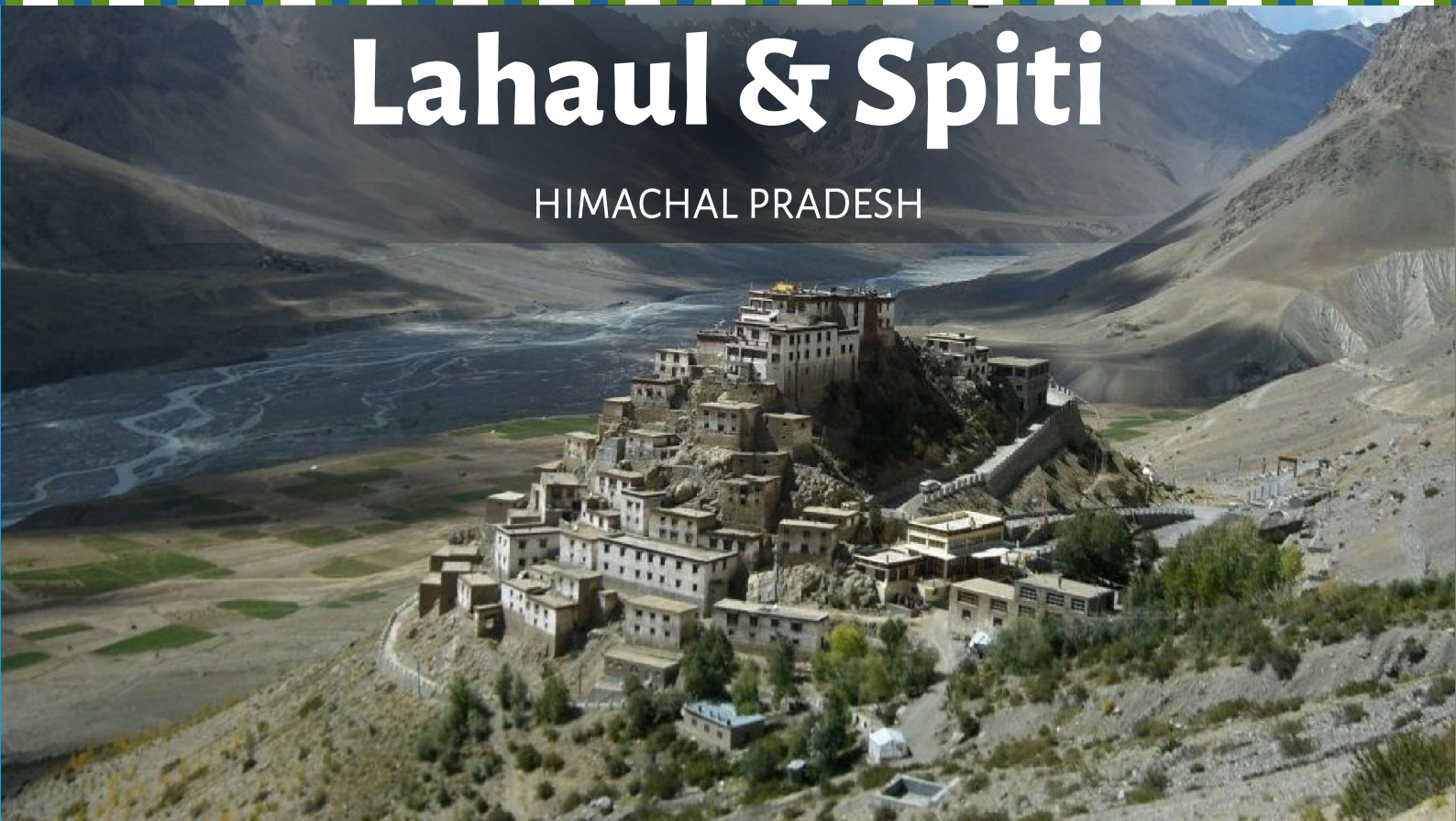




# DISTRICT DISASTER MANAGEMENT PLAN

## Lahaul & Spiti

HIMACHAL PRADESH





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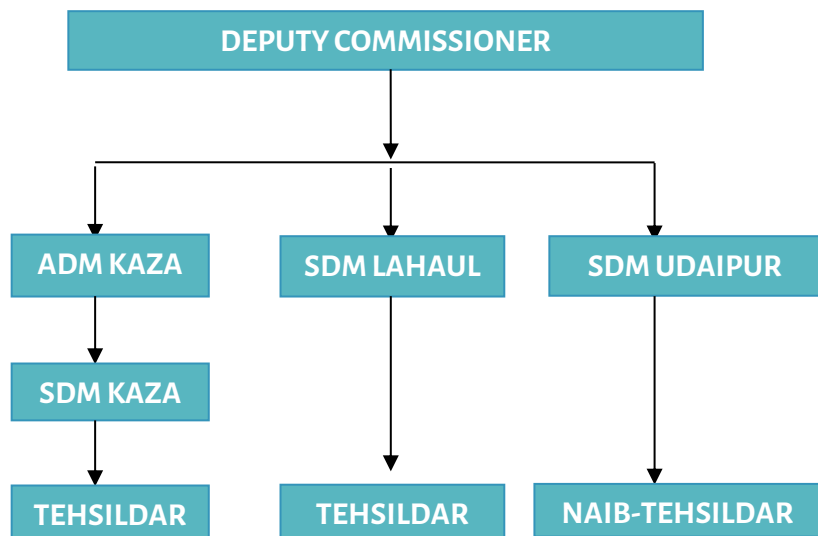




# 1. INTRODUCTION

**Lahaul & Spiti** in the Indian state of Himachal Pradesh consists of two formally separate valleys of Lahaul and Spiti. The present administrative centre is Keylong at Lahaul. Both the two valleys remains disconnected from each other during the six months of winter season. The district consists of 13833 sq km of geographical area which is a combination of three Sub Divisions, 41 Gram Panchayats consisting of 521 villages out of which there is habitation in only 286 villages. The total population is 31526 which is highly scattered and resides with the scarcity of the resources.

The district shares its international boundary with Tibet. It attained the status of a district in the year 1960. Till then it was merely a Tehsil of Kullu Sub-division. The valleys, Mountains, glaciers, rivers, forests, pastures, Gompas (monasteries) and ancient buildings of the former ruling dynasty are the principal objects of study.



## Origin of the Name of the District

Lahaul & Spiti, which now form, a district of Himachal Pradesh, bordering Tibet, were at one time separate Himalayan waziries or cantons of the Kullu sub-divisions, and Kullu itself formed a part of Kangra District of Punjab. As is clear from the name 'Lahaul & Spiti', the District comprises two different mountains tracts, one known as Lahaul and the other as Spiti. Hence the name of the District came into being with the formation of these two parts into a revenue District. The names, Lahaul & Spiti, have different origins. Hiuen Tsiang stated Lahaul to be 1800 or 1900 li (575 or 610 Km) distant by road from the middle of Kiu-lu-to (Kullu). It is a gross overestimate as the first village in Lahaul is only about 70 kms from Sultanpur.

Despite this error, whatever its source may be, Lahaul is clearly the country referred to here. But the Tibetan Li-yul has also been identified by Rock hill with Khotan. If this is correct Hiuen Tsiang's placing Lo-u-lo at 1800 or 1900 li north of Kullu might be intelligible though an under-estimate. Probably Hiuen Tsiang confused the two countries as Li-yul (Khotan) and Lo-u-lo (Lahaul) in his estimate of distances, admittedly derived from hearsay. In ancient Buddhist scriptures, 'Padma thangyang' and 'Mam-kambum' there is mention of a country named Khasa or Hasha to the south of Ladakh and Zangskar. It is possible also that 'Garzha' may be corruption of Khasa or Hasha. Between the 6th century B.C. and the 5th century A.D., the Saka and Khasa tribes, after having been driven out from Central Asia by the Huns, crossed over into India. Many of these settled down in the valleys of Mid-Himalayas between Garhwal and Ladakh. This is borne out by the numerous remains of their graves found in these valleys. There is a nullah near Keylong known as Shaks, which seems to have taken its name after the Saka tribe settled in the Bhaga valley.

## 1.1 PURPOSE OF DISTRICT DISASTER MANAGEMENT PLAN

To respond promptly in a coordinated manner during disasters, it is mandatory to mitigate the potential impact of disasters in order to save lives of people and property. In order to achieve the mentioned goal a well-defined disaster management plan is required.

## 1.2 AIMS & OBJECTIVES OF DDMP

**Aim:** The aim of the District Disaster Management Plan (DDMP) is to prevent damage to or loss of life, property and environment through prevention, preparedness, mitigation and quick and coordinated response by all the stakeholders.

**Objectives:**

- To provide a multi disaster action plan to administration and other institutes with predefined set up consisting specific roles and responsibilities of primary and supportive agencies as well as communities of the district.
- Promoting a culture of prevention and preparedness by ensuring that DM receives the highest priority at all levels.
- Proper handling of early warning.
- Ensuring that community is the most important stakeholder in the DM process. And ensure the participation of all the stakeholders i.e. the community based organizations, GO, NGO etc to respond effectively to any disaster situation.
- Encouraging mitigation measures and adopt the proactive measures at distt. level by all the govt. departments may be of state or central govt. as well as local bodies in their departmental plans to prevent disaster and mitigate its effects.
- Mainstreaming DM concerns into the developmental planning process.
- Developing contemporary forecasting and early warning systems backed by responsive and fail-safe communications and Information Technology (IT) support.
- Promoting a productive partnership with the media to create awareness and contributing towards capacity development.
- Ensuring efficient response and relief with a caring approach towards the needs of the vulnerable sections of the society.
- Undertaking reconstruction as an opportunity to build disaster resilient structures and habitat.
- Undertaking recovery to bring back the community to a better & safer level than pre-disaster stage.

## 1.3 AUTHORITY OF DISASTER MANAGEMENT PLAN

On 23rd December, 2005, the Government of India took a defining step by enacting the Disaster Management Act, 2005, which envisaged creation of Authorities at all three levels as below:

- National Disaster Management Authority (NDMA),
- State Disaster Management Authorities (SDMA),
- District Disaster Management Authorities (DDMA).

In Section 31. (1) There shall be a plan for disaster management for every district of the State and Section 31. (2) The District Plan shall be prepared by the District Authority, after consultation with the local authorities

and having regard to the National Plan and the State Plan, to be approved by the State Authority. As per “Section 25” the Constitution of District Disaster Management Authority was done on 01.06.2007. And as per “Section 30, Sub Section 02, (i) ”The District Authority may prepare a disaster management plan including district response plan for the district and according to (xv) it may prepare, review and update district level response plan and guidelines.

## 1.4 EVOLUTION OF THE DISASTER MANAGEMENT PLAN

District Authority Lahaul and Spiti prepared and issued an approved copy of the disaster management plan Lahaul and Spiti in 2011. While updating district disaster management plan on dated 16<sup>th</sup> December 2016, apart from the reference from the base document i.e the initial disaster management plan of the district the data collected from different stakeholder departments through various levels consultations and added with the data of Line departments.

### Stake Holders and Their Responsibilities:

#	Stakeholders	Responsibilities
1	District Administration	<ul style="list-style-type: none"> <li>• Operate a Disaster Welfare Information (DWI) System to collect, receive, and report and status of victims and assist family reunification;</li> <li>• Training and Capacity building of the various stakeholders</li> <li>• Providing necessary support system to stakeholder departments</li> <li>• Coordination of the response action at the time of disaster</li> <li>• Enable local authorities to establish contact with the state authorities.</li> <li>• Coordinate planning procedures between district, state and the center;</li> <li>• Provide ready formats for all reporting procedures as a standby.</li> </ul>
2	DEOC Lahaul and Spiti	<ul style="list-style-type: none"> <li>• Receive and process disaster alerts and warnings from nodal agencies and other sources and communicate the same to all designated authorities.</li> <li>• Monitor emergency operations.</li> <li>• Facilitate coordination among primary and secondary ESFs / Departments / Agencies</li> <li>• Requisitioning additional resources during the disaster phase.</li> <li>• Issuing disaster/incident specific information and instructions specific to all concerned.</li> <li>• Consolidation, analysis, and dissemination of damage, loss and needs assessment data.</li> <li>• Forwarding of consolidated reports to all designated authorities.</li> </ul>
3	HP SDMA	<ul style="list-style-type: none"> <li>• Coordinating DRR activities and implementation thereof.</li> <li>• Facilitating resources on demands raise by administration</li> </ul>
4	NDRF 7th Battalion, Nurpur & Bhatinda	<ul style="list-style-type: none"> <li>• Carrying out search and rescue on requisition by District as well as state administration.</li> <li>• Strengthening the response mechanism through trainings and awareness in Lo state.</li> </ul>

5	Armed Forces	<ul style="list-style-type: none"> <li>• Coordinate with administration in response as well as capacity building.</li> <li>• Facilitate administration with the key resources in disaster.</li> </ul>
6	Department of Health and family welfare	<ul style="list-style-type: none"> <li>• To coordinate, direct and integrate State and district level response and activation of medical personnel, supplies and equipment;</li> <li>• Provide human services under the Department of health;</li> <li>• To prepare, keep and check ready Mobile Hospitals, stocks of equipment and drugs;</li> <li>• To network with private health service providers;</li> <li>• To provide resources for mass level water decontamination</li> </ul>
7	Department of Fire and home guard	<ul style="list-style-type: none"> <li>• Enhancing the coping capacities of the district through the training and awareness programs at village Panchayat and district level.</li> <li>• To take the responsibility as the first responder.</li> <li>• Coordinate search and rescue logistics during field operations.</li> </ul>
8	Mountaineering Sub Centre Jispa	<ul style="list-style-type: none"> <li>• Establish, maintain and manage search and rescue response system;</li> <li>• Training at village, panchayat and district level</li> <li>• Coordinate search and rescue logistics during field operations;</li> <li>• Provide status reports of S&amp;R updates throughout the affected areas.</li> </ul>
9	HP PWD, BRO	<ul style="list-style-type: none"> <li>• Emergency clearing of debris to enable reconnaissance; Clearing of roads;</li> <li>• Assemble casual labour; provide a work team carrying emergency tool kits, depending on the nature of disaster, essential equipment such as Towing vehicles, Earth moving equipment Cranes etc.</li> <li>• Construct temporary roads; Keep national and other main highways clear from disaster effects such as debris etc.</li> <li>• Coordination with private services providers for supply of earth moving equipment etc.</li> </ul>
10	HPSEB Ltd	<ul style="list-style-type: none"> <li>• Provide and coordinate with State and support until the local authorities are prepared to handle all power related problems;</li> <li>• Identify requirements of external equipment required such as DG sets, generators etc;</li> <li>• Damage Assessment</li> </ul>
11	Department of Public Transport	<ul style="list-style-type: none"> <li>• Overall coordination of the requirement of transport in implement emergency related response and recovery functions, search and rescue and damage assessment;</li> <li>• Make an inventory of vehicles available for various purposes</li> </ul>
12	Department of Food and civil supply	<ul style="list-style-type: none"> <li>• Identify requirement of food and clothing for affected population;</li> <li>• Control the quality and quantity of food, clothing and basic medicines</li> <li>• Ensure the timely distribution of food and clothing to the people;</li> <li>• Ensure that all food that is distributed is fit for human consumption.</li> </ul>

13	Department of Irrigation & Public Health	<ul style="list-style-type: none"> <li>• Procurement of clean drinking water;</li> <li>• Transportation of water with minimum wastage;</li> <li>• Special care for women with infants and pregnant women;</li> <li>• Ensure that sewer pipes and drainage are kept separate from drinking water facilities</li> </ul>
14	Department of Public Relations	<ul style="list-style-type: none"> <li>• To provide and collect reliable information on the status of the disaster and disaster victims for effective coordination.</li> <li>• Coordinate with all TV and radio networks to send news flashes for specific do's, don'ts &amp; needs.</li> <li>• Respect the socio-cultural and emotional state of the disaster victims while collecting information for dissemination</li> </ul>
15	Police	<ul style="list-style-type: none"> <li>• Having sound communication and security plan in place to coordinate law and order issues;</li> <li>• Training to security personnel in handling disaster situations and issues related to them.</li> </ul>
16	Department of Animal Husbandry	<ul style="list-style-type: none"> <li>• Treatment of animals (Domestic and Wild);</li> <li>• Provision of vaccination;</li> <li>• Disposal of dead animals</li> </ul>
17	Forest department	<ul style="list-style-type: none"> <li>• Removal of fallen trees and Afforestation or shifting of trees.</li> <li>• To provide fuel wood for the relief camps and public;</li> <li>• Have adequate storage of fuel wood and make arrangement for distribution thereof;</li> <li>• To provide fuel wood for cremation</li> </ul>
18	BSNL (Communication)	<ul style="list-style-type: none"> <li>• Coordination of national actions to assure the provision of telecommunication support to the state and district;</li> <li>• Coordinate the requirement of temporary telecommunication in the affected areas</li> </ul>

## 1.5 HOW TO USE THE PLAN

The objective of this plan is to formulate an integrated District level Disaster Management Plan for District Lahaul and Spiti to integrate District Functionaries or Line Departments. Resources to mitigate risk of disasters identified are prepared to deal with them, build capacities to handle them efficiently and effectively, to have prompt and integrated response in case of disaster by speedy planned evacuation, search and rescue, medical aid and restoration of essential services, finally to initiate rapid recovery by effective rehabilitation and reconstruction

This plan deals with detailed hazards, risk and vulnerability analysis, integrated institutional mechanism to implement the plan, resource inventory, mitigation plan, response plan, reconstruction plan, standard operating procedures for different committees and Govt. Departments, budgetary and financial allotments, modalities for monitoring, periodic evolution and update.

This plan has been prepared by District Administration by upgrading the previous plan. Endeavour is to make the plan simple and short so that even a lay man can understand it. This plan has been kept open ended to assimilate all the new inputs and feedbacks so that it evolves with time. Mechanism has been incorporated in plan to get quarterly inputs and the complete plan to be reviewed annually.

The Disaster Management Plan provides for uniformity in approach and perception of the various issues at hand thus avoiding undue complications. The plan at the same time provides for the coordination mechanisms for different agencies right from the field level to the District Head Quarter and beyond. Thus, it ensures efficiency in terms of response and optimal utilization of resources. Moreover, it keeps the administration in a state of readiness to face any eventuality.

## 1.6 APPROVAL MECHANISM OF THE PLAN

As defined in Section 30 of DM Act 2005, DDMA shall act as the district planning; coordinating and implementing body for disaster management and take all measures for the purpose of disaster management in the district in accordance with the guidelines laid down by the National Authority and the State Authority. Accordingly, the District DM plan shall be prepared by the District Authority, after consultation with the local authorities and having regard to the National DM Plan and the State DM Plan.

### **Plan Review and Updation:**

District Disaster Management Plan has been prepared by Distt Administration. DDMP be internally reviewed on a yearly basis and either be updated or reaffirmed. The updates or reaffirmed document may also be used to summarize the accomplishments of the past year and help the administration to prioritize mitigation goals for the next year.

Whenever it is required to be revised or necessarily is felt for its revision updating annually and from time to time by upgrading the previous plan. It should be mandatory to consider reviewing and updating the plan after the following events:

- A major incident.
- A change in operational resources (e.g., policy, personnel, organizational structures, management processes, facilities, equipment).
- A formal update of planning guidance or standards.
- Major exercises.
- A change in the district's demographics or hazard or threat profile.
- The enactment of new or amended laws or ordinances

## 2. HAZARD VULNERABILITY CAPACITY AND RISK ASSESSMENT

### 2.1 HAZARD ANALYSIS

#### 2.1.1 DISTRICT HAZARD PROFILE

Lahaul and Spiti is situated in Trans Himalayan zone of Himalayas and is a mountainous district having high mountain ranges considered to be a sedimentary wedge between colliding plate margins enclosing deep narrow valleys / gorges of River Chandra Bhaqa and Spiti and its numerous tributaries.

The district has unique climatic conditions. Winters are severe with heavy snowfall causing Glaciers and Avalanches. Summers are mild with rainy season in most of the Lahaul and Udaipur Sub-Divisions of the district. Spiti. Sub-Division of this district forms part of '*Indian Cold Desert*' and receives scanty rainfall as it falls in rain-shadow zone of Himalayas.

The unique Geo Climatic conditions of the District makes it vulnerable to various kinds of natural hazards / disasters which have been compounded by increasing human interventions with the nature. There is need to identify and delineate the Hazard Risk zones of the District (areas vulnerable to various hazards) which will provide the necessary information to work on micro-level and to map the active and dormant processes of the hazards.

Following is the brief discussion of the various hazards that may occur in the district:-

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#### 2.1.1.1 EARTHQUAKE

District Lahaul and Spiti lies in western part of young folded mountains of Himalayas which is still unstable. The district fall in seismic zone 4 and 5 High damage risk zone (MSK VIII) and very High damage risk zone (MSK IX or more) respectively. As per the recorded history of earthquakes this district has been hit many times by earthquakes having magnitude of more than 4.0 and above

**History Seismic Hazard:** Lahaul and Spiti has history of earthquakes and the major earthquake, which shook the district and caused damage, is 1975 earthquake.

#### **Parameters of 1975 Lahaul & Spiti earthquake:**

- **Date** : 11 Dec. 1975
- **Magnitude** : 5.1 Richter scale
- **Location** : Near Sumdo, Lahaul & Spiti 32°50'N 76°58'E

### 2.1.1.2 FLOODS

The district is more vulnerable to flash floods rather than the river floods. Most of the flash floods are caused due to the cloud burst. Every year such incidents are reported in the district. Accelerated runoff dam failure, break up of ice jam and Glacial Lake Outburst can also trigger earthquake. Following data depicts the number of the glacial lakes in the Chenab basin and potentially dangerous which may trigger flash floods due to Glacial Lake Outburst

River Basin	Glacier Lakes		
	Number	Area (Sq. km)	Potentially dangerous
Chenab	33	3.22	5

(Source: Ives, JD; Shrestha, RB; Mool, PK (2010) Formation of Glacial lakes in the H-K-H and GLOF Risk Assessment, ICIMOD.)

### 2.1.1.3 LANDSLIDES

Lahaul and Spiti is a mountainous district having rugged topography and deep and narrow valleys and steep slopes which makes it very prone to different types of slope failure namely Landsliding, Slumping / Creeping, Rock fall, Shooting Stones, etc. This problem has been compounded by the increasing anthropogenic activities. But, its disastrous effect is observed mainly near the villages and along National Highway-21 Manali-Leh and Manali Killar and other link roads connecting the villages of the district. The important landslides of the district are Pagal Nallahm, Mooling Bridge, Salsal Dhang, Beeling Nallah, Commander Nallah, Khruti, Daldal, Khabla etc.

#	Landslide Area	History of Damage
1	Maling (1968).	This slide damaged 1 Km NH-22 and is still active.
2	Kinnaur (Dec.1982)	This occurred at Sholding nala collapsing 3 bridges and 1.5 of road was vanished.
3	Jhakri (March 1989)	At Nathpa about 500 m of road was damaged due to this slide and is still active
4	Luggarbhati on 12 Sept.1995	65 (39 as per official record) were buried alive during the slide
5	Prominent slides in Beas valley are at Marhi, Bhang, Chhyal, and Mandu in upper catchment of the Beas river	

### 2.1.1.4 FOREST FIRES

District Lahaul and Spiti is spread over an area of 13,833 sq. Kms. out of which, approximately 1,37,376 hectare land is covered by forest. The incident of forest-fire is not observed very commonly and frequently in the district. It is very less observed in the Sub-division Spiti and Lahaul and is observed in Udaipur Sub-division. The forest-fire in these areas is generally caused by traditional practice of burning the old vegetation / grasses and fallen pine leaves, and woods for proper regeneration of vegetation. It is observed that fire cases are noticed mainly due to short circuiting/ sparking of electrical transmissions lines crossing over the forests and lightening or thundering.

### 2.1.1.5 DOMESTIC FIRES

Most of the inhabited villages of the district are compact and nucleated in structure and the slopy built up area comprise houses constructed very close to each other. The house of Spiti and Lahaul sub divisions are made up mainly of stone, mud/clay, thatch and thin woods. Due to heavy stock of dried fuel-woods for domestic use and dry stock of fodder for animals for winter season make the houses very prone to fire in all the 3 Sub-divisions. The fire-incidences in villages is also caused by use of Mashaal/candles, Matchsticks, short-circuit, sparking, LPG leakage, sparks from traditional chimneys and use and stocking of highly inflammable and combustible materials like Paints, Kerosene, Petrol, Diesel etc. following table depicts the history of fires in the district.

Incidents related to Fire Disaster in Lahaul and Spiti (Distt. Stat Book 2010-11)

Year	No. of incidents	Details of Human Lives		Details of Cattle		Loss of property
		Lives saved	Lives lost	Lives lost	Lives lost	
2008	7	-	-	-	-	9,17,000
2009	3	-	-	-	-	3,61,900
2010	8	-	-	-	-	6,98,350
2011	5	-	-	-	-	6,31,000

### 2.1.1.6 ROAD ACCIDENTS

District Lahaul and Spiti has good network of roads which include part of NH-21 from Rohtang Pass to Sarchu, and other link roads connecting the various villages of the district. National Highway-21 was featured in the History Channel's *Deadliest Roads* series for its hazardous driving conditions. Similarly, the link road to the various villages again equally dangerous. The roads are zigzag with blind curves, devoid of proper parapets at most of its length, un-metalled with pot-holes which makes the movement of traffic very hazardous. If any vehicle meets with an accident, it falls down into the Chandra / bhaga river or deep gorge straight with no chance of survival. Following is the brief history of the road accidents in the district.

