



# Disaster Management Plan



**DEPARTMENT OF ENVIRONMENT, SCIENCE &  
TECHNOLOGY**

**Government of Himachal Pradesh**

'Parayaran Bhawan', Near US Club, Shimla- 171001

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## 1 ABOUT THE DEPARTMENT

The Department of Environment, Science & Technology was set up at the Narayan Villa Building, Chotta Shimla in the month of April 2007 with objectives to improve the effectiveness of environmental management, protect vulnerable ecosystems and enhance the sustainability of development. In the month of July 2014, the department shifted to renovated premises of 'Paryavaran Bhawan', Near US Club, Shimla-171001. Central Public Works Department (CPWD) constructed 'Paryavaran Bhawan' building during the British era and was known as Press Villa. The office of Aryabhatta Geo-informatics & Space Application Centre (AGiSAC) has also been shifted to this building. Earlier it was situated at Beolia Road, Lower Panthaghati, Shimla, HP.

The Head office of Department of Environment, Science & Technology is situated on the premises mentioned above and no other branches of this department are in any other part/districts of the State. Hence, the disaster management plan for the department will be applicable to the premises of 'Paryavaran Bhawan'.

The functions and mandate of the department under Environment & Pollution Control:

- **Environment & Pollution Control:** To exercise all the powers vested under all Act and Rules pertaining to the protection of environment & control of pollution. Implementation/enforcement of all environmental legislation on behalf of the State Government, which cannot be implemented by State Board, or any other agency.
- **Science & Technology:** To develop/modify/adapt new technologies in any area relevant to the State of Himachal Pradesh.
- **Bio-Technology:** Formulation and implementation of Bio-Technology Policy in the State.

Further details on the functions and mandate of the department are available at its website.

### 1.1 ORGANIZATIONAL STRUCTURE

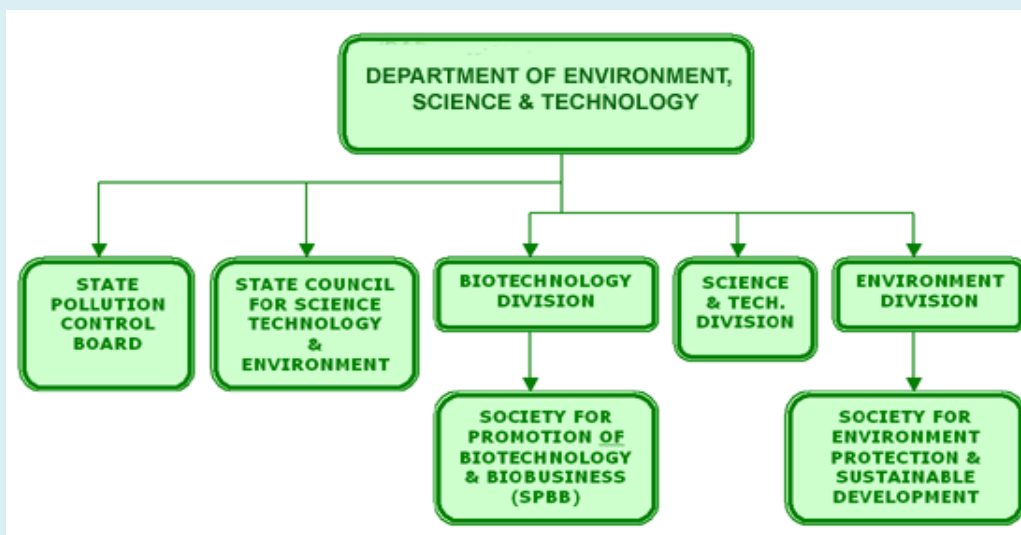


Figure 1: Organizational Set-up of the Department

## **Infrastructure available with Department**

The 'Paryavaran Bhawan' is a two-storey building which houses all the divisions and their respective offices. The office of Director (DEST), Chief Scientific Officer (Science & Tech. Division, DEST) and Principal Scientific Officer (Biotech Division, DEST) are situated on the top floor of the building. The office of Addl. Director (DEST), Principal Scientific Officer (Env. Division, DEST), Establishment Branch, Accounts Branch and Conference Hall are situated on the ground floor of the building. Office of AGiSAC is also situated on the ground floor of the building. There is ample parking space on the backside of the building. The parking space is enough for about 15-20 vehicles (Cars).

