

# Disaster Management Plan

Department of Fire



Government of Himachal Pradesh



# Chapter 1

## Introduction

### 1. Introduction

The H.P Fire Services were provincialized in 1972 prior to which it functioned under the control of various Municipal committee/Corporation. During the succeeding years, new Fire Stations were opened in the developing townships and industrialization. Subsequently, the Himachal Fire Fighting services Act was enacted in the year, 1984. It is the primary agency responsible for managing various emergency situation include fire breakout, explosions, building collapse, etc. The department protects people's life & property from fire and other calamities

Functions of the fire service department are as under:-

- Carry out effective and timely firefighting, rescue and life-saving operations and disaster management activities
- The issue of fire safety guidelines.
- The issue of no objection certificate from fire safety angle.
- Fire safety arrangements for public functions.
- The issue of Fire reports.
- Organizing fire safety lectures/demonstrations/training/awareness programme in support of Disaster Management in the State.

#### 1.1.1 Organizational Structure

The Fire Services Department in Himachal Pradesh is headed by the Director, Fire Services who is assisted by a Chief Fire Officer posted in the Directorate located at Shimla. The Directorate also has a Fire Prevention Wing under the Fire Prevention Officer. This Wing is responsible for suggesting fire prevention and protection measures. Each Fire Station is headed by a Station Fire Officer/ Sub Fire Officer and the Fire Posts are headed by Leading Fireman under the overall supervision of Divisional Fire Officer of Commandant Home Guards of the respective District.

**Director Fire Services:** The Director, Fire Services, Himachal Pradesh is the appointing and disciplinary authority for all Class-III & IV employees of the Department. He is also controlling authority for expenditure of allotted budget amount under various schemes for H.P. Fire Services Department. He exercises the powers vested in him in accordance with the provisions of Himachal Pradesh Fire Fighting Services Act and rules made thereunder.

**Chief Fire Officer:** The Chief Fire Officer, Himachal Pradesh assists the Director, Fire Services for giving suggestions in relation to Technical and Administrative matters pertaining to Fire Services in the State. He is also Disbursing Officer/ Head of Office for the establishment at Directorate level

**Divisional Fire Officer/Fire Prevention Officer:** The Divisional Fire Officers are posted at Fire Division Shimla and Fire Training Centre Baldeyan. They are responsible for Administrative and Operational control of Fire Stations and Training Centre under their jurisdiction. The Fire Prevention Officer is posted in the Directorate and he is responsible for suggesting Fire Prevention Measures in order to safeguard public property against fire.

**Station Fire Officer/Sub Fire Officer:** Station Fire Officer/Sub Fire Officer posted in the respective Fire Stations are responsible for the efficient functioning of the Fire Station. They are responsible for overall supervision of the Fire Stations for attending operational duties and upkeep of firefighting equipments from time to time. They report to Commandant Home Guards and Divisional Fire Officer of the District in which the Fire Station is located.

### Technical Staff of Fire Department

Name & Designation of the Post	Sanctioned Strength
Chief Fire Officer	1
Divisional Fire Officer/ Fire Prevention Officer	3
Station Fire Officer	10
Sub Fire Officer	32
Leading Fireman	89
Fireman	384
Drivers-Cum-Pump Operator	137
Total:	656

## 1.2 Fire Service Department infrastructure

Based upon the demographic and industrial characteristics of the towns twenty-two fire stations have been set up in the state, which provides service round the clock. Typically, each fire station has a complement of three to four water tenders and other firefighting and rescue equipment. In addition to the above, depending upon the requirement the fire stations have also been provided with DCP tenders, Combined Foam and Co2 tenders, Jeep Fire Engines and Motor Cycles. The authorised strength of a fire station varies from station to station, however, efforts are afoot to have the fire stations classified as ones located at District Headquarters and others and accordingly have their manpower authorized.

The following 22 Fire Stations, State Fire Training Centre and 17 Fire Posts are established in the State

Sl. No.	Location of Fire Stations	Name of District
1	Reckong Peo	Kinnaur
2	Rampur	Shimla
3	Rohru	-do-
4	Mall Road Shimla	-do-
5	Chhota Shimla	-do-
6	Tilaknagar(Shimla)	-do-
7	Nahan	Sirmour
8	Paonta Sahib	-do-
9	Bilaspur	Bilaspur
10	Mandi	Mandi
11	Kullu	Kullu
12	Manali	-do-
13	Chamba	Chamba
14	Dharamshala	Kangra
15	Palampur	-do-
16	Kangra	-do-
17	Hamirpur	Hamirpur
18	Solan	Solan

19	Parwanoo	-do-
20	Nalagarh	-do-
21	Baddi	-do-
22	Una	Una

## Fire Posts

Sl. No.	Location of Fire Posts	Name of District
1	Theog	Shimla
2	Amb	Una
3	Keylong	Kullu
4	Sujanpur	Hamirpur
5	Jawalamukhi	Kangra
6	Nurpur	-do-
7	Jogindernagar	Mandi
8	Banikhet	Chamba
9	Naina Devi	Bilaspur
10	Larji	Mandi
11	Kala Amb	Sirmour
12	Sunni	Shimla
13	Ghumarwin	Bilaspur
14	Sarkaghat	Mandi
15	Baijnath	Kangra
16	Kharamukh	Chamba
17	Jaisinghpur	Kangra

### 1.2 Purpose of the Plan

The basic purpose of this Disaster Management plan is to provide guidance to attached and subordinate offices as well as other agencies within the Department to manage the risks of disasters before, during, and after disasters. Thus, the plan provides the fire service department with easy access to resources that may be needed in a disaster situation. The main objective of the Disaster Management Plan is to reduce the risk level through preparedness at various levels.

