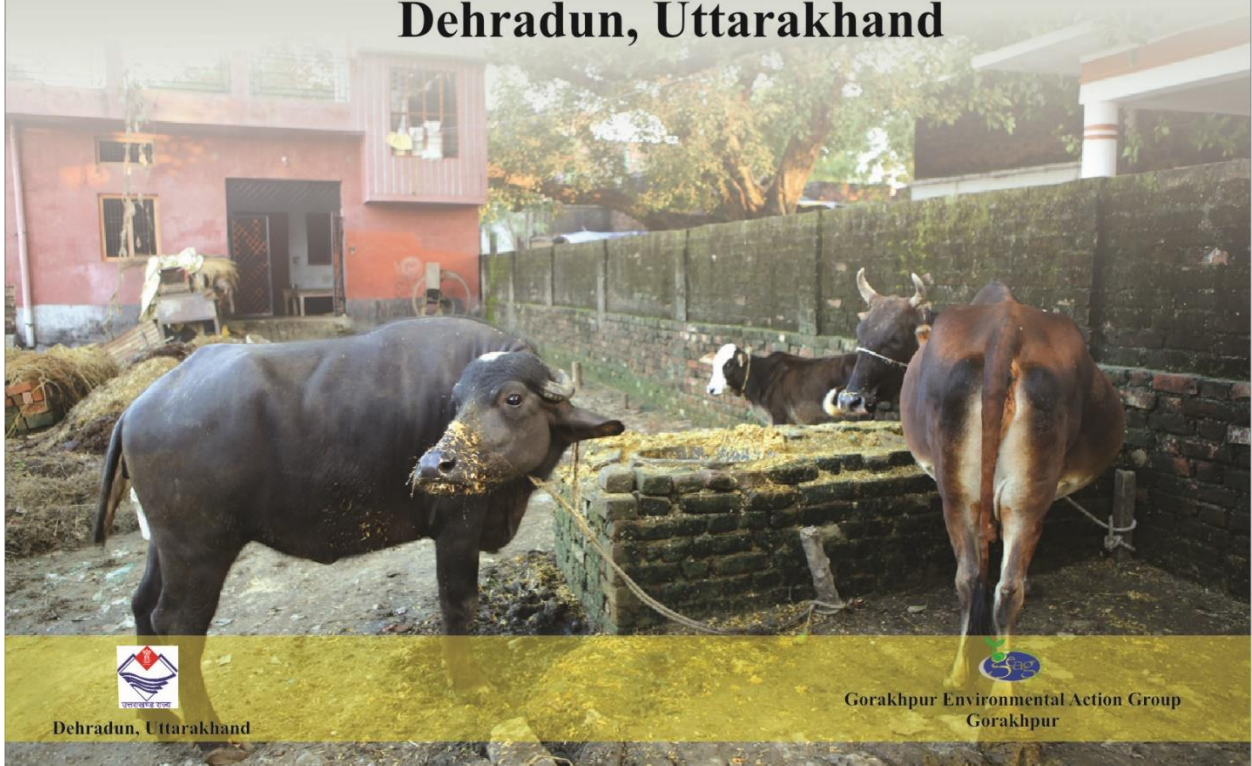


Departmental Disaster Management Plan

Animal Husbandry Department
Uttarakhand

Dehradun, Uttarakhand



Dehradun, Uttarakhand



Gorakhpur Environmental Action Group
Gorakhpur

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Abbreviation

AR	Assessment Report
CAPP	Contingency Action Plan
CMG	Crisis Management Group
CRR	Climate Relief Fund
DDM	Distinct Disaster Management Authority
DEOC	Distinct Emergency Operation Center
ERS	Emergency Response System
EFF	Emergency Support Function
IDRN	Indian Disaster Resource Network
ICPC	Intergovernmental Panel on Climate Change
IPPP	Intensive Polity Development Project
IRS	Incident Response System
IRR	Emergency Response Team
NDMA	National Disaster Management Authority
NSDF	National Disaster Response Fund
RO	Regional Officer
SDSR	State Disaster Response Fund
SDRF	State Disaster Response Force
SMS	Short Message Services
SOPP	Standard Operation Procedure
UKSDMA	Uttarakhand State Disaster Management Authority

Introduction

The geophysical conditions, variation in climatic components and recent occurrence of disasters have made clear 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 Transport 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.

Objective

The following are the objectives of the Departmental Disaster Management Plan of Animal Husbandry Department:

- To ensure the involvement of the parties related to disaster management under regular work conducted by the Animal Husbandry Department.
- To ensure successful and quick execution of responsibilities in case of disaster by the Department.
- To ensure the security of departmental human and physical resources.
- Immediate restoration in the event of a disaster.

Planning strategy

In order to prepare the Departmental Disaster Management Plan of the Transport Department, the state's hilly and plain situation and changes in the nature of disasters according to the same and the potential damage and its effects are kept in mind. The strategies adopted for preparing the plan can be seen under the following points :

- In order to come to a common understanding of standard operating procedures and departmental disaster management plan, an initial meeting was held with the officials of the concerned departments.
- 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 examined.
- The present working system and the disasters in districts were discussed in the meetings with the state level office of the Transport Department.
- In view of preparing the Disaster Management Plan, the pattern of the disasters, the structure of the department and the work at the district level were kept in mind while selecting the sample Districts.
- Sample districts were visited/toured and meetings were held with the officials and the community. Attempts were made to understand the timing of departmental activities before, during and after the disaster, officials/workers responsible for those activities and the time of editing the activities. In addition to this, the role of the Department before, during and after the disaster, the physical resources available in the department, abilities and weaknesses were also discussed.
- Work was also undertaken to collect data on damage caused by disasters, human resources, plans and distributions etc.
- The first draft of the Disaster Management Action Plan was prepared and shared with the department and it was updated on the basis of suggestions received from the Department.
- In a joint meeting of the Transport Department and the State Disaster Management Authority, this disaster management plan was reviewed and based on the suggestions received, it was rewritten and the last draft of the disaster management plan was submitted to the Disaster Management Committee for the recommendation.
- The Department submitted the proposed disaster management plan to the State Disaster Management Authority.

