

# Departmental Disaster Management Plan

**Police Department**

**Uttarakhand**



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## Abbreviations

CAP	:	Contingency Action Plan
CMG	:	Crisis Management Group
CRF	:	Calamity Relief Fund
DDMA	:	District Disaster Management Authority
DEOC	:	District Emergency Operation Centre`
ERS	:	Emergency Response System
ERT	:	Emergency Response Team
IDRN	:	Indian Disaster Resource Network
IPCC	:	Inter governmental Panel on Climate Change
IRC	:	Incident Response Centre
IRS	:	Incident Response System
NDRF	:	National Disaster Response Force
NDRF	:	National Disaster Response Fund
RO	:	Response Officer
SDRF	:	State Disaster Response Force
SDRF	:	State Disaster Response Fund
SMS	:	Short Message Service
SOP	:	Standard Operation Procedure
STP	:	Standard Temperature and Pressure
USDMA	:	Uttarakhand State Disaster Management Authority
UP	:	Uttar Pradesh

## Introduction

The geophysical conditions, variation in climatic components and recent occurrence of disasters have made clear that that the state Uttarakhand is a multi- hazard prone state of the country. On one hand, the state is a very attractive tourist destination as almost 86 per cent of its area is hilly and 65 per cent is forested and tourism is a major business here. On the other hand, the state's vulnerability is also increasing due to natural calamities like flash floods, landslides and earthquakes. Considering the vulnerabilities of the state and recent occurrences of different disasters, the state has become sensitive and taken several measures and initiatives to enhance capacity of the disaster management system. In this process, and, empowering the operational centres, district administration and other institutions, capacity building of the state and district departments' community and other stakeholders is being done. In order to increase activism in the disaster management work of the state's main departments related to various disasters, it is necessary that they have a clear understanding of their role and responsibilities at the time of disaster and the systematic arrangement of work and coordination of other departments. The State Disaster Management Authority (SDMA) has prepared the Departmental Disaster Management Plan of the Police Department with departmental cooperation in compliance with Article 40 of the Department of Disaster Management Act, 2005.

To prepare this departmental disaster management plan, various guidelines, regulations and schemes issued at the central and state level such as – Disaster Management Act 2005, the SOPs and guidelines issued by the National Disaster Management Authority, SOPs prepared for various disasters by different states of the country, Departmental Disaster Management Plan and IRS guidelines – were consulted. Apart from this, various information related to the department was collected by meeting the department and district level officials. This departmental disaster management plan will help the department to work effectively in disaster situations.

## Objectives

Following are the objectives to prepare the departmental Disaster Management Plan of the police-

- To incorporate the aspect of disaster management in the daily routine work of the police department.
- To ascertain the successful and prompt action and responsibilities of the police department during disasters.
- To establish the integration between different units of the departments (general police, traffic police, Fire brigade, SDRF)
- To ascertain the security of the physical assets of the department.

## Planning strategy

The key strategies adopted for preparing the plan are as under:

- An initial meeting was held to comprehend common understanding about the Standard operating procedures and departmental disaster management plan, of the department.
- To prepare the departmental disaster management plan and the standard operating procedures, various guidelines, regulations and schemes such as – Disaster Management Act 2005, the SOP and guidelines issued by the National Disaster Management Authority, SOPs prepared for various disasters by different states of the country, Departmental Disaster Management Plan and IRS guidelines – were taken into cognizance.
- The state level officials of the department were interacted to understand the departmental organogram, working system, the nature of disasters persisted in the state and key concerns of the department from disaster perspective.
- Vulnerable districts were visited and meetings were held with the officials and the community. Efforts were made to understand the responses of the departmental at different phases of disaster like - before, during and after the disaster, in addition to this, the role of the Department during the disaster, the physical resources available in the department, abilities and weaknesses were also discussed.
- Data/ information about the losses of human resources, assets, finance were collected from the sub state level.
- The draft Action Plan of the department for responding to disasters was shared with the department and inputs were received and updated accordingly.
- A joint meeting of the Police Department and the State Disaster Management Authority, was held to review the plan. The revised final draft was placed before the departmental Disaster Management Committee for the approval the recommendation.
- The approved DDMP was submitted by the department to the State Disaster Management Authority.

## 1. Introduction

### 1.1 Brief Introduction and function of the department

Police department is a major organisation of Uttarakhand state. To find out the crime, its prevention in the state, to maintain the law and order in the district and to provide the security to the citizens are the major responsibilities of the department. Except the constitutional duties, the chaos originated in the district during any disaster, the rescue and relief operation and to inculcate the security feeling among the citizens are the foremost duty of this department. Except to these, in Uttarakhand which have sufficient scope to tourism, the police department is deployed to maintain the safe and secured atmosphere for investment and tourism in the state. On the basis of function and nature, the state police can be divided into following categories –

Civil Police	Responsible for civil defense and law and order
Armed Police	Armed police includes traffic police ,cavalry, Dog Squad, Bomb squad, which help in maintaining the law and order help the civil police.
PAC, IRB( State Armed Bal)	To help civil police to maintain law and order and also in Fair duty, VIP duty, Election duty, Traffic management.
Fire Brigade	Responsible to provide the fire brigade service at the time of any fire accidents and emergency services
Police Telecom	Management and operations of wireless system
Intelligence	Responsible for the collection of secret information related to VIP, civil security and to maintain the law and order in the state.
ATS/STF	Special force to prevent the terrorism, organised crime and cybercrime.

### SDRF

Other than the above divisions of the police in Uttarakhand state has special police force, specialized in relief and rescue operation on the basis of the severances, frequency and nature of the disaster which is known as State Disaster Response Force (SDRF). The following strategies are adopted by SDRF to mitigate the damage of human and their assets–

- Public awareness campaign
- Proper disaster management
- Pre warning of disaster
- Effective Response System
- Secured Communication
- To reach promptly to affected destination

- Prompt rescue of the disaster affected and aggrieved people
- Coordination between all units functioning in relief and rescue operation.

### **Function of SDRF in Reference to Disaster**

Following functions are performed by SDRF in respect to disaster-

- To stay in disaster prone areas and be ready to confront the probable disaster
- Other than the function for disaster, imparting the training for rescue and relief operation and campaigning for awareness about disaster.
- After removal of the debris, to take away the dead body and injured people timely from the disaster affected area.
- To provide first aid to the injured and to boost up the morale of the injured and affected people, before taking them hospitals.
- To integrate the respective departments to manage the dead bodies of the affected people.
- To coordinate the other institutions working in the disaster affected areas.
- To coordinate and integrate the 'Swaichhik Seva Dal'.

### **General Function of Police Department**

- To help the local administration for access and distribution of relief materials among the disaster affected people.
- To help in the work of reconstruction with moral boosting of victims.

## **1.2 Departmental Structure**

The role of all four units of the police department – General Police, SDRF, Fire Service and Police Wireless – are very important during disaster in reference to SOP of Police department and all four units are being operative and controlled through their administrative organisation.

**Police Wireless** – It is well known that during disaster the primary communication is made through police wireless communication system.

### **Fire Service and Emergency Services**

Fire brigade and Emergency services are especially trained task force with all necessary equipment, which are capable to provide their services in any adverse situation.

Before formation of Uttarakhand, there were 22 fire stations. After its inception 13 more fire stations and 3 fire units were established. The major part of the state is hilly. The State Fire Brigades and Emergency services function as first responder in the fire, land slide including other disasters.