- Disaster Management Plan helps to bring together the information related to equipment, skilled manpower and critical supplies.
- It helps to know the standard operating procedures of the department at the time of disaster.
- To fix the role and responsibility of each officer for disaster preparedness.
- It helps the Department to assess its own capacity in terms of available resources and get ready to mitigate and unexpected disaster effectively and to prevent the loss of human lives and property through preparedness, prevention & mitigation of disasters.
- To assist the line departments, block administration, communities in developing compatible skills for disaster preparedness and management.
- To disseminate factual information in a timely, accurate and tactful manner while maintaining necessary confidentiality.
- To develop immediate and long-term support plans.

### 1.3 Scope of the plan

Himachal Pradesh is susceptible to various natural and man-made disasters. Fire Service Department shall utilize this plan to coordinate and initiative all of its resources throughout the state during disaster situations. The plan provides for the activation and sustained response of aid to a community in the event of major disasters

### 1.4 Authorities, Codes, Policies

Department of Fire Service will be guided by the following:

- (i) Explosive act and rules, 1983
- (ii) Building By Law, 1983
- (iii) Himachal Pradesh Fire Fighting Service Act, 1984
- (iv) Disaster Management Act 2005
- (v) Himachal Pradesh Disaster Management Plan 2012
- (vi) National Guidelines issued by the NDMA
- (vii) Guidelines and provision for State Disaster Response Fund (SDRF)
- (viii) Guidelines for administration of the National Disaster Response Fund (NDRF).

### 1.5 Institutional Arrangement For Disaster Management

The HPSDMA is the apex body for disaster management at State level is headed by the Chief Minister. It lays down policies, plans and guidelines for Disaster Management and coordinates their enforcement and implementation for ensuring timely and effective response to disasters. Principal Secretary of Home is a member of HPSDMA who is also head of the fire department. As a partner agency of the Home Department, the fire service department has an important role in the managing various disaster situations.

Sl. No	Member	Designation in HPSDMA
1.	Hon'ble Chief Minister	Chairman
2.	Hon'ble Revenue Minister	Co-Chairman
3.	Chief Secretary	CEO
4.	Principal Secy.(Rev)	Member
5.	Principal Secy (Home)	Member
6.	Principal Secy (PWD)	Member
7.	Principal Secy (Health)	Member
8.	Director General of Police	Member
9.	Secretary/Additional Secretary (Revenue)	Member Secretary

#### 1.1.2 Specific Hazards and Nodal Departments in Himachal Pradesh

Sl. No.	Hazards	Primary Agency / Department	Supporting Agencies/Departments/
<b>Water and Climate-Related Disasters</b>			
1	Hailstorm	Department of Agriculture and Horticulture	IMD, Home, insurance and Revenue

2	Snow Avalanches	Snow and Avalanche Study Establishment (SASE), Manali (DRDO)/Deptt. of Home/ ES&T	Tribal Admin, IMD, Health, Home and Revenue, Mountaineering Institute/S&T/GSI
<b>Chemical, Industrial and Nuclear</b>			
3	Chemical and Industrial Disasters	Department of industries/ Department of labour and employment	HPSEB, Department Of labour & employment, Home, Admn, DMI Bhopal, and NDRF
4.	Nuclear Disasters	Department of Home	DEST, Admn, Central Ministry of Atomic Energy & Defence
<b>Accident Related Disasters</b>			
5.	Forest Fires	Forest Department	Fire Department, ES&T, Home and Admn
6.	Urban Fires	Department of Home(Fire)	IPH, Health, TCPI, Admn and Home
7.	Major Building Collapse	Department of UD	PWD, Health, Home and Admn
8.	Serial Bomb Blasts	Department of Home	Admn, Health and Family Welfare
9.	Festival related disasters	Department of Home	Admn, Health and Family Welfare/Department of Art language and culture
10.	Electrical Disasters and Fires	HPSEB/ MPP and Power	Home, Health and Revenue
11.	Air, Road and Rail Accidents	Department of Transport, Indian Railway and Civil Aviation/GAD	Home, Health and Family welfare and Admn/Revenue
12.	Boat Capsizing	MPP and Power/IPH	BBMB, Home, Health and Family Welfare and Admn.
13.	Village Fire	Department of Home	Home, Revenue, Health and Family Welfare
<b>Biologically Related Disasters</b>			
14.	Biological Disasters and Epidemics	Department of Health	Home, Revenue and NDRF
15.	Pest Attacks	Department of Agriculture and Horticulture	Home, Revenue. and NDRF
16.	Cattle Epidemics	Department of Animal Husbandry	Home, Revenue. and NDRF
17.	Food Poisoning	Department of Health	Home, Revenue and NDRF
18.	Biological Disasters and Epidemics	Department of Health	Home, Revenue and NDRF
<b>Specific Hazards and Nodal Departments in Himachal Pradesh For Early Warning System</b>			
<b>Sr. No.</b>	<b>Hazards</b>	<b>Nodal Department</b>	<b>Supporting Agencies/Departments/ For Early Warning System</b>
1	Fire	Fire Department	IPH, Health and Admn., Home
2	Forest Fire	Forest Department	Fire Department, RS, Home and Admn
3	Road Accidents	Concerned DA	Transport, PWD, BRO, home and Health, District Road Safety Committees.