Introduction

1.1 Brief introduction and work of the department

About the Department

Animal Husbandry is an important sector in Uttarakhand. It is an integral part of the rural economy, similar to other parts of the country, which helps in preparing the biomass and fertilizers required for agricultural activities, and contributes in enhancing the household income and nurturing the family as well. Animal husbandry activity is undertaken in millions of homes in the state and provides employment to marginal and landless farmers.

The main objective of Uttarakhand Animal Husbandry Department is to create new opportunities in the field of animal husbandry to increase employment generation and enterprise development in the state. The responsibility of the Department is to assist in supervision, livestock development and medical assistance to the district. In Uttarakhand, the Animal Husbandry Department is divided into two divisions - Kumaun and Garhwal and the additional director is responsible for each division. Being a major source of livelihood in the state, the role and responsibilities of this department becomes very important from time to time. A separate unit for breed development is also established within the department for promoting good breed of animals in the state. Two schemes are prepared for smooth operation of all the tasks being executed in both general and disaster periods at the department level –

- District Planning - At District Magistrate level
- State Planning – At Directorate of Animal Husbandry level

General work to be undertaken by the department

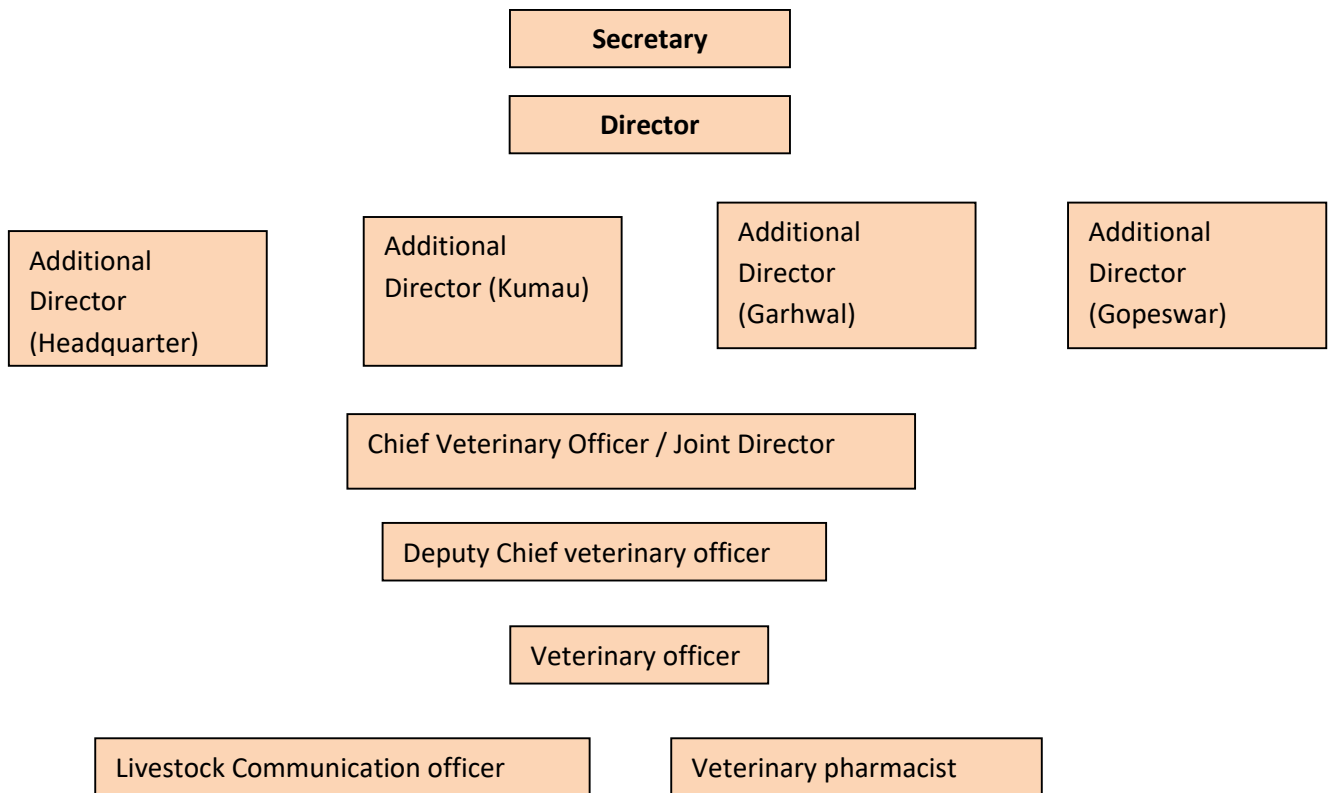
The Animal Husbandry Department has four main functions, which are executed by it -

- Treatment of animals
- Vaccination of animals
- Animal Sterilization
- Artificial insemination

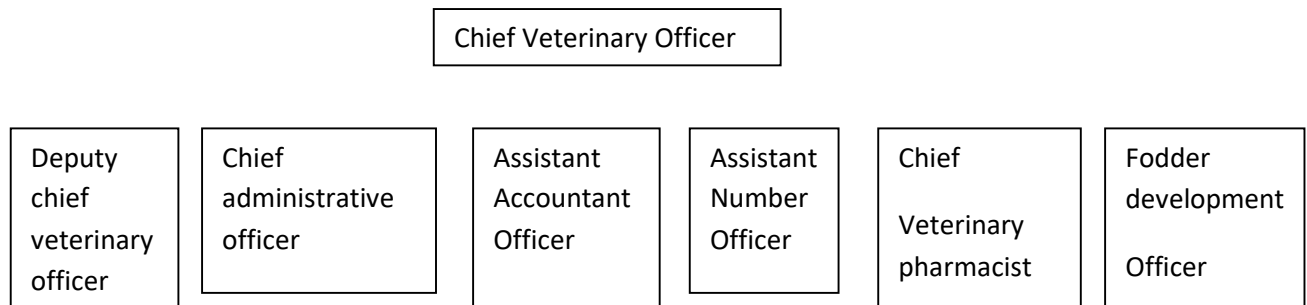
In addition, the Department prominently executes the following functions -

- To ensure the availability of hybrid seed of Chari and Maize till April and Barley and Barsim in October by the department in order to provide adequate food to the animals.
- To undertake various schemes, such as backyard poultry and milk production for the livelihood promotion of people belonging to the poor and deprived communities of the state.
- To conduct programs for capacity building among cattle feeders.