## **1.2 PURPOSE OF PLAN**

Every department of the State Government is legally mandated under Section 40 of Disaster Management Act 2005 to prepare its disaster management plan in accordance with the guidelines laid down by the State Disaster Management Authority.

The main aim of the Disaster Management Plan is to reduce the vulnerability of the department and to minimize the damage caused by various types of disasters, be it natural or manmade. The purpose of this plan is to facilitate the Department of Environment, Science and Technology in the following:

- Identifying assets/infrastructure of the department exposed to hazards;
- Undertake prevention and mitigation measures;
- Undertake preparedness measures;
- Assign role and responsibilities for various tasks to be performed by the department in accordance with the State DM Policy and State DM Plan;
- Mount prompt and coordinated response and recovery at various levels.

## **1.3 SCOPE OF THE PLAN**

The Department of Environment, Science and Technology were established with a vision to conserve and improve the environment and natural resources of the State. Planning, coordinating, promoting and overseeing the environment, science & technology and pollution prevention, abatement and control activities and programmes for environmental protection, conservation and enhancement by regulation, policy formulation, supervision and monitoring using innovative technologies are the key objectives of the department.

The plan will be helpful in understanding the significance of various disaster management activities that are needed to be performed for making the Department resilience to different types of disasters.

## **1.4 AUTHORITIES, CODES, POLICIES**

Following are the specific acts and rules of the Department:

- Water [Prevention and Control of Pollution] Act, 1974
- Water [Prevention and Control of Pollution] Cess Act, 1977
- Air [Prevention and Control of Pollution] Act, 1981
- Environment [Protection] Act, 1986, (Rules listed below);
- Bio-medical Waste [Management and Handling] Rules, 1998
- Hazardous Waste [Management and Handling] Rules, 1989
- Manufacture, Storage and Import of Hazardous Chemical Rules, 1989.
- Rules for manufacture, use, import and storage of Hazardous Microorganisms, Genetically Engineered Micro-organism or Cells, 1989.
- The Recycled Plastic Manufacture and Usage Rules, 1999.
- The Ozone Depleting Substances [Regulation and Control] Rules, 2000
- The Batteries [Management and Handling] Rules, 2001
- The Noise Pollution [Regulation and Control] Rules, 2000
- The Municipal Solid Wastes [Management and Handling] Rules, 2000
- Nodal Agency for Environmental Clearance

For the functions related to Disaster management following guidelines are to be followed:

- Disaster Management Act, 2005
- National Disaster Management Plan, 2016
- Himachal Pradesh Disaster Management Plan, 2012
- National Action Plan on Climate Change
- National Guidelines issued by the NDMA
- Guidelines and provision for State Disaster Response Fund (SDRF)
- Guidelines for administration of the National Disaster Response Fund (NDRF)

## 1.5 INSTITUTIONAL ARRANGEMENTS FOR DISASTER MANAGEMENT

The State Government has adopted the Disaster Management Act 2005 as enacted by the Govt. of India for providing an effective mechanism for Disaster Management in the State of Himachal Pradesh.

### 1.5.1 State Disaster Management Authority

As per clause b of sub-section (2) of Section 14 of the Disaster Management Act 2005, the Himachal Pradesh Disaster Management Authority under the chairperson of the Honourable Chief Minister was constituted on 1<sup>st</sup> June 2007 with the following persons as a member of the Himachal Pradesh Disaster Management Authority (HPSDMA):

**Table 1: Members of State Disaster Management Authority**

S. No.	Member	Designation in HPSDMA
1.	Hon'ble Chief Minister	Chairman
2.	Hon'ble Revenue Minister	Co-Chairman
3.	Chief Secretary	Member

4.	Principal Secy. (Rev)	Member
5.	Principal Secy. (Home)	Member
6.	Principal Secy. (PWD)	Member
7.	Principal Secy. (Health)	Member
8.	Director General of Police	Member
9.	Secretary/Additional Secretary (Revenue)	Member Secretary

### **1.5.2 State Executive Committee (SEC)**

As per sub-section (1) of section 20 of the Disaster Management Act 2005, the State Executive Committee under the chairmanship of Chief Secretary was constituted by the Government of Himachal Pradesh. SEC coordinates and monitors the implementation of the National Policy, the National Plan and the State Plan in addition to management of disasters in the state. It monitors the implementation of disaster management plans prepared by the departments of the Government of the State and District Authorities.