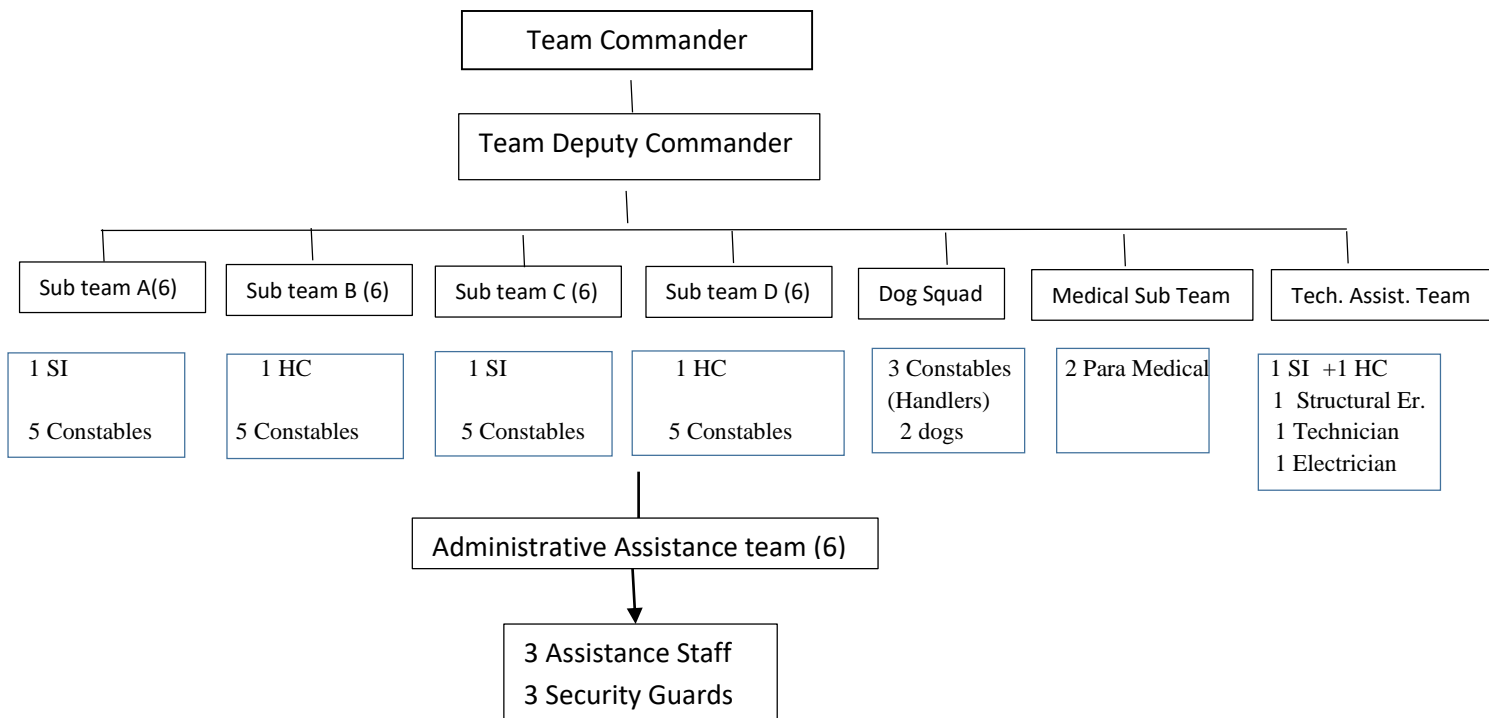
## Police Department

### Structure of Police Department at District Level for Disaster Management

Descriptions			
		Police circle	Name of Police Station
Senior Superintendent of Police	Police Superintendent, City	Circle officer	Related Police Station/Sub police station
		Circle officer	
		Circle officer	
	Police Superintendent, Rural	Circle officer	
		Circle officer	
		Circle officer	
	Police Superintendent Traffic/ Crime	Circle officer	
		Chief fire brigade officer	Fire Service Officers of the all stations of all districts
	Assistant Radio Officer	All communication centres located in the districts under him.	

### Administrative structure of SDRF

In SDRF Brigade, commandant first command and Deputy commandant for second command are to be appointed. In each Brigade there will be 6 company. The in/charge of each company will be company commander which will be of a rank of C.O. and there will be three teams in one com. which in/charge will be of a rank of inspector. Each team has 45 total number of constables.



## 2. Hazard, Risk, Vulnerability and Capacity Assessment

### 2.1 The Nature and intensity of Disaster- State Level

#### Uttarakhand: An Introduction

Uttarakhand is a hilly State in the Indian Himalayan region. Earlier, the Uttarakhand was a part of Uttar Pradesh. On 9 November 2000, 13 hilly districts of Uttar Pradesh were separated to form Uttarakhand as the 27<sup>th</sup> state of India. Located between 28°43' - 31°27' Northern latitude and 77°34' - 81°02' Eastern longitude, Uttarakhand is situated in the northern region of India. Uttarakhand has a total area of 53483 km<sup>2</sup> and it is spread 301 km. in the east-west direction and 255 km. in the north-south direction. It is surrounded by China (Tibet) in the north, Nepal in the east, Himachal Pradesh in the west and northwest and Uttar Pradesh in the north. The state has 13 districts which are divided into two administrative units – Garhwal and Kumaon. Generally, the north-western part of the state comes under the Garhwal unit while the south-eastern part comes under the Kumaon unit. There are seven districts under the Garhwal unit – Dehradun, Haridwar, Uttarkashi, Tehri, Pauri, Rudraprayag and Chamoli and six districts fall under the Kumaon unit and they are – Pithoragarh, Bageshwar, Almora, Nainital, Champawat and Udham Singh Nagar. Hindi is the official language of the state.

Map 1 : State with District boundaries



The state has 13 districts which are divided into two administrative units – Garhwal and Kumaon. Generally, the north-western part of the state comes under the Garhwal unit while the south-eastern part comes under the Kumaon unit. There are seven districts under the Garhwal unit – Dehradun, Haridwar, Uttarkashi, Tehri, Pauri, Rudraprayag and Chamoli and six districts fall under the Kumaon unit and they are – Pithoragarh, Bageshwar, Almora, Nainital, Champawat and Udham Singh Nagar. Hindi is the official language of the state.

Uttarakhand is vulnerable to climate induced risks. The hilly areas are more prone to climate change impacts and is explicitly manifested in many parts of the state. During last century, the average temperature in the hilly areas has increased. The IPCC report (2013) have explicitly highlighted that, due to glacier melting in the Himalayan region, the flood events in this area will increase, which will have a significant impact on water resources in the coming decades.

Since the year 1816, the state of Uttarakhand has witnessed many Hydro-Met disasters. But the 19<sup>th</sup> century period was worst. In Uttarakhand the years 1970, 1986, 1991, 2001, 2002, 2004, 2005, 2008, 2009, 2010, 2012 and 2013 was notorious for natural calamities. The state suffered through these disaster event and incurred heavy losses.

## **Hydro met Disasters**

The following are Hydro-Met disasters which the state experienced –

- Flash flood/flood
- Heavy rain
- Cloud burst
- Loo and frost conditions
- Avalanche
- Drought
- Thunderstorm and lightning

## **Geological Disasters**

In addition to the Hydro-Met disasters, there are some disasters that are the result of movements inside the Earth, such as –

- Landslide
- Earthquake
- Breaches of Dams

## **Man-Made Disasters**

Other than natural disasters, there are certain disasters which are the result of human activities, such as –

- Stampede
- Road accident
- Forest fire

## **Some Major Disasters**

Some of the main natural calamities in the state and details related to them are given below –

- There were two fierce incidents of landslide in Sher-Ka-Daanga in Nainital in 1867 and 1880. In 1880, the landslide happened due to heavy rain and tremors of earthquake. A large number of houses were destroyed during this landslide. A portion of Naini Lake was permanently wrecked with debris.
- Due to floods in the Alaknanda river in 1893, landslide occurred near Birehi Ganga river and the confluence of Alaknanda river, due to which there was a huge blockage of 10-13 meters in the river. One guarder bridge breached and another got damaged.
- Flash floods came along with landslide in the Rishi Ganga river in 1968. Due to landslide in Reni village, there was a blockage in Rishi Ganga river in Garhwal.
- Patel Ganga, a branch of the Alaknanda river, suffered landslides in the year 1970, due to which the river Patel Ganga was blocked and it turned into a lake-like water source. Due to the sudden disruption of this lagoon water source, sudden floods in the Alaknanda river caused floods and consequently, they were faced with many landslide incidents.

- During 1971, there was a severe landslide on the banks of the Kanauldiya Gaad, a branch of river Bhagirathi in the upper reaches of Uttarkashi. The debris from the landslides created a cone's shape, causing the water surface to be up to 30 meters high and the water stream split causing the rapid flooding in the areas below.
- During the period of June 2013, incidents of cloudburst continued for several days, resulting in massive floods and landslides. Due to the disaster caused by this multi day cloudburst, there was a huge loss of lives and money. After the tsunami in 2004, this disaster was counted as one of the biggest disasters.

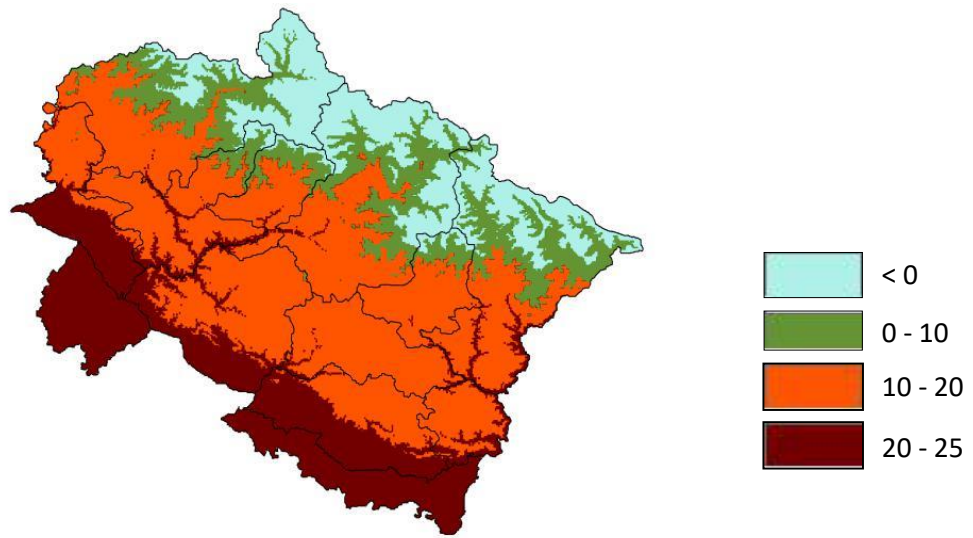
## **2.2 Climate and Climate induced Challenges**