4.	Civil Aviation Accidents	GAD	Health and Family welfare, Admn. and Home, Department of Tourism and Civil Aviation
5.	Rail Accidents	Indian Railway	Health and Family welfare, Admn. and Home
6.	Boat capsizing	MPP & power(HPSEB)	District DDMA, Home and Health and Family Welfare
7.	Stampede	Home	Admn, Health and Family Welfare & Art Language and Culture
8.	Industrial	Department of Industry	Labour & Employment, Admin, Home, Pollution Control Board
9.	Biological	Health and Family Welfare	Home, Admn, NDRF
10.	Radiation	Environment and Science	Home, Admn, NDRF
11.	Nuclear	Environment and Science & Tech.	Home, Admn, NDRF, Central Ministry of Atomic Energy and Defence
12.	Wind Storms	Revenue	IMD, Agriculture and Horticulture, home
13.	Hailstorms	Agriculture and Horticulture	IMD, home and Insurance, Admin
14.	Extreme Cold	Department of Revenue, District AC	IMD, Forest, Electricity, Health, Home
15.	Snow Storms	Revenue	IMD, IPH, Health and Admn, Home, PWD
16.	Avalanches	SASE, ES&T	Tribal Administration, IMD, IPH, Health and Home and Revenue

### 1.5.1 Nodal officer

It is recommended that the Chief Fire Officer might be the nodal officer of the disaster management in the department. The role of the nodal officer is to:

- Act as a focal point for disaster management activities of the department.
- Provide his/ her contact and alternate contact details to SDMA/DDMA and Revenue Department, State and District Emergency Operation Centre, all line departments and agencies.
- Take lead to prepare the department's disaster management plan, Emergency Support Function (ESF) plan and Standard Operating Procedure (SOP).
- Help the department to procure the equipment's necessary for managing various disaster situation
- Keep force well trained and equipped for multi-hazard tasks.
- Procure the equipment necessary, updated, upgraded and in operational readiness.
- Attend Disaster management meeting, training, workshops or any related programme on behalf of the department.

### **1.5.2 Incident Response Team**

Fire Service department shall constitute Incident Response Team (IRT) in each disaster prone districts with proper command and control mechanism to deal with disaster situation in an effective manner

### **1.5.3 Emergency Control Rooms**

Fire Service Department operates control rooms in every fire stations for dealing any emergency situation. Most cases during an emergency situation fire service control rooms get alerted. It is connected with State Emergency operation centre and various district centres.

### **1.6 Plan Management**

Nodal officer will be responsible for maintaining and updating of departmental Disaster Management Plan. The plan serves as a dynamic, living document. It will be updated on an on-going basis and will receive formal review every year

#### **1.6.1 Implementation of the Plan**

Commandant General shall be responsible for implementation of the Plan. The Nodal Officer shall coordinate with all stakeholders for implementing the Plan. Annual Progress on implementation of the Plan will be submitted to HPSDMA.

#### **1.6.2 Revision of the Plan**

The Disaster Management Plan is a living document. As per it will be revised on annual basis as per provisions of the DM Act-2005. Any changes in guidelines under the NDRF and SDRF shall be incorporated in the plan as and when such changes are made. The introduction of new technology for hazard risk mitigation shall also be incorporated as when the same is tested and found feasible and acceptable in particular geographical area of the State.

#### **1.6.3 System of updation**

The Plan shall be updated by the Commandant General with the help of State Disaster Management Authority at least once in a year or as and when felt necessary. Consultations will be held with the stakeholders for making changes in the Plan. The Nodal Officer shall be responsible for holding consultations and updating the Plan.

#### **1.6.4 Dissemination of Plan**

After finalization of the Plan, a copy will be submitted to the HPSDMA for approval. After approval, it shall be disseminated to all agencies, field offices and other stakeholders. Further, whenever it revised/updated, it shall be submitted to HPSDMA for endorsement of changes. The revised Plan shall be shared with all concerned.

##### **1.6.2.1 Roles & Responsibilities of Department in Monitoring and Evaluation of Plan:-**

1. Identify and ensure implementation of DRR into all developmental projects and schemes.
2. Monitor the functioning and adequacy of the resources present in the Department every six months.
3. Ensure that all the departmental plans are operational and checked by the respective nodal officers.



4. Monitor that all prevention, mitigation, preparedness and response measures are properly implemented.

The monitoring and evaluation could be done through various audits such as:

- i. Electrical Safety Audits of critical infrastructure
- ii. Fire-Safety Audits of critical infrastructure
- iii. Enforcement of National Building Code in construction of lifeline buildings

### **1.6.3 Review and Update**

This needs constant review and updation based on the following requirements: -

- a) Major change in the operational activities and location
- b) Valuable inputs from actual disasters
- c) Lessons learnt from training
- d) Inputs from mock drills/ simulation exercises
- e) Lessons learnt from near-miss incidents
- f) Changes in disaster profile
- g) Technological developments/ innovations in identifying potential hazards
- h) Changes in regulatory requirements
- i) Updating of databases using GIS
- j) Change in demography of surrounding population
- k) Changes in geopolitical environment
- l) Inventory of equipment in the Department,
- m) Human Resources, their addresses and contact numbers