1.2 sectional section



The above departmental structure represent ranges from state to field level. The given below structure represent the working officers comes under the Chief Veterinary Officer at district level -



2. Hazard, risk, vulnerability and capacity assessment

2.1 The Nature, intensity and density of disaster at the State level

Uttarakhand : An Introduction

Uttarakhand is a hilly state in the Indian Himalayan region. Earlier, Uttarakhand was a part of Uttar Pradesh. On 9 November 2000, 13 hilly states of Uttar Pradesh were constituted together to form Uttarakhand as the 27th 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 km² 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 south. The state has 13 districts which are divided into two administrative units

– Garhwal and Kumaon. Generally, the northern-western part of the state comes under the Garhwal unit and the south-eastern part comes under the Kumaon unit. There are seven districts under the Garhwal unit – Dehradun, Haridwar, Uttarkashi, Tehri, Pauri, Rudrapur and Chamoli and six districts fall under the Kumaon unit and they are – Pithoragarh, Bageshwar, Almora, Nainital, Champawat and Udham Singh Nagar. Uttarakhand is primarily a Hindi speaking state. It is a different story that most of the country's reputed English medium schools are established in this state.



Uttarakhand falls in the category of most sensitive states in terms of climate-related risks. Particularly, mountainous areas are highly sensitive due to climate change and in the twentieth century, the state has been experiencing “more heat than average.” According to the assessment report released by the Intergovernmental Panel on Climate Change (IPCC), 2013 (A.R.4), due to glacier melting in the Himalayan region, the incidence of flood 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 aquatic-weather disasters. But in the case of intensity and frequency of aquatic disasters, the mid-19th century period was very bad. The years 1970, 1986, 1991, 2001, 2002, 2004, 2005, 2008, 2009, 2010, 2012 and 2013 for notable in terms of natural calamities for the state of Uttarakhand. With these disasters, the state suffered heavy losses and estimated loss of several million rupees, thousands of people lost their lives and a large number of animals died.

Hydro met Disasters

The following disasters mainly fall under hydro met disasters :

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

Geological Disasters

In addition to the aquatic-weather disasters, there are some disasters that are the result of movements inside the Earth, such as :

- Landslide
- Earthquake
- Dam breaking/dam flows away

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

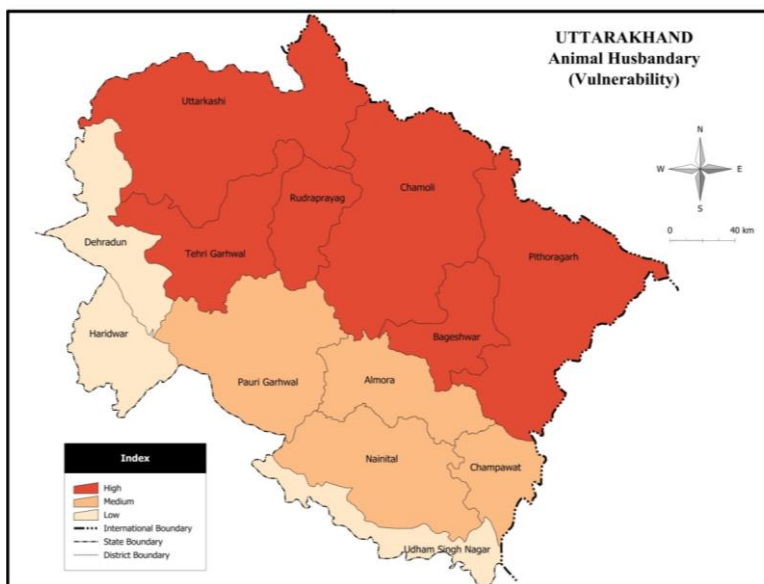
Some of the main natural calamities in the state and details related to them are given below :

- 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 Historical analysis of the risks of departmental resources

Sensitivity of the Veterinary Department

The sensitivity of animal husbandry department in terms of disaster is mainly loss of livestock and loss of departmental buildings / warehouses and chara banks. After analyzing the loss figures of the past 12 years available from the department, it can be said that, Uttarkashi, Chamoli, Pithauragarh, Rudraprayag, Tehri Garhwal and Bageshwar are the most sensitive districts based on the following maps. Pauri Garhwal, Almora, Champawat and Nainital Comes under middle category in terms of sensitivity, while Dehradun, Haridwar and Udham



Singh Nagar are relatively less sensitive. There are 55 blocks out of 95 blocks of all 13 districts, which are most affected due to departmental damage during the disaster(Attachment 1).