Road Accidents in District Lahaul and Spiti (Stat. Handbook 2010-11)

Year	No. of Accidents	No. of Deaths	No. of Injured persons	No. of Accidental Vehicle
2006-07	1	1	2	1
2007-08	9	12	3	9
2008-09	3	3	-	3
2009-10	4	7	2	4
2010-11	11	11	3	11
2011-12	3	2	17	3

### 2.1.1.7 CLOUDBURSTS

Cloudburst is a devastating weather phenomenon representing highly concentrated rainfall over a small area lasting a short term. It leads to flashfloods, landslides, uprooting of trees, house collapse, dislocation

of traffic & bridges, and human casualties on large scale over the area. The topography of the district enhances the devastation caused by cloudbursts, as the water flowing down the steep slopes brings debris, boulders and uprooted trees with great velocity damaging any structure which comes in the way leading to a significant loss of life, property and natural habitat. However Udaipur Sub-division of Lahaul and Spiti district is very vulnerable to weather extremes. Incidents related to cloud burst are also reported in the pin valley of Spiti sub division. Following is the brief data of recent cloud burst in the district:-

#### History of Cloudburst:

- i. Cloud burst occurred in the year 2008 in Tholang in which crops in 23-07-00 bighas, 300 willow trees along with 8 labour's tents had been damaged. Loss assessed is about 5,25,300/-.
- ii. Cloud burst in the year 2010 in Giu and Titpa village of Pin valley in which 3 houses, 15 hectare land has been washed away and loss assessed is about Rs.40,43,011/-.
- iii. On 5<sup>th</sup> June, 2012 in Pin Valley of Spiti Division at Kit Nallah one bridge and 3Kms. Road, 3 Kms. Transmission lines has been washed away. The total estimated loss was to the tune of Rs. 3 Crore.

#### 2.1.1.8 SNOW AVALANCHES

Snow avalanches almost 65% of Lahaul and Spiti District is prone to avalanche and is one and only the most feared natural disaster noticed till today. Especially in winter as most part of this district remains cut off due to heavy snow fall from the rest of the country. Avalanches are rarely observed closely since they normally occur during a short time period of one or two minutes. Major causes of avalanches can be classified into fixed (prime factors) and variable factors (exiting factors), such as weather conditions and the weight of the snow cover. Avalanches occurs when these factors are combined. Avalanches also cause great damage to life and property. The villages, roads and passengers travelling on foot and in vehicles as well as High altitude and army and para military camps are frequently hit by this form of natural calamity. Following table contains information regarding to the avalanche incidents in the district.

#### Districts wise Breakup of the Avalanche Accidents in Himachal Pradesh

District	No. of Accidents	Persons Died	Persons injured
Lahaul and Spiti	21	298	53

(Source: SASE, DRDO, Chandigarh)

#### 2.1.1.9 DROUGHT

The district is part of the Trans Himalayan zone which falls under the rain shadow zone. The district received least precipitation among all the 12 districts of the state. The spiti sub division is more vulnerable to drought s compared to lahaul and Udaipur sub divisions. Most of farmers depends on rain fall or temporary canals for the irrigation purpose.

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## 2.1.2 SUB-DIVISION WISE HAZARD PROFILE & EVALUATION

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### 2.1.2.1 SUB-DIVISION: LAHAUL

#### **Hazard Profile & Evaluation:**

The entire regions of Lahaul sub-division lie near the Chandra and Bhaga river respectively, which make these regions highly prone to the floods and landslides mainly in the months of July and August. The Lahaul sub-division is prone to following hazards especially:

- Avalanches
- Flood / land slides
- Drought
- Cloud burst
- Earthquake
- Road Accident

#### **History of Disasters**

- In the Year 1979 (March) an avalanche has been noticed at Guskiar, Yurnath, Bha Garang, Ley Garang, Baring and yangla in which about more than one hundred persons have lost their lives and a large number of houses have been reported washed away or damaged.
- In the year 1996 in the month of March an avalanche hit at Yallah Piyaso village near Chheling village in which 6 persons lost their lives.
- Flash flood in tributary of Bhaga river in 25-7-2006 at Darcha in which 67-03-00 bighas land washed away and loss asessed 6,72,630/- remaining portion also developed cracks.
- Flash flood in Chhatru Nallah on dated 12-8-2007 one person died and two inured.
- Drought occurs due to scarcity of rainfall/ snowfall and is of a creeping nature. Lack of water irrigation purpose leads to a fall in the output of agricultural /horticultural crops leading to a fall in the income level of the people and causing misery to them .One such condition occurred in the district in year 2002.
- Cloud burst occurred in Tholang in the year 2008 in which crops in 23-07-00 bighas, 300 willow trees along with 8 labour tents has been damaged /washed away, Loss assessed is about 5,25,300/-

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### 2.1.2.2 SUB-DIVISION: KAZA

Kaza sub-division starts entering the boundary of Kinnaur district. This sub-division has 13 gram panchayats. The sub-division at lower areas near Spiti and Pin river are highly susceptible to the flash floods and landslides. Also, the panchayats at higher altitudes are prone to drought due to minimum rainfall and unavailability of efficient sources for irrigation. This sub-division is susceptible to the hazards especially:

#### **Hazard Evaluation:**

- Flood / land slides
- Drought
- Cloud burst
- Earthquake
- Road Accident

#### **History of Disasters**

- Flash flood in Spiti in Pin river near Kit Nallah on dated 5<sup>th</sup> June, 2012 one bridge, 3 Kms. Span of road and 3 kms. Transmission line washed away and loss asessed is about Rs.3 Crore.
- Drought occurs due to scarcity of rainfall/snowfall and is of a creeping nature, Lack of water for irrigation purpose leads to a fall in the output of agricultural /Horticultural crops leading to a fall in

the income level of the people and causing misery to them. One such condition occurred in the district in year 2002.

- Flash Flood in Parchu/Spiti river in 26 June 2005, in which road was heavily blocked between Samdu to Wangtu.
- Cloud burst in Giu and Titpa village of Pin valley in the year 2010 in which 3 houses, 15 Hectares land has been washed away and loss assessed is about Rs.40,43,011/-.

### 2.1.2.3 SUB-DIVISION UDAIPUR

Sub-Division Udaipur is spread along the Manali Killar road. This sub-division comprises of 10 scattered panchayats. Entire area is highly prone to the seismic activity as we look into the hazard profile of this sub-division. Hence needs attention. The sub-division is highly prone to the floods / landslides etc. This sub-division is prone to the hazard especially:

#### Hazard Evaluation:

- Avalanches
- Flood / land slides
- Drought
- Cloud burst
- Earthquake
- Road Accident

#### History of Disasters

- An avalanches occurred in Udaipur Sub Divison in the year 1979 in various villages of Junda, Galing, Triloknath, and Hinsu, in which more than hundreds of persons have lost their lives.
- Flash flood in Madgran Nallah in the year 1995, in which Gharats, bridge etc. has been washed away.
- Drought occurs due to scarcity of rainfall/ snowfall and is of a creeping nature. Lack of water irrigation purpose leads to a fall in the output of agricultural /horticultural crops leading to a fall in the income level of the people and causing misery to them. One such condition occurred in the district in year 2002.
- Landslide in Maling Naala (1968) damaging NH-22 and is still active.

The following table describes the sub division wise hazard profile of the district

Hazard Type	Name of Sub-Division & Hazard Vulnerability		
	Lahaul	Udaipur	Spiti
Earthquakes	High	High	Moderate
Floods	High	High	High
Landslides	High	High	High
Forest Fires	Low	High	Low
Domestic Fires	Moderate	Moderate	Moderate
Road Accidents	Moderate	Moderate	Moderate
Avalanches	High	High	Low
Cloud Bursts	High	High	Moderate
Drought	Moderate	High	Moderate

## 2.2 VULNERABILITY PROFILE OF THE DISTRICT

### 2.2.1 PHYSICAL VULNERABILITY

As per the housing statistics contained in the table 1 below, 76.7% of the building stock of the district falls in Category A which is highly susceptible to earthquake damage. A lot of wood is used in the house construction in the district hence the houses are also vulnerable to fire hazard resulting due to earthquake shaking. Steep slopes in the district would result into landslides and block the arteries of the district resulting in delay in emergency response.

Table 1: Distribution of House by Predominant Materials of Roof and Wall and Level of Damage Risk

Table No :HP 12 State: HIMACHAL PRADESH District: Lahaul & Spiti												
Wall / Roof		Census Houses		Level of Risk under								
		No. of Houses	%	EQ Zone				Wind Velocity m/s				Flood Prone Area in %
				V	IV	III	II	55&50	47	44&39	33	
				Area in %				Area in %				
				100					100			
<b>WALL</b>												
A1-Mud Unburnt Brick Wall	Rural	4905	28.48									
	Urban											
	Total	4905	28.48	H					M			
A2- Stone Wall	Rural	11364	66.98									
	Urban											
	Total	11364	66.48	H					L			
Total-Category-A		16269	94.46									
B-Burnt Bricks Wall	Rural	184	1.06									
	Urban											
	Total	184	1.06	M					L			
Total-Category-B		184	1.06									
C1-Concrete Wall	Rural	115	0.66									
	Urban											
	Total	115	0.66	L					VL			
C2-Wood Wall	Rural	26	0.15									
	Urban											
	Total	26	0.15	L					M			

Total-Category-C		141	0.81									
X-Other Material	Rural	628	3.64									
	Urban											
	Total	628	3.64		VL					M		
Total-Category-X		628	3.64									
<b>TOTAL BUILDINGS 17222</b>												
<b>ROOF</b>												
R1-Light Weight Sloping Roof	Rural	15327	88.99									
R1-Light Weight Sloping Roof	Urban											
	Total	15327	88.99		M					H		
R2-Heavy Weight Sloping Roof	Rural	24	0.13									
R2-Heavy Weight Sloping Roof	Urban											
	Total	24	0.13		M					L		
R3-Flat Roof	Rural	1871	10.86									
R3-Flat Roof	Urban											
	Total	1871	10.86	<i>Damage Risk as per that for the wall supporting it</i>								
<b>TOTAL BUILDINGS 17,222</b>												

(Source: BMTPC Vulnerability Atlas of India 2006)

There are 204 primary schools, 36 middle schools, 35 high schools and 1 Govt College in the district along with this there are 14 hospitals, 43 dispensaries in the district. All these mentioned buildings falls in the earthquake zone 4, hence are highly vulnerable to earthquake along with the other hazards Like land slide, fire cloud burst and flash floods.

## 2.2.2 SOCIAL VULNERABILITY

The community is oblivious of the great threat of earthquake in the regions. Lahaul and Spiti has 360 number of people with various disabilities as per the detail given below. Their disability would be a serious impediment for their safety during disasters which can further be exacerbated by the terrain of the district.

Table: 2: Detail of Disabled person in District Lahaul and Spiti (2001 Census)

Type of disability	Total disabled	Urban	Rural		
			Gents	Ladies	Total
Blind/ Low vision	94	-	60	34	94
Dump/deaf	32	-	21	11	32
Handy-capped	207	-	136	71	207
Mentally challenged	27	-	10	17	27

Total	360	-	227	133	360
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Table- details of the population and sex ratio

Population As per 2011 Census	
Male	16,455
Female	15,073
SC/ST	100% ST population
Rural	31,528
Urban	NIL
Sex Ratio	916 (No. of females per 1000 males)
0-6 population	Total = 2994: Male – 1487; Female – 1507
Density of Population	2 per sq. km.

Further there are 15,073 females and 2994 children's bellow six years out of 31,528 total population of the district who are highly vulnerable all types of disasters.

### 2.2.3 ECONOMIC VULNERABILITY

Table- details of livestock in the district

Cattle Population	As per 18th all India livestock census
Cattle	15484
Equines	3324
Sheep	36820
Goats	8730
Yak	28
Poultry	2927
Others	442

Table- details of land use of the district

Geographical Area (In Hectares) (Source: District Statistical Office, Lahaul and Spiti)	
Total Area	9,11,195
Forest Land	1,37,376
Cultivated Land	3398
Non-Cultivable	7,70,421
Altitude	Between 4480 m to 6400 m above sea level.

Longitude	Between 76° 46' 29° and 78*41' 34" East Longitude
Latitude	Between 31° 44' 57" and 32° 59'57" North Latitude
Major Rivers	Chandra Bhaga and spiti river.

Table- agricultural details

Major Crops	Kharif	Cereals	Maize,
		Pulses	Rajmash,
		Others	Kathu, Kuth, Hops, Manu.
	Rabi	Cereals	Wheat, Barley
Vegetables	Tomato, Cabbage, Cauliflower, Peas, Reddish, Turnip, Potatoes.		

Development Indices (2001 Census)

Poverty	1% of the total population
Per Capita Income	53,253 (data to be verified and edited as per the 2011 census)
Human Development Indices	0.590 (1997) No. 1 in the State.

As per the 18<sup>th</sup> all India livestock survey the population of livestock in the district is 67755 further out of total land 3398 hectare land falls under the cultivable area. Agriculture and live stock is major source of income generation of the district. All these are highly vulnerable to drought, floods, flash floods, cloud burst and earthquake. The district has reported number of incidents regarding to the loss of cultivable land and livestock due to cloud burst and flash floods in recent past.

#### 2.2.4 ENVIRONMENTAL VULNERABILITY

Flora and Fauna	Entire portions of Lahaul and Spiti are situated high in the Himalaya, where vegetation is sparse and consists primarily of hardy grasses. Alpine species such as juniper, blue pine, hippphal, willows, popular, spurs, pyres, supp can be found at elevations between 11500 to 16000 feet. At lower altitudes, temperate-climate trees are found, including Chil, Kail, Devdar, birch, apple, and walnut. Yaks and Churu, Cows are reared by local farmers in whole of this district. Scattered populations of the Himalayan brown bear, Ibex, snow leopard, himalyan fox, musk dear, snow wolf may also be found.
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## 2.3 CAPACITY ANALYSIS

The vulnerability of the district to various hazards is high. In view of the hazard and vulnerability profile of the district, the capacity analysis of the district to deal with various disasters is very important.

### 2.3.1 GOVERNMENT WORKFORCE

Lahaul and Spiti has 2603 regular (112 Gazetted and 2491 non-gazetted) government employees and 821 daily wages / contractual employees. These figures are as on 31.3.2011. This workforce can act as a resource for disaster management in the district. However, this resource has yet not been trained and oriented in DM and related issues. Hence their capacity to respond to disasters effectively and prepare a culture of prevention and safety would be less effective.

### 2.3.2 FIRE STATIONS

Lahaul and Spiti has only one Fire post situated at the district HQ. The villages of Lahaul and Spiti are located at far flung area and the response capacity of the stations is reduced to few kilometers only. We need to at least have one fire post in each Sub Divisional HQs / valley of the district for better and timely response. These fire posts can be trained and equipped for multi-hazard response.

### 2.3.3 ANIMAL HUSBANDRY

Animal Husbandry (2010-11 Statistical Profile of Lahaul and Spiti)	
Hospitals	14
Dispensaries	43
AI Centres	40
Dispensary (MMAPDY)	1
Sheep & Wool Ext. Centre	1
Other Veterinary Facilities Mobile Unit	1

### 2.3.4 HOME GUARDS NETWORK

A Company of Home Guards is stationed at Lahaul and Spiti with a total strength of 92. This human resource is trained in DM. But their deployment to non-disaster duty would prohibit their utilization for disaster related matters.

Table: 12 Police Network in Lahaul and Spiti

#	Name of the Establishment	Total Strength	Contact No.	Wireless Network
Police Stations				
1.	Police Station Keylong		01900-222223	Yes
2.	Police Station Udaipur		01909-262253	Yes
3.	Police Station Kaza		01906-222210	Yes

Police Posts				
4.	Police Post Koksar		01900-275023	Yes
6.	Police Post Jahalma		01900-278126	Yes
7.	Police Post Tindi		01909-254019	Yes
Police Check Posts				
12.	Police Check Post Darcha		-	Yes
13.	Police Check Post Losar		-	Yes
14.	Police Check Post Sumdo		-	Yes

As on 2016 the total strength of police force in the district was .....and the break-up of the same is given as under:-

- i. ASI and above -
- ii. Head Constables -
- iii. Constables -
- iv. Cook -
- v. Other Ministerial staff -

#### **Quick Response Teams (QRTs) formation for Disaster Management in the Lahaul & Spiti District**

Quick Response Teams have been formed in the district of Lahaul & Spiti by District Administration with Police Department and Himachal Home Guard respectively. These QRTs consists of 17 team members each well-furnished in Disaster Management so that in case of any disaster occurrence, these teams can be deployed for prompt response and action.

Table 13: QRT Police Department in Lahaul & Spiti

#	Name of Police Personnel	#	Name of Police Personnel
1.	ASI Yash Pal	10.	Ct. Rajesh Kumar-128
2.	HC Anil Chandel No. 27	11.	Ct. lalit Chandel-56
3.	HC Santosh Kumar-34	12.	Ct. Vijay Kumar-49
4.	Ct. Naresh Kumar-73	13.	Ct. Roop Lal-211
5.	Ct. Mukesh Kumar-84	14.	Ct. Pooran Chand-123
6.	Ct. Ravinder Kuamr-160	15.	Ct. Nirmal Kumar-163
7.	Ct. Amit-173	16.	Ct. (DVR) Vipin Kumar No-90 with Tata mini bus No HP 33B-9105
8.	Ct. Sunil Dharwal-152	17.	HHC Kunju Lal No-127 (Wireless Operator)
9.	Ct. Sohan Singh-83		

Table 14: QRT Himachal Home Guard in Lahaul and Spiti

#	Name of Home Guard Personnel	#	Name of Home Guard Personnel
1.	Mr. Hari Singh Company Admn. Officer	16.	Mr. Sudershan
2.	Mr.Prem Raj Platoon-Commandant	17.	Mr. Chhering Angrup
3.	Mr. Nawang Kunkhen	18.	Mr. Prem Jeet
4.	Mr. Rakesh Kumar	19.	Mr. Ashok Kumar
5.	Mr. Chhering Paljor	20.	Mr. Ravinder
6.	Mr. Mohan Lal	21.	Mr. Vinod
7.	Mr. Rajeev kumar	22.	Mr. Ajay kumar
8.	Mr. Mohan Lal	23.	Mr. Vijesh
9.	Mr. Nirmal singh	24.	Mr. Sanju
10.	Mr. Amar Singh	25.	Mr. Rajender Kumar
11.	Mr. Bittu	26.	Mr.Ajeet
12.	Mr. Jawahar Lal	27.	Mr. Dharam Chand
13.	Mr.Sanjeev	28.	Mr. Susheel
14.	Mr.Vinod Kumar	29.	Mr.Tenzin Kalzang
15.	Mr.Subhash Bodh		

### 2.3.5 MEDICAL FACILITIES AND MANPOWER

The status of medical institutions, workforce is given in the following table.

Table 15: Health Infrastructure in Lahaul & Spiti District

Year	Medical officer		Nurses / Female health Worker		Mid wife		CHC / PHC's		
	Allopathic	Ayv. & Homeo.	Allopathic	Ayurvedic	Allopathic	Ayurvedic	Allopathic	Ayurvedic	Homoeopathic
2011	33	15	51	-	8	9	18	21	1
Development Block wise : 2011									
Lahaul	16	9	27	-	2	2	6	7	1
Udaipur	6	3	11	-	1	1	7	6	-
Spiti	11	3	13	-	5	6	5	8	-

### 2.3.6 BANKS AND POST OFFICES

<b>Number of Post Offices</b>	Head Post Office	1-Keylong.
	Sub Post Offices	7-Kaza, Tabo, Losar, Udaipur, Gondhla, Jahalman and Ruding.
	Branch Post Offices	38
<b>Nationalized Bank Branches</b>	Punjab National Bank	Keylong
	UCO Bank	Jahalman, Keylong
	State Bank of India	Keylong, Kaza, Hansa, Tabo, Gondhla, Gemur, Udaipur, Lot.
	State bank of Patiala	Keylong
	Central Bank	Keylong
<b>Name of the Lead Bank</b>	State Bank of India	
<b>Cooperative Bank Branches</b>	Keylong, Udaipur, Shansha, Sissu, Kaza.	

### 2.3.7 PETROL PUMPS

<b>Petrol Pumps</b>	Tandi and Kaza.
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### 2.3.8 SCHOOLS

The buildings of schools and colleges can be used as temporary shelters at the time of disaster. The following table details the schools buildings in the district.

#### Education (2010-11)

<b>Primary Schools</b>	204 No. (367 teachers and 1800 students)
<b>Middle Schools</b>	36 No. (144 teachers and 1000 students)
<b>High/Sr. Sec. Schools</b>	35 No. (431 teachers and 900 students)
<b>Colleges</b>	1-Govt. College Kukumseri
<b>Others</b>	ITI Kaza and Udaipur, DIET Tandhi.

### 2.3.9 ARMY NETWORK AND CENTRAL PARAMILITARY FORCES

GRF and BRO are located in the district can be vital during disaster. The ITBP located at Sarahan, district Shimla has been designated as a regional response centre for disaster response. The presence of the forces in the district can come as handy for disaster response.

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### 2.3.10 MOUNTAINEERING SUB CENTRE JISPA

Mountaineering Sub Centre located at Jispa village of Lahaul Sub Division. They have a trained manpower for the emergency and high altitude rescue. They also have the specialized equipment for the rescue in the hilly terrain.

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### 2.3.11 POWER PROJECTS

The district has also some presence of the power projects spread out in all the main river and in the basins of tributaries. There are more than two dozen power projects in the state. The project management has trained manpower and have machinery and equipment too to deal with emergencies. These resources can be requisitioned by the district administration during emergencies.

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### 2.3.12 EWS NETWORK

The CWC has monitoring network for the Chandra Bhaga river basin having 1 Gauge site on located at Tandri and Udaipur along with 1 Telemetry Based AWL for monitoring of Parechu reservoir located in Sumdo.

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### 2.3.13 CBOS AND NGOS

There are not many NGOs working in the district. However many community based organisations are in existence. Their training and orientation has not been done. However, their networking and orientation in DM is under way. The list of NGOs / CBOs working in the district is as below:

Table: 16 List of NGOs in Lahaul and Spiti District

#	Name of NGO	Members	Trained- S&R and First Aid	Contact No.
1.	Layul Mountaineering and ski Club Keylong	Sh Norbu Pawnsa (President)	-do-	94189-53738
		Sh. Gialchhen Thakur(Secy.)	-do-	94180-63672
2.	Tinan adventure & Sports Club Gondhla	Sh. Prem Singh (President)	-do-	94180-6505
		Sh. Roshan Lal(Secy.)	-do-	-
3.	Tod Valley Youth association Kawaring.	Sh Tanzin (President)	-No-	-
4.	Lahaul Kala Sangam Jahalma	Sh. Prem Lal Thakur (President)	No	89882-34416

### 2.3.14 LANDING SITES

The list of landing sites which can be of immense help in disaster is given below. However, non-availability of re-fuelling facility in the area may hinder the smooth operations of air relief operations.

Table 17: List of Existing and Possible Landing sites in Lahaul & Spiti District from Bhuntar

#	Name of Sub-Division	Name of Helipad / Station	Latitude	Longitude	REF
1	Kaza	Lossar	32°24' N	077°38' E	
2	Kaza	Kaza	32°13' N	78°04.5' E	
3	Kaza	Sagnam	32°02' N	78°03'E	
4	Kaza	Tabo	32°05.5' N	078°23'E	
5	Lahaul	Sisu	32°28' N	077°07' E	
6	Lahaul	Gondhla			
7	Lahaul	Tandi	32°33" N	076°59' E	
8	Lahaul	Rawa	32°36' N	076°56' E	
9	Lahaul	Stingri	32°33' N	077°04' E	
10	Lahaul	Jispa			
11	Udaipur	Baring	32°38.8' N	0776°50.6' E	
12	Udaipur	Udaipur	32°42' N	076°40' E	
13	Udaipur	Chokhang			
14	Udaipur	Tingret	32°51' N	076°47' E	
15	Udaipur	Tindi	32°46' N	076°28' E	

### 2.3.15 NEAREST RAILWAY STATION AND AIR PORT

Distances	
Nearest Railway Station (from district keylong)	Jogindernagar - 282 Kms
Nearest Airport	Bhuntar - 166 Kms

### 2.3.16 EQUIPMENT AND MACHINERY - RESOURCE INVENTORY

The list of equipment, machinery and manpower available in the district at **Annexure –G**

## 2.4 IMPORTANT GAPS IN EXISTING CAPACITY TO DEAL WITH DISASTERS

- i. Connectivity and terrain of the district.
- ii. Lack of specialized SAR equipment and capabilities with the state authorities.
- iii. Communication - land and mobile based communication only.
- iv. Lack of trained workforce.
- v. Lack of awareness at all levels - government functionaries, elected representatives and the general public.
- vi. Lack of clarity of roles of various departments and stakeholders.
- vii. DRR not integrated into development planning and programmes.
- viii. Hospital and schools not prepared to deal with disasters.
- ix. Only fire Post for the entire district.
- x. The existing construction of the district is not hazard resistant.
- xi. Huge infrastructure has come along the major river courses of the district making them vulnerable to flash floods.
- xii. No efforts have been taken to transfer the risk by way of insurance etc.
- xiii. The EWS in the district is not adequate and there is hardly any mechanism to communicate the EW to the vulnerable community.
- xiv. The district control room is not equipped and no trained manpower to handle it.
- xv. The institutional set-up – SAR, MFA, etc. to deal with disasters is not adequate.

## 2.5 RISK MATRIX OF THE DISTRICT

Elements at Risk	Degree of Vulnerability to Various Hazard								
	Earthquake	Landslide	Flash Floods / GLOF	Snow Avalanche	Drought	Forest Fires	Domestic Fires	Dam Failure	Road Accidents
Community	High	High	High	High	Moderate	High	Moderate	Nil	High
Infrastructure	High	High	High	High	Moderate	Moderate	Moderate	Nil	Low
Houses	High	High	High	Moderate	Nil	Low	Moderate	Nil	Nil
Social infrastructure	High	High	Moderate	Low	Moderate	Low	Low	Nil	High
Livelihood Sector	Low	Low	Moderate	Low	Moderate	High	Low	Nil	Nil
Environment	High	High	High	High	High	Very High	High	Nil	Low

## 3. INSTITUTIONAL ARRANGEMENTS FOR DISASTER MANAGEMENT

India has integrated administrative machinery for management of disasters at the National, State, District and Sub-District levels. The basic responsibility of undertaking rescue, relief and rehabilitation measures in the event of natural disasters, as at present, is that of the State Governments concerned. The Central Government supplements the efforts of the States by providing financial and logistic support. The district administration is the focal point for implementation of all governmental plans and activities. The actual day-to-day function of administering relief is the responsibility of the District Magistrate who exercises coordinating and supervising powers over all departments at the district level.