## **Chapter 2**

### **Hazard Risk and Vulnerability Analysis**

#### **2.1 Hazard Profile of State**

The State of Himachal is prone to various hazards both natural and manmade. Main hazards consist of earthquakes, landslides, flash floods, snowstorms and avalanches, droughts, dam failures, fires – domestic and wild, accidents – road, rail, air, stampedes, boat capsizing, biological, industrial and hazardous chemicals etc. The hazard which, however, poses the biggest threat to the State is the earthquake hazard. The State has been shaken by more than 80 times by earthquakes having a magnitude of 4 and above on the Richter Scale as per the recorded history of earthquakes. The state is vulnerable to many hazards. These are summarized as under:

##### **2.1.1 Earthquakes**

The seismic sensitivity of the state of Himachal Pradesh is very high as over the years a large number of the damaging earthquake has struck the state and its adjoining areas. Every year state is experiencing a number of earthquakes. The whole of the state is either in seismic zone IV of high-risk zone or in seismic zone V of very high-risk zone. The seismic vulnerability of Himachal Pradesh is primarily attributed to northward movement of Indian plate and to the major dislocation tectonic features. It is also pertinent to note that the state of Himachal Pradesh is not only highly sensitive from the earthquake point of view but the risk has also grown manifold as the population and infrastructure have increased considerably over the last 20 years. Chamba, Kullu, Kangra, Una, Hamirpur, Mandi and Bilaspur Districts lie in Zone V i.e. very high damage risk zone and the area falling in this zone may expect earthquake intensity maximum of MSK IX or more. The remaining districts of Lahaul and Spiti, Kinnaur, Shimla, Solan and Sirmour lie in Zone IV i.e. the areas in this zone are in high damage risk with expected intensity of MSK VIII or more. The spatial distribution and district wise history of past seismic events is given as below

## District-wise occurrence of Earthquakes (1800-2008)

No.	District	Number of earthquakes	Percentage of Total
1	Chamba	186	33.63
2	Lahaul & Spiti	99	17.90
3	Kinnaur	93	16.82
4	Mandi	53	9.58
5	Shimla	49	8.86
6	Kangra	39	7.05
7	Kullu	19	3.44
8	Sirmaur	8	1.45
9	Solan	4	0.72
10	Hamirpur	2	0.36
11	Bilaspur	1	0.18
12	Una	0	0.00
	<b>Himachal Pradesh</b>	<b>553</b>	<b>100</b>

### 2.1.2 Flood

Floods are another form of natural disaster the State experiences every year. Southwest Monsoonal rainfall during the months of June to August is the dominant cause for triggering floods when rainfall happens to be in excess. As a result flash flood is the most frequent and damaging floods that occur with little or no warning causing immense loss to life and property. A sudden increase in the volume of water with little or no warning causes immense loss of life and property which is called a flash flood. Over 40 incidents of flash flood and cloudbursts occurred in Himachal Pradesh in the last 12 years that caused immense damages. All the major rivers of the state have their sources in glaciers. One common feature of the flakier area is the presence of flakier lakes. When these lakes burst causes flash floods. Sudden discharge of a huge volume of water from the glacial lake is known as Glacial Lake Outburst Cloud bursting is another cause of flash flood during the monsoon period.

### 2.1.3 Landslide

Downward movement of rocks primarily under the influence of gravity is called a landslide. Besides gravity, there are factors that build a specific subsurface condition to make area prone to slope failure. However, the actual landscape often requires a trigger before the event. Earthquake and rainfall trigger the rocks downwards movement. It is both natural and manmade phenomena and varies spatially with variation in altitude, geology and topography. The controlling factors of the landslide are steepness of slope, type of rocks, change in vegetation and developmental activities.

### 2.1.4 Avalanche

Sudden slide of a large mass of snow along the slopes of the mountain is called avalanche. They occur in high altitude area with steep valley slopes and are common in Kinnaur, Lahaul and Spiti, Kullu, Chamba and Kangra districts.

### 2.1.5 Forest Fire

Forest fires are common in the month of May and June when the State has dry conditions. A major cause of forest fire intention to exploit the forests for livelihood. Fires are natural as well as manmade.

### 2.1.6 Road Accidents:

Roads in the State are along the former river beds or by cutting the mountains and are curving. Common causes of accidents are poor visibility due to fog, ignorance of horns especially on curves, use of alcohol, over speeding, overtaking on curves and poor maintenance of the vehicle.

### 2.1.7 Stampede

The State is known as the land of Gods. Many famous temples are located in the State such as Sri Naina Devi, Baba Balak Nath, Sri Chintpurni, Maa Jawalaji, Maa Braheswari and Sri Chamunda Nandikeshwari Dham to name a few. A large number of devotees throng these places every year. A human stampede at the temple of Naina Devi occurred on 3 August 2008. 162 people died when they were crushed, trampled, or forced over the side of a ravine by the movement of a large panicking crowd. The possibility of such instances is always there if there is any laxity on the part of the management.