2.3 Climate and Climate Induced Challenges

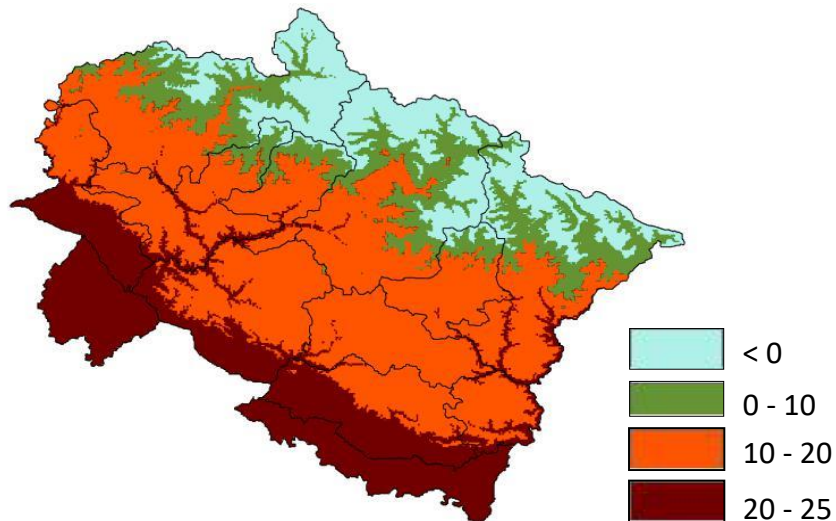
Climate

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 situation 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

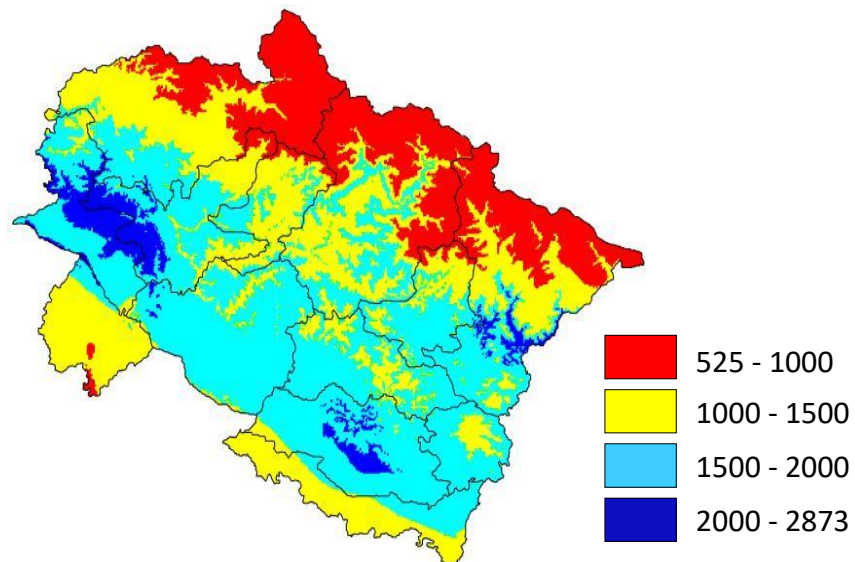
remaining one-fourth is spread over other seasons. Generally, rains start here from the third week of June, which continues till July/August.

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

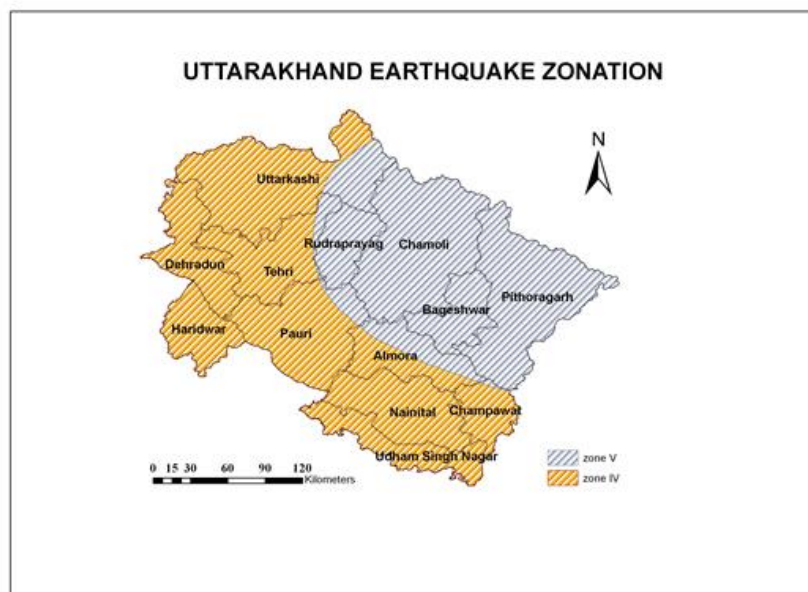
According to the State Action Plan on Climate Change, the annual temperature will increase by 0.7°C by the year 2030. In comparison to the year 1970, an increase of 1.7°C-2.2°C has been registered in the temperature. There is also an estimation of increase in seasonal air temperature in all seasons. 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.



Map 5 : Uttarakhand Earthquake Zonation map

- 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.

Impact on the department

After the above analysis about the climate and climate change, it can be said that climate change is a major threat to animals and livestock in the state, the effects of climate change upon the department can be seen below –

- Animal husbandry will be affected due to shortage of fodder and availability of water.
- The quality of feed, fodder and water will be affected due to excessive use of chemical fertilizers in order to take more yields.
- There will be special effect on milk production due to shortage of fodder.
- Due to lack of fodder, animal husbandry will be reduced. And meat production will decrease due to deficiency in small animals like goats, sheep etc.
- The milk production capacity will decrease due to the increase in temperature. Also, the problem of sterilization will also increase.
- Due to increase in temperature and irregular rainfall, new diseases in animals will increase.

Due to the above effects, there will be special impact on the income of the lower income group of the state, which depends upon animal husbandry for their livelihood purposes.

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 12th Finance Commission were focused on the causes of disaster prevention. In the end, on 23 December 2005, the 12th 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: Disaster Management Authority System and Task

Disaster Management System	Main department	Task
At the 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/organizations. In addition to these developments, the Ministry of Disaster Management under the 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, was started under the Home Ministry.
At the 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 is responsible for the guidance of disaster related matters, prior preparation, mitigation, relief, rehabilitation, restoration etc. work in Uttarakhand. The Chairman of the Executive Committee on Disaster Management in the state of Uttarakhand is Chief Secretary, Uttarakhand.
At the 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 District Disaster Management Authority is responsible for all the stages of the disaster – pre-preparation, mitigation, relief, rehabilitation, and restoration – in light of the directions from the state disaster authorities.