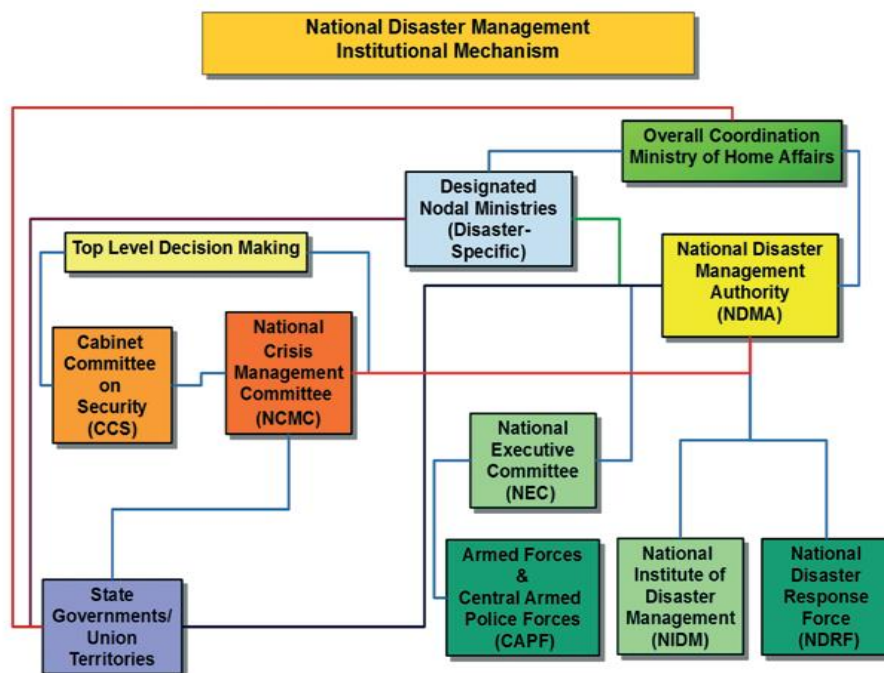
The 73<sup>rd</sup> and 74<sup>th</sup> constitutional amendments recognize Panchayati Raj Institutions as 'Institutions of self-government'. The amendment has also laid down necessary guidelines for the structure of their composition, powers, functions, devolution of finances, regular holding of elections and reservation of seats for weaker sections including women. These local bodies can be effective instruments in tackling disasters through early warning system, relief distribution, providing shelter to the victims, medical assistance etc. Other than the national, state, district and local levels, there are various institutional stakeholders who are involved in disaster management at various levels in the country. These include the police and para-military forces, civil defence and home-guards, fire services, ex-servicemen, non-government organizations (NGOs), public and private sector enterprises, media and HAM operators, all of whom have important roles to play.

The institutional and policy mechanisms for carrying out response, relief and rehabilitation are well-established in the district. These mechanisms have proved to be robust and effective so far as response, relief and rehabilitation are concerned. This section gives a brief overview of the institutional mechanism for disaster management in the National, State level and in details at the district and sub-district Level.

### 3.1 INSTITUTIONAL FRAMEWORK

#### 3.1.1 DM ORGANISATIONAL STRUCTURE AT NATIONAL LEVEL

The overall coordination of disaster management vests with the Ministry of Home Affairs (MHA). The Cabinet Committee on Security (CCS) and the National Crisis Management Committee (NCMC) are the key committees involved in the top-level decision-making with regard to disaster management. The NDMA is the lead agency responsible for the preparation DM plans and the execution of DM functions at the national level. In most cases, state governments will be carrying out disaster management with the central government playing a supporting role. The central agencies will participate only on the request from the state government. Within each state, there is a separate institutional framework for disaster management at the state-level. The DM Act of 2005 provides for the setting up of NDMA at national level, and, the SDMA at the state level. The extent of involvement of central agencies will depend on the type, scale, and administrative spread of the disaster. If the situation requires the direct assistance from central government or the deployment of central agencies, the central government will provide all necessary support irrespective of the classification of the disaster.



Agencies	Departments	Roles & Responsibilities
<b>Cabinet Committee on Security (CCS)</b>	<ul style="list-style-type: none"> <li>Prime Minister,</li> <li>Minister of Defence,</li> <li>Minister of Finance,</li> <li>Minister of Home Affairs,</li> <li>Minister of External Affairs</li> </ul>	<ul style="list-style-type: none"> <li>Evaluation from a national security perspective, if an incident has potentially security implications.</li> <li>Oversee all aspects of preparedness, mitigation and management of Chemical, Biological, Radiological and Nuclear (CBRN) emergencies and of disasters with security implications</li> <li>Review risks of CBRN emergencies from time to time, giving directions for measures considered necessary for disaster prevention, mitigation, preparedness and effective response</li> </ul>
<b>National Crisis Management Committee (NCMC)</b>	<ul style="list-style-type: none"> <li>Cabinet Secretary / Chairperson</li> <li>Secretaries of Ministries / Departments and agencies with specific DM responsibilities</li> </ul>	<ul style="list-style-type: none"> <li>Oversee the Command, Control and Coordination of the disaster response.</li> <li>Give direction to the Crisis Management Group as deemed necessary</li> <li>Give direction for specific actions to face crisis situations</li> </ul>
<b>National Disaster Management Authority (NDMA)</b>	<ul style="list-style-type: none"> <li>Prime Minister (Chairperson)</li> <li>Members (not exceeding nine, nominated by the Chairperson)</li> </ul>	<ul style="list-style-type: none"> <li>Lay down policies, plans and guidelines for disaster management</li> <li>Coordinate their enforcement and implementation throughout the country</li> <li>Approve the NDMP and the DM plans of the respective Ministries and Departments of Government of India</li> <li>Lay down guidelines for disaster management to be followed by the different Central Ministries, / Departments and the State Governments</li> </ul>

<p><b>National Executive Committee (NEC)</b></p>	<ul style="list-style-type: none"> <li>• Union Home Secretary (Chairperson)</li> <li>• Secretaries to the GOI in the Ministries / Departments of Agriculture, Atomic Energy, Defence, Drinking Water and sanitation, Environment, Forests and Climate Change, Finance (Expenditure), health and Family Welfare, Power, Rural Development, Science and Technology, Space, Telecommunications,</li> <li>• Urban Development, Water Resources, River development and Ganga Rejuvenation.</li> <li>• The Chief of the Integrated Defence Staff of the Chiefs of Staff Committee, ex Officio as members.</li> <li>• Secretaries in the Ministry of External Affairs, Earth Sciences, Human Resource Development, Mines, Shipping, Road Transport and Highways and Secretary, NDMA are special invitees to the Meetings of the NEC.</li> </ul>	<ul style="list-style-type: none"> <li>• To assist the NDMA in the discharge of its functions;</li> <li>• Preparation of the National Plan.</li> <li>• Coordinate and monitor the implementation of the National Policy.</li> <li>• Monitor the implementation of the National Plan and the plans prepared by the Ministries or Departments of the Government of India.</li> <li>• Direct any department or agency of the Govt. to make available to the NDMA or SDMA's such men, material or resources as are available with it for the purpose of emergency response, rescue and relief.</li> <li>• Ensure compliance of the directions issued by the Central Government, Coordinate response in the event of any Threatening disaster situation or disaster.</li> <li>• Direct the relevant Ministries / Departments of the GoI, the State Governments and the SDMA's regarding measures to be taken in response to any specific threatening disaster situation or disaster.</li> <li>• Coordinate with relevant Central Ministries / Departments / Agencies which are expected to provide assistance to the affected State as per Standard Operating Procedures (SOPs).</li> <li>• Coordinate with the Armed Forces, Central Armed Police Forces<sup>6</sup> (CAPF), the National Disaster Response Force (NDRF) and other uniformed services which comprise the GoI's Response to aid the State authorities.</li> <li>• Coordinate with India Meteorological Department (IMD) and a number of other Specialised scientific institutions which constitute key early warning and monitoring agencies.</li> <li>• Coordinate with Civil Defence volunteers, home guards and fire services, through the relevant administrative departments of the State Governments</li> </ul>
<p><b>National Disaster Response Force (NDRF)</b></p>	<ul style="list-style-type: none"> <li>• Specially trained force headed by a Director</li> <li>• General Structured like Para military forces for rapid deployment</li> </ul>	<ul style="list-style-type: none"> <li>• Provide assistance to the relevant State Government/District Administration in the event of an imminent hazard event or in its aftermath</li> </ul>
<p><b>National Institute of Disaster Management (NIDM)</b></p>	<ul style="list-style-type: none"> <li>• Union Home Minister;</li> <li>• Vice Chairman, NDMA;</li> <li>• Members including Secretaries of various nodal Ministries and</li> </ul>	<ul style="list-style-type: none"> <li>• Human resource development and capacity building for disaster management within the broad policies and guidelines laid down by the NDMA</li> <li>• Design, develop and implement training Programmes Undertake research. Formulate and implement a comprehensive human resource development plan</li> </ul>

	<ul style="list-style-type: none"> <li>• Departments of Government of India and State Governments and heads of national levels scientific, research and technical organizations, besides eminent scholars, scientists and practitioners.</li> </ul>	<ul style="list-style-type: none"> <li>• Provide assistance in national policy formulation, assist other research and training institutes, state governments and other organizations for successfully discharging their responsibilities</li> <li>• Develop educational materials for dissemination</li> <li>• Promote awareness generation.</li> </ul>
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From time to time, the central government notifies hazard-specific nodal ministries to function as the lead agency in managing particular types of disasters (see Table for current list of disaster specific nodal ministries notified by GoI).

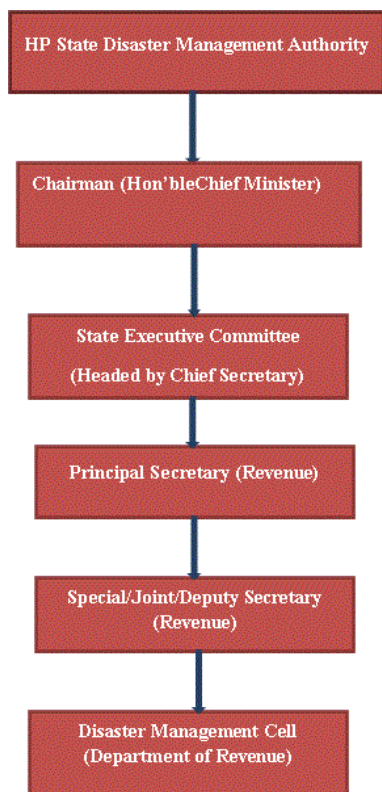
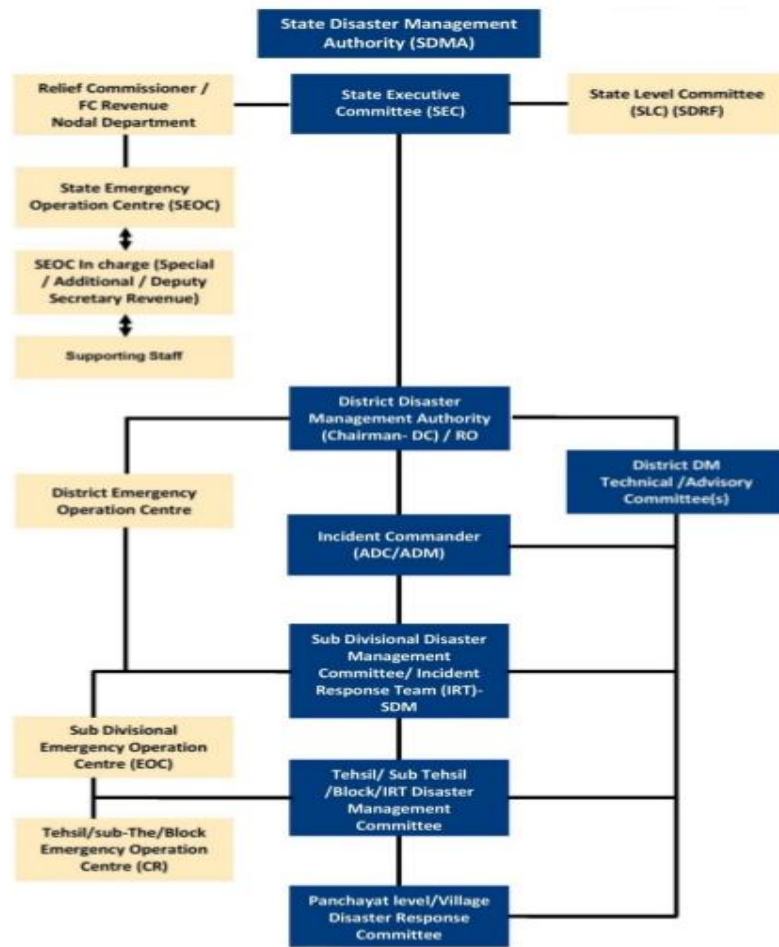
Table 1-4: Nodal Ministry for Management / Mitigation of Different Disasters

#	Disaster	Nodal Ministry / Department
1	Biological	Min. of Health and Family Welfare (MoHFW)
2	Chemical and Industrial	Min. of Environment, Forest sand Climate Change (MoEFCC)
3	Civil Aviation Accidents	Min. of Civil Aviation (MoCA)
4	Cyclone / Tornado	Min. of Earth Sciences (MoES)
5	Tsunami	Min. of Earth Sciences (MoES)
6	Drought / Hailstorm / Cold Wave and Frost / Pest Attack	Min. of Agriculture and Farmers Welfare (MoAFW)
7	Earthquake	Min. of Earth Sciences (MoES)
8	Flood	Min. of Water Resources (MoWR)
9	Forest Fire	Min. of Environment, Forest sand Climate Change (MoEFCC)
10	Landslides	Min. of Mines (MoM)
11	Avalanche	Min. of Defence (MoD)
12	Nuclear and Radiological Emergencies	Dept. of Atomic Energy (DAE)
13	Rail Accidents	Rail Accidents Min. of Railways (MoR)
14	Road Accidents	Min. of Road Transport and Highways (MoRTH)
15	Urban Floods	Min. of Urban Development (MoUD)

### 3.1.2 DM ORGANIZATIONAL STRUCTURE AT STATE LEVEL

At the State level, the State Disaster Management Authority under the chairmanship of the Chief Minister stood constituted on 1.6.2007 and has the responsibility of policies, plans and guidelines for DM and coordinating their implementation for ensuring timely, effective and coordinated response to disasters. The Chief Secretary is the Chief Executive Officer of the SDMA. Besides, the SDMA has seven other members.

The SDMA will, inter alia approve the State Plan in accordance with the guidelines laid down by the NDMA, approve DMPs prepared by the departments of the State Government, lay down guidelines to be followed by the departments of the Government of the State for the purpose of integration of measures for prevention of disasters and mitigation in their development plans and projects, coordinate the implementation of the State Plan, recommend provision of funds for mitigation, preparedness measures, review the developmental plans of the different Departments of the State to ensure the integration of prevention, preparedness and mitigation measures and review the measures being taken for mitigation, capacity building and preparedness by the departments. The State Authority shall lay down detailed guidelines for providing standards of relief to persons affected by disaster in the State.



The State Executive Committee (SEC) headed by the Chief Secretary and four other Secretaries as its members shall be there to assist the SDMA in the performance of its functions. The SEC will further provide necessary technical assistance or give advice to District Authorities and local authorities for carrying out their functions effectively, advise the State Government regarding all financial matters in relation to disaster management, examine the construction, in any local area in the State and, if it is of the opinion that the standards laid for such construction for the prevention of disaster is not being or has not been followed, may direct the District Authority or the local authority, as the case may be, to take such action as may be necessary to secure compliance of such standards, lay down, review and update State level response plans and guidelines and ensure that the district level plans are prepared, reviewed and updated, ensure that communication systems are in order and the disaster management drills are carried out periodically. The SEC will also provide information to the NDMA relating to different aspects of DM.

### 3.1.3 DM ORGANIZATIONAL STRUCTURE AT DISTRICT LEVEL

#### 3.1.3.1 DISTRICT DISASTER MANAGEMENT AUTHORITY

The District Disaster Management Authority (DDMA) will act as the district planning; coordinating and monitoring body in accordance with the guidelines lay down by the State Authority. As per *Section 25 of the DM Act 05, A DDMA* for Lahaul and Spiti district has also been constituted, consisting of the following members:

#	Officials Designation	DDMA
1.	Deputy Commissioner	Chairperson
2.	Superintendent of Police	Member
3.	Chief Medical Officer	Member
4.	Superintending engineer (PWD)	Member
5.	Superintending Engineer (I & PH)	Member
6.	Superintending Engineer (MPP & P)	Member
7.	Chairperson of the Zila Parishad	Member
8.	Additional District Magistrate	Member

#### The roles and responsibilities of the DDMA

The roles and responsibilities of the DDMA have been elaborated in **Section 30 of the DM Act, 2005**. The DDMA will act as the planning, coordinating and implementing body for DM at the District level and take all necessary measures for the purposes of DM in accordance with the guidelines laid down by the NDMA and SDMA. It will, inter alia prepare the District DM plan for the District and monitor the implementation of the National Policy, the State Policy, the National Plan, the State Plan and the District Plan. The DDMA will also ensure that the guidelines for prevention, mitigation, preparedness and response measures lay down by the NDMA and the SDMA are followed by all the Departments of the State Government at the District level and the local authorities in the District. The DDMA will further ensure that the areas in the district vulnerable to disasters are identified and measures for the prevention of disasters and the mitigation of its effects are taken, ensure that the guidelines for prevention of disasters, mitigation of its effects, preparedness and response measures as laid down by the National Authority and the State Authority are followed by all departments, lay down guidelines for prevention of disaster management plans by the department of the Government at the districts level and local authorities in the district, monitor the implementation of disaster management plans prepared by the Departments of the Government at the district level.

#### Powers and Functions of District Disaster Management Authority

As per *section 30 of the Disaster Management Act 2005*, this authority has been vested with the following powers and functions: -

1. It shall act as the planning, coordinating and implementing body in the district for disaster management and take all measures for disaster management in the district as per the guidelines in the National / state Disaster management plans
2. To prepare the District Disaster Management Plan of the district and its periodic review and update.

3. To identify the areas vulnerable to the different hazards in the district and measures for its prevention, mitigation thereof by the different departments and the local authorities at the district level.
4. Give direction to the different departments and the local authorities to take measures for prevention and mitigation of the disasters in the district.
5. Monitor the implementation of the disaster management plans prepared by the departments at the district level.

### 3.1.3.2 DISTRICT DISASTER MANAGEMENT ADVISORY COMMITTEE

District level Disaster Management Advisory Committee(s) has been appointed by the District Disaster Management Authority (DDMA) to take advice on various subject specific fields within the overall context of disaster management.

#	Officials Designation	DDMA
1	Deputy Commissioner	Chairperson
2	Chairman ZP	Co-Chairman
3	Superintendent of Police	Member
4	Additional DC	Member Secretary
5	Chief Medical Officer	Member
6	Executive engineer (PWD)	Member
7	Executive Engineer (I & PH)	Member
8	District Food and Supplies Controller	Member
9	Fire Officer	Member
10	District Public Relations Officer	Member
11	SDO BSNL	Member
12	Divisional Forest Officer	Member
13	Dy Director Animal Health & Breeding	Member

### 3.1.4 SUB-DIVISIONAL LEVEL DISASTER MANAGEMENT COMMITTEE

At Sub-Divisional Headquarters, such a committee is chaired by the Sub-Divisional Magistrate. The constitution of Sub-Divisional Level Committee is as under:

#	Officer	Position
1.	Sub Divisional Officer (Civil)	Chairman
2.	Tehsildar / Naib Tehsildar	Member
3.	SDPO	Member
4.	SDO , I & PH	Member
5.	SDO, HPPWD	Member
6.	SDO, (HPSEB)	Member

7.	Inspector, food Supplies & Consumers affairs	Member
8.	CDPO	Member
9.	Block Development Officers	Member
10.	Divisional Forest officer	Member
12.	Block Medical Officer (Health)	Member

#### **Non-Official Members:**

- The voluntary bodies (NGOs) at Tehsil / Sub-Divisional Level shall also be associated.
- Elected representatives of the area and a few prominent citizens.

#### **The constitution of Kanungo Level Committee will be as under:**

#	Officer	Position
1.	Field Kanungo	Coordinator
2	Patwaris in concerned Kanungo	Member
3	Pradhan, Gram Panchayat	Member
4	Junior Engineers of Govt. Deptt.	Member
5	Forest Guard of Forest Deptt.	Member
6	Telecom Technician	Member
7	Gram Panchayat Vikas Adhikari	Member Secretary

#### **Non-Official Members:**

- All voluntary bodies such as Mahila Mandals, Yuvak Mandals may be associated in management of disasters.
- Elected representatives of the areas and a few prominent citizens.

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### **3.1.5 OTHER INSTITUTIONAL ARRANGEMENTS**

#### **3.1.5.1 ARMED FORCES**

Conceptually, the Armed Forces are called upon to assist the civil Administration only when the situation is beyond their coping capability. In practice, however, the Armed Forces form an important part of the Government's response capacity and are immediate responders in all serious disaster situations. On account of their vast potential to meet any adverse challenge, speed of operational response and the resources and capabilities at their disposal, the Armed Forces have historically played a major role in emergency support functions. These include communication, search and rescue operations, health and medical facilities, and transportation, especially in the immediate aftermath of a disaster. Airlift, Heli-lift and movement of assistance to neighboring countries primarily fall within the expertise and domain of the Armed Forces. The Armed Forces will participate in imparting training to trainers and DM managers, especially in CBRN aspects, heli-insertion, high altitude rescue, waterman ship and training of paramedics. At the National level, the Chief of the Integrated Defense Staff to the Chairman Chiefs of Staff Committee

has already been included in the NEC. Similarly, at the District level, the local representatives of the Armed Forces will be opted in the DDMA meetings to ensure closer coordination and cohesion.

### 3.1.5.2 CENTRAL PARAMILITARY FORCES

The Central Paramilitary Forces (CPMFs), which are also the Armed Forces of the Union, play a key role at the time of immediate response to disasters. Besides contributing to the NDRF, they respond to disasters which may occur in the areas where they are posted.

### 3.1.5.3 STATE POLICE FORCES AND INDIA RESERVE BATTALIONS

The State Police Forces and the India Reserve Battalions are crucial for immediate response to disasters. The existing Police Forces located in the district will be trained in advanced SAR and MFA techniques so that their services can be utilised in disaster situations/events. Fire Services and

### 3.1.5.4 HOME GUARD

The Home Guards and Fire Services will be assigned an effective role in the field of disaster management. They will be deployed for community preparedness, conduct of mock drill and public awareness. A culture of voluntary reporting to duty stations in the event of any disaster will be promoted. The Fire Services upgraded to acquire multihazard rescue capability. The existing set up of these services would be strengthened to take up the new role more effectively. NCC, NSS, NYKS, Scouts and Guides, Mahilla and Yuvak Mandals as organisations would be roped in DM. They will be trained in search and rescue (SAR) and medical first aid (MFA) and other aspects of Disaster Management as per the need. The potential of these organisations would also be used for education and awareness generation in Disaster Management. A database of trained personnel would be created and uploaded regularly in the DDMA website.

### 3.1.6 DISTRICT CRISIS MANAGEMENT GROUP

The crisis management group at districts level has been constituted. The DCMG is headed by the District Magistrate / Deputy Commissioner and is responsible for on-scene management in emergency.

This Group will be responsible for on-scene management of the incident / emergency. All agencies will provide resources to this Group as required. Where a specialist team is deputed by the State / Central Group, this Group will normally abide by the advice of the said specialist team; but the ultimate decision will be that of the District Crisis Management Group.

**Government of Himachal Pradesh  
Home Department.**

No. Home(A)F(10)-5/2005

Dated Shimla-171002, the: 3-06-09

**Notification**

The Governor , Himachal Pradesh is pleased to constitute a District Crisis Management Group ( DCMG) for dealing with different crisis/ emergencies within the overall framework provided by the Crisis Management Plan in pursuance of Ministry of Home Affairs, Government of India's letter No. 32-35/2003 NDM-II, dated 21/22 April, 2009 as under :-

	<b>Members</b>	<b>Composition</b>
1	District Magistrate	Chairman
2	Superintendent of Police of the	Convener-Member
3	Additional District Magistrate	Member-Convener
4	Representative of IB Located in the Distt	Member
5	Representative of Central Para Military Forces Located in the District if any:	Member
6	Commandant Home Guards:	Member

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### 3.1.7 DISTRICT EMERGENCY OPERATION CENTRE (DEOC)

District Administration shall set up District Emergency Operation Centre and provide adequate manpower for manning them on 24x7 basis round the year and arrange training for the EOC Staff on EOC operations. District Administration shall develop SOP/ Protocol for activation of DEOCs during emergency/disasters. The DEOC would perform the following functions: -

- i. District control room would be the nerve center for the disaster management;
- ii. To monitor, coordinate and implement the actions for disaster management;
- iii. Activate the ESF in the event of a disaster and coordinate the actions of various departments / agencies;
- iv. Ensure that all warning, communication systems and instruments are in working conditions;
- v. Receive information on a routine basis from the district departments on the vulnerability of the various places and villages (parts of the districts);
- vi. Receive reports on the preparedness of the district level departments and the resources at their disposal to arrange and meet their requirements;
- vii. Upgrade the Disaster Management Action according to the changing scenario;
- viii. Maintain a web-based inventory of all resources through the India Disaster Resource Network (IDRN);
- ix. Provide information to the Relief Commissioner' Office of the disaster / emergencies / accidents taking place in the district regularly and maintain a data base of disasters and losses caused by them;
- x. Monitor preparedness measures and training activities;
- xi. Providing information at district level, local level and to disaster prone areas through appropriate media;
- xii. Brief the media of the situations and prepare day to day reports during the disasters;
- xiii. To report the actual scenario and the action taken by the District Administration;
- xiv. Maintain a data base of trained personnel and volunteers who could be contacted at any time;
- xv. Lease with on-site operation center, State EOC and other emergency services

The Additional District Commissioner shall be the Nodal Officer for Disaster Management and would be in-charge of the DEOC. The design, layout, equipment and operation of the DEOC would be as per the EOC Manual prepared at the State level.

### 3.2 FUNCTIONING OF THE EMERGENCY OPERATION CENTRE

1. Additional District Commissioner (P) –cum-Chief Executive Officer DDMA will be the overall incharge of the EOC and will take the role of Incident Command in certain disasters and in disaster having the large magnitude of damage The Chairman of DDMA i.e. Deputy Commissioner shall be the incident Command.
2. All the members of the DDMA and the nodal officers of all other departments at the district level shall be the members of the EOC.
3. The EOC will have the communication connectivity with all the subdivision, blocks and even the village level may be through HAM radios, Satellite telephones etc.
4. The EOC will have the communication equipment's which can be mounted on the vehicle and the Incident place can be connected with EOC.
5. DEOC will have the connectivity with the other DEOC and SEOC.
6. DEOC will have the Disaster management plan of the different departments of the district and other agencies operating in the district along with the Subdivision and block level DM plans.