### 2.1.1: Hazard Wise Vulnerability

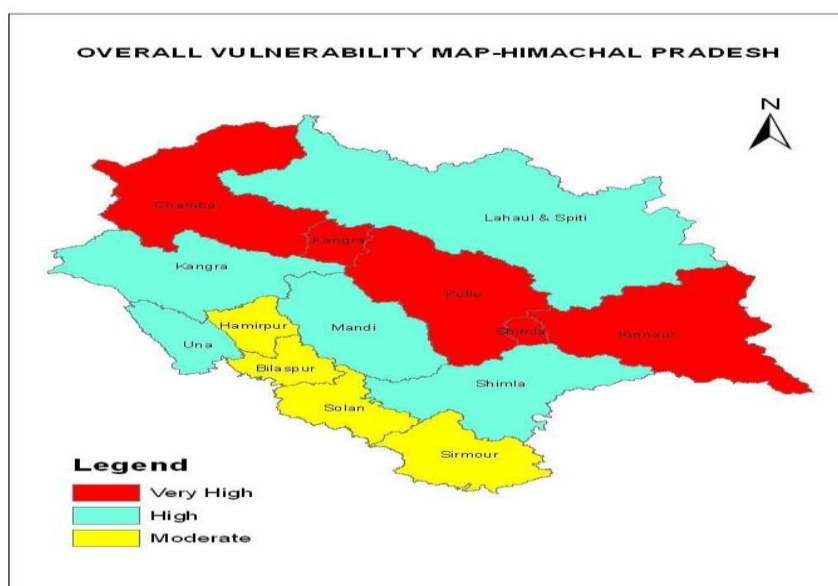
Sr. No.	Districts	Earthquake	Landslide	Floods	Avalanche	Forest Fire	Drought	Cloud Burst
1	Kangra	VH	L	M	M	H	H	M
2	Chamba	VH	VH	H	M	H	M	H
3	Hamirpur	H	L	L	-	VH	M	L
4	Mandi	VH	H	H	-	VH	M	H
5	Kullu	VH	VH	H	H	H	M	VH
6	Bilaspur	H	M	L	-	VH	M	L
7	Una	H	L	H	-	M	M	L
8	Sirmour	H	L	L	-	VH	M	M
9	Solan	H	M	L	-	M	M	L
10	Kinnaur	H	H	H	VH	M	M	VH
11	Lahaul-Spiti	M	M	M	VH	M	M	H
12	Shimla	VH	H	H	M	H	M	H

## 2.2 Assessment of Sectoral and Departmental Risk.

Sr. No.	Location of Fire Stations	Vehicles with equipment	Earthquake	Land slide	Flood	Avalanches	Forest Fire	Cloud Burst
1	Reckong Peo	Water Tender Water Bouser Small Water Tender Small Combined Foam Co2 Water Tender Jeep Fire Engine/B camper	High	High	High	Very High	Medium	Very High
2	Rampur	Water Tender Water Bouser Quick Response Vehicle	Very High	High	High	Medium	High	High
3	Rohru	Water Bouser Small Water Tender Water Tender Quick Response Vehicle	Very High	High	High	Medium	High	High
4	Mall Road Shimla	Small Water Tender Water Bouser Jeep Fire Engine Advance Water Tender Quick Response Vehicle Motor Cycle MIST CAF	Very High	High	High	Medium	High	High
5	Chhota Shimla	Water Tender Water Tender Jeep Fire Engine Quick Response Vehicle Motor Cycle	Very High	High	High	Medium	High	High
6	Tilaknagar	Combined Foam Co2 Water Tender Water Tender Water Bouser Quick Response Vehicle	Very High	High	High	Medium	High	High
7	Nahan	Water Tender : 3 No. Water Bouser Quick Response Vehicle Motor Cycle	High	Low	Low	-----	Very High	Medium
8	Paonta Sahib	Water Tender: 2 No. Water Bouser Small Water Tender Small DCP Tender Quick Response Veh.	High	Low	Low	-----	Very High	Medium
9	Bilaspur	Water Tender Water Bouser	High	Medium	Low	-	Very High	Low

		Small Water Tender Jeep Fire Engine Quick Response Vehicle						
10	Mandi	Water Bouser Advance Water Tender Small Combined Foam Co2 Water Tender Quick Response Vehicle Motor Cycle	VeryHigh	High	High	-	VH	High
11	Kullu	Water Bouser Small Water Tender Quick Response Vehicle Advance Water Tender Motor Cycle	VeryHigh	Very High	High	High	High	Very High
12	Manali	Water Tender B Water Bouser Combined Foam Co2 Water Tender Combined Foam Co2 Water Tender Quick Response Vehicle	VeryHigh	Very High	High	High	High	Very High
13	Chamba	Water Tender Water Bouser Small Combined Foam Co2 Quick Response Vehicle Motor Cycle Water Tender B New	VeryHigh	VeryHigh	High	Medium	High	High
14	Dharamshala	Advance Water Tender Combined Foam CO <sub>2</sub> Water Tender Quick Response Vehicle Motor Cycle Mist CAF Water Tender B Motor Cycle	Very High	Low	Medium	Medium	High	Medium
15	Palampur	Water Tender Water Bouser Small Water Tender Small Water Tender Quick Response Vehicle Motor Cycle	Very High	Low	Medium	Medium	High	Medium
16	Kangra	Water Tender Water Bouser Quick Response Vehicle	Very High	Low	Medium	Medium	High	Medium

17	Hamirpur	Water Bouser Advance Water Tender Quick Response Vehicle Motor Cycle	High	Low	Low	-	Very High	Low
18	Solan	Water Tender: 2 No. Advance Water Tender Small Water Tender Water Bouser Small Combined Foam Co2 Quick Response Vehicle Motor Cycle	High	Mediu m	Low	-	Medium	Low
19	Parwanoo	Water Tender: 2 No. Small Water Tender Small DCP Tender Quick Response Vehicle Motor Cycle	High	Mediu m	Low	-	Medium	Low
20	Nalagarh	Combined Foam CO <sub>2</sub> Water Tender Water Tender: 2No. Water Bouser Small Water Tender Quick Response Vehicle	High	Mediu m	Low	-	Medium	Low
21	Baddi	Water Tender: 2 No. Water Bouser Water Bouser Small DCP Tender Quick Response Vehicle Rescue Tender	High	Mediu m	Low	-	Medium	Low
22	Una	Water Bouser Advance Water Tender Small Water Tender Quick Response Vehicle Combined Foam CO <sub>2</sub> Water Tender Motor Cycle	High	Low	High	-	Medium	Low



