



DISASTER MANAGEMENT PLAN

DEPARTMENT OF TOWN AND COUNTRY PLANNING

GOVERNMENT OF HIMACHAL PRADESH

Shimla 171001

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1. ABOUT THE DEPARTMENT

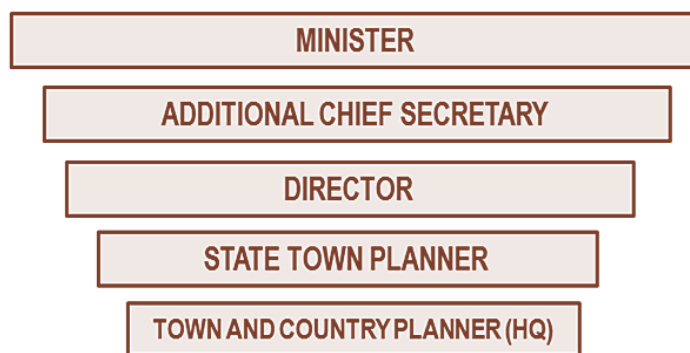
The Town and Country Planning Department was initially created as a cell in the Himachal Pradesh Public Works Department in the year 1964 and continued to be so up to the year 1979. During the year 1979, an independent Directorate of Town and Country Planning was created but the charge of the post of Director continued to be held by the Engineer-in-Chief (B&R) of the Himachal Pradesh Public Works Department till 1993 when an independent Director was appointed as Head of the Department. The Head office of the Department is situated at Shimla and there are 7 Divisional, 5 Sub-Divisional and 3 Town Planning Offices in the State.¹

Objectives of the department are:

- To encourage planned and systematic urban and rural growth in a comprehensive manner.
- To stop haphazard constructions.
- To make optimum use of precious urban land.
- To create conducive conditions for encouraging planned constructions.
- To plan for creating essential urban infrastructure.
- To subserve the basic needs of poor and especially urban slum population.
- To upgrade environment for conducive habitat.
- To preserve the hilly architecture and rich heritage of the State.

1.1 ORGANIZATIONAL STRUCTURE

Figure 1: Organizational Structure of the department.



ATP-I	ATP-II	PO-I	PO-II	RO	Superintendent Grade-I	SO (F&A)	LO	Tehsildar
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FIELD OFFICES

TCP Shimla		TCP Solan		TCP Nahan	TCP Mandi			TCP Kullu		TCP Hamirpur		TCP Dharamshala		
ATP Shimla	ATP Rampur	ATP Solan	ATP Parwanoo	ATP Nahan	ATP Mandi	ATP Bilaspur	PO Sunder nagar	ATP Kullu	PO Manali	ATP Hamirpur	ATP Una	ATP Dharamshal	ATP Chamba	PO Palampur
PO-I		PO-I	PO	PO	PO-I	PO		PO-I		PO	PO	PO-I	PO-I	
PO-II		PO-II			PO-II			PO-II				PO-II	PO-II	

¹Disaster Management Plan 2014, Town & Country Planning Department Shimla

1.2 PURPOSE OF THE 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 basic purpose of the plan is to provide guidance to all the agencies within the department to manage the risks of disasters with a multi-hazard approach. These include assessing the sectoral and departmental risks of disasters, mitigating the existing risks, preventing the creation of new risks, presenting the status of its preparedness to perform its role and responsibilities. The purpose of disaster management plan for the Department of Town and Country Planning is:

- To identify hazards and vulnerability present in the department.
- To strengthening of EOCs within the department.
- Strengthening of Early Warning System.
- To organize awareness generation programme and activities.
- Capacity building of stakeholders and Staff.
- To coordinate with relevant departments regarding enforcement of Building Codes, Fire Safety Rules and Certification of Building etc.
- To provide support to departments in preparing prevention, mitigation & preparedness measures.
- To supervise and monitor the implementation of the programme and activities for disaster management.