7. Resource inventories of all the departments at the district level along with their locations.
8. Demographic & Socioeconomic data of the district village wise.

### 3.3 TRIGGER MECHANISM & INCIDENT RESPONSE SYSTEM (IRS)

This Trigger Mechanism prescribes the manner in which the disaster response system shall be automatically activated after receiving early warning signals of a disaster happening or likely to happen or on receipt of information of an incident. Activities envisaged in this SOP under the response Phase shall be initiated simultaneously without loss of time to minimize the loss and damage and mitigate the impact of disaster. There shall be two types of situation with different trigger mechanisms for natural disasters:

- Situation I - Where Early Warning signals are available
- Situation II - Where Disaster occurs without early warning

In addition to the **District Incident Command Team (DICT)**, there will be four **Sub divisional level Incident Command Teams (SICTs)** which can be deployed at the site of a complex emergency/disaster. When required, these SICTs will be deployed at the site of an emergency/disaster for **on-scene management**. The teams will focus on the operational aspects of response management, duly supported by other functions in ICS, e.g. Planning, Logistics, Finance, etc. The District-level Incident Command Team core management structure Shown in Figure

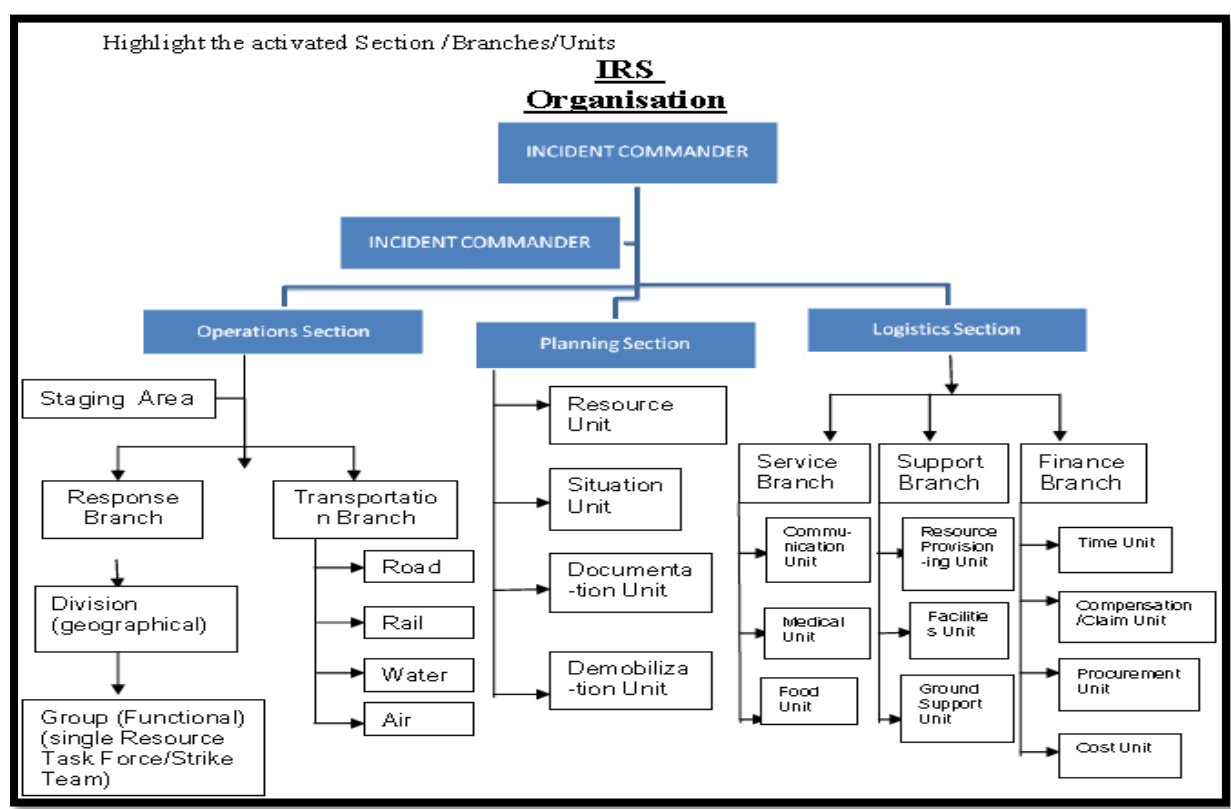
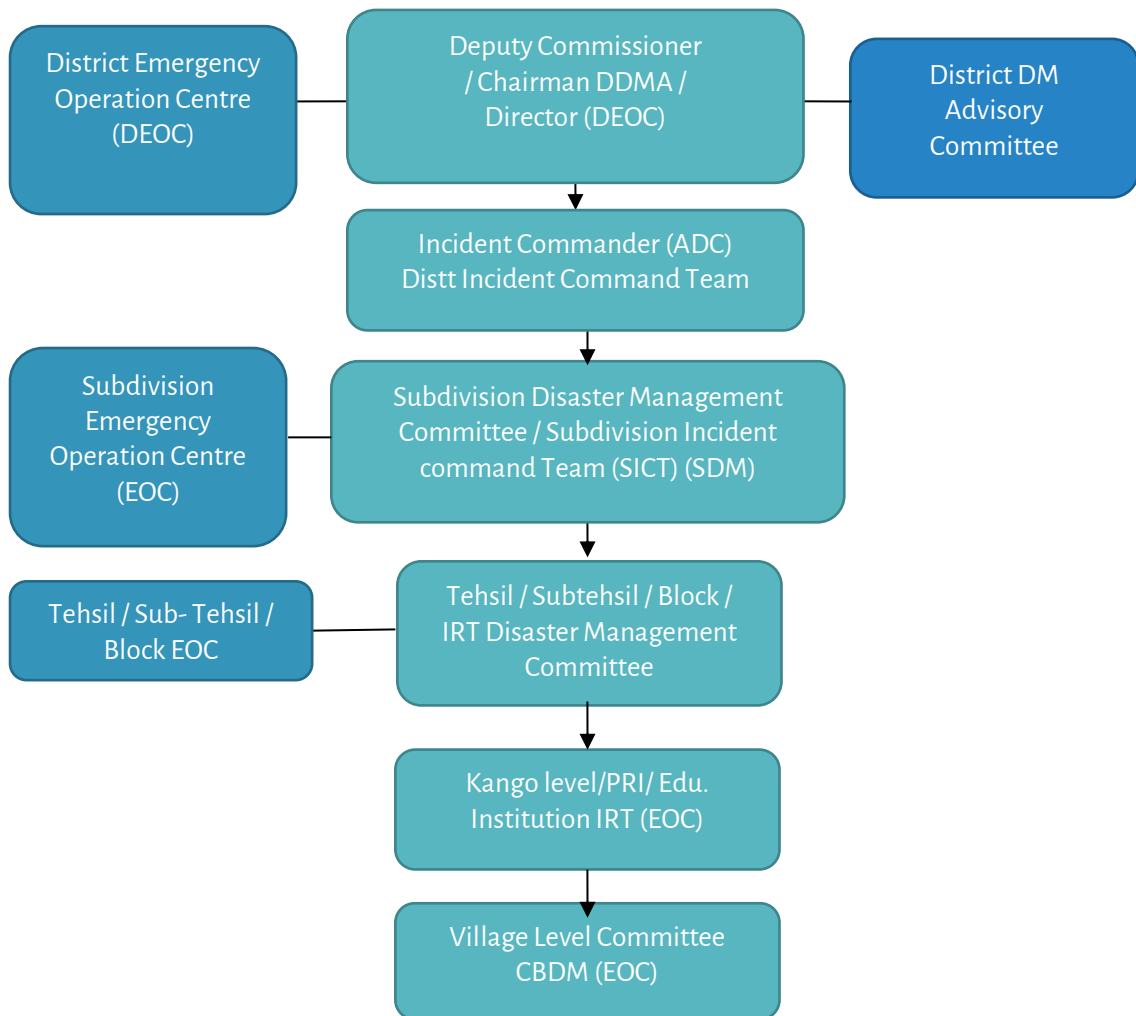


Figure: District-level Incident Command Team core management structure



- CBDM : Community Based Disaster Management
- IRT : Incident Response Team

## 4. PREVENTION AND MITIGATION MEASURES

### 4.1 MAINSTREAMING DRR INTO DEVELOPMENT SECTORS

DRR refers to the measures used to reduce direct, indirect and intangible disaster losses. The measures may be technical, economic or social. DRR encompasses the two aspects of a disaster management: ‘**Mitigation**’ and ‘**Preparedness**’. Mitigation refers to measures aimed at reducing the risk, impact or effects of a disaster or threatening disaster situation, whereas, preparedness refers to the measures undertaken to ensure the readiness and ability of a society to forecast and take precautionary measures in advance of imminent threat, and respond and cope with the effects of a disaster by organising and delivering timely and effective rescue, relief and other post-disaster assistance. ‘Mainstreaming DRR’ describes a process to fully incorporate the concerns of disaster preparedness, prevention and mitigation into development and post disaster recovery policy and practice. It means completely institutionalizing DRR within the development and recovery agenda. In the chapter three of the plan we have identified earthquakes, flash floods, cloud burst, forest fire, domestic fire, landslides, avalanche and draught as possible hazards in regard to this district. In the following we will discuss the mitigation measures for the mentioned hazards and responsible department for the same.

Following table identifies the structural and non-structural mitigation measures that could be implemented by various departments. Successful implementation of mitigation measures will not only help in addressing the existing risk but also help in preventing the creation of risk in future.

Hazard	Mitigation	Mitigation measure	Responsible department	Supporting department
Earthquake	Structural	Safety audit of schools buildings and their retrofiting	Department of Education	HPPWD
		Safety audit of hospitals	Department of Health and Family welfare	HPPWD
		Safety audit administrative buildings	Revenue department	HPPWD
		Alternate water supply system	I&PH	
		Maintenance of roads	BRO / HPPWD	
	Non Structural	Seismic zoning and policy on land use planning	DDMA	
		Wide dissemination of earthquake resistant building codes by laws	DDMA	HPPWD
		Identification of lifeline buildings and their maintenance	HP PWD and I&PH	
		Training professionals like engineers, architects, and	DDMA	HPPWD

		masons in earthquake resistant construction		
		Mock drills	DDMA	Department of Fire, Home Guard and Mountaineering sub centre Jispa
		Printing and dissemination of IEC material	DDMA	
		Provision of insurance according to building by laws, codes and hazard proneness	Lead bank	
		Awareness generation	DDMA	Department of Fire, Home Guard
		Non-structural hazard identification and fixing	All departments heads	
Flash floods	Structural	Development of Early warning system	DDMA	
	Non structural	Training and capacity building	DDMA	
		Insurance	Lead Bank	
		IEC material printing and distribution	DDMA	
Land Slides	Structural	Retaining structures at the land sliding area.	BRO / HPPWD	
		Proper drainage system along the roads.	BRO / HPPWD	
		Retaining structures to safeguard vulnerable houses at villages level	DRDA (under MNREGA scheme)	
		Plantation at the vulnerable areas	Forest department and DRDA (under MNREGA scheme)	
	Non structural	Awareness generation	DDMA	
		Identification of hot spots	BRO / HPPWD	
		Training and capacity building	DDMA	
		IEC material printing and distribution	DDMA	
Forest fire	Structural	Establishment of Fire stations as per Fire Safety Bye-laws	Department of Fire, Home Guard	DDMA
	Non structural	Implementation of Fire safety measures and enforcement	DDMA	Department of Fire, Home Guard

		Training of communities on forest fire management	Department of Fire, Home Guard	DDMA
		IEC Material development	DDMA	Department of Fire, Home Guard
		Mock drills	Department of Fire, Home Guard	DDMA
		Awareness generation campaigns on prevention of forests from fire	Department of Fire, Home Guard	DDMA
Domestic fire	Structural	Installation of firefighting equipment at schools	Department of Education	
		Installation of firefighting equipment at hospitals	Health and Family welfare	
	Non structural	Implementation of Fire safety measures and enforcement	DDMA	Department of Fire, Home Guard
		Mock drills	Department of Fire, Home Guard	DDMA
		Training on firefighting equipment	Department of Fire, Home Guard	DDMA
		IEC Material development	DDMA	Department of Fire, Home Guard
		Awareness generation campaigns on fire safety and evacuation	Department of Fire, Home Guard	DDMA
Road accidents	Structural	Maintenance of roads	BRO / HPPWD	
		Installation of reflection mirrors at blind curves	BRO / HPPWD	
		.....at hot spots		
	Non structural	Enforcement of traffic rules	Department of police	
		Awareness generation	DDMA	
		Training and capacity building	DDMA	
		IEC material printing and distribution	DDMA	
Cloud burst	Structural			
	Non structural	Awareness program on avalanche	DDMA	
		IEC material printing and distribution	DDMA	
		Training and capacity building	DDMA	

<b>Avalanche</b>	Structural	Development of supporting structures in vulnerable villages	Block development office	DRDA (under MNREGA scheme)
		Development of snow rackets in the vulnerable areas	Block development office	DRDA (under MNREGA scheme)
	Non structural	Awareness program on avalanche	DDMA	Mountaineering sub centre Jispa
		IEC material printing and distribution	DDMA	Technical support by Mountaineering sub centre Jispa
		Training and capacity building	DDMA	Mountaineering sub centre Jispa
<b>Draught</b>	Structural	Check dams	DRDA (under MNREGA scheme)	Block development office
		Percolation ponds	DRDA (under MNREGA scheme)	Block development office
		Preparation of drought management plan	Department of Agriculture	I&PH
		Rain Water Harvesting storage tanks at household level and public buildings	I&PH	
	Non structural	Monitoring and early warning	I&PH	IMD
		Awareness camps on crop rotation , tillage practices and erosion control practices for farmers (20 camps every year)	Agriculture / horticulture	DDMA
		Weekly monitoring of the season and crop condition from June onwards till the end of the season and make necessary midseason corrections as and when required.	Department of Agriculture	Department of Horticulture
		Gradation of drought-prone areas based on the frequency of occurrence of droughts, sensitivity to rainfall variation and vulnerability of community	I&PH	Agriculture / Horticulture / Rural Development
		IEC material printing and distribution	DDMA	Agriculture / Horticulture

## 4.2 MAINSTREAMING DISASTER MITIGATION INTO THE EXISTING SCHEMES / PROJECTS IN THE LAHAUL AND SPITI DISTRICT.

There are a number of on-going schemes and projects in the district which will help out the widowed/destitute/handicapped people in a post-disaster scenario in order to generate livelihood options for them. There are also a few schemes which are for the health protective measures. These schemes can be used even in normal times in order to generate employment as well as development of the population. The projects indicate the ongoing works which will help in the prevention and mitigation process. Following is the list of the projects and the schemes which help in the prevention and the mitigation measures.

### Mainstreaming Risk Mitigation in to ongoing plans and programs

Name of Scheme	Major Activities	How DRR Can be integrated	Remarks
Rashtriya Krishi Bima Yojna, Crop Insurance, Rashtriya Krishi Vijas Yojna, National Food Security Mission	<ul style="list-style-type: none"> <li>RKBYI - Risk Insurance against yield losses viz drought, hailstorm Crops covered are wheat, Maize, Paddy &amp; Tomato crops.</li> <li>CI - for Mango, Kanwoo</li> <li>RKVY - holistic, Development of Agriculture &amp; Allied sector.</li> <li>NFSM -Increasing production of rice, wheat, pulses and coarse cereals through area expansion and productivity enhancement in a sustainable manner</li> </ul>	Promotion of Crop Insurance / Draught resistant crop varieties. Fencing of agriculture / horticulture land	Agriculture/ Horticulture Department to prepare an action plan
Sarv Siksh Abhiyan (SSA) Rashtriya Madhyamik Shiksha Abhiyan (RMSA)	<ul style="list-style-type: none"> <li>SSA is a programme for Universal Elementary Education. Opportunity for improving human capabilities to all children through provision of community-owned quality education in a mission mode.</li> <li>RMSA enhance access to secondary education and to improve its quality.</li> </ul>	Disaster prevention can be part of curriculum, Training can be imparted in the schools	Education to prepare an action plan
National Health Mission	The mission is on establishing a fully functional, community owned, decentralized health delivery system with inter-sectoral convergence at all levels, to ensure simultaneous action on a wide range of determinants of	Ensure prevention and surveillance measures, Maintain adequate stock of drugs and equipment at all levels of healthcare system. Enhancing disease monitoring and surveillance systems.	Health Department to prepare an action plan

	health such as water, sanitation, education, nutrition, social and gender equality.		
<b>Targeted Public Distribution System</b>	(TPDS) is on “poor in all areas” and TPDS involves issue of 10 Kg of food grains per family per month for the population Below Poverty Line (BPL) at specially subsidized prices.	Ensure adequate stock of essential commodities	Food & Civil Supply Department to prepare an action plan
<b>Pradhan Mantri Gram Sadak Yojna</b>	(PMGSY The primary objective of the PMGSY is to provide all-weather road connectivity to all eligible unconnected habitations in the rural areas having population of 500 persons	Introducing Disaster Risk Impact Assessments into the construction of new roads and bridges. Building of Roads for places which are not connected to other parts of the district	Public Work Department to prepare an action plan
<b>MGNREGA</b>	the Act is augmenting wage employment for the poorest of the poor while the secondary objective is to strengthen natural resource management through works that address causes of chronic poverty, like drought, and thus encourage sustainable development	Supplement other agencies in construction of roads, canals, water bodies, shelters. To include Disaster risk assessment in social audits. Check dams and embankments and drainage systems to prevent flooding of those areas.	DRDA to prepare an action plan
<b>Pradhan Mantri Gramin Awaas Yojana/RAY</b>	Granting a subsidy to people from women Economically weaker section of Society SC, ST categories so that they buy a home for themselves and their families. The subsidy amount may range from 1 lakh to 2.30 lakhs per beneficiaries.	Promoting skills and knowledge in modifying locally available building technologies to enhance their safety features. Dwelling houses constructed under Pradhan Mantri Gramin Awaas Yojana / RAY are to be assigned with retrofitting to be able to withstand earthquakes, Pre-construction Planning to ensure disaster resistant structures. Survey of disaster prone areas and undertaking adequate safety measures	
<b>Rural Infrastructure Development Fund</b>	RIDF has played an important role in development of diversified sectors like irrigation, roads and bridges, flood protection, drinking water supply in addition to primary education, veterinary services, watershed development, IT 21 infrastructure etc.	NABARD is expected to prepare a list of mitigation actions which could be included in their projects	NABARD to prepare an action plan

<b>Fairs, Festivals, annual sports Meets</b>		festivals are good platforms for awareness generation	District Sports authority / NYKS to prepare an action plan
<b>Joint Forest Management</b>		Prevent deforestation to prevent landslides, Prevent forest fires.	Forest department to prepare an action plan
<b>Monkey Sterilization Programme, Gou Sadan</b>		Mass sterilization / vaccination Insert microchip, containing the detail of its owner, Cowsheds, cattle sheds are constructed in the different parts of the district.	Forest Department / District Admin to prepare an action plan
<b>Pradhan Mantri Surksh Bima Yojana, Pradhan Mantri Jeevan Jyoti Bima Yojna</b>	These scheme providing renewable one year accidental cum disability / life cover of 2 lakh to all saving account holder in the age group of 18 to 70 (PMSBY) & 18 to 50 years (PMJJBY) for a premium of Rs.12 & Rs 330 per annum per subscriber respectively	The assistance provided by the Government for rescue, relief, rehabilitation and reconstruction needs cannot compensate for massive losses on account of disasters, new financial tools such as catastrophe risk financing, risk insurance, catastrophe bonds, microfinance and insurance etc., will be promoted with innovative fiscal incentives to cover such losses of individuals, communities and the corporate sector.	Lead Bank to prepare an action plan
<b>Integrated Tribal Development Program</b>		Arrangement of funds for HF sets in the remote areas. Provision of funds for establishment of alternative water resources and awareness generation	ITDP to prepare an action plan
<b>Indian Red Cross Society</b>		Awareness programs on health and sanitation. Capacity building programs at village level on disaster risk reduction	District red cross society to prepare an action plan

## 5. PREPAREDNESS MEASURES

### 5.1 INTRODUCTION

Disaster preparedness, as already stated, is a broad concept that *describes a set of measures that minimizes the adverse effects of a hazard including loss of life and property and disruption of livelihoods*. Disaster preparedness is achieved partially through readiness measures that expedite emergency response, rehabilitation and recovery and result in rapid, timely and targeted assistance. It is also achieved through community-based approaches and activities that build the capacities of people and communities to cope with and minimize the effects of a disaster on their lives. District administration Lahaul & Spiti (H.P.), has prepared a comprehensive plan. The plan basically detailed out preparedness strategy under which communities and district authorities would be prepared so that level of destruction and unnecessarily delay in relief and response can be reduced. The preparedness measures that is going to include in this chapter include discuss and setting up disaster relief machinery, formulation of community preparedness plans, training to the specific groups and earmarking funds for relief operations.

### 5.2 GENERAL PREPAREDNESS CHECKLIST FOR LAHAUL & SPITI (H.P.)

1. Deputy Commissioner, Lahaul & Spiti (H.P.) shall ensure that preparedness checklist is duly followed by each front line department and status of the same is discussed in monthly meetings.
2. Head of department of each frontline department shall ensure that the departments are prepared to meet the challenges of any emergency/ disaster by duly following the preparedness checklists.
3. Nodal officers of each of the frontline departments shall ensure quarterly updation of District Disaster Management Resource Inventory and submission of the same to District Revenue Officer, Lahaul & Spiti (H.P.) by:
  - a. Adding to it any changes in the human resources of their department along with their updated contact numbers, if any.
  - b. Adding to the equipment list, relevant resources for response activities from both the government and private sector.
4. DRO shall ensure that the same has been updated and uploaded on website of District Administration on quarterly basis with the help of District Information Officer (DIO).
5. Nodal officers of each of the frontline departments shall also report to Head of Department and/or Deputy Commissioner, Lahaul & Spiti (H.P.) about requisition of any relevant resource / equipment, not available with the Government and/or private sector, for disaster management activity.
6. District Disaster Management Authority (DDMA), Lahaul & Spiti (H.P.) shall ensure the establishment of Emergency Operation Centre, Lahaul & Spiti (H.P.) with the following:
  - a. Proper space for Planning and Logistics Section Chief and staff.
  - b. Proper space for control room with adequate communication equipment's including landline telephones, mobile phones, satellite phones, walkie-talkie, ham radio, computer / laptop with printer facility, email facility, fax machine, television, etc.
  - c. Ensure power backup facilities along with availability of generator set.
  - d. Ensure proper space for meeting, conference, media briefing along with LCD, computer and video conferencing facilities.
  - e. Availability of District Disaster Management Resource Inventory, Lahaul & Spiti (H.P.) and also of the neighboring districts (Chamba, Kangra, Kullu and Kinnaur), Disaster Management Resource Inventory of the state and also of critical national resources.
  - f. Availability of Hazard Seasonality Map of Una district.

g. Availability of District Disaster Management Plan, Una (H.P)

Table 5.1: Department wise Preparedness Checklist and their task and responsibilities

#	Department	Preparedness Task and Responsibilities
1	District Admin / DDMA	<ul style="list-style-type: none"> <li>• Prepare, Coordinate and monitor overall district response.</li> <li>• Review readiness to respond to any disaster or threatening disastrous situation</li> <li>• Advise, assist and coordinate the activities of the other Departments</li> <li>• Establish stockpiles of relief and rescue materials.</li> <li>• Ensure communication systems are in order.</li> <li>• Mock drills are carried out periodically.</li> <li>• Ensure prepared and response plans are in place for all Departments of the Government.</li> <li>• Ensure enforcement of the codes, by laws and act such as National Building Code, Bureau of Indian Standards, etc. in the upcoming development projects, construction work, and commercial complexes.</li> </ul>
2	DEOC	<ul style="list-style-type: none"> <li>• Ensure proper functioning of the DEOC including hunting line 1077.</li> <li>• Prepare and maintain inventory of maps, information and contact details.</li> <li>• Prepare and maintain contract agreements for procuring different goods and services.</li> <li>• Identify, list and maintain vendors of critical goods and services.</li> <li>• Ensure functioning of Satellite phones.</li> <li>• Track stock piling of multi - hazard emergency equipment and maintenance.</li> </ul>
3	HPSDMA	<ul style="list-style-type: none"> <li>• Facilitating resources on demands raised by administration.</li> <li>• Maintain state level inventory of critical resources.</li> <li>• Constitute and train disaster management teams which could be deployed in the event of a disaster.</li> <li>• To check the readiness, conduct mock drills.</li> <li>• Track and mobilize resources during disasters.</li> <li>• Update IDRN.</li> <li>• Ensure functioning of Satellite phones.</li> </ul>
4	Police Department	<ul style="list-style-type: none"> <li>• Ensure proper functioning of all equipment's.</li> <li>• Ensure proper mechanism in place for early warning of different hazards through police stations and police posts.</li> <li>• Arrange for public address system and siren.</li> <li>• Prepare for temporary installation of wireless systems between district and subdivisions in case of any damage to existing wireless system with the department.</li> <li>• Train the communication wing of police in setting up control room at short notice at a required site.</li> <li>• Prepare Contingency Plan for response to bomb blast, riots, terrorist attack and other law and order emergencies.</li> <li>• Prepare deployment plan of home guards and other volunteers for protection of property of affected community.</li> </ul>