### 2.3 Assessment of Probable Damage and Loss due to fire

Fires are also common in the state and especially in high hill areas of Shimla district where traditional building material is wood and social habits and lifestyle is very conducive to fire events. The haphazard growth of towns and habitations also render them susceptible to fires of all types. Cluttering and clustering of buildings of all ages is also a factor contributing to high vulnerability. For instance, in certain parts of Shimla city ignition of fire at one point can engulf the whole locality. Rural villages in the state are particularly vulnerable because the construction of houses involves use of a substantial quantity of timber and fuelwood as a source of energy for cooking and warming. Every year there are numerous incidences of fires causing human, animal and material loss. The destruction of Malana village in Kullu and Chachawari village in Rohru area of Shimla district are the recent instances of fire hazards in the State.

#### Incidents of fire

Year/District	No. of Fire Stations	No. of Fire Calls attended	No of human lives		No of cattle lives		Value of property (Rs. In Lakhs)	
			Saved	Lost	Saved	Lost	Saved	Lost
2004	2	1049	8	3	5	2	18618	1449
2005	22	1226	12	33	-	4	20018	2357
2006	22	867	8	6	3	47	20739	10035
2007	20	1202	306	102	13	38	27091	2984
2008	22	1233	-	113	-	-	38012	10302
2009	22	1684	30	20	-	32	76521	11317
2010	22	1447	14	7	7	82	71858	68013

### 2.4 Assessment of capacity gaps and needs

Below are the few needs which may help the department to be more prepared for a disaster situation:

- Adequate modern equipment and their scaling, authorization & standardization;



- Appropriate and adequate funding;
- Training institutions;
- Infrastructural facilities – fire stations and accommodation of personnel etc.;
- Vulnerability analysis
- Public awareness (DOs & DON'Ts), conduct of regular mock exercises and evacuation drills.
- The requirement of District level fire prevention wing.

## **Chapter 3**

### **Risk Prevention and Mitigation**

#### **1.1 Departmental Risk Prevention**

Risk prevention is preventing the creation of new risks of disasters. Such risks may be created unwillingly by the Departments directly through public investments or indirectly through the facilitation of private investments that are vulnerable to the risks of disasters. Therefore, every investment should go through HRVA to check if new programmes, activities or projects have the potential to create new risks of disasters. If such investments cannot be avoided these must be protected by safeguards through adequate structural and non-structural prevention measures so that the benefits of investments are fully protected from risks of disasters. For example, assets of the department like offices, equipment's and others should be located at places which have lesser chances of getting affected by a hazardous event. Prevention can be understood as an activity to provide an outright avoidance of the adverse impact of hazards and related environmental, technological and biological disasters. Depending on social and technical feasibility and cost/ benefit considerations, investing in preventive measures is justified in areas frequently affected by the disaster. In the context of public awareness raising and education, prevention refers to attitude and behaviour leading towards a culture of prevention.

#### **1.2 Departmental Risk Mitigation**

Risk mitigation is reducing the risks of disasters that are already there due to exposure of vulnerabilities to the hazards. Fire risk mitigation can be reduced in the state through make available firefighting resources in more vulnerable areas. At present fire services in the State are restricted up to district HQ only and a few locations up to Sub-Division HQs also. In the event of any fire tragedy in the remote area, the fire tenders are rushed from the district HQ to the site of the accident. Fire services can save life and property in the affected area only if it reaches the site in no time. Keeping in view of the vulnerability of the State to fire hazard there is need to put in place fire services up to Subdivision HQ in a phased manner and wherever possible local level where vulnerability is very high.

#### **1.3 Strategies for Risk Prevention and Mitigation**

Any measures taken for the general fire safety by the Fire Department will also assist in the prevention and mitigation of fires. The department shall ensure the fire-safety culture of the state shall be established in line with the disaster management. Only by conducting a proper risk assessment of fire willfully identify and lead to the implementation of appropriate control measures. Fire disaster impact can be prevented for by strict adherence to the safety norms and practices given below:

- Implement and follow Fire Safety Norms in all the public places

- Electrical Safety Norms
- Safe storage of dangerous and/or combustible materials away from combustion sources
- Storage of materials away from heat sources
- Electrical installations made to meet appropriate regulations and standards
- Portable appliances shall be maintained inspected and tested periodically to conduct a risk assessment determining the frequency of inspection and testing required for different items of equipment
- Ensure combustible refuse has been cleared to a safe, secure area from public premises
- Portable fire extinguishers shall be provided throughout the key areas of public premises including hospital, schools, bus stands, markets etc
- Inspect and maintain firefighting equipment regularly.
- Waste burning must not be undertaken on any site and should be strictly prohibited
- Conduct regular fire mock drill in all major public places

## **Chapter 4**

### **Mainstreaming Disaster Risk Reduction in Development**

Disaster Management Act has stipulated that DM Plans of the Departments of State Government shall integrate strategies for prevention and mitigation of the risks of disasters with the development plans and programmes of the department. Mainstreaming disaster management into the development planning process essentially means looking critically at each activity that is being planned, not only from the perspective of reducing the disaster vulnerability of that activity but also from the perspective of minimizing that activity's potential contribution to the hazard.