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. 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.

National Disaster Management Plan

The National Disaster Management Plan works to provide all government structures and guidelines for all phases of the management cycle. That National Disaster Management Plan is a “dynamic document” which means it will be made better from time to time, covering the various trainings and activities being done globally in the field of disaster management. The National Disaster Management Plan speaks of minimizing the losses due to the disaster, and also explains which activity will be performed in which stage and under whose direction will it be carried out. Various stages of disaster management in the National Disaster Management Plan like prior preparation, mitigation, response, restoration and rehabilitation activities will be expanded in a standardized manner.

Institutional Framework at the State Level

Uttarakhand State Disaster Management Authority (USDMA)

Just like at the 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 event of emergency, the task of marking 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 event 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, pre-preparation, mitigation and prevention activities can be smoothly edited.

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 intensive coordination with all types of natural and man-made threats and technical agencies responsible for any disaster. 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.).

Main Responsibilities

The following are a few of the main responsibilities of the State Emergency Operation Centre :

- Coordination with various local technical agencies issuing prior warnings of various hazards.
- It will set up a system with the media under which the media will ensure the transmission of information.
- Creating awareness among the concerned beneficiaries, including community and police department, on the urgent activities being carried out during the communication system for the previous warning and especially during the disaster.
- Ensuring the discharge of responsibility of all departments/officers/employees related to the disaster response system.

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 counter notification and rehabilitation.

District Disaster Management Authority (DDMA)

A District Disaster Management Authority was established in each and every district. In this Authority 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. For the smooth implementation of the District Disaster Management Authority, arrangements have been made for the formation of the Executive Committee under the chairmanship of the District Magistrate. The organizational structure of the District Disaster Management Authority is as follows – the structure of the Executive Committee is as follows :

- 1) District Magistrate – Ex-Officio Chairman
- 2) President, Zila Parishad – Co-Chair
- 3) Police Superintendent – Ex-Officio Member
- 4) Chief Medical Officer – Ex- Officio Member
- 5) Deputy Development Commissioner – Ex-Officio Member
- 6) Additional District Magistrate (Finance/Revenue) – Ex-Officio Member
- 7) Senior engineers of the district – Ex-Officio Member

Additional District Magistrate (Finance/Revenue) will be the Chief Nodal Officer of the District Disaster Management Authority.

DDMA is primarily responsible for preparing the District Disaster Management Plan, identifying sensitive sites in the context of disaster within the district, coordinating with national and state level different schemes in terms of disaster management, coordinating with all the respective departments at the district level at various stages of disaster, if necessary, to issue guidelines of departments to adopt measures for the prevention and mitigation of disaster etc. Along with this, monitoring of the work done by the departments in different phases of the disaster is also a major task of the DDMA.

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 is function 24 hours all seven days, 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.

2.5 Departmental Challenges and areas of improvement

In addition to the coordination between the main departments, there are some other issues related to the department, to which state officials and district level officials are required to meet and reach to solution by paying attention jointly. Apart from the coordination among the department, there are some other important issues to be looked after and get resolved through coordination among officers at state as well as at district level. In fact, these challenges are related to human resources, the technical capacity of the staff and the absence of infrastructure, due to which time and quality of service delivery is affected during the disaster. The Animal Husbandry Department has the following challenges, which the department needs to work upon –

Issues & Challenges

- Anthropogenic activities (developmental activities) causes excessive damage in both the hilly and plain areas hence planned and pre-informed activities should be encouraged to prevent livestock loss.
- There is lack of suitable human resources within the department in many areas of the state. There is a need to recruit the post of Livestock Information Officers (LIOs) widely. On the other hand, even pharmacists are also not enough in numbers.
- Fodder shortage in the upper areas during the winter season.
- Livestock loss is very high during the disaster and the department has to face difficulty due to lack of coordination with other departments at the time of disaster.

Steps to be undertaken to tackle the challenges

To address these challenges and issues, some necessary steps should be taken at the department level, which are as under:

- Extra budget provision is must for purchasing medicines during emergencies. The operational fund of the department can be extended, so that the treatment can be done immediately.
- Additional Fund may be provisioned for the blocks suffered from fodder scarcity under Green Fodder Development Scheme. Linkage and coordination with forest department will be important for fodder production.
- There is a need to set up a fund to create new fodder banks. With this, it is necessary to do the retrofitting of the old fodder banks.
- Appointment of pharmacists and livestock communication officers is very important in order to provide timely and quality services in the work areas.
- Budget should be increased for the training items and capacity building, so that, the staff can be trained on disaster management with the help of the District Disaster Management Authority within the department.

3. Measures taken by the department at different stages of disaster

Animal husbandry has a special contribution in the state's economy. There is a special impact on animals during disasters in Uttarakhand because of the formation of nature-specific home and sites for animal husbandry. Compared to the plains and hilly areas, animals on plain land suffer less from the flash flood, loss is relatively less, whereas possibility of saving the animals residing in hilly, small, narrow and low roof areas is almost negligible in case of flash flood. At the same time, people become busy making arrangements for their food and the helpless animals get neglected during the disaster. In such a situation, Animal Husbandry Department plays a crucial role in the three phases of disaster- before, during and after. It does not only provide treatment of animals, but also arranges fodder for the animals in the highly affected areas and further make arrangements for sustaining animal husbandry as a strong source of livelihood. Presence of Animal Husbandry Department is spread across the state is up to the village level. The Secretary and the director make plans at state level, and the Livestock Extension Officer and Livestock Research Officer at the village level is responsible for achieving the target by implementing schemes at district, block and village level. Therefore, in this chapter, detailed discussion has been done on various activities to be undertaken by the department in various stages of disaster. In addition, SOP has been prepared on the basis of the guidelines to implement the activities in different phases.