		<ul style="list-style-type: none"> <li>• Prepare for proper arrangement for custody of recovered belongings and property from dead bodies and affected sites.</li> <li>• Police personal and staff of PCR vans should keep basic first aid box and ensure proper functioning of equipment's.</li> <li>• Train police personnel and staff of PCR vans in first aid and basic life saving techniques.</li> <li>• Prepare for proper protection to women, girls and children to avoid cases of human trafficking.</li> <li>• Prepare for protection of dead bodies to avoid their theft and false claims.</li> <li>• Prepare for safety and security of food and other commodities.</li> <li>• Prepare for protection against hoarding, black marketing of relief material.</li> <li>• Prepare for safety and security arrangements for evacuated area, affected area, transit camps, relief camps, hospital, medical centre, cattle camps and feeding centres.</li> <li>• Ensure traffic plan of Police at disposal.</li> <li>• Keep updated telephone Nos and databases of reserved battalions of police, BDS and Dog Squad in police control Room</li> </ul>
5	Home Guards	<ul style="list-style-type: none"> <li>• Ensure proper functioning of all equipment's.</li> <li>• Prepare teams trained in search and rescue, first aid, firefighting, etc.</li> <li>• Prepare a database of volunteers and equipment's and update the same in DDMRI. Emergency arrangements in industries and direct for corrective measures, if necessary, with respect to statutory provisions for safety.</li> <li>• Direct the management of industries and units to prepare on-site emergency plan of their units.</li> </ul>
6	Fire Services	<ul style="list-style-type: none"> <li>• Ensure proper functioning of all firefighting equipment's, appliances and respiratory equipment's.</li> <li>• Ensure important buildings should have sketched maps and marked evacuation routes with glowing sign.</li> <li>• Ensure regular evacuation drills as per evacuation plans in all important buildings, malls, hospitals, etc.</li> <li>• Make a database of existing firefighting services and facilities provided with private agencies.</li> <li>• Be aware of MAH units and other potential hazardous installations and level of possible emergency required.</li> <li>• Prepare to deal with leakage of flammable toxic substances.</li> <li>• Ensure, at disposal, the list of adverse effects of chemicals and antidotes / methods to deal with emergency involving each chemical. This is prepared by Department of Industrial Safety and Health. (See annexure VII)</li> <li>• Review the adequacy of existing fire prevention arrangements in each MAH and other hazardous units before and after the installations. Share the report with Department of Industrial Safety and Health.</li> <li>• Identify roads and routes of access and escape to and from MAH and other potential hazardous units.</li> </ul>
7	Health Department	<ul style="list-style-type: none"> <li>• Prepare trained team of paramedics.</li> <li>• Develop dos and don'ts and IEC materials regarding health and hygiene.</li> </ul>

		<ul style="list-style-type: none"> <li>• Organise awareness camps with help of CHC/PHCs and Development and Panchayat Department for hygiene promotion and public health issues.</li> <li>• Ensure availability of trained mobile medical teams at disposal.</li> <li>• Prepare psychological and psychosocial care teams.</li> <li>• Ensure availability of generator sets and buffer stock of fuel at disposal.</li> <li>• Ensure availability of adequate supply of life saving equipment's and stock of medicines, portable supplies including portable oxygen cylinders, portable X - ray machine, portable ultrasound machines, triage tags, etc.</li> <li>• Ensure availability of adequate space with suitable facilities for storage of medicines.</li> <li>• Prepare a database of private hospitals and nursing homes with services and facilities available.</li> <li>• Prepare a database of doctors registered with Indian Medical Association (IMA).</li> <li>• Prepare a database of available ambulance services from government, private agencies and District Red Cross Society, if any.</li> <li>• Ensure, at disposal, list of MAH units and hazardous chemicals stored in them.</li> <li>• Ensure, at disposal, the list of antidotes for various hazardous chemicals. This list is prepared by Department of Industrial safety and Health.</li> <li>• Ensure availability of adequate supply of blood units.</li> <li>• Prepare database of blood donors in the district and update the same in DDMRI.</li> <li>• Prepare a database of providers of refrigerated vehicles for transportation of vaccines, blood, blood products, etc.</li> <li>• Train drivers and attendants of ambulance and mobile medical units in first aid and basic life saving techniques.</li> <li>• Prepare a decontamination ward in view of any possible chemical or industrial hazard.</li> <li>• Prepare for prompt establishment of temporary hospital, mobile surgical unit, etc. at short notice, near the affected area.</li> <li>• Ensure proper and safe mechanism for medical waste disposal.</li> <li>• Prepare for proper disease surveillance system.</li> <li>• Make proper arrangement and mechanism for mass casualty management.</li> </ul>
8	District Red Cross Society	<ul style="list-style-type: none"> <li>• Ensure availability of fund for relief materials / work.</li> <li>• Train and prepare ward and village wise first aid teams.</li> <li>• Prepare database of blood donors in the district and update the same in DDMRI.</li> <li>• Prepare database of trainers &amp; volunteers and update the same in DDMRI.</li> <li>• Prepare a database of voluntary organizations and service they offer, ensure their authenticity, and update the same in DDMRI.</li> <li>• Ensure availability of adequate stock of food items, blankets, clothing including woollens, utensils, first aid kits, stretchers, medicines etc. in view of any emergency situation.</li> <li>• Ensure availability of adequate stock of aids (hearing, visual, crutches, artificial limbs, etc.) for physically challenged persons.</li> <li>• Ensure availability of old blankets / gunny bags for animal during cold wave period.</li> </ul>
9	Agriculture Department	<ul style="list-style-type: none"> <li>• Prepare Agriculture Contingency Plan.</li> </ul>

		<ul style="list-style-type: none"> <li>• Constitute a Crop Weather Watch Group at district level (as per 'A Model Manual for Drought Management, GoI) with representatives from Meteorological Department and concerned officers dealing with agricultural inputs, credit extension, etc. to keep a close watch on the monsoon situation, extreme temperature, hail and wind storm.</li> <li>• Identify vulnerable areas prone to pest infestation, drought, flood and other hazards.</li> <li>• Ensure awareness generation in farmers regarding various plant diseases, alternate cropping practices in disaster-prone areas, crop insurance, provision of credit facilities, proper storage of seeds, etc.</li> <li>• Provide training to farmers in alternate cropping techniques, mixed cropping and other agricultural practices which minimise crop losses during future disasters.</li> <li>• Ensure surveillance for pest infestation and crop diseases.</li> <li>• Ensure availability of stock for immediate replacement of broken/non-functioning gadgets/equipment.</li> <li>• Ensure availability of adequate stock of seeds and other agro inputs particularly for areas vulnerable to hazards.</li> <li>• Prepare trained and equipped team for assessment of damage to soil, crop, plantation, drainage, embankment, other water bodies and storage facilities that might impact agricultural activities.</li> <li>• Prepare for establishment of public information booths, with appropriate and modern means of communication, to assist farmers in providing information regarding insurance, compensation, repair of agro equipment's and restoring of agricultural activities at the earliest.</li> <li>• Identify sources of feed and fodder.</li> </ul>
10	Animal Husbandry	<ul style="list-style-type: none"> <li>• Ensure solution / separation of sick and healthy animals and prepare for arrangements for keeping, feeding and watering of animals suffering from contagious diseases.</li> <li>• Sensitize farmers/ owners for above problems.</li> <li>• Ensure separate transportation of animals suffering from contagious diseases.</li> <li>• Ensure proper disinfection of space, vehicle and manpower involved in transportation of sick/ infected and dead animal from contagious diseases.</li> <li>• Ensure fully functional mobile veterinary unit at disposal.</li> <li>• Prepare a database of veterinary hospitals/ clinics and agencies working for animal care.</li> <li>• Ensure availability of stocks of mineral and feed supplements, lifesaving drugs, electrolytes, vaccines, etc.</li> <li>• Ensure sensitization of farmers about protection of their feed and fodder prior to the onset of monsoon.</li> <li>• Ensure filling feed banks before the scarcity period.</li> <li>• Prepare for the feed of the poultry birds for drought situation.</li> <li>• Locate feed and fodder banks in view of submergence situation during the monsoon.</li> <li>• Identify source for procurement of fodder.</li> <li>• Identify safe locations for fodder depot and cattle camps within the district.</li> </ul>

		<ul style="list-style-type: none"> <li>• Ensure assured source of water or canals for drinking and growing fodder along with the above locations.</li> <li>• Prepare for necessary arrangements of tatties, gunny bags and tarpaulin sheets to cover the sheds during heat and cold waves.</li> <li>• Ensure availability of sprinklers/ foggers in shed / camp during heat waves period.</li> <li>• Prepare for special care for productive, lactating and pregnant animals; also supplement them with additional concentrates and fodder.</li> <li>• Ensure proper administration of deworming and vaccinations for cattle, sheep and goats, pigs and other relevant measures for disease management.</li> <li>• Prepare for arrangements for transportation of critically injured livestock.</li> <li>• Identify space for burial of animals and ensure proper disposal of dead animals.</li> </ul>
11	Bharat Sanchar Nigam Limited	<ul style="list-style-type: none"> <li>• Procure recovery plans from private communication service providers for their recovery time objectives.</li> <li>• Prepare for alternate communication System</li> </ul>
12	Development and Panchayat	<ul style="list-style-type: none"> <li>• Prepare mechanism for proper solid waste management, disposal of waste and removal of debris in shelter and relief camps, feeding centres and affected rural areas.</li> <li>• Prepare for sanitation operations in view of post flood situations.</li> <li>• Ensure availability of tractor trolleys and other required equipment for the same.</li> <li>• Plan to provide building/guest house / dharamshalas at different locations to establish control room, first aid and medical post or shelters during emergency.</li> <li>• Prepare a database of catering services providers.</li> <li>• Prepare mechanism for proper solid waste management and disposal of waste in shelter and relief camps, feeding centres and affected villages.</li> <li>• Prepare for prompt provision of temporary toilets/ trench latrines in the affected area and relief camps in rural area.</li> </ul>
13	Education Department	<ul style="list-style-type: none"> <li>• Organise awareness generation programs in schools and colleges for students, teachers, administrative staff and other helpers. These programs should focus on dos and don'ts for various hazards and safe evacuation in case of any emergency.</li> <li>• Conduct hygiene promotion activities as per direction issued by the Health Department on a regular basis.</li> <li>• Ensure preparation of first aid and disaster management kit in each school and college.</li> <li>• Ensure preparation of school and colleges disaster management plan.</li> <li>• Identify safe schools and colleges to serve as relief shelter in case of any emergency within that area, only for short period of time.</li> </ul>
14	Electricity Department	<ul style="list-style-type: none"> <li>• Ensure transmission map at disposal.</li> <li>• Prepare a database of critical and lifesaving infrastructure in the district and prepare for providing uninterrupted power supply to them.</li> <li>• Prepare for providing continuous power supply to the affected area.</li> </ul>

		<ul style="list-style-type: none"> <li>• Prepare to provide electrical connections and system at short notice in affected areas for purpose of pumping flood water and illumination of the area.</li> <li>• Prepare for prompt replacement/ recommissioning of affected power supply system.</li> <li>• Ensure availability of adequate stock of important equipment like transformers, poles, conductors, cables, insulators, etc. for prompt action whenever required.</li> <li>• Ensure trained construction and maintenance staff at disposal.</li> </ul>
15	Food & Supplies Department	<ul style="list-style-type: none"> <li>• Prepare a database of godowns and cold storage facilities in the district.</li> <li>• Prepare a database of catering services providers.</li> <li>• Prepare for safety of stored food grains in godowns against inundation and water logging, fire and other possible hazards.</li> <li>• Prepare for out-movement of food grains to a pre-decided safer location, if required.</li> <li>• Ensure availability of adequate food grains storage in godowns in view of the scarcity or emergency period.</li> <li>• Prepare a database of kerosene depots, petrol pumps, gas agencies, etc. and update the same in DDMRI.</li> <li>• Ensure availability of adequate stock of gas cylinders, kerosene, etc.</li> <li>• Prepare database of private retailers and wholesalers of edible food items.</li> <li>• Prepare a database of providers of refrigerated vehicles for transportation of perishable food items.</li> <li>• Prepare for large scale movement of food grains, their transportation, expeditious unloading, proper storage and prompt distribution through fair price shops, if required.</li> <li>• Prepare a database of private providers of tents, tarpaulin sheets, poles, kanats, cooking utensils, polythene bags, shrouds and other essential items that could be used for community kitchen and cremation and burial.</li> </ul>
16	Forest Department	<ul style="list-style-type: none"> <li>• Ensure proper functioning of all equipment and vehicles.</li> <li>• Prepare a database of Aara machine holders, carpenters.</li> <li>• Prepare team for catching wild animals to prevent infiltration in habituated areas, relief camps, etc.</li> <li>• Prepare for supply of wood for cremation.</li> </ul>
17	Transport / Himachal Roadways	<ul style="list-style-type: none"> <li>• Ensure proper functioning of filling station, vehicles and equipment including fire extinguishers, first aid kits, etc.</li> <li>• Prepare for prompt deployment of vehicles at short notice for various purposes like mass evacuation, transportation of response teams, relief items, victims, etc.</li> <li>• Prepare mechanical team for prompt repair of equipment and vehicles.</li> <li>• Train drivers and conductors in first aid and basic life saving techniques.</li> <li>• Identify the vehicle for rescue operations.</li> <li>• Be well familiar with routes of potential hazardous installations and follow incident traffic plan.</li> </ul>
18	Irrigation Department	<ul style="list-style-type: none"> <li>• Ensure proper early warning mechanism in place for flood by monitoring water level of surface water bodies.</li> </ul>

		<ul style="list-style-type: none"> <li>• Ensure proper and timely inspection of conditions of bunds, siphons, regulators, embankments, inlet and outlets of lakes and reservoirs, etc.</li> <li>• Ensure timely de-silting and dredging of rivers and canals, if required.</li> <li>• Ensure prompt repair of channels, if required.</li> <li>• Ensure proper functioning of all equipment including dewatering pumps.</li> <li>• Prepare for the arrangements of clean drinking water for affected livestock and poultry.</li> <li>• Ensure availability and well-functioning of all equipment and vehicles.</li> <li>• Prepare for distribution of water purifying tablets, bleaching powder and chlorination of public water resources, if required.</li> <li>• Prepare for arrangement of safe drinking water supply for surviving community in the affected areas and also in relief camps and shelters. Also prepare for provisioning of water for other purposes.</li> <li>• Prepare a database of suppliers and distributors of packaged drinking water.</li> <li>• Prepare for prompt repair of pipelines supplying potable water.</li> <li>• Prepare for prompt repair of sewerage systems and water works.</li> <li>• Make standby arrangements of generators for running the water pumps.</li> <li>• Ensure availability of adequate number of water tankers, drums, jerry cans or identify their private suppliers to prepare for supply of water, in scarcity period and in emergency.</li> <li>• Ensure availability of water supply / filling points for fire tenders, water cannons, hospitals and other necessary lifesaving infrastructure.</li> <li>• Ensuring filling of water ponds / lakes in the district with canal water/tube wells prior to summer or whenever required in coordination of Irrigation Department.</li> </ul>
19	Municipal Council / Committee	<ul style="list-style-type: none"> <li>• Prepare for sanitation operations in view of post flood situations within jurisdiction of the area.</li> <li>• Ensure cleaning of drains before the monsoon season.</li> <li>• Prepare mechanism for proper solid waste management and disposal of waste in shelter and relief camps, feeding centres and affected area.</li> <li>• Ensure availability of tractor trolleys and other required equipment for the same.</li> <li>• Prepare mechanism for proper solid waste management, disposal of waste and removal of debris in shelter and relief camps, feeding centres and affected areas in their jurisdiction.</li> <li>• Plan to provide building/ guest house at different locations to establish control room, first aid and medical post or shelters during emergency in coordination with HUDA.</li> </ul>
20	Pollution Control Board	<ul style="list-style-type: none"> <li>• Prepare a database of hazardous chemicals and pollutants in the districts and their probable adverse effects on environment.</li> <li>• Prepare for methods and techniques of decontamination of the same.</li> </ul>
21	Public Relations Department	<ul style="list-style-type: none"> <li>• Prepare for proper public address system ensuring rumour control.</li> <li>• Prepare for media management.</li> <li>• Ensure database of dos and don'ts of all possible hazards in the district.</li> <li>• Ensure distribution of IEC material to community for awareness generation about the same.</li> </ul>

		<ul style="list-style-type: none"> <li>Publicize the information in the interest of public awareness through booklets, pamphlets, radio, television, film shows, newspapers, documentary films, door to door campaign, meetings, etc.</li> </ul>
22	Public Works Department (B&R)	<ul style="list-style-type: none"> <li>Ensure availability and functioning of all equipment like cranes, JCB, etc.</li> <li>Prepare a data base of availability of heavy equipment like cranes, JCB with private agencies also.</li> <li>Ensure, at disposal, the list of MAH units and other vulnerable buildings.</li> <li>Prepare for prompt clearance of debris.</li> <li>Prepare the demolishing squad for prompt demolition of unsafe buildings.</li> <li>Prepare for prompt clearing and repairing of damaged roads, culverts, bridges and flyovers.</li> <li>Prepare for construction of new temporary roads at short notice for diverting traffic from the affected area.</li> <li>Prepare for construction of temporary facilities like that of medical post, temporary shelters, etc. at short notice.</li> <li>Prepare for prompt establishment of helipad near the affected site for VVIP visits.</li> <li>Prepare for restoration of government buildings damaged during disaster.</li> </ul>
23	Regional Transport Authority	<ul style="list-style-type: none"> <li>Make a database of private vehicles available with schools, colleges and other private agencies.</li> </ul>
24	Revenue and Disaster Management Department	<ul style="list-style-type: none"> <li>Ensure regular monitoring of rain gauge and regular updation of database for distribution and variation in rainfall.</li> <li>Ensure proper mechanism in place for early warning of different hazards to village level through tehsildars, patwaris, DDPO.</li> <li>Prepare Flood Control Order by 31st May of each year.</li> <li>Ensure proper functioning of district Flood Control Room during monsoon period and otherwise, if required.</li> <li>Identify villages vulnerable to flood and drought.</li> <li>Prepare a database of critical and lifesaving infrastructure in the district</li> <li>Prepare a database of safe locations for evacuation.</li> <li>Identify possible safe sites for temporary shelters, relief camps and staging area.</li> <li>Ensure availability of fully functional boats, life jackets and oars in view of flood condition of the district.</li> <li>Prepare a database of voluntary organizations and service they offer. Ensure the authenticity of the same.</li> <li>Identify competent persons/experts from various required fields for carrying out damage and need assessment post disaster.</li> <li>Prepare proper mechanism for disbursement of compensation to victims or families of deceased.</li> <li>Prepare a database of safe locations for relief distribution site form as care and housing.</li> <li>Identify site(s) for temporary burial.</li> </ul>

Hence, at a glance following preparedness measures would help in preparing for the disasters within the district:

- Preparation of Disaster Management Plans at District and local level
- Implementing of Disaster Management Plans
- Holding regular meetings at District and Sub-Division level to reviewing the readiness of the administrative machinery to deal with disasters.
- Constitution of Relief Committees at all levels.
- Regular training programmes of Government functionaries, PRIs, ULBs and other stakeholders in various facets of disaster management.
- Public awareness and education in disaster management.
- Community training and empowerment.
- Taking preventive and mitigation measures for the identified hazards.
- Integration of Disaster Risk Reduction (DRR) into on-going development programmes of all departments.
- Establishing effective early warning system for the vulnerable areas and communities.
- Improving the response capacities of the search and rescue teams.
- Conducting regular mock drills
- Preparedness for response after a disaster by the District Administration should take into consideration some guidelines and appropriate action.

## 5.3 FORMATION OF TEAM

### 5.3.1 EARLY WARNING SYSTEM

District Emergency Operations Centre has the responsibility of disseminating warning of any sort with regard to any likely exigency received from the agencies responsible for generating these; IMD, CWC and GSI. Key Responsibilities with regard to this include: The systems of DEOC shall be designed in such a way that information can be promptly accessed and spread to concerned frontline departments. Rapid dissemination contributes to quick response and effective decision-making during emergencies. DEOC would ideally be the meeting place of DDMA and would act as master coordination and control point for all disaster management efforts, as the place of decision-making and effective implementation under a unified command. The DEOCs shall function round the clock and shall maintain direct linkage with SEOCs through phone, fax, wireless and internet. Ham radios, integrated wireless systems, voice logger (computer recorded audio and video facility, automatic recorders for receiving all communication), high frequency radio telephone (100w) transistorized radio receiver, satellite and computer operational system GIS and GPS.

Table: 5.2: Warning agencies / Responsible Departments in the District

Type of Disaster	Warning agencies	Responsible Departments in the District
Earthquakes	IMD, Ministry of Earth sciences / Geological Survey of India, Wadia Institute of Himalayan Geology	District administration and all departments in the district

<b>Landslides</b>	IMD, Ministry of Earth sciences, Wadia institute of Geology, RS Environment SC&T. BRO, Urban Development.	District administration, Public Work Department
<b>Floods / Flash Floods / Cloud Burst</b>	IMD,CWC, Department of ES&T	District administration, Irrigation and Public Health
<b>Village fire</b>	IPH, Health and Admin., Home	District administration, Fire Department
<b>Forest Fires</b>	Fire Department, RS, Home and Admin.	District administration, Forest Department
<b>Drought</b>	IMD, Revenue, RD, DRDA, Nauli and Palampur university, Horticulture, S&T	Agriculture & Horticulture
<b>Industrial Hazard</b>	Labour & Employment, Admin, Home, Pollution Control Board	District administration , Department of Industry
<b>Wind Storm Hazard</b>	IMD, Agriculture and Horticulture	District administration, Revenue
<b>Road Accidents</b>	Transport, PWD, BRO, home and Health, District Road Safety Committees	District administration
<b>Boat capsizing</b>	District DDMA, Home and Health and Family Welfare	District administration, fishery
<b>Stampede</b>	Admin, Health and Family Welfare & Art Language and Culture	District administration, Police, Home Guard
<b>Dam / Reservoir Burst</b>	IPH, Environment Science and Technology, CWC and Administration	District administration HPSEB

Table 5.3: Details of the early warning agencies

#	Hazard	Name of the Warning Agency	Contact Details
1	Earthquake	N - (IMD) Indian Meteorological Department Shimla S - SDMA / SEOC D - DDMA / DEOC	011-24641697 Delhi. 0177-2626211/ 0177-2629724 / 0177-2624976; 9816127668 <a href="mailto:mm_sandhu@yahoo.co.in">mm_sandhu@yahoo.co.in</a> 1077, 01892-229050 to 53
2	Landslide	N - (GSI) Geological Survey of India / DDMA / D - DEOC	0172-2622529 Fax; 0172-2621945; Mob: 094173-71954. <a href="mailto:Joginder.singh@gsi.gov.in">Joginder.singh@gsi.gov.in</a> <a href="mailto:gsichd@sancharnet.in">gsichd@sancharnet.in</a> 1077, 01892-229050 to 53
3	Heavy Rain / Snowfall	N - (IMD) Indian Meteorological Department / S - SEOC D - DEOC	0177-2626211 1070 1077, 01892-229050 to 53
4	Flood / Flash Flood	N - (CWC) Central Water Commission S - (CWC) Central Water Commission	0183-236105 Amritsar 0177-2624036, 0177-2624224

### 5.3.2 SEARCH & RESCUE

After any disaster, main activity is search and rescue. By effectively performing this activity loss due to disasters can be minimized. People who are trapped under destroyed buildings or are isolated due to any disaster need immediate assistance. The District Commissioner, in conjunction with local authorities will be responsible for the search and rescue operations in an affected region. At present, Nodal department for this activity is Home Guard Department. The helping departments for search and rescue are P.W.D., Nagar Panchayat / Nagar Palika, Self-help groups, N.S.S, N.C.C. There are other bodies too that help these departments in this work, like, Health department, Fire department. The district administration should acquire the expenditure on constituting, training, equipping and maintaining search and rescue teams. In doing so, the DC will be guided by relevant disaster management plans and will be supported by Government departments and local authorities.

#### Setting up and training of Search and Rescue team:

- Search rescue teams will be established drawing staff from suitable uniformed services
- Search and rescue teams will be trained on the collapsed structure, confined space search & rescue, and rope rescue etc.
- Required equipment for the teams will be procured
- Regular drills will be held to practice and demonstrate search and rescue skills by the teams

### 5.3.3 EVACUATION

Evacuation is a risk management strategy. It involves the movement of people to a safer location in some contexts, related to the threat and impact of natural hazard events such as severe storms, floods, earthquakes and wild fires, hundreds to millions of people may need to move within a very short period of time. Planning for such situations is critical to effectively mobilize and coordinate capacity and resources, and manage the safe and timely evacuation of all persons at risk, to meet emergency needs for shelter and assistance, and to ensure evacuees and other affected people are able to recover from the disruption and risks created by their displacement as safely and quickly as possible.

The following factors need consideration:

- Identification of alternative routes.
- Transport arrangement.
- Approaches to the shelter location in light of disruption due to hazard impact and traffic blockades.
- Provision of essential facilities like drinking water, food, clothing, communication, medical, electrical and feeding arrangements, etc.
- Financial and immediate assistance.
- First-aid
- Security
- Counselling
- Appropriate welfare measures throughout all stages.

#### Evacuation route maps in life line Building

Evacuation route maps have been posted in each work area. The following information is marked on evacuation maps:

- Emergency exits
- Primary and secondary evacuation routes
- Locations of fire extinguishers
- Fire alarm pull stations location
- Assembly points

#### **Evacuation Team in the District**

- Revenue Department
- Police
- Commandant of Home Guards
- Regional Transport Officer
- Fire Station

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#### **5.3.4 DAMAGE AND LOSS ASSESSMENT IN THE DISTRICT**

Damage Assessment Teams will be multi-disciplinary teams, whose having knowledge of disaster affected area, physical characteristic of the region, language etc. These officials should share a common interest and commitment, to be set up immediately after disaster. There should be a clear allocation of responsibilities among team members It should include Z.P. members, agricultural officer to assess the crop damage, executive engineer of PWD to assess the damaged houses, S.P to maintain the law and order situation, NGOs and volunteer organizations, Tehsildar, etc. This team may immediately assess the damage undergone due to disaster and report it to the concerned department to get the immediate relief material from the government. Damage assessment procedures are required to avoid litigations and delays in gratuitous relief and compensation, including insurance. The response to disaster would be more effective if the damage assessment is immediate and timely. The formats for damage assessment are given in the annexures-12.

### **5.4 PROTOCOL FOR SEEKING HELP FROM OTHER AGENCIES**

Disasters affect all aspect of human life and all aspects of development. Therefore, Disaster Management is a multi-agency function. It involves actions by all departments, organization and agencies. In short, it involves all departments of the State Government, Central Government, Armed Forces, civil society and commercial organization (NGOS, CBOs, Faith Based Organization, Traders Organizations, and Corporate Sector), international organizations working in the field of disaster response, UN Agencies etc. It is therefore, important that roles and responsibilities of each stakeholder is laid down during normal time and coordination mechanism worked out so that the same works during emergencies.

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#### **5.4.1 CORPORATE SECTOR**

District Authorities shall ensure participation of corporate sector in activities related to three phases of disaster management. The corporate sector is expected to provide resources to the government under CSR.