### **1.5.3 Advisory Committee of SDMA**

As per Sub Section (1) of section 17 of the Disaster Management Act 2005, the chairperson of Himachal Pradesh State Disaster Management Authority nominates members of the Advisory Committee to assist the Authority and to make recommendations of different aspects of Disaster Management.

### **1.5.4 District Disaster Management Authority**

As per Section 25 of the DM Act 2005, District Disaster Management Authority has also been constituted in every district of Himachal Pradesh which is chaired by the Deputy Commissioner of the district.

## **1.6 PLAN MANAGEMENT (IMPLEMENTATION, MONITORING AND REVISION)**

The Director of the department shall be responsible for implementation of the Plan. The Nodal Officer shall coordinate with all stakeholders for implementing the Plan. He would keep the department in a state of preparedness of any kind of disaster and in an unfortunate event of a disaster would be the key pivot around whom all the coordination and DM activities will be implemented. Annual Progress on implementation of the Plan will be submitted to HPSDMA.

As per mandate of the DM Act 2005 the plan should be revised annually. Any changes in guidelines under the national and state level shall be incorporated in the plan as and when such changes are made. The introduction of new technology for hazard risk mitigation shall also be incorporated as when the same is tested and found feasible and acceptable in particular geographical area of the State.

The Plan shall be updated with the help of State Disaster Management Authority at least once in a year or as and when felt necessary. Consultations will be held with the stakeholders for making

changes in the Plan. The Nodal Officer shall be responsible for holding consultations and updating the Plan.

### **Dissemination of Plan**

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

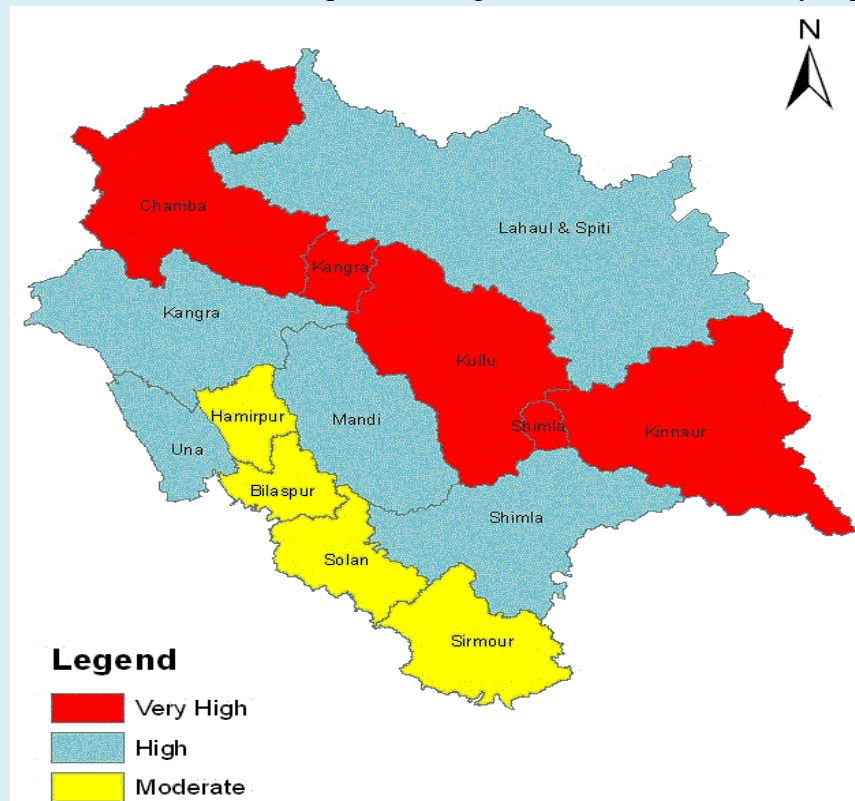


## 2 HAZARD, RISK AND VULNERABILITY ANALYSIS

### 2.1 RISK ASSESSMENT OF HIMACHAL PRADESH

Himachal Pradesh is a mountainous state situated in the western Himalayas with an elevation ranging from 350 meters to 6000 meters. Thus, there is a great variation in the geo-climatic conditions of the state due to the extreme variation in the elevation. The climate varies from hot and sub-humid tropical in the southern tracts to cold, alpine and glacial in the northern and eastern mountain ranges with increasing elevation. These conditions make the state prone to various hazards both natural and manmade. Main hazards consist of earthquakes, landslides, flash floods, snowstorms and avalanches, droughts, dam failures, fires – domestic and wild, accidents – road, rail, air, stampedes, boat capsizing, biological, industrial and hazardous chemicals etc.

