ Public Relations: To ensure accurate communication of the reconstruction and rehabilitation measures being taken to various stakeholders;
- Community management: This includes communicating to the affected communities with a view to appraising them of efforts being made for their relocation/ rehabilitation/ reconstruction;
- Feedback mechanisms: Using the communication network to get feedback on reconstruction and rehabilitation measures.

7.8 Dispute resolution mechanisms

DDMA, in conjunction with relevant agencies, shall institutionalize mechanisms to address beneficiary grievances at various levels, as well as explore innovative ways of dispute minimisation like involving the community in reconstruction initiatives. Appropriate mechanism with penalties for dealing with false claims will be evolved to prevent misuse of assistance.

Plan Maintenance

8.1 Introduction

Plan maintenance is a dynamic process of updating the plan on a periodic basis. The back-bone of maintaining the plan is carrying out mock drills and updating the plan based on the lesson learnt as an outcome of the mock exercise which consists of identifying the gaps and putting in place a system to fill the same.

8.2 Plan Testing

The Deputy Commissioner, shall prepare, review and update District Disaster Management Plan as provided for in the NSDMA Act (Section 22 (1) (C)). He shall also ensure that disaster management drills and rehearsals are carried out periodically.

While updating the plan the following aspects need to be considered by the Deputy Commissioner every year:

- i) Critical analysis of the outcome of exercises & mock drills as part of plan testing.
- ii) Incorporation of lessons learnt in the updated plan as an outcome of mock exercises through identification of gaps and measures to fill them.

The plan must be thoroughly tested and evaluated on a regular basis once in a year. The plan testing should preferably be organized on the first Monday in the months of March every year.

After plan testing and incorporation of lesson learnt, the Deputy Commissioner should send a copy of the revised and updated plan to the following officials:

- (a) Hon'ble Chief Minister, Government of Nagaland
- (b) Chief Secretary, Government of Nagaland
- (c) NSDMA
- (d) Head of all line Depts.
- (e) District EOCs
- (f) IMD
- (g) CWC/ACWC

The main objectives of plan testing are to:

- (i) Determine the feasibility and compatibility of back up facilities and procedures
- (ii) Identity areas in the plan that need modification.
- (iii) Identify training needs of key stakeholders.
- (iv) Assess the ability of the organization/department to respond to disasters.

All the departments, which have specific roles and responsibilities in District Disaster Management Plan, must have a system to ensure that all Officers of their departments who have a specific role to play are fully conversant with their responsibilities/tasks.

8.3 Debrief and Evaluation-Mock Drills

- After the mock exercise debriefing and evaluation is very important. It is of critical importance that these insights are collected from participants (who participated in the exercise) and used to modify the plan.
- Hot debriefing is very effective as it is carried out immediately after the exercise. It also includes documentation in terms of recommendations and improvements of the plan.
- The lessons learned from the mock exercise are likely to be similar to those from real events. The only major difference is that exercises are controlled events, specifically designed to test procedures and they can be repeated again and again until sound/workable arrangements are in place.

8.4 Review / Updation of Plan

- The District Disaster Management Plan should be reviewed and updated regularly by month of April, based on inputs as under:
 - (a) Drills and Rehearsals
 - (b) Recommendations from all Depts. in their Annual DM Report
 - (c) Lessons learnt from any disaster event in other District and State
 - (d) Directions from Ministry of Home Affairs, National Disaster Management Authority, Government of India, etc.

DDMA and all other concerned Depts. should encourage formal and informal interaction with various stakeholders at different levels to learn and document their experiences, so that such experiences can contribute constructively towards updation of District Disaster Management Plan for further improving the capability to deal with future disasters.