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#### **5.4.2 ARMY / AIR FORCE**

The assistance from army / air force wing can be taken on requirement during major rescue operations as per standing guidelines given at ANNEXURE-10.

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### 5.4.3 FOREIGN ASSISTANCE

As a stated policy of the Government of India no appeals shall be made seeking foreign aid for disaster response. However, if the foreign national governments voluntarily offer assistance as a goodwill gesture in solidarity of the disaster victims, the Ministry of Home Affairs will coordinate with the Ministry of External Affairs for obtaining and channelizing such assistance. All national and international non-government agencies while rendering emergency support functions on the ground will function under the overall command of the State Government through the Incident Commander.

## 5.5 OPERATIONAL CHECK-UPS OF VARIOUS SYSTEM

Warning system are checking periodically like, Satellite phone, Hot Line, Telephone connection, HIMSWAN connectivity etc. In Pre- monsoon meeting also give direction for checking warning system like, port signals. Operational check-up of warning system is done twice a year at the time of conduct of mock drill on January/February and July/August. Operational check-up of Emergency Operation Centre is carry out month wise and check out all facility and equipment in DEOC.

## 5.6 COMMEND & COORDINATION

Command allows agencies with different functional authorities, roles, and responsibilities to work together effectively without affecting individual accountability. Under a Unified Command, a single, coordinated Incident Action Plan will direct all activities. The commanders at the Incident Command System will supervise a single Command and all stakeholders will seek the same purpose in conducting emergency operations. Regular Liaison and discussions with concerned line departments / organizations, NGO's, CBO's / PRIs, etc. and their representatives at various locations, keeping Incidence Commander (IC) informed about arrivals of all the Government and Non-government agencies and their available resources, and briefing meetings to all Government and Non-government agencies with the IC. This coordination will also involve facilitating disaster-response by addressing special needs of services delivery mechanism.

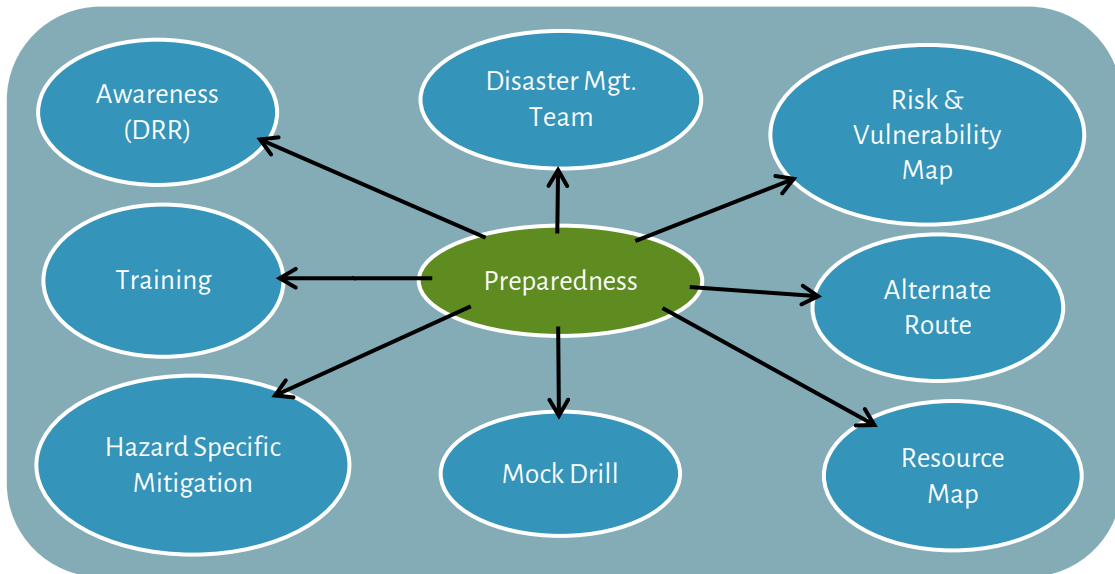
## 5.7 COMMUNITY EDUCATION AND PREPAREDNESS PROGRAMME

Community is the first and last to face the disaster. Equipping them, educating and preparing them for the recurring disasters are of vital importance. The most vulnerable areas are to be identified and periodic awareness programme are to be provided at the Ward level, Panchayat level, Educational Institutions, Social Organizations etc. It is essential to examine the various methods in which the community can be effectively involved in planning for disaster management. A community which is aware and well equipped to handle disasters will face them boldly.

Community awareness programmes are conducted regularly in various parts of the district. During 2013-16, such workshops were conducted at Sadar, Shri Naina Devi Ji, Chumarwin and Jhandutta block and awareness was spread among the community. The stakeholders from PRI", SHG", NGO's, ULBs, NCC, NSS and Scouts and Guides volunteers and local officers were sensitized about various measures of preparedness and relief and rescue operations. During 2013-16, the department of Civil defence, NDRF, &

Language Department has also conducted mock drills / Nukar Natak in educational, religious and office premises for spreading awareness among grass root level stakeholders.

Fig-5.1 Community Education and Preparedness Programme



## 5.8 STANDARD OPERATING PROCEDURES

During Post disaster district may require support from other adjoining districts, for this the DEOC head can seek help from other districts through Divisional Commissioner or SEOC. This portion will elaborate the issues pertaining to mutual support, understanding and coordination at the inter district level. In Una district inter district coordination was possible only at collector level or head of department level during disaster and also to prevent any mishap like flood situation arising out of release of water from dam of other district.

This section will elaborate the mutual coordination, and clarity of role amongst intra district nodal agencies at the district, and sub district level (including Block level headquarters), with reference to disaster management functions. In the present scenario, intra district coordination is possible only with the orders of District collector or senior officer.

## 5.9 KNOWLEDGE MANAGEMENT: INDIA DISASTER KNOWLEDGE NETWORK

It is a web portal, which offers a broad array of resources and services, such as knowledge collaboration, networking, maps, emergency contact information system and several other valuable information related to natural disasters. It provides a platform to share knowledge and create an environment to learn about disaster management through interactive process. The main goal of IDKN is to create an easy to use unified point of access to disaster management knowledge and services and facilitate in accelerated and improved quality of disaster mitigation and response. There are more than 20 knowledge partners in IDKN which includes NITs, IITs, CBRI, SASE, ICIMOD, GSI, CWC, IMD, Wadia Institute of Himalayan Geology Dehradun, etc., and UN Agencies and other national and international agencies dealing with emergency response will be done to utilize their experience and knowledge for DM in the district.

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### 5.9.1 DOCUMENTATION OF BEST PRACTICES

The indigenous technical knowledge would be documented and promoted. And in the immediate aftermath of any disaster or incident, field studies will be carried out, with the help of experts wherever needed, as an institutional measure. These studies will concentrate on identifying gaps in the existing prevention and mitigation measures and also evaluate the status of preparedness and response. Similarly, the lessons of past disasters will also be compiled and documented. The recovery and reconstruction process will also be analysed for further refining the DM processes and training needs. The Thalot tragedy at Mandi which occurred in June, 2014 has been kept in mind while devising plans for people living around the catchment areas of Koldam and Bhakra Dam areas where there is also huge influx of tourists mainly during the summer season. The Dam authorities sound hooters before discharging water, people are being regularly sensitized through local bodies and sign boards have been put up by NTPC authorities in sensitive spots as warnings to people to check them from going near the river bed. The safe evacuation of two workers trapped inside the Tihra Tunnel, the site of four lanes, in September 2015, at a distance of approximately 16 KMs from District Headquarters, has been set up as a bench mark for saving and valuing human lives in rescue operations for all the times to come. Different departments namely HPPWD, I&PH, Education, Home Guards, Police, DRDA, Rural Development have been corresponded with, to prepare their specific department related disaster management plans on priority basis and to submit the same with DDMA so that the same can be processed and taken up with SDMA for further updation.

### 5.10 RESOURCE MANAGEMENT: INDIAN DISASTER RESOURCE NETWORK

India Disaster Resource Network is a crucial database for response any disaster. It is a nation-wide electronic inventory of resources that enlists equipment and human resources, collated from districts, states and national level line departments and agencies. It is a web based platform, for managing the inventory of equipment, skilled human resources and critical supplies for emergency response. This database will also enable them to assess the level of preparedness for specific vulnerabilities. Total 226 technical items listed in the resource inventory. Primary focus of IDRN portal is to enable the decision makers to find answers on availability of equipment and human resources required to combat any emergency situation. This database will also enable them to assess the level of preparedness for specific disasters. IDRN updation is regularly base work.

### 5.11 MEDIA MANAGEMENT

Media can play a major during disaster. They can aid in information dissemination about help-line, aid-distribution camps, emergency phone number or the needs of the people. Further, they can also help in quashing rumours, for crowd management and prevent panic situation. Media can also help in mobilizing resources [money, volunteers etc.] from other areas. To disseminate information about various hazards in the district and the relevant dos and don'ts during and after a disaster. This may be done through various media such as newspapers, television, radio, internet, media and information van, street theatre, etc. The DPRO in consultation with the DDMA would take appropriate steps in this direction.

### 5.12 PREPARATION OF DISABILITY INCLUSIVE PLAN

Early warning provides a very important link between preparedness measures and response action, which in turn reduces the risk of exposure and injury of community members. A comprehensive early warning system is very important in any community, however, even more so in a community with PWDs as they are frequently overlooked in disaster situations.

Table 5.4: Disability Inclusive plan

Types of Disabilities	Warning System	Responsibility
Visual Impairment	<ul style="list-style-type: none"> <li>• Auditory Signal System / Alarms</li> <li>• Announcements</li> <li>• Posters written with large characters and colour contrast</li> </ul>	DDMA, Social Welfare Department, Individual Household
Hearing Impairment	<ul style="list-style-type: none"> <li>• Visual Signal Systems - Red Flag, Symbols</li> <li>• Pictures</li> <li>• Turn lights off-on frequently</li> </ul>	
Physical Impairment	<ul style="list-style-type: none"> <li>• Auditory Signal System / Alarms</li> <li>• Announcements</li> </ul>	
Intellectual Impairment	<ul style="list-style-type: none"> <li>• Special Signals- Red flag, Symbols</li> <li>• Clear and brief announcements by rescue workers</li> </ul>	

### 5.13 CORPORATE SOCIAL RESPONSIBILITY (CSR) AND PUBLIC-PRIVATE PARTNERSHIP (PPP)

Historically, the corporate sector has been supporting disaster relief and rehabilitation activities. However, the involvement of corporate entities in disaster risk reduction activities is not significant. PPP between the Government and private sector would also be encouraged to leverage the strengths of the latter in disaster management. The DDMA would need to network with the corporate entities to strengthen and formalize their role in the DM process for ensuring safety of the communities. The corporate sector also needs to be roped up for on-site and off-site emergency plans for hydro-power projects. The role of corporate sector for awareness generation and local capacity building is also important and efforts would be made to involve corporate sector in this effort.

### 5.14 HOSPITAL PREPAREDNESS

The Chief Medical Officer of the district in coordination with the DDMA will ensure that the hospitals and health centers in the district are prepared to respond to various disasters. Towards strengthening preparedness, the following action will be undertaken:

- Train the medical staff to respond to disasters
- Prepare hospital level disaster response and preparedness plan and hold mock drills
- Maintaining a stockpile of emergency resources
- Prepare resource mobilization plan
- Maintain emergency contact numbers of various hospitals including private and military hospitals
- Map and identify blood banks and blood donors in and around the district
- Map and identify suppliers for critical medicines

## 5.15 SCHOOL PREPAREDNESS

The District Education Officer of the district in coordination with the DDMA will ensure that the schools in the district are prepared to respond to various disasters. Towards strengthening preparedness, the following action will be undertaken:

- Train the school teachers, staff and students to respond to disasters
- Prepare school disaster management and preparedness plan and hold mock drills
- Prepare school level task forces and train them
- Maintain emergency contact numbers of service providers such as Police, Hospitals, Ambulance services, DDMA etc.

## 6. TRAINING AND CAPACITY BUILDING

As per the Disaster Management Act (2005), capacity-building includes:

1. Identification of existing resources and resources to be acquired or created;
2. Acquiring or creating resources identified under sub-clause (i);
3. Organization and training of personnel and coordination of such trainings for effective management of disasters.

The primary purpose of capacity-building in disaster management is to reduce risk and thus make communities safer. This can be done by increasing resilience and enhancing coping capacities. Effective capacity-building at the district level requires the active participation of all those who are tasked with it. It must, therefore, include maintaining a comprehensive and up-to-date District Disaster Management Resource Inventory, awareness generation, education, Research and Development (R&D) and systematic and systematized training.

The Deputy Commissioner should ensure the following capacity-building activities of the entire district, and the various Heads of Departments should ensure capacity-building of their respective departments. Furthermore, the Nodal Officers should, in coordination with the HODs, procure relevant equipment for disaster management activities.

### Stake holder departments

#	Stake holder departments
1	Revenue department
2	HP PWD
3	HP SEB
4	I&PH
5	Department of health and family welfare
6	Fire and home guards
7	Police department
8	Education department
9	Food and civil supply
10	BRO
11	Nehru yuva Kendra
12	Mountaineering sub centre
13	Sports and youth development
14	Financial institution (banks)
15	NGO's, CBO's

There are gaps identified in Chapter 2 of the plan. These gaps need to be covered under a well-defined training and capacity building program. Following table consists of the list of stake holder departments available in the in the district who need to be trained.

Training and capacity building requirements are identified based on the gaps identified from the chapter 2 of the DDMP, and opinions obtained from different consultation meetings held at the district level. The trainings of following types:

- Policy level
- Skill training
- Managerial training

The training are further categorized in to Long term, Medium Term and Short term training. Long term meaning that the training need to be offered for about 5-8 years, Medium term meaning that the training need to be offered for about 3-4 years and short term meaning that the training need to be offered for 1-2 years. The training plan also provides information regarding the responsible person department wise for carrying out these training. The departments are expected to prepare an action plan to hold these training in consultation with the DDMA.

Table: Detailed Training and Capacity building plan

Training Program Level	Type of Training	Target audience	Responsible department	Supporting department	Frequency	Time frame
Policy level	Sensitization training on disaster management	Suitable participants of all stake holder departments as mentioned in table .....	DDMA		Once every year	Long term
	Comprehensive disaster management training Corse	Suitable participants of all stake holder departments as mentioned in table .....	DDMA		Twice every year	Medium term
	IRS training	Suitable participants of all stake holder departments as mentioned in table .....	DDMA		Once every year	Medium term
Cutting -edge level	Sensitization program for teachers	School teachers	DDMA	Education	Twice every year	Medium term
	Mass causality management	PRI'S, panchayat secretaries, patwaries, NYK, NGO, CBO	Health department	DDMA	Once in a year	Long term
	Sensitization program for govt. engineers and masons	Engineers from HPPWD and I&PH department, mesons	HPPWD	DDMA	Once a year	long term
	High altitude search and rescue	NCC, NYK, NSS, Panchayat Disaster Management	DDMA	Mountaineering Sub Centre Jispa	Twice a year	Medium term

		Committees, fire and home guard, police				
	WASH	Panchayat disaster management committees, Aangan Wari Workers, Asha Workers, NGO, CBO	DDMA	I&PH, health and family welfare	Thrice a year	Medium term
	Emergency shelter management	Tehsildars, Patwaries, PRI'S, NYK, NGO	DDMA	Mountaineering Sub Centre Jispa	Twice in year	Medium term
	Relief management	Sub division disaster management committees, tehsil disaster management committees, PRI's, Patwaris, NYK,	DDMA		Once in Year	Long term
	Emergency first aid	Panchayat disaster management committees, Aangan Wari Workers, Asha Workers, first aid level and slide, flash floods, cloud burst	Health and family welfare	DDMA	Twice in a year	Long term
Community level	Do's and Don'ts fire	At village level	Fire and home guards	DDMA	20 villages every year	Long term
	Do's and Don'ts avalanche	At village level	Mountaineering Sub Centre Jispa	DDMA	20 villages every year	Long term
	Do's and Don'ts earth quake, land slide, flash floods, cloud burst	At village level	DDMA		20 villages every year	Long term
	Emergency ejection	At village level	Fire and home guards	DDMA, Mountaineering Sub Centre Jispa	20 villages every year	Long term
	Shake out drill	At village level	Fire and home guards	DDMA	20 villages every year	Long term
	Shake out drill	At school level	Education department	DDMA	Thrice in a year in every school	Long term
	Shake out drill	Departmental level	Mentioned stake holder departments	DDMA	Thrice in a year in every department	Long term
	Soil and Water conservation	At village level	I&PH and agriculture	Horticulture	10 villages every year	Long term

## 7. RESPONSE AND RELIEF MEASURES

### 7.1 INTRODUCTION AND OBJECTIVE

The post disaster phase of Disaster Management looks into Relief, rehabilitation, reconstruction and recovery. The effective disaster management strategy aims to lessen disaster impacts through strengthening and reorienting existing organizational and administrative structure from district – state to national level. Relief on the contrary, is viewed as an overarching system of facilitation of assistance to the victims of disaster for their rehabilitation in States and ensuring social safety and security of the affected persons. Relief needs to be prompt, adequate and of approved standards. It is no longer perceived only as gratuitous assistance or provision of emergency relief supplies on time. Emergency response plan is, thus, a first attempt to follow a multi-hazard approach to bring out all the disasters on a single platform, incorporating disaster resilient features to ‘build back better’ as the guiding principle. It provides a framework to the primary and secondary agencies and departments, which can outline their own activities for disaster response. 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 Disaster response is aimed at: Saving Life-Minimising the Loss- Stabilising the Situation.

### 7.2 RESPONSE PLANNING

The onset of an emergency creates the need for time sensitive actions to save life and property, reduce hardships and suffering, and restore essential life support and community systems, to mitigate further damage or loss and provide the foundation for subsequent recovery. Effective response planning requires realistic identification of likely response functions, assignment of specific tasks to individual response agencies, identification of equipment, supplies and personnel required by the response agencies for performing the assigned tasks. A response plan essentially outlines the strategy and resources needed for search and rescue, evacuation, etc.

A disaster could be preceded by an early warning warranting a set of actions to help in responding to the event. However, often one is faced with disasters such as earthquake which occur without any warning warranting immediate activation of systems to respond to the situation. Table no 7.1 actions required to be taken for disaster occurring with early warning and table 7.2 details actions that are required for disasters that occur without warning.

**Table 7.1:** Response planning when the early warning is available

Pre-Disaster	Responsible Deptt.	Post-Disaster	Responsible Deptt.
Activate control room if necessary	DDMA will activate the control room at district level. Control room at Sub-Division and Tehsil level will be activate by concerned disaster management authority.	Quick Damage and Need Assessment	Multi-Sectoral committees encompass all line departments constituted by DDMA
Review situation	DDMA will review all the situation on the basis of data and reports provide by the line departments	Search and rescue	Home Guard/Civil Defence/Fire with coordination with Police and NDRF (if required)

Communicate warning (Inform community likely to be affected by the impending disaster. Inform line departments / agencies to mobile resources / teams for quick deployment)	DEOC will communicate the warning to all potential affected areas with support of DPRO, DRDA, Police, Home Guard, Fire and Local Administration.	Activate Line Departments/Agencies to Quick restoration of basic utilities and critical infrastructure e.g. Roads, Life Line Buildings i.e. Hospital, Blood Bank, Schools and Banks, Admin Building, Electricity, Water/Sanitation,	DDMA will coordinate with all line departments for quick restoration
Coordination with all line departments	Chief Executive officer appointed by DDMA will coordinate	Activate all Quick response Team QRTs/ First Responder Team	DDMA will coordinate with all available QRTs in the District
Stocking of Essential and basic life line items and materials	All frontline departments i.e. Medical, Food and Civil Supplies, IPH, PWD, HPSEB, Police	Sharing, reporting and communicating the info to the State and National Level and Requisition for assistance to prompt response or relief	Chief Executive officer appointed by DDMA will coordinate
Identification of temporary shelter	Revenue Department will identify the shelter with support of PWD, and Education	Activate and deploy the Incident Response Teams	DDMA Chairman
Evacuate people to temporary shelter with necessitated facilities	Police and Home guard will evacuate the people to safer place or identified temporary shelter in support of Fire Deptt., NKYS, NCC, NSS and Paramilitary Forces	Provide temporary shelter and basic necessitate facilities to people	Revenue Department will coordinate with all line departments
Remove assets from dangerous areas	PWD will facilitates all these activities in coordination with HRTC		

Table 7.2: Response planning phases during the no early warning

Activities	Responsible Deptt.
Activate control room and forward the report to state and national level	DDMA will activate the control room at district level. Control room at Sub-Division and Tehsil level will be activate by concerned disaster management authority. CEO of DDMA will report to higher Authority
All heads of the departments will report to the Control Room	DDMA will coordinate with line departments
Activation of damages and needs assessment teams to undertake damages and needs assessment	Multi-Sectoral committees encompass all line departments constituted by DDMA will undertake an assessment of damages to assets and infrastructure and assess the needs of the community.
Restoration of Critical and life line infrastructure	PWD, IPH, HPSEB, Health and family Welfare, Food and Civil Supplies will initiate efforts to restore the infrastructure starting especially with the most critical infrastructure that could assist relief
Activate and deploy the Incident Response Teams	Chief Executive officer appointed by DDMA will coordinate
Provide relief to the affected communities	DDMA will coordinate with food and civil supplies, health and family welfare, Police, RTO, HRTC, PWD and IPH
Coordinate relief operations	DDMA and Revenue Deptt coordinate with Incident response team at Hierarchical admin level e.g. SDM, BDO, Tehsildar, ZP
Request for possible help from external sources / Resource's Mobilization	Chief Executive officer appointed by DDMA will coordinate

## 7.3 DISASTER RESPONSE FUNCTIONS TO BE CARRIED OUT

### 7.3.1 EARLY WARNING PHASE

1. Activation of Control Room / EOC: As soon as EW Message/Information is available through IMD / CWC / GSI, DDMA will activate EOC / CR
2. Inform Community likely to be impacted
3. Inform Line Departments / Agencies
4. Hold Meetings of DDMA
5. Requisition of NDRF
6. Requisition of Paramilitary - IRB / TBP / SSB

### 7.3.2 IMMEDIATE POST DISASTER PHASE

1. **Search & Rescue:** Home Guard / Civil Defence / Fire will carried out the search and rescue with coordination with Police and NDRF and the existed Paramilitary Forces within or nearby the district.
2. **Quick Damage Assessments:** DDMA will constitute a multi-sectoral damage and need assessment team which will carry out the process of damage and need assessment and report to the DDMA for further action. The multi-sectoral teams will be constituted and its members having local knowledge and will comes from different expertise to do the synthesis damage and need assessment compressively.

The team will conduct damage assessment in the following sectors:

#	Damages	#	Damages
1	Roads and Bridges	7	Communication
2	Life Line Buildings	8	Medical Infrastructure
3	Food and Civil Supplies	9	Monuments
4	Houses	10	Agriculture Crops and Horticulture
5	Water lines and Tanks	11	Livestock
6	Electricity	12	Forest

## 7.4 QUICK NEED ASSESSMENTS

Need assessment will be undertaken by a multi-sectoral team with a special focus on the following requirements mentioned in the following table:

#	Sector of Need	#	Sector of Need
1.	Temporary Shelter	5.	Special Needs
2.	Food & Civil Supplies	6.	Psychosocial care
3.	Medical / health	7.	Security needs in context to varying social groups
4.	WASH	8	Restore essential services: roads, water facilities, power, communication

## 7.5 RESOURCE MOBILIZATION

Resource mobilization is one of the most important and crucial activity when any disaster occurs in the district for responding to disaster in an efficient manner. The IDRN portal has information regarding the different kind of resources available for multi-hazard, with the various departments along with their location across district. It can lead to quick and immediate procurement of the required resources from the nearest available site and department for response to any disaster.

Various resources required in the damages and needs assessment will be mobilized by the concerned departments. Following is the list of the departments which are responsible for mobilizing various needs identified in the damages and needs assessment:

Table 7.3: Resource Mobilization and Responsible Department

#	Identified Need	Action	Nature of resources	Responsibility
1.	Temporary Shelter	DDMA / Revenue Department will arrange relief camps / shelters. Wherever required Tents will be pitched in to accommodate affected people. Departments of Education,	Tents, sleeping bags blankets and clothing's, Sanitizer and sanitary pads, stretchers	Revenue Deptt / DDMA / Health

		Health and Family Welfare will provide support		
2.	Food and Civil Supplies	Food and Civil Supplies Deptt. will Provide food, Fuel, and Drugs	Essential food items and fuel	Food and Civil Supplies Deptt.
3.	Medical	Medical Deptt will arrange the lifesaving medicines, blood, Doctors, Paramedical staff	Medicines, doctors, ANM, nurses, Asha Workers	Health and Family Welfare Deptt./ Red Cross
4.	WASH	IPH will provide choline tables for water purification, drinking portable water, sanitation kits	Drinking water, sanitation	IPH
6.	Psychosocial care	Health and Family Welfare Deptt. / Red Cross will take care the reported pyschological and mental trauma cases	Psychosocial care	Health and Family Welfare Deptt./ Red Cross
7.	Security needs in context to varying social groups	Maintain the Law and Order and security of Social group and tackle the human trafficking situation	Trained personnel	Police / Home Guard, Civil Defence
8.	Road clearance	To restore the road function, remove the debris and clearance of any blockage	Earth removers and man power	HPPWD, BRO
9.	Power storage	To restore the power, provide the temporary chargeable generators and batteries, Him Urja will provide the Solar Lights	DG sets, wires, manpower, batteries, search lights,	HPSEB and Him Urja
10	Communication	To restore the communication network	Network restoration, v-sets, satellite phones, walkie talkie	BSNL, NIC, Police

## 7.6 RESPONSE MANAGEMENT

### 7.6.1 ACTIVATION OF EOC

The DEOC will function to its fullest capacity on the occurrence of disaster. The district DEOC will be fully activated during disasters. The activation would come into effect either on occurrence of disaster or on receipt of warning. On the receipt of warning or alert from any approved agency which is competent to issue any early emergency warning, or on the basis of reports from SDO (Civil) or any other agencies on the occurrence of a disaster, all community preparedness measures including counter-disaster measures will be put into operation.