The districts of Chamba, Kinnaur, Kullu and part of Kangra and Shimla fall in very high



**Figure 2: Overall Vulnerability Map of Himachal Pradesh**

vulnerable risk (Figure 2). Similarly, districts of Kangra, Mandi, Una, Shimla and Lahaul and Spiti fall in high vulnerable risk status. The district Hamirpur, Bilaspur, Solan and Sirmour falls in moderately vulnerable risk status. The disaster management strategies and infrastructure required to be evolved by taking the factor of vulnerability into consideration.

## 2.2 ASSESSMENT OF SECTORAL AND DEPARTMENTAL RISKS

The sectoral risks of disasters consist of the risks for the entire sector that the department represents. The Department of Science, Technology & Environment being a scientific institution in the state has the capability of undertaking studies pertaining to the different disasters in the state. The overall office building of the department is situated in the district of Shimla. The district is vulnerable to a number of disasters. Sequentially, being situated in the district the department is also vulnerable to those disasters. The major disasters that could affect the department are an earthquake, landslides, floods/flash floods, cloudburst and fire. Since the data of the department is stored in the digital format so the risk of cyber attack is also a threat to the department.

The risk involved for the department when exposed to different types of disasters are summarized in table 2.

<b>Sl. No.</b>	<b>Hazard</b>	<b>Risk</b>
<b>1</b>	<b>Earthquake</b>	<b>High Risk:</b> The district of Shimla falls under the seismic zone IV making the department highly vulnerable to earthquake.
<b>2</b>	<b>Flood</b>	<b>High Risk:</b> The geographical location and the river Satluj, Andhra, Pavvar, Nogali, Ganaviand other many smaller khuds/rivulets flowing through it makes the area more vulnerable to the floods /flash floods.
<b>3</b>	<b>Cloudburst</b>	<b>High Risk:</b> Impact of cloudburst is dual. It leads to landslides and flash floods.
<b>4</b>	<b>Landslide</b>	<b>High Risk:</b> Landslide is most risk-oriented hazard found in district Shimla affecting the human life and property in many ways like damages to the houses, roads, communication network.
<b>7</b>	<b>Fire</b>	<b>Medium Risk:</b> Any mishap can put the building of department at risk of fire.
<b>8</b>	<b>Cyber Attack</b>	<b>Medium Risk:</b> In an era of technology, a threat of cyber attack is common.

## 2.3 ASSESSMENT OF CAPACITY GAPS AND NEEDS

There is lack of training to the existing Department staff on the various facets of disaster management. Further, the scientific staff who undertakes the disaster-related studies using different techniques needs to be training with the latest know-how available at the national level so that more specific studies enhancing the accuracy level can be carried out. The human resource of the department is given in table 3.

**Table 3: Human Resource of the Department**

<b>Sr. No.</b>	<b>Designation</b>	<b>No. of Positions</b>
<b>1.</b>	Department of Environment, Science & Technology Including SEPSD & other staff	39
<b>2.</b>	AGiSAC	65
	<b>Total strength</b>	<b>104</b>

## **3 RISK PREVENTION AND MITIGATION**

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### **3.1 RISK PREVENTION**

Risk prevention is preventing the creation of new risks of disasters. Such risks may be created unwillingly by the Departments directly through public investments or indirectly through the facilitation of private investments that are vulnerable to the risks of disasters. Therefore, every investment should go through risk audit to check if new programmes, activities or projects have the potential to create new risks of disasters. If such investments cannot be avoided, safeguards through adequate structural and non-structural prevention measures must protect these so that the benefits of investments are fully protected from risks of disasters.