3.1 Pre disaster Actions (Prevention, Mitigation and Pre-Preparation)

Measures for prevention, mitigation and pre-preparations can be quite effective for reducing the effects of any disaster. In this phase, those activities are covered which are long lasting and can be incorporated with the departmental developmental activities. The Animal Husbandry Department in this direction may also take some measures, which are helpful in reducing the impact of disasters. It is compulsory to integrate these activities in routine developmental schemes / programs of the department. Under these activities, those points are kept in the Annual Action Plan of the department which work towards reducing the impact of the disaster and increase the capacity of the department and community to deal with disasters.

These activities are continued throughout the year under various schemes / programs run by the department and financial arrangements are made from various means. Apart from this, activities of Prevention, mitigation and capacity building of staff are determined by the District Disaster Management Cell. which assesses the capacity improvement points and informs the State Disaster Management Department. To implement the activities by District Management Authority, The additional funds for implementing the activities will be arranged by ADM (Finance / Revenue Department) through the Department of Revenue.

The following are the activities to be implemented under prevention, mitigation and preparedness -

Identification of Sensitive/Vulnerable Areas and planning

Planning for prevention, mitigation and preparedness for disasters is an essential part. Identifying sensitive areas / districts based on vulnerability assessment and working through prioritizing it is an effective step towards reducing the effects of the disaster. The sensitivity of the area or district is determined on the following basis –

- Based on the statistics provided by the department on incident of damages and the data provided by the department, those areas / Districts are considered as more sensitive where the incidences of disaster have taken place repeatedly

- Based on the available resources – the area/districts where required resources are not available adequately fall under the sensitive area in terms of disaster \
- Areas located far away from the main road or having no proper accessibility and facility of road network, are more sensitive than the areas having road network.

The following preparations will be required to deal with the disaster for the identified sensitive districts on above basis –

- To constitute a disaster management team from state to block level within the department and appointing a nodal officer to coordinate with other departments.
- To ensure connectivity within the department through messages or WhatsApp Group
- To ensure the identification of most disaster sensitive districts and regions
- To ensure animal census/counting before monsoon.
- To ensure establishing fodder bank at the block level
- To ensure seed distribution to promote fodder development
- To ensure linkage with various government schemes like- backyard poultry and dairy scheme for the promotion of livelihood
- To mark the paths leading to the Bugyal and ensure camping as per requirement.
- To start vaccinating animals after Holi festival and finish it before the rainy season.
- Depending on the availability of medicines and staff, ensure vaccination on priority basis in sensitive areas and migratory routes of animals.
- To ensure the storage of medicines and vaccines for khurpka (Foot & Mouth disease), wound in legs in in cow-buffaloes.
- To issue instructions to all field specialist doctors to be alert after getting a early warning related to disaster.

Need assessment, Infrastructure Strengthening and Human Resource Development

Keeping in view the disasters, it is essential within the department to ensure the structural strengthening and availability of human resources in developmental plans. Departmental activities, do not only include strengthening of departmental buildings / staff quarters but also, emphasize on improving capacity through overcoming scarcity of human resources. Under this, the following activities are recommended-

- Identification and Repairing of damaged office building and fodder bank on priority basis on the basis of the assessment
- To make departmental new buildings and fodder banks disaster proof.
- Retrofitting of departmental buildings / offices, fodder banks etc.
- To ensure the storage of quality compact feed in the prescribed quantities in each fodder banks.
- To prepare the list of cattle feeder, especially in disaster prone areas.
- To Identify safe places for health camps and for providing shelter to injured animals in disaster affected areas
- To fill the departmental vacant positions immediately by regular employees / officers.

Need Assessment and Capacity Building

The Capacity enhancement of staff and community is an important element under department's preparedness plan. Keeping in view of changing nature of the disaster, it is essential to provide training / orientation to staff at each level along with the community as they suffer directly. Therefore, it becomes prime responsibility of the department to conduct awareness campaign at the community level. Under the need assessment and capacity building, the following activities are recommended -

- To assess the demand of fodder at block level before the disaster and ensure storage of fodder accordingly.
- Selection of beneficiaries and their capacity building for livelihood promotion under the departmental schemes.
- Training of local staffs on periodic basis
- To train Livestock Extension Officer and Livestock Research Officer on to protect animals in various phases of disaster.
- To ensure active participation of the department in the mock drill organized by Disaster Management Department.
- To implement community awareness campaign on livestock related diseases and their measures .

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. That is, 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 initial warning during the various disasters in respect of disasters at the department level are as follows:

Table 3: 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 4: 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 5: 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.

Avalanche

In the context of avalanches, the Snow and Avalanche Study Establishment of the Defence 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 6: 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 7: 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 Disaster Response

Various plans have been discussed to work and deal with the disaster under the Response plan of the department. The department constitute the disaster cell and the disaster team and the appoint the nodal officer in accordance with the standards of the IRS (Emergency Response System). The team works in response to disaster with various associated departments in accordance to the IRS standards. At this planning stage, the active elements and emergency response system have been included to make the Response Plan successful. At the time of Response, the Animal Husbandry Department conducts work in coordination with other cooperative departments like Panchayatiraj Organization and Urban Development Agency in the direction of District Administration / District Disaster Management Authority.

Triggering Mechanism

In triggering mechanism, all departments and Emergency Operation Centres becomes active to respond immediately after alert message 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 will 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.

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 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 Transport, 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.

Work to be undertaken by the department during the disaster

The Animal Husbandry Department undertakes following activities during response-

- To inform the Blok Disaster Management team on the basis of the received information

- To send the departmental disaster management team to the disaster site for rescue operations.
- To coordinate with police department and SDRF for safe evacuation of animals from affected site.
- To cooperate district administration to bring animals safer places
- To ensure safer places for sick and injured animals
- To ensure that sick animals are kept away from other animals
- To ensure the treatment of injured animals
- To provide compact feed to the cattle owner at minimum subsidized price in case of disaster.
- To ensure distribution of fodder in highly affected areas
- To ensure the availability of medicines, vaccine and fodder from other blocks / districts if required.
- To ensure the availability of drinking water alternate days for animal's case of drought.
- To issue notification from the State level to prevent the movement of animals in the affected areas in case of spread of epidemic.
- To ensure proper steps for prevention from epidemics.