1.3 SCOPE OF THE PLAN

In accordance with the Disaster Management Act 2005 and Himachal Pradesh Disaster Management Plan 2012, the scope of the plan is to handle certain hazard in the state, which affects the department and the sector as a whole. The plan aims to help the Department to assess its own capacity in terms of available resources and get ready to mitigate and unexpected disaster effectively and to prevent the loss of human lives and property through preparedness, prevention & mitigation of disasters.

The DM plan will facilitate the department:

- To map the areas in the State which are vulnerable to different forms of hazards.
- To take measures for prevention and multi-hazards mitigation by the Departments at the state level as well as local level.
- The manner in which the mitigation measures shall be integrated with the development plan and projects;
- The capacity-building and preparedness measures to be taken to deal with disaster management related issues of the Department.
- To incorporate disaster management related inputs in the developmental projects of the department.

1.4 AUTHORITIES, CODES AND POLICIES

Department of Town and Country Planning is guided by following:

- HP Town and Country Planning Act, 1977
- Himachal Pradesh Town and Country Planning (Amendment) Act, 2016
- HP Town and Country Planning Rules 2014
- HP Real Estate (Regulation and Development) Rules, 2017
- H.P. Apartment & Property Regulation Act, 2005
- Model Town and Country Planning Act 1960
- Model Building By-Laws 2004
- National Building Code of India 2005
- Indian Standards on Earthquake Engineering

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 1st 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

#	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)

Implementation of the Plan

State Town Planner will be the Nodal Officer at the state level whereas Town and Country Planner of the concerned Planning Area will be the nodal officer at the Division level. State Town Planner shall be responsible for implementation of the Plan. The Nodal Officer shall coordinate with all stakeholders for implementing the Plan. Annual Progress on implementation of the Plan will be submitted to HPSDMA.

Revision of the Plan

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

System of Updation

The document shall be updated at the State level with the help of State Disaster Management Authority at least once in a year or as per the requirement. 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 Agencies, Field Offices And Other Stakeholders. Further, Whenever It Revised / Updated, It Shall Be Submitted To Hpsdma For Endorsement Of Changes. The Revised Plan Shall Be Shared With All Concerned.

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, cloudburst, snowstorms and avalanches, droughts, dam failures, fires – domestic and wild, accidents – road, rail, air, stampedes, boat capsizing, biological, industrial and hazardous chemicals etc.

Table 2: Frequency and Intensity of Major Hazards

#	Nature of Disaster	Frequency	Intensity
1	Flood/ Flash Flood	Regular Frame	High
2	Drought	Every 3-5 Years	Moderate
3	Cloud Bursts	Regular Feature	High
4	Earthquake	Regular Feature	Moderate to Very High
5	Landslides	Regular Feature	High
6	Avalanches	Regular Feature	Low
7	Lightening	Rare	Low
8	Disease Epidemics	Rare	Low
9	Fire	Regular Feature	High
10	Stampede	Moderate	Moderate

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

The Himachal Pradesh is regarded as one of the least urbanized states in the country with only 10.04 percent of the population living in towns and cities. The total urban population of Himachal Pradesh was 6,88,704 in 2011. Shimla