The Deputy Commissioner will assume the role of the Chief of Operations for Disaster Management. All the line department senior official will be immediately reported to the DEOC. The DDMA will expand the Emergency Operations Centre to include Branch arrangements with responsibilities for specific tasks

depending on the nature of disaster and extent of its impact. All the occurrences report would be communicated to the SEOC / SDMA, NEOC / NDMA and Supporting Agencies by means of telephone and subsequently fax periodically. The occurrence of disaster shall be immediately communicated to the stakeholders such as NGOs, trained SAR volunteers through SMS gateway (or telephonic in case of communication exist or any available communication network) for which specific provision of group mobile directory would be made.

**Main Roles of DEOC after activation:**

1. Assimilation and dissemination of information.
2. Liaise between Disaster site and State Head Quarter.
3. Monitoring, coordinate and implement the DDMP.
4. Coordinate actions and response of different departments and agencies.
5. Coordinate relief and rehabilitations operations
6. Hold press briefings.

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### 7.6.2 RELIEF DISTRIBUTION

Relief distribution will be coordinated by sub divisional, tehsil and respective disaster management committees. The onsite distribution will be done by incident response team. The updated needs will be communicated to the DDMA and the DDMA will ensure the regular supply of the required items. The relief distribution will include essential items which serves the basic needs of the affected community like LPG , medicines, clothes, food items, drinking water, soaps, blankets, items of special needs for women's, children's, handicapped and old aged.

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### 7.6.3 SEARCH AND RESCUE MANAGEMENT

Search and Rescue activities include, but are not limited to, locating, extricating, and providing immediate medical assistance to victims trapped in exigency situation. People who are trapped under destroyed buildings or are isolated due to any disaster need immediate assistance. The District Commissioner, in conjunction with local authorities will be responsible for the search and rescue operations in an affected region. At present, Nodal department for this activity is NDRF and Home Guard/civil Defence Department. The helping departments for search and rescue are P.W.D., Self-help groups, N.S.S, N.C.C, and PRIs. There are other bodies too that help these departments in this work, like, Health department, Fire department. In doing so, the DC will be guided by relevant disaster management plans and will be supported by Government departments and local authorities.

Dedicated search and rescue teams from various line departments has been formed to support the search and rescue operations in the district and more details given regarding this mentioned in Annexure-VII. Team members have to be periodically trained/retrained on the elements of collapsed structure, confined space search & rescue, and rope rescue etc.

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### 7.6.4 INFORMATION MANAGEMENT AND MEDIA MANAGEMENT

Media has to play a major during disaster. They will aid in information dissemination about help-line, aid-distribution camps, emergency phone number or the needs of the people. Further, they will also help in quashing rumours, for crowd management and prevent panic situation. Media will also help in mobilizing resources money, volunteers etc. from other areas. To disseminate information about various hazards in

the district and the relevant dos and don'ts during and after a disaster encompass under the media management. This will be done through various media such as newspapers, television, radio, internet, media and information van, street theatre, etc. The DDMA will established an effective system of collaborating with the media during emergencies. At the District Emergency Operation Centre (DEOC), a special media cell will be created during the emergency. Both print and electronic media are regularly brief by some senior official designated from DDMA at predetermined time intervals about the events as they occur and the prevailing situation on ground. The DPRO in consultation with the DDMA would take appropriate steps in this direction also too.

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#### **7.6.5 VIP MANAGEMENT**

It may be possible that the scale of a disaster may in addition prompt visits of the VVIPs/VIP which further requires the active management to ensure the effortlessly ongoing response and relief work without any interruption. DDMA will designated senior official to handle the VVIPs/VIPs visits to the affected areas and further to brief the VVIP / VIP beforehand about the details of casualties, damage and the nature of the disaster. The Police and Home guard will handle all the security of VVIPs/VIP during their visit. It would be desirable to restrict media coverage of such visits, in which case the police should liaise with the government press officer to keep their number to minimum.

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#### **7.6.6 NGO COORDINATION AND MANAGEMENT**

Non-governmental organizations (NGOs) will play as one of the most effective alternative means of achieving an efficient communications link between the disaster management agencies and the effected community due to their outreach at the grassroots level. As per the section 35 and 38 of the DM Act 2005 stipulates that the DDMA shall specifically emphasize the coordination of actions with NGOs. In typical disaster situation, DDMA with the support of DRDA, will coordinate the NGOs / CBO's and further manage their work in prompt response, relief and rescue, and also monitor and feedback at grassroots level by the agreeable community participation.

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#### **7.6.7 DISPOSAL OF DEAD BODIES AND CARCASS**

District administration will coordinate to arrange the mass cremation burial of the dead bodies with support of police & forest department after observing all codal formalities & maintain the video recording of such unclaimed dead bodies after properly handing over the same to their kith or kin. Department of animal husbandry in association with the local administration shall be responsible for the deposal of the animal carcass in case of mass destruction.

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#### **7.6.8 SEEKING EXTERNAL HELP FOR ASSISTANCE**

The executive office of DDMA will keep in touch with the outside agencies. He will continuously trace the requirements at the grass root level through all the stake holders involved in the response mechanism and on the basis of reports analyse the needs with the help of coordination teams at DEOC. On the bases of the needs the Executive officer seek the help from the outside agencies like SDMA, NDMA, World Bank, UN agencies or other available resources

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#### **7.6.9 MANAGEMENT OF TOURIST**



## 8. RECONSTRUCTION, REHABILITATION AND RECOVERY MEASURES

### 8.1 GENERAL POLICY GUIDELINES

Disaster results in extensive disruption of normal life enormous suffering, loss of lives & property. Relief, rehabilitation, reconstruction and recovery are important phases of post disaster response. In the post disaster situation rehabilitation and reconstruction comes under recovery phase immediately after relief and rescue operation of the disaster. It should be considering as an opportunity to **“Build Back Better” (BBB)** integrating disaster risk reduction into development measure, making communities resilient to disaster. The **“Sendai Framework”** expects that after a disaster, the stakeholders will be prepared for BBB.

The activities in this phase are primarily carried out by the local bodies (Gram Panchayats, District, Blocks, and Municipal Council etc.) and various Government departments and boards. The administration, the stakeholders and the communities need to stay focused on the needs of this phase, as, with the passage of time, the sense of urgency gets diluted. The appropriate choice of technology and project impact assessment needs to be carried out to establish that the projects contemplated do not create any side effects on the physical, socio-cultural or economic environment of the communities in the affected areas or in their neighborhood.

The involvement of community in decision making is important. Systems for providing psychosocial support and trauma counseling would be developed for implementation during the reconstruction and recovery phase. However, their activities in this phase shall be in accordance with the reconstruction and rehabilitation plans framed by HPSDMA, 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 State and District authorities have been overwhelmed and require assistance from the Central Government for re-establishing normalcy in the affected districts. Immediate and Long Term recovery plan includes following broad activities:

- Damage assessment
- Disposal of debris
- Disbursement of assistance for houses
- Formulation of assistance packages
- Monitoring and review
- Relocation
- Town planning and development plans
- Reconstruction as Housing Replacement Policy
- Awareness and capacity building
- Housing insurance
- Grievance redressal

Sector specific approach and processes for Reconstruction, Rehabilitation and Recovery are as follows:

Sector	Approach	Process
Public assets: Roads and bridges Culverts Public buildings like hospitals and schools	<ul style="list-style-type: none"> <li>• Multi hazard resistant construction to be followed while reconstruction of public assets. For example</li> <li>• Hazard resistant buildings to be made with the help of certified engineers.</li> <li>• Use of non-shrinking mortar</li> <li>• Evacuation plans to be made for the public buildings</li> <li>• Non-structural mitigation measures to be taken into consideration</li> <li>• Risk sensitive development will be ensured in each of the reconstruction Programme. For example:               <ul style="list-style-type: none"> <li>○ landslide and flood zone mapping to be implemented</li> <li>○ Detailed geological survey of the land to be used for reconstruction.</li> <li>○ Recommendations from PDNA report to be considered.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Detailed damages and needs assessment: Multi sectoral / multi-disciplinary teams are to be made which can do a detailed damage and need assessment of the entire area.</li> <li>• Develop a detailed recovery plan through multi departmental participation. Specific recovery plan through consultative process of different line department are to be made.</li> <li>• Arrange for funds from Central government, state government, multi-lateral agencies (World Bank or ADB)</li> <li>• Multi sectoral Project Management Unit to be made.</li> <li>• The process of monitoring and manipulation is to be done by SDMA.</li> </ul>
Utilities Water supply Electricity Communication	<ul style="list-style-type: none"> <li>• Multi hazard resistant construction to be followed. For example:</li> <li>• Water pipelines, communication equipment used can be of such material which can resist impact of certain hazards Risk sensitive development will be ensured</li> <li>• Electric and communication junctions to be installed after considering landslide and flood zonation.</li> <li>• Recommendations from PDNA report to be considered.</li> </ul>	<ul style="list-style-type: none"> <li>• Detailed damages and needs assessment: Multi sectoral/multi-disciplinary teams are to be made which can do a detailed damage and need assessment of the utilities of the entire area.</li> <li>• Develop a detailed recovery plan through multi departmental participation including specific line departments and other stake holders.</li> <li>• Arrange for funds from Central government, state government, multi-lateral (World Bank or ADB)”</li> <li>• Multi sectoral Project Management Unit to be made.</li> <li>• Monitoring and evaluation: The process of monitoring and manipulation is to be done by SDMA.</li> </ul>
Housing	<ul style="list-style-type: none"> <li>• Multi hazard resistant construction to be followed.</li> <li>• Risk sensitive development will be ensured</li> <li>• Owner driven approach will be preferred. For example: National and State schemes like Pradham Mantri Awas Yojna (rural / urban) and Mukya Mantri Awas Yojna can be included in construction of the individual houses.</li> <li>• Non-structural mitigation measures to be taken into consideration</li> </ul>	<ul style="list-style-type: none"> <li>• Detailed damages and needs assessment: Multi sectoral / multi-disciplinary teams are to be made which can do a detailed damage and need assessment of the entire area.</li> <li>• Develop a detailed recovery plan through multi departmental participation: Specific recovery plan through consultative process of different line department are to be made.</li> <li>• Arrange for funds from Central government, state government and multi-lateral (World Bank or ADB)</li> </ul>

	<ul style="list-style-type: none"> <li>• Use of non-shrinking mortar</li> <li>• Further loans can be sourced through banks and other financial institutions.</li> </ul>	<ul style="list-style-type: none"> <li>• Multi sectoral Project Management Unit to be made.</li> <li>• Monitoring and evaluation: The process of monitoring and manipulation is to be done by SDMA.</li> </ul>
<p>Economic restoration</p> <p>Agriculture</p> <p>Horticulture</p> <p>Industry</p> <p>Allied sectors</p> <p>Tourism etc.</p>	<ul style="list-style-type: none"> <li>• Multi sectoral assessment</li> <li>• Assess direct and indirect losses.</li> <li>• Develop sectoral strategies the sectors that affected the most poor.</li> <li>• the sectors which are most critical for district's economy</li> <li>• Risk sensitive development will be ensured</li> <li>• Owner driven approach will be preferred</li> <li>• Provision of single window insurance claim system</li> <li>• Promote insurance facility for all sectors through government and private institutions</li> </ul>	<ul style="list-style-type: none"> <li>• Detailed damages and needs assessment: Multi sectoral/ multi-disciplinary teams are to be made which can do a detailed damage and need assessment of the entire area.</li> <li>• Develop a detailed recovery plan through multi departmental participation: Specific recovery plan through consultative process of different line department are to be made.</li> <li>• Arrange for funds from Central government, state government, multi-lateral (World Bank or ADB)</li> <li>• Multi sectoral Project Management Unit to be made.</li> <li>• Monitoring and evaluation: The process of monitoring and manipulation is to be done by SDMA.</li> </ul>
<p>Livelihood Restoration</p>	<ul style="list-style-type: none"> <li>• Nature, number and types of livelihoods affected</li> <li>• Interim and long term strategies</li> <li>• Focus on livelihood diversification</li> <li>• Issues related to most poor, women, and marginalized sections</li> <li>• Livelihoods of people without assets (labor)</li> <li>• Role of NGOs</li> </ul>	<ul style="list-style-type: none"> <li>• Detailed damages and needs assessment: Multi sectoral / multi-disciplinary teams are to be made which can do a detailed damage and need assessment of the entire area.</li> <li>• Develop a detailed recovery plan through multi departmental participation: Specific recovery plan through consultative process of different line department are to be made.</li> <li>• Arrange for funds from Central government, state government, multi-lateral (World Bank or ADB)</li> <li>• Multi sectoral Project Management Unit to be made.</li> <li>• Monitoring and evaluation: The process of monitoring and manipulation is to be done by SDMA.</li> </ul>
<p>Psychosocial Restoration</p>	<ul style="list-style-type: none"> <li>• Provisions like trainings from institute like NIMHANS, Mental hospitals and other specialized institutes</li> <li>• Spiritual leaders can help the community to cope up from the trauma</li> </ul>	<ul style="list-style-type: none"> <li>• Arrange for funds from Central government, state government, multi-lateral (World Bank or ADB)</li> </ul>



## 9. FINANCIAL RESOURCES FOR IMPLEMENTATION OF DDMP

### 9.1 EXISTING SOURCES OF FUNDS FOR DISASTER MANAGEMENT

- **State Disaster Response Fund (SDRF):** SDRF is a fund constituted under section 48(1) (a) of the Disaster Management Act, 2005 (53 of 2005), these guidelines are being issued under section 62 of the DM Act, 2005.
- **Calamities Covered under SDRF:** The SDRF shall be used only for meeting the expenditure for providing immediate relief to the victims of cyclones, drought, earthquake, fire, flood, tsunami, hailstorm, landslide, avalanches, cloud burst and pest attack.
- **National Disaster Response Fund (NDRF):** NDRF is a fund constituted under section 46 of the Disaster Management Act 2005. These Guidelines are issued under section 46 (2) of the Disaster Management Act, 2005 (hereinafter DM Act, 2005), to supplement funds from the State Disaster Response Fund (SDRF) of a State, to facilitate immediate relief in case of calamities of a severe nature.
- **Calamities Covered under NDRF:** Natural Calamities of Cyclone, drought, earthquake, fire, flood, tsunami, hailstorm, avalanches, Cloud burst and pest attack considered being of severe nature by Government of India and requiring expenditure by a State Government in excess of the balances available in its own State Disaster Response Fund (SDRF), will qualify for immediate relief assistance from NDRF.
- **Flexi-funds under Centrally Sponsored Schemes:** NITI Aayog has issued instructions for Rationalization of CSS, vide OM No. O-11013/02/2015-CSS & CMC dated 17<sup>th</sup> August, 2016. These instructions are applicable for Centrally Sponsored Schemes with one of the key objective “To undertake mitigation/ restoration activities in case of natural calamities, or to satisfy local requirements in areas affected by internal security disturbances. Therefore the CSS mentioned in Chapter 4 of this plan are one potential source of funding for mitigation/restoration activities.

### 9.2 FUNDS TO BE CREATED UNDER DM ACT 2005

- **District Disaster Response Funds (DDRF):** DDRF is proposed to be created at the District Level as mandated by Section 48 of the DM Act. The disaster response funds at the district level would be used by the DDMA towards meeting expenses for emergency response, relief, rehabilitation in accordance with the guidelines and norms laid down by the Government of India and the State Government.
- **District Disaster Mitigation Funds (DDMF):** District Disaster Mitigation funds would be created at the District Level as mandated under Section 48 of the DM Act 2005. DDMF is to be used for the mitigation funds by the DDMA for the purpose of mitigation as per the HP State Disaster Management Rules 2011.

### 9.3 RESPONSIBILITIES OF THE STATE DEPARTMENTS AND AGENCIES

All State Government Departments, Boards, Corporations, PRIs and ULBS have to prepare their DM plans under Section 40 of The DM Act 2005. These Departmental DM Plans are already under preparation at the State Level including the financial projections to support these plans. The necessary financial allocations will be made as part of their annual budgetary allocations, and ongoing programmes. They will also identify mitigation projects and project them for funding in consultation with the SDMA/DDMA to the appropriate funding agency.

## 9.4 TECHNO-FINANCIAL REGIME

Considering that the assistance provided by the Government for rescue, relief, rehabilitation and reconstruction needs cannot compensate for massive losses on account of disasters, new financial tools such as catastrophe risk financing, risk insurance, catastrophe bonds, micro-finance and insurance etc., will be promoted with innovative fiscal incentives to cover such losses of individuals, communities and the corporate sector. In this regard, the Environmental Relief Fund under the Public Liability Insurance Act, 1991, enacted for providing relief to chemical accident victims is worth mentioning. Some financial practices such as disaster risk insurance, micro-finance and micro-insurance, warranty on newly constructed houses and structures and linking safe construction with home loans will be considered for adoption.

## 9.5 OTHER FINANCING OPTIONS

DDMA in coordination with the departments will identify other financing options for restoration of infrastructure / livelihoods, like utilization of flexi fund within Centrally Sponsored Scheme for mitigation / restoration activities in the event of natural calamities in accordance with the broad objective of the Central Sector Scheme.

Opportunities of Corporate Social Responsibility (CSR) & Public-Private Sectors funds' investments would also be explored and elaborated by the DDMA for increasing disaster resilience.

## 10. PROCEDURE & METHODOLOGY FOR MONITORING, EVALUATION, UPDATION AND MAINTENANCE OF DDMP

The District Disaster Management Plan is the sum and substance of the Horizontal and the Vertical disaster management plans in the district. District Disaster Management Plan of Lahaul and Spiti is a public document which is neither a confidential document nor restricted to any particular section or department of administration. The underlying principal of disaster management is that it has to be part of all departments and none can fold fingers against it.

### 10.1 AUTHORITY FOR MAINTAINING & REVIEWING THE DDMP

The District Disaster Management Authority (DDMA), Lahaul and Spiti will update the DDMP annually and circulate approved copies to all the stakeholder in Lahaul and Spiti District. DDMA, Lahaul and Spiti will ensure the planning, coordination, monitoring and implementation of DDMP with regards to the mentioned below clauses of the DM Act, 2005:

- Section 31, Clause (4) of DM Act 2005, mentions that the District Plan shall be reviewed and updated annually.
- As per sub-section (7) The District Authority shall, review from time to time, the implementation of the Plan and issue such instructions to different departments of the Government in the district as it may deem necessary for the implementation thereof.

### 10.2 PROPER MONITORING & EVALUATION OF THE DDMPQ

Half-yearly meeting will be organized by the DDMA under the chairmanship of the Chairman, DDMA, Lahaul and Spiti to review disaster management activities in the state and updating the DDMP accordingly. All concerned departments and agencies have to participate and give recommendations on specific issues on Disaster Management and submit their updated reports quarterly.

### 10.3 POST-DISASTER EVALUATION MECHANISM FOR DDMP

The DDMA Chairman shall make special arrangements to collect data on a particular disaster irrespective of size and vulnerability. This post disaster evaluation mechanism shall be set up with qualified professions, experts and researchers and the collected data shall be thoroughly cross checked and documented in the EOC for further reference. The DDMA will evaluate the DDMP by conducting meetings and consultation with all stakeholders.

### 10.4 SCHEDULE FOR UPDATION OF DDMP

Besides the above (2 and 3) procedure of updating the DDMP shall be updated by:

1. Regular data collection system from the district Emergency Operations Centre (EOC)
2. Analysis of data
3. Review by Chairperson, DDMA
4. Updating and disseminating the updated plan

The updated data of DDMP will also be maintained at the DEOC website, ready for use in any situation under the supervision of DDMA, Lahaul and Spiti.

The Chairman, DDMA will ensure regular updation of the DDMP by consulting the nodal officers of the frontline departments will update it on a biannual basis taking into consideration:

- Inventory of equipment in the district (DDMRI),
- Human Resources, their addresses and contact details (DDMRI),
- Valuable inputs from actual disasters and updating Matrix of past disasters and HVCRA within the District
- Major change in the operational activities and location through SOPs & Checklists
- Lessons learnt from training, near-missed incidents
- Inputs from mock drills / simulation exercises
- Changes in disaster profile
- Technological developments / innovations in identifying potential hazards
- Updation of databases using new technologies like GIS
- Change in demography of surrounding population
- Changes in geo-political environment

#	Month	Purposed Activities
1	Oct	Review of DDMP by frontline departments
2	Oct-Nov	Submission of recommendations to DDMA
3	Nov-Dec	Amendments are distributed to all stakeholders
4	Dec-Jan	Submitted to SDMA for Approval / Uploading of updated plan at DDMA / SDMA website

## 10.5 UPLOADING OF UPDATED PLANS AT DDMA / SDMA WEBSITES

District Disaster Management Plan of the district is a public document & should be uploaded at the DDMA / SDMA websites under the supervision of the District Information Officer after each updation with prior approval of the Chairman DDMA.

## 10.6 CONDUCTING OF MOCK DRILLS

Section 30 (2) (x) of DM Act 2005, states that “District Authority shall review the state of capabilities for responding to any disaster or threatening disaster situation in the district & give directions to the relevant departments or authorities at the district level for their up gradation as may be necessary”. Similarly, Section 30 (2) (xi) of DM Act 2005, also states that “District Authority shall review the preparedness measures & give directions to the concerned departments at the district level or other concerned authorities where necessary for bringing the preparedness measures to the levels required for responding effectively to any disaster or threatening disaster situation”.

Mock-drills help in evaluating disaster preparedness measures, identify gaps and improving coordination within different government departments, non-government agencies and communities. They help in identifying the extent to which the disaster plan, ESFs, and SOPs are effective and help in revising the plan through lessons learnt and gaps identified. These drills enhance the ability to respond faster, better and in an organized manner during the response and recovery phase.

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## 10.6.1 THE RESPONSIBLE PARTIES FOR ORGANIZING DISTRICT DRILLS

Mock Drills will be conducted within District Lahaul and Spiti at various levels:

### **Level 1: District Level**

Conducting of District level Mock drills will be the responsibility of the Deputy Commissioner Lahaul and Spiti, along with Additional Deputy Commissioner Lahaul and Spiti, in association with *Key Participants Involved in Conducting a Mock drill* as the incident of disaster may be :-

- DDMA Lahaul and Spiti comprising of DC, Lahaul and Spiti; ADC, Lahaul and Spiti; SP, Lahaul and Spiti; SE (HPPWD, I&PH, Electricity); CMO, Lahaul and Spiti, President Zila Parishad.
- Revenue Department
- SDM (C), Tehsildar, Block Officer
- Municipal Council / Nagar Parishad
- Elected representatives of Panchayat Samiti -Sarpanch, Gram Sevak,
- Fire Brigade Personnel's
- Home Guards, Volunteers.
- DPRO
- Transport Department
- Food and Civil Supply Department
- Para- military forces, ITBP Babeli and SSB Shamshi
- NDRF, SDRF as the situation of the incident may demand
- Rest as per the IRS framework in chapter 4.

### **Level 2: Sub Divisional Level**

The Sub Divisional Magistrate (Civil) will be the concerned authority to conduct mock exercise at the Sub-Division level.

### **Level 3: Block Level**

At Block Level the Block Development Officer will be the nodal authority to get the mock exercise conducted.

### **Level 4: Panchayat Level**

The Pradhans will be nodal for organizing the mock drills at Gram Panchayat level with Village Disaster Management Committees in each village of district Lahaul and Spiti.

### **Level 5: Departmental Level**

At the Departmental levels the HOD's of the concerned departments/ units are responsible for the on –site mock drills and off- site drills with the district administration for their respective departments and concerned areas.

Levels 2, 3, 4 and 5 will carry out the mock exercise with intimation of the same to the District Administration and sending in reports of the lessons learnt and gaps identified for further up gradation of the plans after the drill.

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## 10.6.2 SCHEDULE FOR ORGANIZING DRILLS

District administration shall hold mandatory mock drill **twice annually** for the monitoring, evaluation, updation and maintenance of DDMP. First Mock drill will be held before the beginning of the tourist season in the Month of March or April as the case may. Second drill will be held before the onset of the International Dusheera at Lahaul and Spiti for checking the efficiency of the departments for any unforeseen incidence from taking place.

All the above mentioned levels will conduct mock drills at least **once in every six months** to evaluate their disaster management plans.

## 10.7 MONITORING & GAP EVALUATION

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### 10.7.1 CHECK ON PERSONNEL'S INVOLVED IN EXECUTION OF DDMP ARE TRAINED WITH LATEST SKILLS

The District Authority shall check whether all the personnel involved in execution of DDMP are trained & updated on the skills necessary in line with the updated SOPs. As per Section 30 (2) (xii) of DM Act 2005, the District Authority shall organize & coordinate specialized training programmes for different levels of officers, employees & voluntary rescue workers in the district.

Half yearly meeting for DDMP updation shall be organized by DDMA, under the chairmanship of Deputy Commissioner Lahaul and Spiti. DC should ensure for maintenance of DDMP and analyse the identified gaps. All concerned departments and agencies have to participate and give recommendations on specific issues of District Disaster Management Plan, and submit them.

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### 10.7.2 CHECK ON-SITE / OFF SITE PLANS OF MAJOR ACCIDENTAL HAZARD UNITS

All industrial units and power projects within Lahaul and Spiti district will submit their on-site/ off-site plans, after regular updation and maintenance to the DDMA for review and evaluation. They will regularly conduct on-site / off-site mock exercises annually or biannually as the case may be, to review, evaluate, and update their plans.

## 11. COORDINATION MECHANISM FOR IMPLEMENTATION OF DDMP

The Coordination between District and Local governments is vital for the proper disaster management. It requires both inter departmental and intra departmental coordination with all the stakeholder line departments and local bodies like, HPPWD, I&PH, HPSEB, Health and Family Welfare, fire and home guards, police, BSNL, Food and Civil Supply, forest, revenue Education, Agriculture horticulture, HRTC, Red Cross, MC, NGO's. CBO's and other local authorities These partnerships recognize that each level of the disaster management arrangements must work collaboratively to ensure the effective coordination of planning, services, information and resources necessary for comprehensive disaster management.