3.3 After the disaster

Generally, animals like cow, buffalo are often neglected during evacuation, rescue and relief in the disaster. Therefore, the responsibility of the Animal Husbandry Department is equally important before and after the disaster to take care of these health of animals. Along with this, repairing of the damaged departmental buildings and other assets is also undertaken at this stage. The main activities to be undertaken in this phase are as follows:

- To ensure management of fodder for animals for at least 4-5 days.
- Based on special approval from the District Magistrate, make free medicines and vaccination available for the protection from diarrhea
- To ensure the vaccination, dipping and drenching of the sheep returning from Bugyal in veterinary camps
- To provide post mortem report of dead animals to the district administration.
- To establish coordination among the departments for the execution of dead animals
- To ensure the community engagement with the Dairy Development Scheme, Fodder Development Scheme and Backyard Poultry Scheme, to ensure the spraying of medicines in the affected areas to reduce the risk of post-disaster infections.
- To organize veterinary camps to prevent the degradation of the breeding capacity of case of long-standing disaster.
- To assess and document departmental damages
- To demand the compensation at the government level after checking the prepared document.
- To ensure the restoration of damaged buildings and departmental resources

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 preparation and upgrade departmental coordination during emergency, mock drill may be a better method of rehearsal testing. It will be based on past experience of disaster and learning received. On one side of the mock drill, we will be able 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 our plan, but if necessary, the department will also be helped 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 :

- Adding the activities of mitigation and prevention in the departmental annual work plan.
- Developing performance index involving time limit 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 pre-preparation 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

- Marking 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, pre-preparation 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 State Disaster Management Act 2005, before May each year, the state level departmental head or nodal officer (disaster) will update this document with the help of departmental disaster management team. Following the guidelines approved by the Uttarakhand State Disaster Management Authority in updating this document, the following points will be considered :

- Identifying and listing of sensitive/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.

Reporting and Documentation

Every year before March, annual report/documentation should be done of 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 included. A few case studies related to disaster management plan should also be included in this document.

Evaluation Post Disaster

The Transport Department will evaluate its performance based on the tasks related to its 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 Index for Monitoring

Following checklist can be helpful to monitor the various activities of department at various stages of disasters:

- To prepare list of staff with their name, address and contact number.
- To ensure vaccination of Animals.
- To provision supply of the medicines on annual.
- To arrange mobile health units for remote areas/distant locations
- To establish animal health awareness camp
- To arrange vehicles for maintaining continuous movement

Table 8: Monitoring Index under different phases

Early warning and pre-preparation	Yes	No
- Instruct all staff to join duty as soon as the warning received. - Deploying staff in remote areas - Regular maintenance of records - Develop coordination with departmental higher officers		
Clearance		
To make the community ready to take their animals to elevated place.		
Search and rescue during disaster		
- To help villagers and farmers to evacuate the animals trapped in the disaster. - To provide first aid to injured animals.		
Health and hygiene		
Distribution of insecticides to make the animals area noninfectious.		
After the disaster		
Medical aid		
Vaccination and checkup to prevent animals from the epidemic after the flood and storm.		
Dead Animals Settlement		
- To collect carcass and disposing them - Maintenance of records - To Issue death certificate of dead animals - Disinfecting the cremation area of dead animals.		

Medical aid		
• To provide first aid to affected animals. • To maintain record regularly		
Health and hygiene		
• To vaccinate the animal if needed • To Keep record maintained		

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Annexure 1**List of Affected Blocks**

Serial number	District	Block
1	Uttarkashi	Purola
2		mori
3		Dunda
4		chiniethoure
5		Bhatwari
6	Udhamsingh Nagar	Khatima
7		Rudrapur
8		Sitarganj
9		Jaspur
10	Tehri Garhwal	Thaludhar
11		Jaunpur
12		Devprayag
13		Chamba
14		Bhulangaana
15	Rudraprayag	Uekhimath
16		wounded
17		Augustamuni
18	Pithoragarh	Munshari
19		DD HAT
20		Dharchula
21		Berinag
22	Pauri Garhwal	Nainidanda
23		Kaligkhal
24		Yakeshwar
25		Thalainasan
26		pauri
27		Beerokhal
28	Nainital	Kotbagh
29		Haldwani
30		Bhimtal
31		Baitaltal
32	Haridwar	Roorkee
33		Luxor
34		khanpur
35		Baharabad
36		Bhagwanpur
37	Dehradun	Raipur
38		Chakrata
39	Champawat	Lohaghat
40		Champawat
41		Baracot
42	Tihri Garhwal	Karnprayag
43		Joshimath
44		Ghat

45		Gairsen
46		Dassouli
47	Bageshwar	Kafkot
		Jarun
49	Almora	Dhauladevi
50		Dwarhat
51		Sult
52		Sealdah
53		Chahuktia
54		Bhikiasain
55		Takula

Physical and human resources available in the department in the district
Various institutions related to animal husbandry department in the state

Number	Institute	number
1	Animal hospital	328
2	'D' group dispensary	10
3	Animal Service Centers	775
4	Departmental AI Center	686
5	Sheep breeding sector	11
6	Angora Goat Reproduction Field	02
7	Animal Breeding Sector	04
8	Poultry Field	07
9	Angora Sasak Reproduction Field	05
10	Intensive Poultry Development Project(IRDP)	08
11	sheep and oon circulation centers	113
12	Diagnosis Laboratory	08
13	Hatchrij	07
14	Sukar farm	02
15	Oon Ranking centers	01
16	Extremely Freezed Semen Production Center	01

Total Livestock in Uttrakhand

Serial number	Description	Number
	Total livestock(according to the 2007 calculation)	5140960
	Other small animals(according to the 2007 calculation)	257009
	Milk production per day / per animal (in kg) cow Buffalo	2.959 4.100
	Eggs per chicken / per year(in number)	197
	Per sheep / per year (in kg)	1.375