#### **Disaster Risk Reduction (DRR) Priority Actions:**

Disaster risk reduction priority actions are carried out during non-disaster times.

1. Establish a fire warning cell in the department and a nodal officer for disaster management.
2. Establish coordination and liaison with other relevant departments, ESF nodal and support agencies, community-level committees, other districts, state and national agencies specially to develop early warning information.
3. Establish and practice protocols for Early Warning approval and dissemination.
4. Assess the vulnerable points in the infrastructure, especially hazardous industries and take measures like timely repairs etc.
5. Scope the budget for the maintenance of firefighting equipment's and structural measures etc. under different categories.
6. Define standards to measure departments' performance on risk reduction activities and emergency response capacities.
7. Build awareness among the departmental staff, communities and the key stakeholders engaged with the department on potential disaster risks and measures to reduce the risk.
8. Ensure to keep the force alert and sufficient preparedness for emergency response.

## Chapter-5

### Disaster Preparedness

Disaster preparedness has been defined as the state of readiness to deal with a threatening disaster situation or disaster and the effects thereof. The Department may review their “state of readiness” and prepare a strategic action plan to deal with possible disaster situations. In any disasters situation including natural disasters like landslide, earthquake fire department in the state are the always first responders. Most disaster situation fire departments routinely handle the majority of fires, rescues and medical emergencies without outside assistance. The main objective of department disaster preparedness makes maximum use of existing facilities and services within the department prior to requesting assistance. Thus, the role of fire services is very crucial in an emergency.

#### 5.1 Measures of Disaster Preparedness

1. Identify potential emergency situations. Make references to contingency specific action plans for the same.
2. Develop fire station operational plan during the time of emergency situation based on local vulnerability and risk assessment.
3. Establish and maintain communication with the State Emergency Operations Center, and other control rooms
4. Disaster Management Action plan will be prepared by each fire units/station based on the local vulnerability and outlines various emergency responsibilities of staff, evacuation routes and evacuation assembly areas, emergency supplies, and emergency notification plans
5. Determine the status of all department emergency operation
6. Maintenance of firefighting equipment's etc. and installation of fire alarm and water pumps like hydraulic, sprinkler etc.
7. Determine the impact of the emergency on the fire department's operational capability.
8. Identify the most vulnerable areas to fire and other disasters and create awareness and training among the people on fire safety measures, prepare the force for emergency search and rescue operation.
9. Implementation of fire safety measures in the private, government and own buildings and establishments.
10. Provide regular training in primary health care and in the evacuation, search and rescue to the fire brigades to make them alert.
11. Periodically inspect the vulnerable areas like hazardous chemical and other industries.
12. Stockpile and preposition sufficient number of firefighting equipment and vehicles to combat any emergency.
13. Stockpile and preposition other necessary repairing material at a safe place for the immediate repairs.
14. Keep the equipment, telephone, telex, wireless etc. functional and ready
15. Awareness to the officials for the safety of life, material, equipment and for this placement of the items at safe places.
16. To involve in disaster management activity, identify the voluntary workers from NGOs,
17. Conduct regular mock drill attach with various education institutions

18. Procurement of advanced emergency management equipment and appliances to combat all types of disasters
19. Ensure proper functioning of all equipment.
20. Make a database of existing firefighting services and facilities provided by private agencies.
21. Be aware of MAH units and other potential hazardous installations and level of possible emergency required.
22. Prepare to deal with leakage of flammable toxic substances.
23. Ensure, at disposal, the list of adverse effects of chemicals and antidotes/ methods to deal with an emergency involving each chemical. This is prepared by Department of Industrial Safety and Health.
24. 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.
25. Identify roads and routes of access and escape to and from MAH and other potential hazardous units.
26. Assessing staffing requirement of the fire department. A chain of command should be established to minimize any confusion. Personnel must be identified to coordinate the emergency-response actions.

### **Capacity Building Actions**

Capacity building action is to build sufficient capacities within the department staff and other stakeholders to be able to better perform the roles and responsibilities for disaster risk reduction and emergency response and achieving desired objectives.

#### Key Actions:

- Maintain the roster of all resources (Human, Programs, Finances and Materials) of the department that could be used for disaster risk reduction and emergency response activities.
- Coordinate with DDMA, IAGs and other agencies for the nomination of the department staff in the specialist training being organized from time to time by different agencies.
- Organise periodic mock drills of the Department Staff and key stakeholders for different contingency situations.
- Take part in block and district level mock drills and capacity building programs organized by District authorities from time to time.
- Analyse past experiences of the Department to know what went well and what could have been done better for risk reduction and emergency response by the department. Document it as lessons learnt annually and after every disaster.
- Develop a minimum inventory list required for achieving desired performance standards and develop a plan to acquire it over next few years.
- Create a mechanism for regular Inspection and maintenance of equipment and acquisition of new equipment as per your minimum inventory list for disaster risk reduction.

### **Functional Continuity Actions:**

This ensures that the department is able to quickly recover from the impact of the disaster and remains functional during disaster time.

### Key Actions:

- Define Rules and regulations for the functioning of the department especially during disaster time.
- All department staff shall nominate his/her buddy to take on the additional activities of his/her buddy, in case of any eventuality and/or absence of the member.
- Define protocols for normal time activities in non-affected areas and emergency activities in disaster-affected areas, sharing of the workload for above arrangement, special measures like additional budgets, human resources etc for disaster times.
- Identify safe building/location for operational work and meetings of the key department staff, if the department offices and working premises become inaccessible due to disaster.
- Secure important files and information of the department. Create backups, wherever possible.
- Develop a mechanism for quick sharing of information among department staff. If working on mobile networks, develop alternative mechanism/s for the exchange of information especially during emergencies like Ham radio, community networks etc.