### **Climate**

The state is mainly divided into two climate regions. Majority of the state's area is hilly while some area is plain. The climate in the plain area is somewhat similar to the climate in other plain areas of the country. There are prolonged winters and even snowfall in the hilly areas. The state receives a good quantity of rains during the monsoon season and light showers during the summers. The average annual rainfall in the state is 1230 mm. Generally, the rainy season starts at the end of April in the state and it continues till September. There is heavy rainfall between June and September. Maximum rainfall occurs during the first week of July and there is continuous rainfall from August till the first week of September. It is hottest in the plain areas of the state wherein they experience humid summers and the temperatures go higher than 40°C. Winters are exceptionally cold and the temperature dips below 5°C. The lowest temperature recorded in the state has been -5 to -7°C. There is a marked difference in the climatic conditions of the areas situated on the highest hill in the state and the lower regions. Not only does the difference in temperature appear during different seasons, but differences in temperature are also displayed at different altitudes. Uttarakhand is situated on the southern slope of the Himalayan range. From the glacier at the highest altitude to the sub-tropical forests located at the lowest altitude, there is a difference in the climate and vegetation found. In the upstream Gangetic plains, there are humid forests and there are savannas and grasslands in the dry lowlands.

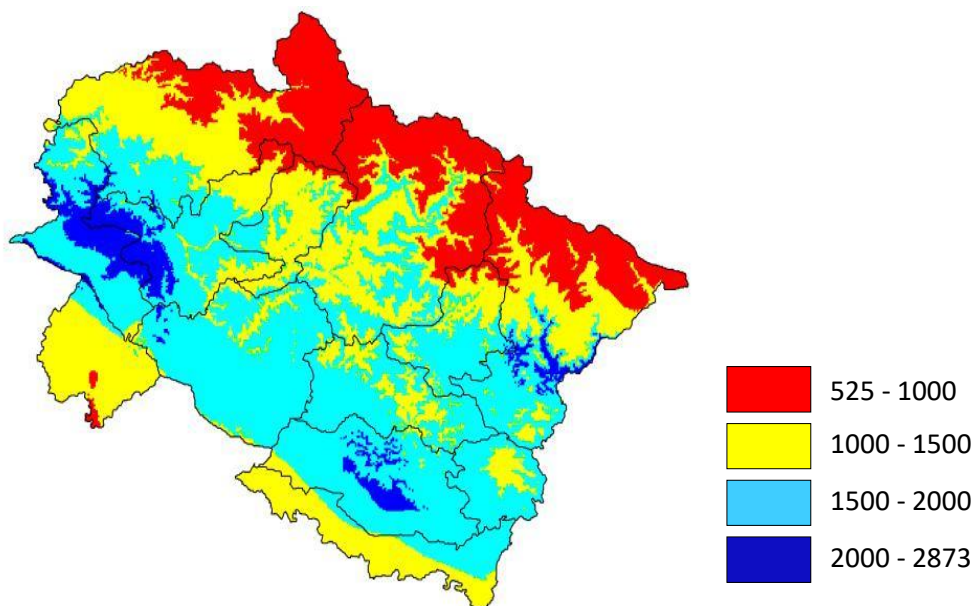
The average annual rainfall of the state varies spatially. For example, the average annual rainfall in Srinagar (Garhwal) is 920 mm whereas the average annual rainfall in Nainital is 2500 mm. However, the distribution and variation of rainfall depends on the geographical condition, slope and nature of the space. Generally, there is high rainfall in low-lying areas like Nainital and Dehradun, which gradually decreases with the increase in height. Three-fourths of the entire rain occurs during the monsoon season while the remaining one-fourth is spread over other seasons. Generally, rains start here from the third week of June, which continues till July/August.

**Map 3 : Annual average Temperature (in °C)**



Source: Uttarakhand State Action Plan on Climate Change, 2014

**Map 4 : Annual average Rainfall (in mm)**



Source : Uttarakhand State Action Plan on Climate Change, 2014

### **Trend of Climate Change**

Climate change is the main global, environmental and developmental problem. Although all possible outcomes of climate change have not been understood yet, nevertheless, it has now been established that due to extreme weather events, floods and droughts, sea level rise and extreme climatic differences, there is a large possibility of adverse effects from sinking of

coastal areas. Given the studies and results, there may be a significant difference in the methods and tendencies of the weather parameters from one place to another. There is a mixed trend in the whole of Uttarakhand in seasonal standards. For example, in the entire plains including Pantnagar, the trend of rainfall is in increasing order and the maximum temperature is decreasing. Based on the temperature data available of the last 53 years (1955-2007), it is seen that temperature is rising in a low hill station like Almora. This data indicates that the 17.55°C average annual temperature of Almora has increased by 0.46°C during the last 53 years. This initial observation indicates that the average temperature in the state is increasing. Similarly, on the basis of the rainfall statistics of the last 53 years (1955-2007), it was seen that rainfall has reduced in Almora. Observing the normal monthly distribution of rainfall in the region shows that maximum rainfall occurs in the month of July.

The state is experiencing following changes in the climate scenario:

- Annual rainfall is decreasing and become erratic.
- The availability of surface and ground water is decreasing.
- There has been a reduction in the average rainfall during winters.
- Incidents of heavy rainfall in short time durations are increasing.
- The outbreak of vector borne diseases is increasing.
- The temperature is continuously increasing.
- There is continuous increase in the average annual temperature.
- The number of winter/cold days is decreasing, the winter days are becoming hot and there is reduction in snowfall.

### **Future Climate Change Projection**

According to the State Action Plan on Climate Change, the annual temperature will increase by 0.7°C by the year 2030. In comparison to the year 1970, an increase of 1.7°C-2.2°C has been registered in the temperature. There is also an estimation of increase in seasonal air temperature in all seasons. It is also predicted that there is a chance of a temperature drop of 2.6°C in the winter months (October, November and December) in 2030.

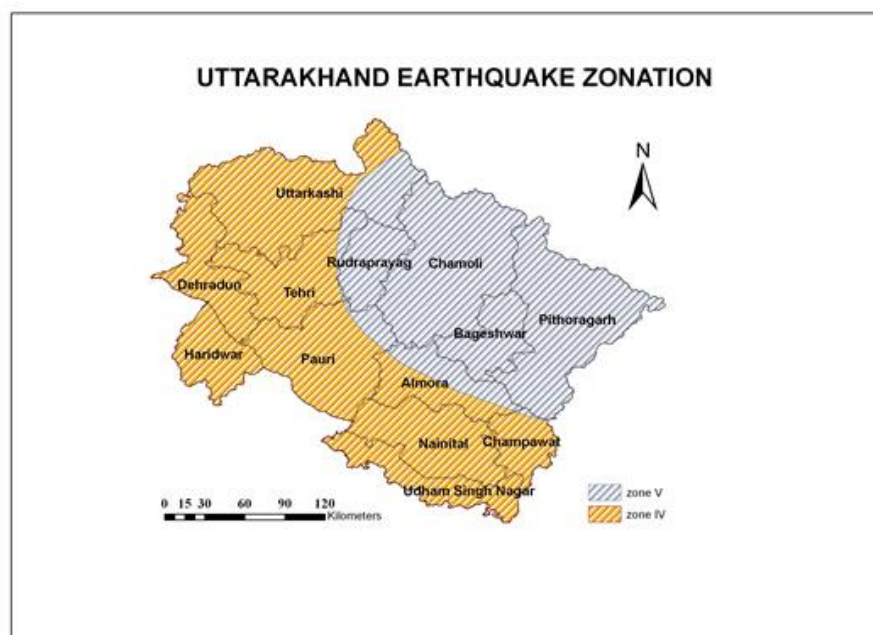
According to the PRECIS Model, the annual rainfall in the state can fluctuate, i.e., the annual rainfall of the state may be 1268 mm to 225.2 mm less or more and maximum 1604 mm to 175.2 mm less or more. According to these estimates about rainfall, the state is expected to get 60 mm to 206 mm more rainfall in the year 2030. That is, by the year 2030, the state's annual rainfall is expected to increase by 5-13 per cent. All the regions of the state are expected to get more rainfall in all seasons and there is also a possibility that there may be more than 12 mm increase in rainfall in the months of June, July, August and September. Whereas there is an expected increase of 5 mm in the rainfall occurring in the winter season months of January and February. In the months of October, November and December, minimum increase in volume will be recorded. According to the model, there is a chance of more than 50 per cent increase in the annual rainfall of some areas/regions of the state by the year 2030. There is also a chance of a 2-12 per cent increase in the rain intensity in the Himalayan region.