Methods that can be implemented for risk prevention:

- ❖ To conduct Hazard, Risk Vulnerability and Capacity Analysis (HRVCA) of departmental infrastructure considering multi-hazard approach i.e. Risk of infrastructure to earthquake, landslide, floods/flashfloods and fire
- ❖ Construction of new infrastructure on the recommendation of HRVA study and conducting Land Suitability Study before developing infrastructure in the State.
- ❖ Creation of database of useful resources, infrastructure and introduction of suitable software for effective Disaster management and establishment of early warning system for earthquake and Flash floods
- ❖ Motioning to Glacier lakes and provide valuable input to state authorities regarding the status of Glacier lakes.
- ❖ Conduct environment impact assessment and preparation of mitigation measure for improvement of Ecosystem Services in the State.
- ❖ Conduct studies related to climate change and its impact on the State through GIS and Remote Sensing.
- ❖ Preparation of database of resources available in the state on GIS Platform and also inventory of voluntary agencies, educational and R&D institutions, individuals involved Disaster Management Field.
- ❖ Development of Indigenous climate Risk Screening tools to identified risk zone in digital form.
- ❖ Promotion of location-specific research and demonstrate through model experiments by institutions of excellence in the State.

### **3.2 RISK MITIGATION**

Risk mitigation is reducing the risks of disasters that are already there due to exposure and vulnerabilities to the hazards. Mitigation projects reduce the level of exposures or the depth of vulnerabilities or both through a combination of various structural and non-structural measures. Mitigation projects are always costly and therefore these have to be planned with proper Cost Benefit Analysis (CBA) to ensure that the benefits of the projects outweigh the costs. Based on its developmental responsibility, the department can liaise with other line departments and agencies for a coordinated mitigation approach.

### 3.3 MATRIX OF HAZARD SPECIFIC MITIGATION MEASURES

HAZARD	MITIGATION MEASURES	
	STRUCTURAL	NON-STRUCTURAL
<b>Earthquake</b>	<ul style="list-style-type: none"> <li>• Undertaking mandatory technical audits of structural designs of infrastructure under department by the competent authorities.</li> <li>• Retrofitting and reinforcement of old and weak structures.</li> </ul>	<ul style="list-style-type: none"> <li>• Seismic hazard risk mapping pertaining to departmental assets.</li> <li>• Developing appropriate risk transfer instruments by collaborating with insurance companies and financial institutions.</li> </ul>
<b>Floods, Flash Floods and GLOF</b>	<ul style="list-style-type: none"> <li>• Modification in building to withstand flood.</li> <li>• Open space for emergency construction of sheds etc. shall be left to the extent possible.</li> </ul>	<ul style="list-style-type: none"> <li>• Flood mapping pertaining to departmental assets.</li> <li>• Mitigation plan should be in place to safeguard the departmental infrastructure/ inhabitants from the flash flood.</li> </ul>
<b>Landslides</b>	<ul style="list-style-type: none"> <li>• Constriction to strengthen the building and reduce the landslide hazard and avoid possible impacts of hazard, i.e. drainage, erosion protection, channelling, vegetation, ground improvement</li> </ul>	
<b>Fire</b>	<ul style="list-style-type: none"> <li>• Open space for emergency exit in the case of fire.</li> <li>• Fire extinguishers should be installed on each floor.</li> <li>• Replacement of dilapidated electrical wires.</li> </ul>	<ul style="list-style-type: none"> <li>• Fire safety mock drill.</li> </ul>

### 3.4 STRATEGIES FOR RISK PREVENTION AND MITIGATION

- Provision of funds in the annual plan for risk mitigation and Capacity building of the department.
- Provision of funds to conduct studies related to climate change and its impact on the state
- Provide funds to establish an early warning system for earthquake and flash floods.

## 4 MAINSTREAMING DISASTER RISK REDUCTION IN DEVELOPMENT

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

Every development plan in the state would require incorporating elements of impact assessment, risk reduction, and adoption the 'do no harm' approach. The linkages of DRR in Development have the following three purposes to achieve:

- To make the future environment free from construction risk.
- To utilize the funds of the govt. to mitigate the vulnerability to any disaster, thus progressing towards physical, socio-economic and environmental vulnerability free era.
- To make sure that all the govt. plans should be integrated with disaster risk reduction programmes by integrating such elements in these plans so that disaster risk-free environment can be created.