## Chapter-6

### Disaster Response and Relief

Fire service is the first responder of any emergency situation including natural and manmade disasters. Following actions may be taken by the fire department as part of emergency response and relief:

#### 6.1 Early Warning

Early Warning System shall be developed by the department to monitor the situation, develop and disseminate information on early warning.

Key Actions:

- Monitor the level of disaster to build information on early warning, share the information with SDMA for approval.
- As soon as the warning comes, every group of the firefighting services should be alert.
- Informing the relevant offices and people about the daily update.
- Support in the dissemination of Early Warning information once approved by SDMA.
- Establish coordination with SEOC
- Appointing a departmental person as a nodal person to coordinate with the EOC.

#### 6.2 Develop search and rescue team

In most instances, Fire Department has the major role in search and rescue operation immediately after the disaster situation. Search and rescue is a technical activity rendered by a team of fire brigadiers, who rescue and attend to the casualties under adverse conditions, where life is under threat. Search and rescue is organized in close cooperation with the community and in a team approach.

Key Action

- Rescue the survivors trapped under the debris, from the damaged buildings or from a cyclonic storm surge, flood, earthquake and fire.
- Provide First Aid services to the trapped survivors and to dispatch them for medical care.
- Take immediate necessary actions, as necessary, for temporary support and protection to endangered collapsed buildings to structures.
- Hand-over, recover and dispose-off the bodies of the deceased.
- Train, demonstrate and raise awareness on how to use the local materials for self-rescue amongst the community people.
- Support for search and rescue, relief programs, transportation of injured and pumping out the water from the food stores and other important departments etc.
- Support in evacuating the people from damaged buildings, vehicles, trains, factories etc.
- Work closely with all another major department to determine the scope of any search and rescue assistance required



- Assist in mobilizing search & rescue teams consistent with established policies and priorities.

### **6.3 Activation of Unified Response to emergency**

The department shall activate the Unified Emergency Response and take necessary actions for immediate response

#### Key Actions:

- The nodal officer for disaster management in the department shall be responsible for coordination with SEOC, ESF nodal and support agencies and other departments. Appoint additional staff to support him as required for the situation.
- Develop periodic situation report and share with SEOC and SDMA.
- If SEOC declares it as an emergency and Unified Response is activated, disseminate the information to all staff, key stakeholders etc.
- Call for a coordination meeting of the key officer to take stock of the situation, the impact of the disaster on department capacity, immediate actions for a response like need and damage assessments, coordination with ESF and Incident response system /SEOC, coordination with other key stakeholders.
- Divide work among the current staff to take care of normal time work and emergency work. In particular, do not compromise preventive and preparedness actions in non-emergency areas.
- In consultation with EOC and ESF nodal and support agencies, plan response actions as per immediate, short term and long-term needs.

### **6.4 Deactivation of Unified Emergency Response**

To deactivate emergency response and prepare to shift the focus towards recovery issues.

#### Key Actions:

1. Check if all the immediate life-saving measures are in place and there is no further risk to life, property and environment due to infrastructure and responsibilities of the fire department. Give status report to SEOC and ESF nodal agencies.
2. Ensure the protection and maintenance of buildings etc and have been owned by community-level committees and adequate monitoring mechanisms are in place.
3. Evaluate Emergency response in consultation with the community, fire safety committees, ESF nodal agencies, SEOC and other stakeholders.
4. Document response activities and learning.
5. In consultation with SEOC and other ESF nodal agencies deactivate the emergency response actions.
6. Reallocate the departmental resources (Human, Materials and Financial) to normal time activities.
7. Initiate planning for early and long-term recovery actions as per the damage assessment.

## **Chapter-7**

### **Disaster Recovery and Reconstruction**

The fire department has only a limited role in overall recovery and reconstruction phases after a disaster. Same time it needs to ensured damages and losses of the department due to disasters are to be recovered in a planned, sustainable and resilient way through adopting following actions

1. Analyse the damage assessment and recovery package announced by the government.
2. Implement recovery plans.
3. Ensure the departmental resources like firefighting equipment, materials, skilled manpower used for the emergency purpose are accounted and recouped as soon as possible.
4. Support recovery and rehabilitation efforts to help communities recover from the disaster impact and in build back better.
5. Incorporate lessons learnt into future planning and preparedness actions.

## **Chapter-8: Financial Arrangements**

### **8.1 Financial Arrangements**

Section 40(2) of the Disaster Management Act stipulates that every department of the State Department while preparing the DM Plan, shall make provisions for financing the activities proposed therein. Normally the funds required for risk assessment and disaster preparedness must be provided in the budgets of every concerned department. Such funds are not very sizeable and departments should be able to allocate such funds within their normal budgetary allocations. This budget can be used to work upon the already suggested mitigation and preparedness measures, as response and relief are already being taken care of by the SDRF and NDRF.

Funds for disaster response, relief and rehabilitation are provided in State Disaster Response Fund (SDRF) which the departments can access without any problem. In case such funds are not adequate the additional demands can be projected by the State Government which can be met from the National Disaster Response Fund (NDRF). Also, the department can come up with a basic token amount for disaster risk reduction activities under their budget. This will help in institutionalization of the entire process.