### **State Sensitivity/Vulnerability in Relation to Climate Change**

Due to its geographical conditions, the state of Uttarakhand comes under the category of multi-disaster affected states. There is an outbreak of floods, flash floods, avalanche, landslides,

earthquakes, droughts, forest fires and general fire, hailstorm, lightening, road accidents etc. in the state, but earthquake and landslide are the main disasters here. It is worth considering that one-fourth of the state's area comes in Seismic Zone 5 in terms of earthquake. If the state is compared to other states at the national level, then Uttarakhand is one of the first five states in the country in terms of most proneness to natural hazards, namely earthquake, flash floods due to cloud burst, landslides, avalanches, forest fires and continuous drought disaster in the summer. With these recurrent calamities, there is a great loss of natural resources, basic infrastructure and human life in the state. Although the intensity of earthquake in Uttarakhand in the year 1991 and in 1999 in Chamoli was less but in the coming days, it was likely to become a major hub of earthquake in the state due to tectonic movements of continental plates. The growing population and the continuous infrastructure development has increased the state's vulnerability in the context of earthquake. Here are some key points of state's sensitivity to note –

- According to Vulnerability Atlas of India, approximately 56 per cent of homes in Uttarakhand are made of clay, raw bricks and stones. The above data shows the state's very high sensitivity in disasters like earthquake, landslide, accelerated flooding and cloudbursts. According to the figures in India's Vulnerability Atlas, this state comes under the most seismic risk areas of the country.



- The frequency of landslide event has increased due to its topographic c and the climate conditions of the region. The process of rapid deforestation, construction of dams or reservoirs, housing scheme, road construction in Uttarakhand has increased the vulnerability of the state to earthquake and landslides. Every year this is causing extensive damage to life and property. The major landslide events in various parts of the state noticed in the years 1979, 1986, 1998, 2002, 2004, 2008 and 2009.
- Usually, the onset of monsoons in the state is at the end of April which continues till September. Due to heavy rainfall from June to mid-September, flooding in the low-lying areas is more frequent which induce soil erosion. The rapid pace of deforestation in the Himalayan region for construction have also caused flash flood during the monsoon while



in other months the state also experiences drought condition. The increasing soil erosion, have also reduced the water holding capacity of the rivers due to siltation or rising of river bed.

- The cases of extreme rainfall events due to cloudbursts induces flash floods and breaching of dam/ embankment in the state. Although, this does not happen on a regular basis. Yet there were major incidents of cloudburst in the state in the years 2002, 2004, 2007, 2008, 2009, 2010 2012, 2014 and 2016.
- More rainfall in fewer days is now become a new normal which causing flash flood and landslide. Sometimes excessive rainfall in the upper reaches of the mountains, cause flooding in low lying areas. Such flooding sometimes cause more damage compared to usual floods.
- Man-made and natural factors are responsible for increasing drought condition in the state. Due to climate change, the state is not receiving normal rainfall. In the last few years, it has been observed that due to some man-made activities such as, deforestation, excessive tapping of ground water, and pollution, the conditions of drought have become more prominent in the state.

In addition to the above disasters, the increasing vulnerability the state is also due to social, physical, environmental and economic capacity of the people. Increasing urbanization, lack of awareness and limited capacity to deal with disasters within the community, weak administrative structure and poor connectivity of remote hilly areas with road infrastructure, all these factors are the main bottlenecks to promote effective response.

## **2.4 Institutional Arrangement**

Three tier Institutional arrangements (National, State and District) have been provisioned under the National Disaster Management Act, 2005 to respond and adopt mitigation measures to reduce the impact of disasters. With the enactment of the Disaster Management Act 2005, the National Disaster Management Authority (NDMA) was constituted. The NDMA's approach involving all stakeholders is to develop a "safe and calamity-resistant India" with a holistic, active, technology-based strategy and promote the culture of prevention, preparation and mitigation. Considering the importance of disaster management as a national priority, the Government of India constituted a high-level committee for the development of the NDMA in August 1999 and the National Committee was formed after the earthquake in Gujarat. Its purpose was to recommend effective mechanisms to reduce disaster plans and disaster. The Tenth Five Year Plan and the 12<sup>th</sup> Finance Commission were focused on the causes of disaster prevention. In the end, on 23 December 2005, the 12<sup>th</sup> Finance Commission reviewed the financial system for disaster management. Subsequently, the National Disaster Management Authority was constituted under the chairmanship of the Prime Minister, the State Disaster Management Authority was constituted under the chairmanship of the Chief Minister and the District Disaster Management Authority was constituted under the chairmanship of the District Magistrate.

**Table 1: Level of Disaster Management Authorities and its Function**

<b>Disaster Management Authority</b>	<b>Main department</b>	<b>Function</b>
National level	National Disaster Management Authority	NDMA was constituted for better coordination of disaster management at the national level. It is a multi-disciplinary body with the nodal officers of all the concerned departments/ministries/organisations. In addition to these institutions, the Ministry of Disaster Management, Government of India, prepared a National Contingency Plan. Simultaneously, the National Emergency Operations Centre, including all the necessary equipment and state-of-the-art technologies for disaster management, has been started under the aegis of Home Ministry.
State level	Uttarakhand State Disaster Management Authority	Uttarakhand State Disaster Management Authority has been constituted under the chairmanship of the Chief Minister in which the ministers of the respective departments are members. The Disaster Management Department has been marked as a nodal department. It has the responsibility deal with all types of disaster, relief and rehabilitation work in Uttarakhand. While the Chief Secretary (Disaster) is the Nodal Officer and the convener of the Uttarakhand State Disaster Management Authority.
District level	District Disaster Management Authority	The District Disaster Management Authority has been constituted under the chairmanship of the District Collector /Magistrate of the concerned district. The organizational structure of the District Disaster Management Authority is outlined below – <ul style="list-style-type: none"> <li>i. District Magistrate – Ex-officio</li> <li>ii. President, District Council – Co-chair</li> <li>iii. Police Superintendent – Ex-officio member</li> <li>iv. Chief Medical Officer – Ex-officio member</li> <li>v. Deputy Development Commissioner – Ex-officio member</li> <li>vi. Additional District Magistrate (Finance/Revenue) – Ex-officio member</li> <li>vii. Senior Engineer of the district – Ex-officio member</li> </ul> <p>Additional District Magistrate (Finance/Revenue) will be the Chief Nodal Officer of the District Disaster Management Authority.</p>

## **Institutional Framework at the National Level**

### ***National Disaster Management Authority***

According to the Disaster Management Authority Act 2005, a National Disaster Management Authority will be constituted comprising a total of nine members including a Chairman and eight members. The number of members of this committee will not be more than nine. Some key points related to the National Disaster Management Authority are listed below –

- The Prime Minister of India will be the Ex-Officio Chairman/President of the National Authority.
- The Chairman will suggest the names of the other members. There will not be more than nine members.
- Under section (E) of sub-section (2), one member of the nominated member shall be posted as Vice President of the National Authority.

## **Institutional Framework at the State Level**

### ***Uttarakhand State Disaster Management Authority (USDMA)***

Alike national level, there is an institutional framework for disaster at the state level as well. In Uttarakhand, many initiatives have been taken to prepare the institutional structure for disaster management. The Disaster Management Authority has been constituted in Uttarakhand under the Chairmanship of the Chief Minister. The responsibility of management of various types of disasters falls on the Department of Disaster Management, which acts as a nodal office for disaster management in the state. The implementation and supervision of disaster management activities in the state is done by the Chief Secretary, Department of Disaster Management. In the time of emergency, the task of identifying and nominating various nodal departments is done by the Chief Secretary (Disaster). The State Disaster Management Authority carries out the following key activities –

- For all the aspects of disaster management for Uttarakhand – work on assessment, planning and implementation of schemes related to prevention, mitigation, pre-preparation and response.
- Ensure better coordination between the state and the centre during the time of disaster.
- In the whole of Uttarakhand, covering all the units and agencies of the government, forming a uniform control, direction and coordination framework so that in order to respond in an emergency, preparedness, mitigation and prevention activities can be smoothly executed.

### ***State Emergency Operation Centre (SEOC)***

At the state level, the State Emergency Operation Centre is being operated 24 hours every day of the week in the office of the Uttarakhand State Disaster Management Authority. The emergency telephone number for the State Emergency Operation Centre is 1070. The State Emergency Operation Centre will be in coordination during any natural and man-made disasters. Along with this, it will also work to notify the Response Officer (RO) to maintain continuous communication with all levels and the community. The State Emergency

Operation Centre will be equipped with a trusted communication system (telephone, radio communication etc.).

## **Institutional Framework at the District Level**

### *System at the District Level*

According to the guidelines given in the Disaster Management Act 2005, the District Disaster Management Authority has been constituted at the district level. Based on the requirement, relief is provided by the Disaster Management Department. At the district and state level, the participation of the District Magistrate is necessary at the stages of execution and rehabilitation.