To ensure disaster risk reduction is mainstreamed in key activities of the department, following actions need to be carried out:

Activities of Department	Mainstreaming DRR Actions
Survey, research and design in subject related to Science & Technology	<ul style="list-style-type: none"> <li>• Assess the disaster vulnerable areas, undertake extensive research in scientific technology to reduce the Disaster risk like the use of satellite technology for land survey and forecasting of flash flood and designing of the early warning system, flash flood monitoring system etc.</li> <li>• Conduct micro-zonation study for earthquake hazard and risk assessment in disaster-prone areas.</li> <li>• Conduct micro-zonation study for landslide hazard, monitoring the landslide risk and to disseminate early warning.</li> </ul>
Technical Education and Training	Provide technical education and training to the stakeholders on the use of science and technology in DRR.
Provides Grants and support	Provide grants to the persons and institution involved in the survey, research and designing of scientific technology to reduce the disaster risk and support the universities and other institutions carrying DRR programmes.

## **5 DISASTER PREPAREDNESS**

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Disaster preparedness has been defined as “the state of readiness to deal with a threatening disaster situation or disaster and the effects thereof”. The Department may review their “state of readiness” and prepare a strategic action plan to deal with possible disaster situations.

### **5.1 STRATEGIES FOR DISASTER PREPAREDNESS**

#### **a) Capacity Building:**

To build sufficient capacities within the department staff and other stakeholders to be able to better perform the roles and responsibilities for disaster risk reduction and emergency response and achieving desired objectives. The actions required are as follows:

- Maintain the inventory of all resources (Human, Programs, Finances and Materials) of the department that could be used for disaster risk reduction and emergency response activities.
- Coordinate with SDMA, IAGs, DDMA and other agencies for the nomination of the department staff in the specialist training being organized from time to time by different agencies.
- Dissemination of new technology and capacity building programme of other stakeholders involved in disaster risk reduction activities.
- Document it as lessons learnt annually and after every disaster.
- Develop a minimum inventory list required for achieving desired performance standards and develop a plan to acquire it over next few years.
- Create a mechanism for regular Inspection and maintenance of equipment and acquisition of new equipment as per your minimum inventory list for disaster risk reduction.

#### **b) Regular Mock Drills:**

Regular drills should be conducted in collaboration with the State Disaster Management Authority or DDMA at the district level. Actions required are:

- Organize periodic mock drills of the Department Staff and key stakeholders for different contingency situations.
- Take part in block and district level mock drills and capacity building programs organized by District authorities from time to time.

#### **c) Installation of adequate firefighting equipment & testing of the already installed equipment:**

It is quite essential that adequate firefighting equipment may be installed in the building as per the standards of the Fire Fighting Department and the already installed equipment & apparatus may be tested on regular basis.

**d) Installation of evacuation routes & maps and other tools:**

It is required to install signboards depicting exit routes in various parts of the building to help people navigate easily in exigencies. Such signboards are to be installed in corridors and pathways.

**e) Preparation of contingency plan for Department:**

There should be a contingency plan of department i.e. how department responds and recover after a disastrous event. Actions required are:

- Define Rules and regulations for the functioning of the department especially during disaster time.
- Identify safe building/location for operational work and meetings of the key department staff, if the department offices and working premises become inaccessible due to disaster.
- Secure important files and information of the department. Create backups, wherever possible.
- Develop a mechanism for quick sharing of information among department staff. If working on mobile networks, develop alternative mechanism/s for the exchange of information especially during emergencies like Ham radio, community networks etc.

**f) Emergency Preparedness**

To identification potential emergencies and be prepared for the response. Actions required are:

- Identify potential emergencies. Refer to contingency specific action plans for the same.
- Develop the capacity to produce the strong database and develop the scientific technology for damage assessment.
- Identify the most vulnerable areas to flood and other disasters and prepare for emergency response.
- Prepare necessary data in coordination with national organizations, geological survey, ISRO, NRSA etc. and analyzing it and develop an action plan for response.
- Stockpile and preposition sufficient number of resources to repair the equipment.
- Keep the equipment, telephone, telex, wireless etc. functional and ready.
- Sensitizing officials for the safety of life, material and equipment.



## **6 DISASTER RESPONSE AND RELIEF**

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The response plan of the Department includes the design of actions based on Standard Operating Procedures and tested through mock drills and exercises that would be initiated by a trigger mechanism based upon the impending or actual occurrence of an event of a disaster. Many Departments and agencies of the State Governments will be required to perform important functions relating to relief and rehabilitation. The response plan of the Department should provide detail with the logistic, financial and administrative support necessary for discharging these functions and the manner in which these functions shall be discharged.