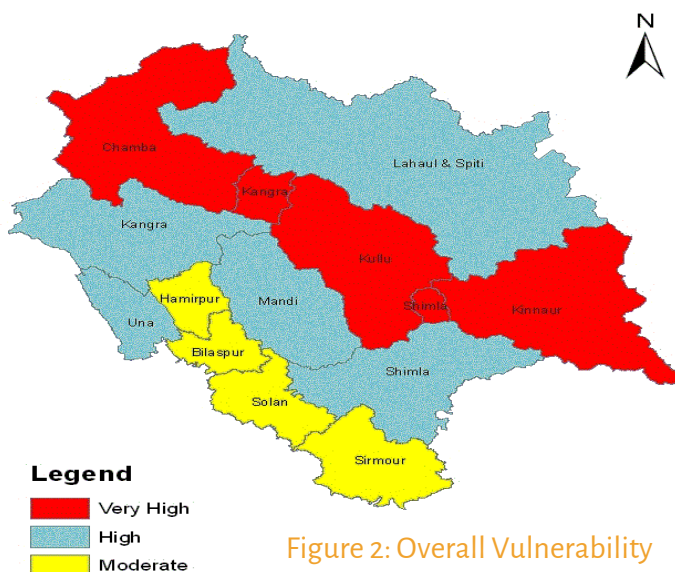


Figure 2: Overall Vulnerability Map of Himachal Pradesh

is the highest urbanized district in the state where 25 percent of the district population is urban (Census of India 2011). The towns have expanded from the small villages/marketplaces to large settlements. As per Census 2011, there were 59 towns as compared to 36 in 1971.

2.2 ASSESSMENT OF SECTORAL AND DEPARTMENTAL RISKS

The Himachal Pradesh State shows quite low Urbanization. About 70% of Urban Population is concentrated in Shimla, Solan, Kangra and Mandi districts. Himachal Pradesh state has one of the lowest urban poverty incidences as per the Planning commission studies. However, a significant proportion of the livelihoods are informal and prone to risks and uncertainties, which may become quite vulnerable to the disasters.

Primarily the urban areas within the State are located on ridges and upper slopes. Approximately 99 percent of the houses in urban areas are pucca, however, their location on risk-prone areas such as steep hills etc. make them vulnerable if they are impacted by any natural disasters.

The sectoral risks of disasters consist of the risks for the entire sector that the department represents. The departmental risks of disasters consist of the risks arising out of the exposure of vulnerable departmental assets to the natural or manmade hazards. The sectoral risk to the Department of Town and Country Planning includes hazards such as earthquakes, floods / cloudburst, landslides, fire, traffic hazards and hazards as consequences of climate change.

2.2.1 EARTHQUAKES

Himachal Pradesh is seismic sensitive state as over the years a large number of the damaging earthquake has struck the state and its adjoining areas. Large earthquakes have occurred in all parts of Himachal Pradesh, the biggest being the Kangra earthquake of 1905. The Himalayan Frontal Thrust, the Main Boundary Thrust, the Krol, the Giri, Jutogh and Nahan thrusts are some of the tectonic features that are responsible for shaping the present geophysical deposition of the state. Chamba, Kullu, Kangra, Una, Hamirpur, Mandi and Bilaspur Districts lie in Zone V i.e. very high damage risk zone and the area falling in this zone may expect earthquake intensity maximum of MSK IX or more. The remaining districts of Lahaul and Spiti, Kinnaur, Shimla, Solan and Sirmour lie in Zone IV i.e. the areas in this zone are in high damage risk with expected intensity of MSK VIII or more.

Building vulnerability assessment in the state of Himachal Pradesh shows that stone masonry and rammed earth building types are the most vulnerable one which may cause the huge loss of life in the state. In last two decades, brick masonry and RC frame construction have been on the rise but the quality of construction was not maintained which resulted in increasing vulnerability.

2.2.2 LANDSLIDES

Landslides are one of the key hazards in the mountain regions particularly in the state of HP which cause damage to infrastructure i.e. roads, railways, bridges, dams, bio-engineering structures, and houses but also lead to loss of life, livelihood and environment. According to the analysis carried by TARU in 2015, 6824 villages of the state falls under high landslide risk zone whereas 11061 villages are in the medium risk zone. 824 villages are in low-risk zone of landslides.

The state has a large mesh of highways and village roads comprising of 2178.988 km of a total stretch. Out of the total stretch of the State highway major portion falls in the High vulnerable zone that is 1111.552 km. The remaining stretch of 873.24 km falls in the moderate vulnerable zone.

2.2.3 FLOODS / GLOFS

In Himachal Pradesh, flash flood due to cloudburst is common phenomena. The state experiences riverine flooding of varied magnitude almost every year and Sutlej and Beas are most vulnerable rivers. All the villages and property inside the floodplain and near close vicinity are in the vulnerable zone. According to TARU report (2015), about 59 villages in Beas basin and 280 villages in Sutlej basin are potentially at risk due to inundation caused by river flooding.