**District wise - List of animal organization
Gosadan approved under Uttarakhand state**

Serial Number	District Name	Gosadan Name and Address	Telephone Number
1	Almora	Shri Lakshman Singh Kadakoti, Village Social Welfare Committee, Village Post Tolyo (Talla Sult), District – Almora.	94561 03020 95687 63511
2		Shri Kheemand Nainaval, Shri Guru kripa Gau-Suraksha Samiti, Gram-Jaikhal, Block-sialadah, District Almora.	05966 212149 94103 44958
3	Nainital	Shri Rameshwar Das, Shri Nityanand Padh Ashram, Sri Sri Gaur Radhakrishna Temple Parma, Haldu Chaud, District -Nainital	9719560383
4		Shri Satyabhusan Singhala, Shri Radhakrishna, Gau Seva Sadan Trust, Gram-Lakhanpur, Beria Road, Bajpur District-USN	05949283729 9837889338
5		Shri Narad Joshi, Golok Dham, Gram - Kanak Pur Rudrapur, Tehsil-Kicha, District-USN.	9756542233 9837019775
6		Shri Jagdish Chandra Joshi, Kathur Goseva Samiti, Golokdham Temple near Chakravetteswar, Block-Garud, PO- Baijnath	05966257368
7		Shri Ganesha Chandra Joshi, Shri Krishna Goseva Dham Charitable Trust, Munakot, Pithoragarh	9410737590
8		Shri Shankar Dutt Pandey, Maa Kamdhenu Vatsalya Seva Dham Trust, PO-Dhenisheeling, Champawat.	812605235 7409612160
9	Chamoli	Mr. Anil Negi, Krishna Goseva Samiti, near Keshavaj School Gaucher District, Chamoli	8859862668 9412118106 9412118387
10	Tihri	Swami vishudhananda, Uttarakhand Gau Samwardhan, Gau-Tirthaashram, Koteswarapuram, Tehri Garhwal	9411515929
11		Shri Kulananda Swaroop Brahmachary, Sri Semanagaraja Seva Ashram, Sadargaon, District –Tehri	7895020604
12	Uttarkashi	Shri Ram Kishore Das, Akhil Bhartiye Shri Hanuman Go-Seva Trust Village-Hitara, Badheti, Bisht Patti, Tehsil- Chinyalisaun	01371211224 9412077796
13	Pauri Garhwal	Sri Ranulaal, Himalayan Gorkha Gosewa Samiti, Thalishain, Pauri Garhwal	9456154763
14		Shri Arun Nautiyal, Govardhan, Go-Tirthashram, Gram-Gazald, Srinagar Paudi Road, District - Paudi Garhwal.	9897587047
15		Shri Prakash Kala, Badri Go Promotion and Rural Development Institute, Village-Odal Sain, near Satpuli, District- Pauri Garhwal	9720515292
16		Shri Prem Singh Negi, Shyama Mahabgarh Gaoswawardhan and Gram Vikas Sansthan, Near Bhuvan Gadera, V0-Paukhal, Dugadda District Pauri Garhwal	9720575292
17		Shri Sadar Singh Negi, Mrs. Shankri Devi, wife Shri Buddhi Singh Negi, Godham Gau Samiti, Dabri Valli Rikhanikhal, Pauri Garhwal	8126480078
18		Mrs. Sushma Jakhomola, Aakriti Prani Seva Sanstha, Gram Manpur, Kotdwar, District-Poudi	9758758682
19	Haridwar	Mahant Premanand Giri, Bhartiye Gram Vikas Avam Gorakhtya Trust, Village Zhiwarhedi, Post- Khedi Shikohpur District-Haridwar.	9690420644
20		Shri Virendra Kumar Garg, Gaushala Sabhwa Roorkee, Chav Mandi, Roorkee District-Haridwar	9837048751

21		Swami Ishwar Das ji, Sri Krishnayan Desi Goraksha Golok Dham Seva Samiti, Dr. Ganga Chandola, Shri Bhagirathi Dham Ashram, Narmada Vihar, Village Post- Haripur kala Dwara Raiwala District- Dehradun	9456593633 9411768130
22	Dehradun	Shri Romiram Jaiswal, Bhadraraj Goudham Samiti, Gram -Chharba, Sahaspur, District- Dehradun.	9411711737
23		Shri Amitanand Maharaj, Hari Om Ashram, Kadwa Paani Trust, Gram-Bhuddi , Post Office - Karbari Shimla Bypass Road, Dehradun.	9897504931 9410300510

National level monitoring format to know the status of fodder

State Name:

1. Precipitation status

1.1 Rainfall in the state

1.2 percent more / less / normal (enter the percentage of less rainfall)

2. The condition of the feed; in quantity

2.1 There is a shortage of dry fodder in the state, please show the amount of possible deficiency in the coming time.

2.2 There is a shortage of green fodder in the state, please show the amount of possible deficiency in the coming fortnight.

2.3 Show the amount of dry fodder in all forms, which may go for sale out of state. Also, show the nearest railway station and the quantity sent by rail. The above information can be shown separately in the table.

3. What is the status of dry and green fodder in the state? (Show death unit)

3.1 Green fodder

3.2 Dried fodder

4. Seed availability level of fodder crops (Quantity)

4.1 Is there adequate quantity of seeds of fodder crops available in the State?

4.2 If there is a shortage of seeds, please mention the required quantity of variety seeds

4.3 If the seeds are more than please show that how much quantity of variety seed can be sold out ?

5. Purchase Situation of seed / fodder

5.1 If the situation occurs of purchasing fodder / seed, then what process has been taken to buy the same by the state?

5.2 Mention the source / agency from where the purchasing made or to be made.

5.3 Mention the amount of seed bought or to be bought.

5.4 Mention the amount of fodder bought or to be bought.

6. Fund position

6.1 Grant availability for buying seeds / fodder

6.2 Additional funds if necessary