### **6.1 ROLE OF SCIENCE AND TECHNOLOGY IN RESPONSE**

Science and Technology have an important role in Disaster Mitigation and Management. During an emergency period, Science and Technology Department can play a vital role to reduce the response time and to implement recovery program in an efficient manner as:

- Use Information available on Google earth and share this with responding agency
- Information gathering from satellite imagery also helps in response.
- To set up emergency communication system.

#### **Response Plan on Receipt of Early Warning**

- Monitor the emerging emergency with the help of remote sensing and aerial photography and build information on early warning, share the information with SDMA for approval.
- Support in the dissemination of Early Warning information once approved by SDMA.
- Establish coordination with SEOC at the state level and with DEOC at the district level, share information with them.
- Appointing a departmental person as a nodal person to coordinate with the EOC.

#### **Trigger Mechanism for Response**

Actions required are:

- The nodal officer for disaster management in the department shall be responsible for coordination with EOC, ESF nodal and support agencies and other departments. Appoint additional staff to support him as required for the situation.
- Develop periodic situation report and share with State EOC and SDMA.
- Call for a coordination meeting of the key officer to take stock of the situation, the impact of the disaster on department capacity, immediate actions for a response like need and damage assessments, coordination with ESF and Incident response system /EOC and other key stakeholders.
- In consultation with EOC and ESF nodal and support agencies, plan response actions as per immediate, short-term and long-term needs.

## **Response Plan for Responding Effectively and Promptly**

To implement the plans for immediate, short term and long term response needs key actions that are as:

- Assess the damage by using remote sensing and aerial photography and provide a map to estimate the damages and plan response accordingly.
- Suggest and if possible then provide latest and efficient technology like GPS system for search and rescue.
- Support for search and rescue, relief programs etc by connecting with nodal agencies for different essential support functions.
- The scientists, researchers and researchers shall contribute their technical abilities to other services as required.
- Regularly monitor the security of the road networks, irrigation channels, bridges, etc. during the emergency time with the help of technology.

## **Deactivation of Emergency Response Plan**

Actions required are:

- Check if all the immediate life-saving measures are in place and there is no further risk to life, property and environment due to infrastructure and responsibilities of science and technology department. Give status report to EOC and ESF nodal agencies.
- Ensure that adequate monitoring mechanisms are in place.
- Evaluate Emergency response in consultation with the community, protection committees, ESF nodal agencies, EOC and other stakeholders. Document response activities and learnings.
- In consultation with EOC and other ESF nodal agencies, deactivate the emergency response actions.
- Reallocate the departmental resources (Human, Materials and Financial) to normal time activities.
- Initiate planning to recover the disaster loses to the department, immediate recouping the resources (materials and finances) used during the emergencies.
- Initiate planning for early and long-term recovery actions as per the damage assessment.

## **6.2 RELIEF AND REHABILITATION**

Relief measures will vary with the nature and degree of natural calamity. Information on the amount of damage done will help in deciding the extent of relief, reconstruction or rehabilitation.

## **7 DISASTER RECOVERY AND RECONSTRUCTION**

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The process of recovery from small-scale disasters is usually simple. Recovery operations get completed almost simultaneously with the response, relief and rehabilitation. However, in medium and large disasters involving widespread damages to lives, livelihoods, houses and infrastructure, the process of recovery may take considerable time as the relief camps continue till houses are reconstructed. Often intermediary shelters have to be arranged before the permanent settlements are developed. Departmental DM Plans should anticipate eventualities of longer duration recovery operations. The departmental strategy for this will be as below:

- 1) Short Terms Reconstruction activities:** This should further include immediate restoration activities like the restoration of the basic infrastructure of the department assets.
  
- 2) Long-Term Reconstruction Planning:** Once the minimum basic reconstruction is being done, the department should take immediate action for long-term recovery of its own sector.

## **8 FINANCIAL ARRANGEMENTS**

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Section 40(2) of the Disaster Management Act stipulates that every department of the State Department while preparing the DM Plan shall make provisions for financing the activities proposed therein. Normally the funds required for risk assessment and disaster preparedness must be provided in the budgets of every concerned department.

The marginal costs involved in mainstreaming disaster risk reduction in existing programmes, activities and projects of the departments are also not very sizable and the departments may not find it difficult to arrange such funds. A certain budgetary allocation of fund in the disaster risk reduction related activities will help in institutionalizing the entire process of mainstreaming DRR.