### *District Disaster Management Authority (DDMA)*

A District Disaster Management Authority is established in each and every district. It is constituted under the Chairmanship of the District Magistrate. There shall be seven members as per the guidelines laid down by the State Government and the Disaster Management Act. The main functions of the District Disaster Management Authority are listed below –

- Prepare a Disaster Management Plan, including execution plan for the district.
- Coordination and monitoring of national and state level policies and departments for the implementation of national, state and district level schemes.
- Preparation of effective measures for the prevention and mitigation related to disaster management for the vulnerable areas identified in the district, with the help of district level line departments and local bodies.
- Ensure that all the departments are taking prevention, mitigation and preparedness measure as per the guidelines given by the National Disaster Management plan to prevent disaster.
- Provide guidelines for different district level officers and local bodies to adopt measures to prevent or mitigate disaster if required.
- Monitoring and implementation of the schemes prepared by the departments in terms of disaster management at the district level.
- To prepare all the departments for the purpose that they include prevention, mitigation and pre-preparation measures related to disaster management in their departmental developmental schemes and accordingly provide technical assistance to the departments.
- Assessing the capacity of the departments to deal with the disaster at the district level and if necessary, give them guidelines for updating their information/technical capacity.
- Review the level of preparedness and provide prompt directions for preparation to relevant departments at the district level for quick response to the disaster.
- Organizing and coordinating specific training programmes for different level officers, employees and voluntary rescue workers at the district level.
- To organize training programmes and awareness programmes to train the community for the prevention or mitigation of disaster in collaboration with local bodies, administration and voluntary organizations.
- Establishing, organizing, reviewing and updating the information system and prior warning system mechanism and disseminating it to the general public.
- Preparation, reviewing and updating of district response plans and guidelines.
- Coordinating response work during potential catastrophic situations or disaster.

- Ensure that all the departments prepare the response plan of their department according to the District Response Plan.
- Prepare guidelines for the departments.
- Assigning information related to various aspects of disaster management to the State Disaster Management Authority.
- Encourage voluntary organizations, social welfare institutions to work on the ground level in various tasks of disaster management.
- Ensure that the communication system works effectively during the disaster.
- Apart from this, execute all the functions necessary for disaster management at the district level as per the guidelines of the State Government and the State Disaster Management Authority.

### **District Emergency Operation Centre (DEOC)**

Generally, the District Emergency Operation Centre, established in the District Disaster Management Authority office, is equipped with various information, technology based state-of-the-art equipment, computed with Internet facility etc. This Centre, which function 24X7 basis, is operated through the district administration. This Centre has all the facilities like rescue kits, wireless etc. Along with this, it is equipped with facilities like ham, early warning system etc. The District Project Officer is in-charge of this Centre and she/he works under the direction of the Additional District Magistrate (Finance/Revenue).

This DEOC is connected to all the governmental departments. Inventory of resources and information related to all departments is uploaded on the network of information and technology in which information related to available human and physical resources, their area of work, vehicles, other equipment etc. with firefighters, police department, health department, food and supplies department, city council, transport department, public works department etc. This inventory is very important and helpful in relation to adequate availability of resources at the district and state level at the time of emergency.

## **2.4 Departmental Challenges and areas of Improvement**

Other than the coordination among the major departments, there are some other issues in the department which need the attention to resolve by the proper combined attention of state and district level officers. All these challenges are related to human resources, technical capacity of the staff and strategy of the infrastructure, which affect the quantity and quality services of the response during disaster. The police department faces the various challenges during multi disaster, preparedness, response during disaster, rehabilitation and reconstruction after disaster, on which the department has to work properly.

### **Issues and Challenges**

- Keeping in view the climatic and geographical condition of the state, the shortage of proper resources and equipments in the police department is an important issue.
- The security and maintenance of the disaster management equipment and their accountability are very complex process.
- The fuel for the generator of the departments are made available once by DDMA. But if more fuel is required, then responsibility has to be borne by the department itself.

- The shortage of fire hydrant in semi-urban areas as well as in urban areas is a challenge for the department.

### **The measures to deal with these Challenges**

Some measures should be adopted at department level to deal with these issues and challenges which are follows:

- More number of fire hydrants and static water tanks should be installed in new area, small towns and village especially forest fire prone areas and cities where incidences of fire is very prevalent.
- The sufficient amount of money should be available with the police department for maintenance.

### **3. Activities to be done by the department at different stages of the disaster**

The role of police department is pertinent enough during and post disaster but to perform those duties, preparedness is very necessary. In the departmental disaster management of police department SDRF, Fire Brigade units are also included with general police and most of the preparedness is done with these two units. Therefore the description of the activities in detail about all stages of disasters units are given here in this chapter of the document along with a SOP is prepared (Annexure-1) for the guidelines for doing the various activities at all stages:

#### **3.1 Preparedness Activities**

##### **Preparedness of General Police**

To minimize the effects of any disaster through prevention and mitigation measures may be effective solutions. The activities may continue for a long time and can be included with the general developmental work of the department. Along with the role and responsibility of rescue and relief during disaster, maintaining the law and order during disaster is also duty of the police department. Hence it happens to be very important department in respect to disaster. In such condition, identification and inclusion of the measures of mitigation of the risk of disaster should be included in general and continuous developmental activities and plan of the department to minimize the risk of the disaster. The department can adopt such measures which are helpful to minimize the effects of the disasters. These activities are necessarily be integrated with general developmental activities of the department. In these measures, those are included which minimize the impacts of the disaster and enhance the capacities and abilities of the department to handle the disasters. The preparedness state is very important for the rescue from the disaster because as far as department is concerned about the rescue of the disaster, it will be successful in reducing the effects on the general public and departmental losses.

All these activities remain continued round the year with the plans/activities performed by the department and funds are managed from different sources. Other than these, the activities for prevention, mitigation and enhancing the capacities of the staff members are determined by the District Disaster Management Cell of the district which informs about the capacity building needs/improvement points after their identification. To perform the activities by DDMA the additional District Magistrate makes the arrangement of the sufficient fund from revenue department.

The activities executed for prevention and preparedness can be divided into three groups of general police, SDRF and Fire Brigade which are follows-

## **Identification of sensitive areas and plan development**

The plan development is an important part of the disaster prevention, mitigation and preparedness. After the identification of sensitive/vulnerable areas/districts on the basis of vulnerability assessment, to work in such areas on the priority basis is an effective step to minimize the impacts of disaster. The vulnerabilities can be determined on the following basis-

- On the basis of the available data of the department about the incidents of disasters and losses arising from it. After discussion with department and data provided so far, the areas where the incidents occurred repeatedly, those areas/districts are more sensitive.
- On the basis of the available resources, the areas/districts where the necessary resources are not available in sufficient quantity, those areas come under the sensitive Zone in respect to disaster.
- Distance from the main road, the areas which do not have the approach to the main road or road facilities are not available, generally those areas are more sensitive than the areas which have proper approach roads.

The areas/district determined as sensitive on the basis of the above criteria, following preparedness is necessary to deal with disasters in such areas/districts.

### ***General Police/Police Communication***

- To constitute a disaster management team in the department and to appoint a nodal officer so that during necessity the coordination can be established with other department.
- As per the minimum necessity of IRS for flood, landslide and flash flood such are nomination of competent officers for planning, logistics, operation wing and to identify the other employees and communicate such information to state and district emergency operation center (G.O.No. 1501/XVIII-(2)/16-13 (5)/2007, Date 21 June, 2016).
- To constitute Police station wise disaster management teams.
- To identify the places prone to Cloud burst on the basis of warning of weather department.
- To identify the boats and tractors available in the area for safe evacuation during disaster.
- To prepare the list of boats men and tractor drivers with the contact no. so that they can be at once contacted for help at the time of necessity.
- To disseminate the information about disaster on the basis of Pre-warning to the general people.
- To make sure the posting of the police personals trained in search and rescue operation with necessary equipments at nearest police stations/posts (G.O.No. 1501/XVIII-(2)/16-13(5)/2007 date 21 June 2016).
- To establish coordination with SDRF and Fire Brigade.
- To test all wireless sets available at police station whether they are in working order.
- Updating the list of volunteers with their name, address and contact numbers.
- To place the demand of necessary equipments from district administration if they are not available.
- To organize task force to manage the crowd.



- To inform the police station and to constitute a team at police station wise.
- To provide the roles and responsibilities to the constituted team.

#### ***Fire Brigade and Emergency Service Unit***

- To ascertain that all the fire hydrants are properly functional and they have sufficient water.
- Repairing of fire hydrants if it is non-functional by giving the information to the water works.
- To prepare route map at department level and to confirm the planning according to that
- To repair the pipe lines and to change the old pipe lines.
- To make coordination with water supply department to maintain the supply of drinking water during fire disaster.
- To establish the coordination with SDRF and Police department.
- To make sure the provision of direct budget for fire brigade and emergency service unit from state to district level.

#### **Structural strengthening and developmental of human resources**

keeping in view the disasters in Uttarakhand state, it is necessary to strengthen the structure into the development plan and to make proper arrangement of the human resources. Under this point in the activities done by the department, the buildings/ staff quarters should be strengthened and on the other hand the shortage of human resource be short out and their work capacity be enhanced. Under this following activities are recommended-

#### ***General Police and Police Communication***

To make sure all the departmental structure for supply of the electricity are constructed or established at safe places so that the loss during disaster can be minimum.