The DDMP of the district is a three tier disaster management coordination based on bottom to top approach i.e. Tehsil level, Sub-Division level and District Level. This system enables a progressive escalation of support and assistance. The arrangements comprises of several key management and coordination structures. The principal structures that make up the Arrangements are:

- a. Disaster management committees are operational at tehsil, Sub-Division and district level. The above committees are responsible for planning, organising, coordinating and implementing all measures required to mitigate, prevent, prepare, respond and recover from disasters the affected area under their jurisdiction.
- b. Emergency Operation Centers at tehsil, Sub-Division and district level supports disaster management groups while coordinating information, resources, and services necessary for disaster operations.
- c. Functional agencies of district administration, DDMA and DDEC, are responsible to coordinate and manage specific threats and provide support to other agencies on and as require

**Intra-Departmental coordination:** Each stake holder department i.e, HPPWD, I&PH, HPSEB, Health and Family Welfare, fire and home guards, police, BSNL, Food and Civil Supply, forest, revenue Education, Agriculture horticulture, HRTC, Red Cross will constitute departmental level disaster management committee headed by a gazetted officer pertaining to that department. The committees will organise quarterly meetings of the committee members to analyses the preparedness level of the department in regard to disaster management. The committee will also decide the measures to be taken for reducing the gaps in their capacities and keep the proper record of the same.

**Sub division level coordination mechanism:** As per the institutional mechanism, sub divisional officer (Civil) will call for the quarterly meeting the sub division level disaster management committee to review the preparedness level and plan to reduce the gaps identified. The chairperson will further report the situation to the DDMA and send the requisition of resources if required.

**Tehsil level coordination mechanism:** As per the institutional mechanism, tehsildar will call for the quarterly meeting at the tehsil level disaster management committee to review the preparedness level and plan to reduce the gaps identified at Tehsil level.

### 11.1 ARRANGEMENTS AT LOCAL LEVEL

It is the local level that manages disasters within their own communities. Tehsil, sub division and district levels are to provide additional resources, support, assistance and expertise as required. Local government is the key management agency for disaster events at local level. Local government achieves coordinated disaster management approach through Local Disaster Management committees.

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### 11.1.1 COORDINATION SYSTEM WITH INTER DEPARTMENTS AND AT DISTRICT LEVEL

The District Magistrate / DC is the head of the District administrative set up and chairperson of the DDMA as per the DM Act, 2005. She / He has been designated as the responsible officer in the District. The heads of different departments in the District will have separate roles to play depending on the nature and kind of disaster. The roles and responsibilities of the members of the DDMA will be decided in advance in consultation with the concerned members

**Pre Disaster coordination:** Minimum Annual meetings for review of preparedness and discussing the roles and responsibilities of the line departments, tehsils and Sub Divisions. The meeting agenda would be discussing the capacity of each department in terms of SAR equipment's and manpower and regular updation of the same

**Disaster phase coordination:** Coordination through phone or any other mode of communication in a disaster phase is not possible hence all the line departments and training institutes in the district should report to the DEOC as soon as the disaster strikes. After loss/damage assessment at the DEOC, the RO (D.C) would direct various stake holders to deploy their resources and task forces in the affected areas. Relief camps would be setup at a pre-defined location.

**Post disaster coordination:** In the post disaster phase, the RO would take updates on the conditions of basic amenities like water, food, roads, law and order etc. from the respective departments. An assessment of relief given and need of rehabilitation would also be taken in the post disaster phase.

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### 11.1.2 COORDINATION MECHANISM WITH COMMUNITY

The community will be coordinated through the village disaster management committees. The mentioned committees generally comprises of:

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Pardhan of the Gram Panchayats / Nagar Panchyat.	PRI's and Other Locally established Departments
	Youth Leader or Members of CBO/ SHG
	Prominent citizens, Ex-army, Para-Military or Police personnel
	Representatives of NGOs

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## 11.2 FREQUENCY OF LOCAL COMMITTEE MEETINGS

Local Committee meetings must be held at least once in every six months at particular time and place decided by the chairperson of the group. In addition, the chairperson of a Local Committee must call a meeting if asked, in writing, to do so by:

- The District Authority for the Disaster district in which the Local Committee is situated; or
- At least one-half plus one of the members of the Local Committee.
- To help the Local government to prepare a local disaster management plan for its area;
- To identify, and provide advice to the relevant District Authority about support services required by the Local Committee to facilitate disaster management and disaster operations in the area;
- To ensure the community is aware of ways of mitigating the adverse effects of an event, and preparing for responding to and recovering from a disaster;

- f. To manage disaster operations in the area under policies and procedures decided by the district Authority;
- g. To provide reports and make recommendations to the relevant District Authority about matters relating to disaster operations;
- h. To identify, and coordinate the use of resources that may be used for disaster operations in the area;
- i. To establish and review communication systems in the Local Committee, and with the relevant District Authority and other Local Committees in the situation of disaster.
- j. To ensure that information about a disaster in the area is promptly given to the relevant District Authority, and
- k. To ensure risk management and contingency arrangements of essential services within the Local government area. Further information about the functions of the Local Authority may be found under sections 41 of the DM Act 2005

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### 11.2.1 COORDINATION MECHANISM WITH NGOS, CBOS, SELF HELP GROUPS (SHGS)

The strong linkages which NGOs CBOs have with grassroots 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.

In addressing the emerging concerns of climate change adaptation and mitigation, NGOs can play a very significant role in working with local communities and introducing innovative approaches based on the good practices followed in other countries.

NGOs can bring in the financial resources from bi-lateral and multilateral donors for implementing pragmatic and innovative approaches to deal with disaster risk and vulnerability, by effectively integrating and converging the various government programs, schemes and projects to create the required synergy in transforming the lives of at-risk communities.

The DDMA will maintain a proper record of the NGO's and CBO's working in the district and also map the available resources for them. The DDMA will appoint a Nodal officer for coordination with NGO's, CBO's and SHG's. The DDMA will call annual meeting of NGO's, CBO's & SHG's for mapping their resources. The meeting will be coordinated by the designated Nodal officer.

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### 11.2.2 COORDINATION WITH OTHER DISTRICTS AND STATE

The DDMA will call annual meeting with neighbouring district authorities pertaining to Disaster risk reduction and capacity building by reducing the existing gaps through regular coordination. The DDMA will participate in the meetings called by SDMA or other State level authorities to promote coordination with other districts and state authorities.

## 12. STANDARD OPERATING PROCEDURES (SOPS) AND CHECKLIST

The Standing Operating procedures (SOPs) for ESFs explain about the operations and responsibilities of the leading and supporting agencies that are to be involved in the ESF system.

### 12.1 EVACUATION

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

**Situation assumptions:**

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

**Nodal agency:** Department of Revenue team leader: Additional Deputy Commissioner.

**Supporting Agencies:** Police, Home Guards, 1<sup>st</sup> IRB Bangarh, Nehru Yuva Kendra, Mountaineering sub-centre Jispa, Fire

**SOPs for nodal agency:**

1. Team leader (TL) of Evacuation ESF would activate the ESF on receiving the warning of the disaster from District Control Room.
2. TL would inform Nodal Officers (NOs) of supporting agencies about the event and ESF activation.
3. TL will direct the QRT to be deployed at the affected site.
4. TL will gather information on availability of pre-defined evacuation routes.
5. Where the predefined evacuation routes are not available, the nodal officer would coordinate through District Control Room with other identifying alternate routes.

**SOPS for quick response team on evacuation:**

1. The QRT members will reach the nodal office as soon as they get instructions to do so from the TL
2. After receiving the order from the nodal officer, The QRT will rush to the site
3. On reaching the site, the QRT members will take stock of the situation from the Incident Management Team at the site and their counterparts.
4. The Quick Response Team with the help of local task forces will start evacuating people towards the safe shelters or open areas.
5. The QRT members should concentrate more on evacuation in areas that have been worst affected by the disasters.
6. QRT will Report all activities to the TL / control rooms.

## 12.2 SEARCH AND RESCUE

**Background:** Search and Rescue operations are one of the primary activities taken up in a post disaster situation. The promptness in these operations can make a remarkable difference in the quantum of losses to the life and property.

### **Situation assumptions:**

1. Local Community task forces will initiate search and rescue at residential level.
2. Coordination of the Spontaneous volunteers will be required
3. Access to affected areas will be limited.
4. Some sites may be accessible only through air routes.

**Nodal agency:** District Police.

**Support Agency:** Civil Defence, NCC, Army and Health Representatives, District Fire Services

### **SOPs for nodal agency**

1. IC (Incident Commander / DC / ADC) will call the TL of Primary Agency and get the ESF activated.
2. TL of primary agency will call nodal officers of supporting agencies.
3. Quick Assessment of the S & R operations through Aerial Surveys if needed.
4. Assessment of the specific skill sets and the other equipment required.

### **SOPs for quick response team on search & rescue:**

1. Assessment of damage (Locations, number of structures damages, extent of damage)
2. The QRTs will be deployed at the affected site.
3. Enlisting the types of equipment required for conducting the S& R.
4. QRTs will report the situation and the progress in response activities to the respective control rooms.

## 12.3 TRANSPORT AND TRAFFIC CONTROL

**Background:** The ESF on transport should ensure smooth transportation links at State and Distt. level. In the disaster context, quick and safe movement of materials and humans are a priority. It should coordinate the use of transportation resources to support the needs of emergency support forces requiring transport capacity to perform their emergency response, recovery and assistance missions.

### **Situation Assumptions:**

1. The State Civil Transportation infrastructure will sustain damage, limiting access to the disaster area.
2. Access will only improve if routes are cleared and repaired.
3. The movement of relief supplies will create congestion in the transportation/Traffic services.

**Nodal Agency:** Department of Transport / RTO.

**Support Agencies:** HRTC, PWD

### **SOPs for Nodal Agency:**

1. TL of transportation will activate the ESF on receiving the intimation of the disaster from the District Control Room.
2. TL would inform nodal officers (NOs) of support agencies about the event and ESF activation.
3. TL establishes contact with Control Room for FIR.
4. TL requests for reports from local transportation ESF contact person.
5. TL communicates situation to support agencies and requests for detailed information on the status of transportation infrastructures in the affected area(s).

### **SOPs for Quick Response Team on Transport:**

1. The QRT members will reach to the nodal office as soon they will get instructions to do so from the TL.
2. As quick response teams will receive instructions from the nodal officer. They would reach to the site immediately.
3. QRTs would report the situation and the progress on action taken by the team to the respective control rooms.
4. QRT will send a requirement schedule for the different modes of transportations e.g. Trucks, boats, helicopters to be put on stand-by.
5. QRTs will ensure timely re-establishment of the critical transportation links.
6. Compile and itemized assessment of damage, from reports made by various electrical receiving centres and sub-centres.
7. Reporting about all activities to all the head office.

## **12.4 LAW & ORDER**

**Background:** The ESF on Law and Order protects the property and valuable commodities. It is mainly responsible to control crowd and avoid riots/conflicts in such situations.

### **Situation assumptions:**

1. There would be panic and people will gather at a place.
2. The crowds may go out of control.
3. Riots / Conflicts may also take place.
4. Human trafficking cases may increase.

**Nodal agency:** District Police.

**Support agency:** Home guards, Civil Defence, Army/Paramilitary

### **SOPs for nodal agency:**

1. District Magistrate will call the TL of Primary Agency and get the ESF activated.
2. TL of Primary agency will call nodal officers of supporting agencies.
3. TL would activate the District Quick Response Team.
4. The QRTs will be deployed at the affected site.

5. Cordoning off area to restrict movement of onlookers, vehicular and pedestrian traffic should be done.
6. Any additional requirement at site to be taken care of.

**SOPs for quick response team on law and order:**

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

## 12.5 DEAD BODY DISPOSAL

**Nodal agency:** Municipal Corporation and PRIs

**Support agency:** Revenue Department, PWD

**SOPs for Dead Body Disposal:**

1. Activate the DM Plan
2. Nodal Officer in the incident Response System will activate all other stake-holders associated with Disposal of the Dead.
3. Establish an information Centre at the site of Disaster / District HQ.
4. Inform all other Stake-holders, both in government and Non-Governmental sector, including the elected, Panchayati Raj functionaries and the community.
5. Activate search and Rescue teams of Fire & Emergency Services, Police, SDRF, Civil Defense, NDRF and NGOs for the retrieval of the injured and the dead.
6. The injured will get the priority for First Aid and evacuation to hospital.
7. Prepare a record of details of the bodies retrieved in the Dead Body Inventory Record Register, allocated individual Identification Number, photographed, and then Dead Body Identification Form initiated.
8. Associate relatives and community members for the identification of the bodies.
9. Hand over the identified bodies to the relatives or the community, and if necessary after cross-matching Dead Body Identification Form with that of the Missing Person Form, for the last rites as per local, cultural and religious denomination.
10. Unidentified or unclaimed dead bodies / body parts shall be transported to the mortuaries for proper preservation and storage at the designated sites.
11. Consult relatives, legal and forensic experts for positive identification.
12. Final disposal of unidentified bodies / body parts shall be done by District authorities after applying all the possible means of identification as per the legal provisions.

13. The bodies of foreign nationals shall be properly preserved either by embalming or chemical methods and then placed in body bags or in coffins with proper labeling.
14. Handing over and transportation of such bodies shall take place through the Ministry of External Affairs, in consultation with the Consular offices of the concerned countries and other actors such as International Committee of the Red Cross, if necessary and possible.

## 12.6 CARCASS REMOVAL

**Nodal agency:** Animal Husbandry

**Support agency:** Municipal Corporation

### **SOPs for Carcass removal:**

1. Activate the DM Plan.
2. Nodal Officer in the Incident Response System will activate all other stakeholders associated with the disposal of Animal Carcasses.
3. Establish an Information Centre at the site of Disaster / District HQ.
4. Inform all other Stake-holders, both in government and Non-Governmental sector, including the elected, Panchayati Raj functionaries and the community.
5. Activate Animal Carcass Retrieval teams for the recovery and retrieval of the injured livestock and the animal carcasses.
6. Injured livestock will get the priority for First Aid and evacuation to hospital.
7. Prepare a record of details of the animal carcasses retrieved.
8. Associate owners of the livestock, or their relatives and community members for the identification of the animal carcasses.
9. Hand over the identified animal carcasses to the owners for disposal at the selected site.
10. All unidentified animal carcasses will be photographed preferably before transportation for disposal.
11. Unidentified or unclaimed animal carcasses shall be transported to the designated site for disposal by District authorities as per the Disaster Plan.

### **Guidelines for Burial:**

1. Burial shall be performed in the most remote area possible.
2. Burial areas shall be located a minimum of 300 feet down gradient from wells, springs and other water sources.
3. Burial shall not be made within 300 feet of streams or ponds, or in soils identified in the country soil survey as being frequently flooded.
4. The bottom of the pit or trench should be minimum 4 to 6 feet above the water table.
5. Pits or trenches shall approximately be 4 to 6 feet deep. They should have stable slopes not steeper than 1 foot vertical to 1 foot horizontal.
6. Animal Carcasses shall be uniformly placed in the pit or trench so that they do not exceed a maximum thickness of 2 feet. The cover over and surrounding shall be a minimum of 3 feet. The cover shall be shaped so as to drain the runoff away from the pit or trench.
7. The bottom of trenches left open shall be sloped to drain and shall have an outlet. All surface runoff shall be diverted from entering the trench.
8. Burial areas shall be inspected regularly and any subsidence or cavities filled.

### **Guidelines for Composting:**

1. Select site that is well drained, at least 300 feet from water sources, sinkholes, seasonal seeps or other landscape features that indicate hydrological sensitivity in the area.
2. Lay 24-inch bed of bulky, absorbent organic material containing sizeable pieces 4 to 6 inches long. Wood chips or hay straw work well. Ensure the base is large enough to allow for 2-foot clearance around the carcass.
3. Lay animal in the centre of the bed. Lance the rumen to avoid bloating and possible explosion. Explosive release of gases can result in odour problems and it will blow the cover material off the composting carcass.
4. When disposing large amounts of blood or body fluid, make sure there is plenty of material to absorb the liquid. Make a depression so blood can be absorbed and then cover, if a blood spill occurs, scrape it up and put back in pile.
5. Cover carcass with dry, high-carbon material, old silage, sawdust or dry stall bedding (some semi-solid manure will expedite the process). Make sure all residuals are well covered to keep odours down, generate heat or keep vermin or other unwanted animals out of the window.
6. Let it sit for 4 to 6 months, then check to see if carcass is fully degraded.
7. Reuse the composted material for carcass compost pile, or remove large bones and land apply.

## **12.7 PROVIDING RELIEF (FOOD, CLOTHES AND DRINKING WATER)**

**Background:** In the event of a disaster there would be a need of disbursing relief materials due to massive destruction of life and property taken place. The ESF on Relief should ensure coordination of activities involving with the emergency provisions of emergency mass feeding and bulk distribution of relief supplies i.e. basic life line amenities e.g. clothes, water etc. to the disaster victims.

### **Situation assumptions:**

1. Probability of shortage of critical resources
2. Immediate assistance to the community at the time of resource shortage particularly, when the affected area is large.

**Nodal agency:** Department of food and civil supplies.

**Support agency:** IPH, Department of Revenue, Red Cross, NGOs.

### **SOPs for Nodal Agency:**

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

### **SOP for Quick Response Team (QRT) on relief:**

1. QRT will report to site of the relief camps.

2. QRTs will be responsible to management and distribute relief items to the affected victims.
3. QRTs will be responsible for reporting the progress on action taken by the team to the Control Room.
4. QRTs will provide information to their TL about the need of additional resources.
5. Assist local authorities to set up important telecom and other service related facilities.
6. Initiate and direct for procurement of food, clothes and drinking water available from different inventories and ensuring food supplies to the affected population.
7. Preparing take-home food and drinking water packets for the families.
8. Ensuring distribution of relief material to all the people including vulnerable groups of the target area such as women with infants, pregnant women, children, aged, handicapped and marginalized social group.

## 12.8 COMMUNICATION

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

### **Situation assumptions:**

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

**Nodal agency:** Baharat Sanchar Nigan Ltd. (BSNL)

**Supporting Agencies:** NIC, Police, HPSEB and Private Telecom / Mobile Operators

### **SOP for nodal agency:**

1. Team leader (TL) of Communication ESF will activate the ESF on receiving the intimation of occurrence of the Disaster from the District Control Room.
2. TL would inform Nodal Officers (NOs) of support agencies about the event and ESF activation.
3. TL request for reports from local ESF contact persons to understand the current situation and action taken;

### **SOPS for quick reaction team on communication:**

1. The QRT (Quick Response Team) members will reach the nodal office as soon as they get instructions from the TL.
2. Once the QRTs receive any intimation from the Nodal Officer to reach the site, they would rush to the site.
3. At the emergency site, QRT members will take stock of the situation and also find out about their counter parts.
4. QRTs would assess the ground situation and would send sectoral report to the District ESF agency.

## 12.9 HELP LINES, WARNING DISSEMINATION

**Background:** The ESF on help lines and warning dissemination should process and circulate information about the welfare of citizens in the affected areas and to manage the tremendous flow of information. The help lines will be responsible for providing, directing and coordinating logistical operations.

### **Situation Assumptions:**

1. There may be a flood of information and confusion about the injured population and further spreading of rumours.
2. The communication with affected areas may be partially impaired.

**Nodal Agency:** Department of Revenue

**Support Agencies:** BSNL, Broadcasting Deptt. DPRO, NIC, / NGO Reps.

### **SOPs for Nodal Agencies:**

1. District Magistrate will call the TL of Primary agency and get the ESF activated.
2. TL of primary agency will call nodal officers of supporting agencies.
3. TL would activate the District Quick Response Team and deployed at the affected site.
4. TL will report the situation and the progress in response activities to the Respective control rooms
5. During the news updates, the donation requirements for the disaster affected area will be telecasted over the news channels.
6. Assisting the Control Room in providing updated information to State as well as at the District Level
7. Setting up of police numbers for emergency information assistance.

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

1. The QRT member will reach to the nodal officer as soon as they get instructions.
2. QRT would reach the site immediately after receiving instructions from the nodal officer.
3. On the site, QRT members will take stock of the situation from the site.
4. The QRTs will coordinate, collect, process, report and display essential elements of Information and facilitate support for planning efforts in response operations.

## 12.10 RELIEF CAMPS SET-UPS

**Background:** Relief camp management is dynamic in nature and strives for promoting a holistic approach for physical, psychological, cultural, social and emotional well-being of camp inhabitants by establishing and maintaining an inclusive overview of many aspects and stakeholders involved in the life of a camp.

### **Situation Assumptions:**

1. Assemblage of affected people and their well-being within the camp.
2. There might be conflicts / riots, space issues.
3. Non-availability of life line resources.

**Nodal Agency:** Department of Revenue

**Support Agencies:** PWD, IPH, Food and Civil Services Deptt.

### Setting up of a Relief Camp:

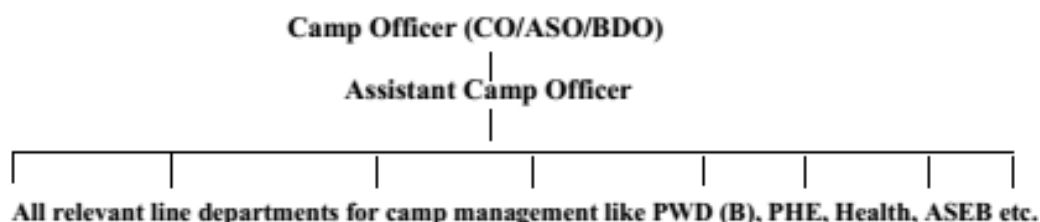
- On receipt of report from Revenue officials, the DC/SDO(C) will order to set up a relief camp at pre-decided location as per District/ Sub-divisional disaster management plan
- In case new location is to be selected for the camp due to unavoidable circumstances, following points should be considered for arriving at a decision.
  - Camp should preferably be set up in an existing accommodation like a community hall.
  - It should be located at a safe place which are not vulnerable to landslides, flood etc.
  - It should be accessible by motor vehicles, if possible.
  - Adequate space for roads, parking's, drainage, should also be there.
- The area should not be prone to endemic disease like malaria.
  - Wide publicity should be given about the location of the camp and affected people should be evacuated and brought to the camp directly.
  - Emergency relief materials which include drinking water, food, bedding (mattress, sheets & blankets), baby food, mosquito repellents etc. should be arranged as early as possible.
  - Control room/ help desk should be setup in the relief camp immediately.

### Shelter

- The shelter should be such that people have sufficient space for protection from adverse effects of the climate.
- Ensure sufficient warmth, fresh air, security and privacy for their health and wellbeing.
- Tents should not be constructed too closely together and reasonable distance should be kept between the camps to provide some form of privacy.
- Priority should be given to widows and women headed households, disabled and elderly people in tent/room distribution.

### General Administration of the Camp

- One responsible officer preferably CO/ASO should be designated as Camp Officer by the DC/SDO(C) who will ultimately be responsible for general management of the Relief Camp. He/She will co-ordinate & supervise the works of other officers in the camp. Administrative structure of the camp should be as follows:



- One help desk/ control room/ officer room should be designated where inhabitants can register their complaints

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## 12.10.1 BASIC FACILITIES

### Lighting Arrangement and Generator Set

- A technical person, preferably from electricity or PWD (E) department should be detailed to supervise the proper lighting arrangement in and around the camp and operation and maintenance of the generator set.
- One big candle and one match box should be provided in every room/tent.
- Petromax or emergency light should be arranged in sufficient numbers in the camp.
- Approach to toilet and water source should properly be illuminated

### Water Facilities

- Total requirement of drinking water, water for toilets, bath & washing of clothes and Utensils should be assessed and proper arrangement should be made accordingly
- One Sr. Officer of PHE Deptt. Should be detailed for maintaining water supply in the camp.
- Separate bathing units must be constructed for male & female

### Sanitation, Food- Storage & Distribution, Clothing

- Toilet should be minimum 10 mtrs and maximum 50 mtrs away from shelter/tent/room  
Sufficient stock of bleaching powder, harpic and others item should be maintained

### Food- Storage & Distribution

- As far as practicable and as per available space cooked food may be served in hall or at one place for convenience of cleaning, hygiene, disposal of waste and smooth arrangement.
- Food should be culture specific and as per food habits of the community. People of rural area may not like bread & butter
- Packed food like biscuit, tinned food, ready to eat meals, noodles etc. should be properly checked to ensure that they are not expired before distribution.
- Separate queue may be allowed for women infirm & elderly people to collect relief aid.

### Clothing

- People in the camp should be provided sufficient clothing to protect themselves from the adverse effects of the climate
- Culturally appropriate clothing should be made available.
- Women and girls should be provided necessary sanitary protection

### Medical Facilities & Psycho-social Support

- One Doctor along with team of paramedical staff should be detailed on roster system around the clock in the camp
- A separate room or tent should be made available for the medical team.
- A rapid health assessment of all the inhabitants in the camp should be done on weekly basis
- Cases of snake bites are also reported from relief camp. Necessary arrangement should be made in nearest health institution for adequate stock of anti-venom injection.

- Psychological support is best obtained from the family. Therefore, even in abnormal conditions, family should be kept together

### **Special Arrangement for women, Children, and Physically Challenged and Elderly persons**

- Since women are more vulnerable during disaster, their specific needs must be identified and taken care of.
- Female gynecologists and obstetrician should be available at hand to take care of maternity and child related health concern.
- Ensure that children inoculated against childhood disease within the stipulated time period.
- For safety and security of the women and children vigilance committees should be formed consisting of women.
- Women Police Officer should be stationed within the camp to record and redress any complaints made by women.
- Security measures should be taken in the camps to prevent abduction of women, girls and children.

### **Vermin control**

- Insect and rodents are the unavoidable pests in the relief camp. They spread diseases, spoil foods and other material
- Fogging may be arranged to prevent mosquitoes and other flying insects.
- Waste segregation should be promoted and collected on daily basis

### **Security**

- Security, peace and order must be maintained in the relief camp. The youths in the camp may be involved for providing better security environment.
- Police personnel should be detailed on roster basis.
- Adequate employment of force should be ensured on the boundary and gate of the camp.

### **Entertainment, Recreation & IEC Programme**

- Literary clubs/ Organizations may be promoted to arrange books & magazines for camp populations.
- Camp population may be kept engaged by providing entertainment & recreational facilities to them.
- Temporary Anganwadi centres may be opened in the camp with the help of ICDS project officers for small children.
- Temporary schools may be setup in the camp involving volunteers from the camp inhabitants. SSA may provide free textbook, stationary, Siksha-Mitra etc. Reputed
- NGOs may also be allowed to run temporary schools in the camp.

## **12.11 SOPS FOR VIP MANAGEMENT**

Visits by VIP's can lift the morale of those affected by the disaster as well as those who are involved with the response. It has been seen that the Ministers, members of Parliament and State legislatures, local councillors, leaders of various political parties, etc. visit the scene of a disaster and the injured to mark