TARU investigated 11 existing lakes in the state. According to their analysis, out of 11 (eleven) glacier lakes, few glacier lakes in each basin are more vulnerable. According to modelling output and inundation maps of Chenab Basin, area falling under the vulnerable zone of Lake 8 and lake 7 are at utmost risk. In Ravi basin area falling under the vulnerable zone of Lake 5 and lake 6 are at maximum threat. Volume and area wise Glacier lakes in Sutlej basin are not so vulnerable when compared to glacier lakes of Chenab and Ravi basins. But numbers of villages falling within the inundated vulnerable zones are quite high in Sutlej basin.

2.2.4 FOREST FIRES

Forest fires are an annual and widespread phenomenon in the state. Most fires are witnessed during summers when the forests become littered with dry senescent leaves and twinges thereby increasing the probability of starting and spreading of fire. According to TARU report (2015), 11720 sq. Km area of the state comes under very high vulnerability for forest fires. 9891 sq. Km of falls under high-risk zone of a forest fire.

2.2.5 CLIMATE CHANGE RISK

Climate change refers to a statistically significant variation in either the mean state of the climate or in its variability, persisting for an extended period (typically many decades or longer). Climate change may be due to natural internal processes or external forcing, or to persistent anthropogenic changes in the composition of the atmosphere or in land use. The long-term trends in observed seasonal precipitation and temperature over Himachal Pradesh using IMD gridded rainfall and temperature at daily time scales has been performed to arrive at current baseline climatology for the state. IMD gridded data was used for Climate change hazard risk analysis.

- The PRECIS data on precipitation, maximum and minimum temperature have been analysed for Himachal Pradesh by TARU. Preliminary inferences on the variations of these entities show that the annual maximum temperature is projected to increase by 1.90°C and annual minimum temperature of 2.30°C towards mid-century. This change in temperature is going to harm the apple produce, crop production etc. in the region; which will further affect the livelihood of the rural population per se.
- It is also seen from the INRM analysis that cold spell duration indicator is projected to decrease and warm spell duration indicator is projected to increase for all the districts, implying warming up over Himachal Pradesh districts. The warming up of the entire state will further result in a change in cropping patterns too. Certain schemes of rural development department need to be modified to help the community during these times.

- The increase is projected for average annual rainfall by 15.0% and 28.0% respectively for mid and end century scenarios. Mean monsoon rainfall increases by 182 mm by mid-century and by 384 mm by end century. This huge increase will have a severe impact on the entire sector. Because with an increase in rains there are chances for a hail storm, flash floods that can affect the infrastructure constructed by the department.
- It is also projected that heavy and very heavy precipitation day for all the districts in Mid Century and End Century compared to the Base Line are going to increase implying that count of heavy rainy days would increase in the future. Increase in the count of very heavy precipitation days is expected to be the maximum for Salon, Bilaspur and Kangra of Himachal Pradesh districts. These heavy rains again will have a devastating impact on the infrastructure related schemes and schemes which try to alleviate poverty from the region.

2.2.6 TRAFFIC HAZARDS

With the increase of road connectivity and a number of vehicles plying on these roads in the State, the number of road accidents and loss of precious human lives is increasing day by day. Figure 3 shows the trend of the number of accidents and the victims.

The risk involved for the Town and Country Planning Department when exposed to different types of disasters are summarized in table 3.