- To prepare the human resources for the proper response at the time of the disaster after identifying the capacity of the human resources of the department.
- To prepare a permanent structure to establish the control room in the staging area.
- To make sure the availability of all necessary equipments in the control room and their repairing as per requirement.
- Updating and repairing of all the equipment used during disaster.
- To furnish and well equipped the ambulance of the department with all necessary equipment.

#### ***Fire Brigade and Emergency Service Unit***

- To look after, repair and to equip all fire hydrants with the necessary equipments.
- To establish the fire stations at local level
- To ascertain the construction of fire hydrants at safe and protected place. To make sure that all newly constructed government and public offices, buildings should be equipped with the fire security equipment.

## **Need Assessment and Capacity Enhancement**

The capacity enhancement of the staff is an important factor of the disaster preparedness. Looking into the changing form of the disaster, it is necessary that capacity of the staff of every level should be enhanced through organizing the training and orientation courses. Beyond to this, the community faces directly the impacts of the disasters, hence it is prime responsibility of the department to launch the awareness programme for the community. Under the need assessment and capacity enhancement following activities are recorded-

### ***General Police/Police Communication***

- To organize the training and mock-drills to deal with disaster at departmental level from time to time and participation in the mock-drills organized by other departments (Disaster Management Authority).
- Organize training for the staff posted at Police stations
- To ascertain the participation and adhesion within whatsapp and SMS group constituted for weather prewarning.
- To train all the staff with the help of NDRF and SDRF.

### ***SDRF***

- To provide training to the village Pradhan and other enthusiastic persons of the community about the disaster management at regular basis with latest information and knowledge
- To provide training to the children of school on disaster management and rescue regularly.
- To make initiative for inclusion of information and knowledge on disasters in the school curriculum.

### ***Fire Brigade and Emergency Service Unit***

- To observe firefighting awareness week in April of every year. During which the awareness programme specially be launched between 14 to 21 April in the educational institutions, government and private organization.
- To organize the departmental mock-drill time to time. To launch the awareness programme among the community about 'do's and don'ts' related to fire disaster for rescue from the fire.

## **Nodal Agency for Early Warning**

The early warning system plays an important role in reducing the risks of any type of disaster. The department or organization which has a more active early warning system from the state to the district level, the lesser the risk to that department or organization in the context of the disaster. The early warning system should work in both directions, from top to bottom and from bottom to top i.e, prior warnings or information received from the government level are important for preparing the community for disaster relief and it is also necessary for the administration to take information from the community in order to plan locally.

Institutions authorized by the Government of India to give early warning during the various disasters in respect of disasters at the department level are as follows –

**Table 2: Institutions authorized by the Government of India to issue early warning for different disasters**

Disaster	Authorized Institution
Flood	Central Water Commission
Heavy Rain/ Cloud Burst, Landslide	Geological Survey of India
Avalanche	Snow/Ice and Avalanche Study Establishment
Loo and Cold Wave	Indian Meteorological Department

The Government of India classifies the warning of danger according to the level of intensity of disasters. Details of various disasters and related warnings are as follows –

### Heavy Rain/Flood/Flash Flood

A network of flood warning stations and daily water bulletins have been developed in the following sections to provide flood related information and daily water bulletins to all designated office bearers and agencies of the Central Government, State Governments and District Administrations by the Central Water Commission for all major river valleys during the southeast monsoon season –

**Table 3: Categorization of danger in terms of flood disaster**

Category	Description
Fourth	Low flood (water level between warning level and danger mark)
Third	Moderate flood (water level below 0.50 metres, less than high flood level and above danger mark)
Second	High flood (water level below high flood level but at 0.50 metres of high flood level)
First	Extraordinary flood (water levels at high flood level or above)

### Landslide

Indian Geological Survey Division issues pre-warnings related to landslide to all authorized officials and institutions of the Central and State Government and the District Administration in the following categories –

**Table 4: Categorization of danger in terms of landslide disaster**

Category	Description
Fourth	Landslide of small intensity, whose impact site is far from human settlement and there is no loss of life and property.
Third	Landslides under this class are of relatively high intensity and this leads to loss of structural facilities like important highways and roads, railways and other civil facilities, electricity, water etc.
Second	The impact of landslides in this class is on people living near the settlement areas, resulting in loss of lives and property, but in small quantities.

First	Under this category are those landslides which are near populated areas like urban areas or denser populations. By doing any activity on such slides, human life and property are likely to suffer widespread losses.
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## Avalanche

In the context of avalanches, the Snow and Avalanche Study Establishment of the Defense Research and Development Organization, Chandigarh is responsible for issuing warnings to all the designated officers and agencies of the Central and State Governments and the District Administration. Avalanche related categorization is as follows ;

**Table 5: Categorization of danger in terms of avalanche disaster**

Category	Description	Stage
Low	Generally, it is a favourable situation. In this situation, triggering is required in areas with heavy loads and extreme slopes. At such a time, lives/people are safe in the valley. Caution is required while walking on slopes.	Yellow
Moderate	This is partly an adverse situation. Most avalanche impact slopes and places with additional weight are more prone to its outbreak. It can also occur in the valley. In this situation, one should go on the slopes with extreme caution. One should be vigilant while roaming in the valleys and avoid variance on steep slopes. Caution should be taken in the selection of travel routes.	Yellow
High	This is an adverse situation. Its danger is prevalent in all the areas prone to avalanches. There is also a higher chance of its outbreak in the valley regions. In such a situation, all types of activities should be stopped. At this time, there is also the possibility of air borne avalanche.	Orange
All four sides	This is a very adverse situation. There is a possibility of a major avalanche on all possible avalanche slopes. At such a time, all types of activities should be stopped. At this time, there is also the possibility of air borne avalanche.	Red

## Earthquake

Forecasting an earthquake disaster or its earlier warning is not possible. Still, it is possible to find out about earthquake and tremors and monitor them. Indian Meteorological Department is the nodal agency of the Government of India, which monitors seismic activities in the entire country and in nearby regions. The Indian Meteorological Department is responsible for assessing the parameters of earthquake sources immediately after the earthquake and provides information to all the concerned agencies of the Centre and State responsible for relocation and rehabilitation. It is also the responsibility of the Indian Meteorological Department to give earthquake information to the public information channels, press, media and post it on its website.

**Table 6: Categorization of danger in terms of earthquake disaster**

Category	Description	Stage
Low intensity	More than 5.0 on the Richter scale	Yellow

Moderate intensity	More than 5.0 on the Richter scale but less than 7.0	Orange
High intensity	More than 7.0 on the Richter scale	Red

### 3.2 Action During Disaster

Here the discussion has been made for different types preparation for the disaster rescue operation during the course of disaster itself under the response programme of the department. Under this programme a disaster cell and disaster team is organized and nodal officer is nominated as per norm of IRS. Team constituted as per the norm of IRS, perform the response activities during disaster in the cooperation with other different associated departments. The pre-warning system is included as a prime component of the response plan and triggering mechanism is also discussed which make the response plan more successful. At the state level during disaster, SDRF, Fire Brigade and Emergency Service, Police Radio, NDRF, Uttarakhand SDMA are the key departments that perform their duties with the integration and cooperation of associated department such as NDRF, district administration DDMA, health department, PWD, Ration and Supply department.

#### Triggering Mechanism

Under the triggering mechanism, the situation is such in which all departments and emergency operation centres are activated for themselves to respond immediately after getting any warning or any kind of information. Activities that have been identified under the Response Plan are those which are self-motivated activities to eliminate the effect of the disaster and those that can be induced instantly in the direction of reducing the losses. The main purpose of creating a triggering mechanism for natural disasters is to work in a controlled way in order to control its intensity and manage the situation in case of disaster. Triggering mechanisms can vary for natural disasters in different situations i.e. where the pre-warning system is available, the triggering mechanism will be different while the areas where the pre-warning system does not work, different triggering mechanisms to be adopted.

#### *A. In case of availability of pre/early warning system*

- Nodal agencies at the national level are authorized to collect information about incidents of natural disasters and to spread future possibilities about disaster. These nodal agencies will give prior notice of the potential danger based on the prediction of the disaster under the prescribed protocol for the National Emergency Operation Centre and the Home Ministry.

- Based on the forecasts received from the nodal agencies, the National Emergency Operation Centre and the Home Ministry will monitor the circumstances and issue warnings to the state and district level emergency operation centres and other authorized officials to be vigilant.
- Based on the severity of the situation, the National Emergency Operation Centre will be informed by the State Emergency Operation Centre and the District Emergency Operation Centre and other authorized officials to fully activate the emergency operation centre established at the state and district level.
- State and district level emergency operation centres, from the state to the development block, will give directions to the administrative mechanism to be prepared with their available human and other resources to respond to the situation of the disaster.
- Broadcasting of warnings to potential communities affected by disaster and their safe withdrawal from the potential area will be the first and foremost task.
- A dialogue mechanism should be established at the district level, so that real information can reach the people in their proper form.
- Once the warning is issued, the community must be constantly warned with the latest information update about the disaster.
- When issuing warning, special attention should be given on the words used for warning. It should always be kept in mind that the language of warning is simple and that simple words that can be understood by a common man are used.
- After this, all the concerned officials at all levels will be followed-up so that they are ready to respond to the disaster situation.
- Standing orders related to disaster and pre-preparedness will be reviewed on an annual basis and the reviewed standing order will be broadcast among all concerned.

In the short term, certain specific measures can be adopted in respect to to the spread the warning or information related to specific the disaster and its threat to more people. As in the situation of fire, alarm can be played, playing the siren in the event of a disaster caused by industries, in the case of floods and landslides, people can be alerted and warned by broadcasting the message through channels such as radio, television, loudspeaker and waving warning flags.

***B. In case of non-availability of pre/early warning system***

In places where no pre-warning system related to natural disaster is working, there is a triggering mechanism to work under a specific procedure for clearance and relief work at the immediate level. The following procedures are to be adopted in such situations –

- The District Emergency Operation Centre, District Magistrate, Deputy District Magistrate will be informed about the incident by the people working at the field level and the nodal departments.
- The District Emergency Operation Centre will be fully operational to deal with the incident.
- The State District Disaster Management Authority/State Emergency Operation Centre will be informed of the incident by the District Emergency Operation Centre/District Magistrate and seek help from them.
- The State Emergency Operation Centre will be active and will inform the National Emergency Operation Centre. The National Emergency Operation Centre will receive the first information from here.

- Quick response teams, search and rescue teams and health and paramedical teams will be formed soon after getting the information.
- The District Magistrate themselves will review the situation and take coordination, order and control in their hands.
- Incident Response Team will be formed.
- A meeting of all concerned will be called by the District Disaster Management Authority to review the situation.
- A team will be constituted for a quick assessment of the loss due to the disaster.
- The concerned departments/agencies will get active to start the work related to electricity, communication, transportation etc.
- With the view to provide immediate relief to the disaster-affected people, arrangements for supply of food items, drinking water etc. will be ensured.
- After this, follow-up activity will be done by each concerned department at every level to monitor the Response and Relief work.

### **Incident Response System (IRS)**

Incident Response System (IRS) is the effective system for working systematically during response. Keeping in mind the highest level of disaster, all the tasks to be performed in view of the possible problems are included. Keeping in view all possible response requirements under the Incident Response System, a team has been formed by involving officials from different sections and departments, who will work to fulfill their fixed responsibilities. All the members in the team know their responsibilities, actions and role. According to the state's administrative structure and the Disaster Management Act 2005, the RO/Incident Commander will be in-charge of the whole incident response management at the state and district level. IRS will work at all levels – state, district, tehsil and development block. Under the IRS, a nodal officer will be appointed from the Department of Health, who will be responsible for disaster related work within the department. Along with this, she/he will have a fixed role in the IRS as well.

### **Functions of the department during disaster**

Following functions are performed by all three units of the Police department during disaster response stage-

#### ***General Police:***

- To provide information to the flood posts.
- To make aware the people by disseminating the information to the disaster-affected areas.
- To establish the flood post in coordination with the administration.
- To evacuate the affected people from the disaster area and to bring them in the camps after rescue operation.
- To constitute the rescue team by collecting the officers of all departments of the staging area and release them to the affected points.
- To make sure of the follow up by the management team of all the instructions received from the officers of control room.

- To evacuate the injured people and to send them to the nearest hospitals.
- To inform the medical team for treatment of injured people.
- To evacuate the human and animals in downside by using ropes and pull them up at the safe places .
- To make efforts to get the air-services for relief and rescue during disaster as per requirement.
- To provide security to the SDRF team working for relief and rescue during disaster.
- Morning and evening debriefing of the actions of crowd management during the religious occasions.

### ***SDRF***

In Uttarakhand State, a special and most sensitive state in respect to the disaster, SDRF role in the response during disaster should be treated as a special in the departmental level disaster plan which are as follows-

- To move the team for the operation according to the instructions of Director General of SDRF and Chain of Commander.
- To develop the incident command system by taking all security measure after evaluation of the disaster affected areas.
- To establish coordination with other associate departments such as police, health, PWD and food & supply.
- To make sure the search and rescue of the people in the affected areas.
- After dispatching the team into the field for campaign, provide proper and planned guideline to the team and to make all sorts of attempt for the success of the campaign after reaching in the field.
- To operate the search and rescue operation for injured people and send them to nearest hospitals.
- To establish a continuous coordination between the officers nominated for relief work and other agencies which are engaged in the operation during disaster.
- To an update the higher officer about the status in the field during the operation.
- After getting the permission of higher authorities, sending the team to the incidents points/areas after briefing the situation to the officers/employees of the team.
- As per the severity of the situation, if more persons are needed, the other teams should be sent to the disaster affected areas after issuing the proper orders for optional arrangement.
- To procure the respective and related documents from the control room such a map of the area, address of the incident points/area, the telephone no. of the concerned officers.
- Before proceeding to the incident place/area the list of all equipments and materials be checked properly whether they are in proper working order and after that, all the equipment and material be loaded in the vehicles.
- At the end of the each day's operation efficiency of the employees and functional status of the equipments to be reported to the higher authority.



- If the operation is to be continued for more than two days, the personnel's deployed in the operation to be deployed in two shifts so that they could be able to take the proper rest after the hectic operation.
- If there is any possibility of unforeseen incidents during the rescue work, it should be ascertained to call all persons to return back to the base camp safely with all equipments safely.
- On the basis of the record of the rescued persons with their age, sex and other details, a report needs to be prepared and sent to the command control room.

#### ***Fire Brigade and Emergency Service Unit***

- To establish a rescue centre at fire station and all minimum equipments be available there.
- To help the search and rescue work operation on disaster points/area.
- To use the foam for firefighting in the conditions of fire through chemical and oil.
- To use the heavy vehicles for firefighting in the condition of major fire incidents.
- During incident of forest fire, to establish the coordination with forest department for firefighting.

### **3.3 After Disaster**

As the responsibilities of the police department is pertinent enough during preparedness and response activities during the disaster, likewise after the disaster department's role in rehabilitation and reconstruction the is of the same importance. During this stage department has to perform following major works to estimate the departmental damages with the help of Patwari and hand over the report to the district authority.

- Observation and inquiry of the fire incidents.
- Deployment of the teams, involved in disaster operation, in their normal duties After checking and repairing, all the equipment should be stored at proper place.
- Debriefing during the operation and to issue the guidelines to overcome the short coming faced/done during the operation.
- To brief the media about the action, performance and results of the search and rescue operation during the disaster.
- To hand over the report with list of the materials and the properties found during the disaster to the district police through the competent authority of the department.
- To send the demand according to the assessed damage.
- To fill up the water into the tankers and fire hydrants.

#### ***SDRF***

- To conduct the medical check-up of the Jawans after operations and to provide them medical add, if necessary.
- To provide the proper honor and prize for their exemplary works to boost up their moral.

## 4. Monitoring, review and knowledge management of departmental disaster management plan

### 4.1 Monitoring and Review

It is an important aspect to check the effectiveness and shortcomings in the process of implementation of Departmental Disaster Management Plan. Using this document as an effective implementation tool during the disaster, determining indices, periodically reviewing the measures to overcome deficiencies and by updating the plan from time to time, it will also be used as a monitoring tool for disaster management efforts.

On the other hand, the learning process during the process of documenting the disaster management plan and its implementation will also help the department to assess its responsibility during the time of the disaster. At the departmental level, not only can the work done during the various stages be reviewed, but at the level of the State Disaster Management Authority, it will be seen whether the planned activities are going in the right direction or not.

In order to check the level of preparedness and upgrade departmental coordination during emergency, mock drill may be a better method of rehearsal testing. It to be based on past experience of disaster and learning received. On one side of the mock drill, it is important to evaluate the response activities, while on the other hand, it will also help in better coordination with administration, various departments, voluntary organizations, other stakeholders and communities. The mock drill will not only help in understanding the aspects that are missing from the plan, rather it will help the department in updating the plan. Due to continuous mock drills, the ability to respond is faster and better and the task of response and re-evaluation will also be done.

The department should certainly perform the following tasks –

- Incorporating mitigation and prevention measures in the departmental annual work plan.
- Developing performance index involving time line and expected results. This index should be both quantitative and qualitative.
- Execute mitigation and prevention plan.
- Conduct quarterly review of programmes operated at the state and district level.
- Review pre-preparedness and reaction mechanism.
- Preparation of index of preparedness and response results.
- Provide review and feedback at the state and district level after the disaster.
- Training of officials on disaster management through the medium of State Disaster Management Authority/District Disaster Management Authority.
- Update the District Disaster Management Authority at the end of April every year.

The assessment and evaluation of the Departmental Disaster Management Plan will be determined on the basis of the following points –

- Availability of resources
- Coordination between different departments/agencies
- Participation of the community

- Participation of voluntary organizations
- Participation of insurance companies

## **4.2 Role and Responsibility of State Units of the Department and the State Emergency Operation Centre in Monitoring and Evaluation**

### **Local Level Implementation of Departmental Disaster Management Plan**

- Identifying and ensuring the implementation of disaster risk reduction in all development projects and schemes.
- Examine the resources available in the districts every six months and check whether they are adequate and active.
- On the basis of analysis, the department has to take approval from the concerned officials for the use of development funds for the removal of unused and scraped resources and the purchase of new resources in their place.
- Monitoring that all activities related to prevention, mitigation, Preparedness and response are being implemented correctly within the district.
- Identifying the activities funded by the Central or State government that can be used for disaster management by the head of the department at the state level. In the meantime, the standards of the centrally sponsored schemes should also be kept in mind.

### **Audit of the Implementation**

The monitoring and evaluation work can be done by various audits of the department. Some of those are as follows –

- Electricity audit of important infrastructure, including urban areas.
- Fire safety audit of all important infrastructure of the department, including urban areas.
- Emphasize the use of National Building Code during the construction of departmental buildings, hospitals etc.

## **4.3 Documentation of Learning**

### **Updating the Plan**

Departmental Disaster Management Plan is a “living document” and according to the Disaster Management Act 2005, before the month of May each year, the state level departmental head or nodal officer (disaster) will update this document with the help of departmental disaster management team and upload it on the department website. Following are the guidelines approved by the Uttarakhand State Disaster Management Authority for updating this document –

- Identifying and listing of vulnerable areas.
- Identifying and listing of necessary resources.
- Updating human resources.
- Identifying technical necessities, equipment/machines and update them accordingly.

- Understanding the issue of inter-departmental coordination and coordination with other departments and working towards improving it.
- Linking disaster management activities with other plans/programmes.
- Modifying other points as necessary.

### Reporting and Documentation

Every year before March, annual report/documentation should be done about the implementation of the Departmental Disaster Management Plan, in which the process of preparing the disaster management plan, adopted strategy, main achievements, challenges, coordination, desired help from the State Disaster Management Authority/District Disaster Management Authority are to be included. A few case studies related to disaster management plan should also be included in this document.

### Evaluation of Post Disaster activities

It will be necessary to evaluate the work of the department according to the responsibilities listed in the IRS by the Police Department. After the relief and rehabilitation activities are completed after the disaster, the department should carry out the following evaluation tasks –

- Nature of interventions and cooperation by the state
- Suitability of institutional structure, nodal officer and other authorized officials
- Time and resources taken for the response
- Coordination with associate departments
- Institutional arrangement and its work
- Need and necessary correction of operational procedures
- Effectiveness of monitoring
- Communication and logistic related issues

### 4.4 Monitoring indicators

The following checklist can be helpful for monitoring the work done by the department in various stages of disaster –

- To ensure proper functions of Early-Warning System
- Formation of teams
- To ensure participation of all sectors
- Formation of zones/sub-zones

**Table 7: Monitoring indicators Checklist for Different Stages**

<b>Before Disaster (at the time of early warning)</b>		
<b>Early Warning</b>	<b>Yes</b>	<b>No</b>
<ul style="list-style-type: none"> <li>• To maintain close association with emergency officer</li> <li>• To alert police officers to stay at headquarter</li> </ul>		
<b>Evacuate Vulnerable areas</b>		
<ul style="list-style-type: none"> <li>▪ Posting of Police staffs at risky places</li> <li>▪ To arrange security for community's assets</li> </ul>		

<ul style="list-style-type: none"> <li>▪ To arrange rescue kits</li> <li>▪ To help staffs and volunteers engaged in evacuating the sensitive areas</li> <li>▪ To provide help to the Fire Brigade staffs in their work</li> <li>▪ To maintain law &amp; order</li> </ul>		
<b>Search and Rescue</b>		
<ul style="list-style-type: none"> <li>▪ To ensure posting of teams at disaster affected places</li> <li>▪ To ensure availability of all essential equipments related to search, rescue &amp; evacuation with the team</li> <li>▪ To evacuate disaster affected people</li> <li>▪ To provide medical assistance to the injured person as per requirement</li> </ul>		
<b>Relief works</b>		
<ul style="list-style-type: none"> <li>▪ To provide security at the time of warehousing</li> </ul>		
<b>During the Disaster</b>		
<ul style="list-style-type: none"> <li>▪ To disseminate early warning</li> <li>▪ Collecting important information</li> <li>▪ To inform Emergency officer after getting reliable information</li> </ul>		
<b>Management of Relief Post</b>		
<ul style="list-style-type: none"> <li>▪ Posting of constables/home-guards at various relief posts</li> <li>▪ To maintain law &amp; order</li> <li>▪ Posting of female police staffs for the safety of women and girls sheltering in relief</li> </ul>		
<b>Relief works</b>		
<ul style="list-style-type: none"> <li>▪ To help district administration in supply &amp; distribution of relief materials</li> <li>▪ Deployment of Police staffs for the security of warehouses of relief materials</li> <li>▪ To protect relief materials, vehicles and staffs</li> <li>▪ To maintain law &amp; order</li> </ul>		

## **5. Budget and financial assessment**

### **5.1 State Disaster Response Fund (SDRF)**

In accordance with the provisions of the Disaster Management Act 2005 and on the recommendations of the 13<sup>th</sup> Finance Commission, the State Disaster Response Fund is formed in place of the Calamity Relief Fund (CRF). In this Fund, it is provisioned that 75 per cent contribution will come from the Central Government and 25 per cent contribution is from the State Government. The Central Government gives its contribution in two stages/phases in every financial year in the months of June and December. Similarly, the State Government also gives its 25 per cent contribution to the SDRF in two stages/phases every financial year in the months of June and December. In case of a certain disaster, if the Home Ministry takes cognizance of it, then on the request of the State Government, the Central Government can give 25 per cent of its contribution of the incoming year in advance, which will be adjusted in the contribution of the coming year. According to the guidelines of the Constitution and the State Disaster Response Fund administered by the Home Ministry under the Government of India, the State Disaster Response Fund will be used to provide immediate relief to the people affected by landslide, earthquake, flood, fire, avalanche, cloud burst and attack of insects. The Principal Secretary of the State will decide on the issues related to all the immediate expenses related to the relief of the State Disaster Response Fund.

### **5.2 National Disaster Response Fund (NDRF)**

In accordance with the provisions of the Disaster Management Act 2005 and on the recommendations of the 13<sup>th</sup> Finance Commission, the National Disaster Response Fund was formed in place of the Calamity Relief Fund (CRF) at the Government of India level. The administrative arrangement of the National Disaster Response Fund is in the hands of the National Executive Committee. In the event of severe disaster, when relief work cannot be completed by the State Disaster Response Fund, after providing some necessary procedures at that time, additional assistance is provided by the Central Government through the National Disaster Response Fund. For this, it is necessary for the State Government to submit a memorandum mentioning area damages and necessary funds. After getting the state's memorandum, an inter-union central team is formed and they are given the responsibility to assess the physical funding of the damage and to assess the necessary funds for the relief work according to the existing materials and standards. After the deliberations by the Home Secretary on the report submitted by the inter-ministerial team/National Executive Committee, the Central Team Report by the High Level Committee comprising Finance Minister, Agriculture Minister, Home Minister and the Deputy Chairman of the Planning Commission and on the basis of recommendation of the inter-ministerial team, the request of the state government is considered and funds are recommended from the National Disaster Response Fund keeping in view the current contents and standards. In case of disaster, the remaining part of its 75 per cent contribution is provided by the Centre immediately under the State Disaster Response Fund. The expenditure from the State Disaster Response Fund/National Disaster Response Fund is done by the State Government. With the help of the Ministry of Finance, the expenses incurred by the State Disaster Response Fund and the National Disaster Response Fund as determined by the Ministry of

Home Affairs of the Government of India are spent only on the basis of the necessary items for relief in the standard and catastrophic disasters.

### **5.3 Chief Minister Relief Fund**

At the state level, the Chief Minister Relief Fund has been set up for the purpose of providing immediate assistance to people affected by natural disasters or to people affected in road, air or rail accidents.

### **5.4 Issuing Funds to Departments and Districts**

Due to natural calamities, contingency assistance for affected persons/families, to set up relief camps, to run *Langars*, to set up camps for animals, to provide compensation amount to the families of the dead, to provide compensation in case of damaged house, to provide support to displaced families and animals, to assist in the reconstruction of homes falling/destroyed from natural disasters etc., the required fund is provided through the District Magistrate. In case of damage to public property, funds are issued to the concerned department for their immediate repair and maintenance. After receiving request from the District Magistrate/concerned department, funds are allocated after receiving the recommendation from the State Executive Committee. However, for the pure relief, funds are issued as per the specific Relief Commissioned/Chief Secretary and in the next meeting of the State Executive Committee, it is presented for recommendation. In order to avoid delay in the relief work in the state of disaster, the District Magistrates have been instructed to make available the grace amount from the available funds in the district and register it after receiving relief from a specific Relief Commissioner.

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