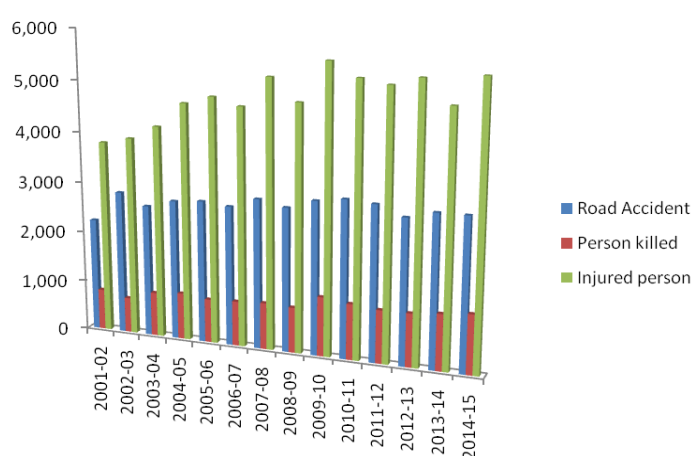


Table 3: Types of risks while exposed to different disasters

#	Hazard	Risk
1	Earthquake	Very High Risk: In Himachal Pradesh, 60% population lives in the very high-risk zone; 38 % population lives in a high-risk zone and the rest of population lives in moderate to low-risk zone. Limited awareness, preparedness and structural weaknesses of the buildings reveal very high vulnerability to the daytime earthquake.
2	Flood	High Risk: Topography of Himalayan river valleys, glacial fed rivers, damage or sudden release of water from power project dams and densely populated former riverbeds poses a high risk.
3	Cloudburst	High Risk: Impact of cloudburst is dual. It leads to landslides and flash floods. Settlements on river terraces are at high risk.
4	Landslide	High Risk: Landslides pose risk to buildings and disruption in road and communication network. Landslides also choke rivulets and form temporarily lakes. When these lakes burst causes flash floods.
7	Fire	Medium Risk: Climatic conditions and topography of the State possess risk.
8	Road accident	Medium Risk: Steep slopes, Sharp bends in roads, poor road conditions, and overloaded buses causes accidents.

2.3 ASSESSMENT OF CAPACITY GAPS AND NEEDS

The Directorate of TCP building is structurally well built with sufficient open corridors. There are two inlets / outlets on the office premises, one facing towards the Highway, which is the main entrance / exit and another at the lowest basement floor level. Both the entries/outlets can be used during an emergency / disaster. The close proximity of the office building to the major Government offices like Social Justice & Empowerment, Food & Civil Supplies, Excise & Taxation and nearness to the private hospitals namely Tenzin & Astha, which are about 1 to 1.50 Kms from the office, is an added advantage. The office building is easily approachable for relief vehicles such as firefighting tenders and ambulances. For a quick response, in the event of a disaster, there are four vehicles (three vehicles of the Directorate & one vehicle of the Division office).

Self-assessment of capacity is essential to deal with disasters effectively. The Disaster Management Plan must focus on lacunae and shortcomings so that they can be corrected well before some untoward event happens. The Department has certain gaps in a capacity such as:

- a. **No Sign Boards:** There are no signboards to help people at main gate namely exit signboard etc. for people to navigate inside the building. There is also no emergency exit plan for this purpose displayed at certain conspicuous points.
- b. **No Online Inventory of Emergency Resources:** There is no online comprehensive database of Disaster Management related inventory and organized information dissemination system with the Department. This is very important for mobilizing specialized equipment & skilled human resources to respond immediately to disaster.
- c. **No Mock Drills:** No Mock drills conducted to ascertain the preparedness for dealing with such disaster.
- d. **Lack of Awareness Among staff:** No training or awareness campaigns have ever been conducted in the Department to train the staff & make them aware of the impending danger on the office.
- e. **Lack of Parking Space:** The existing parking provision in the office building is very inadequate. Just four vehicles can be parked and there is no space for an emergency vehicle to be parked.
- f. **Lack of Barrier Free facilities:** There is no provision in the building for the evacuation of persons with disability.

2.4 ASSESSMENT OF PROBABLE DAMAGE AND LOSS

The Department will conduct the building vulnerability assessment and assessment of probable damage and loss. Department will further direct to all the district offices to conduct the assessment of estimate Probable Maximum Loss (PML) and Average Annual Loss (AAL) due to disasters.

3. RISK PREVENTION AND MITIGATION

All risk assessment measures will be considered while developing new projects. All the Govt. lifeline buildings shall be evaluated as per safety and security plan to identify the potential risk of damage. The safety evaluation report will be examined at State / Circle level by competent authorities for necessary action every year.

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 HRVA to check if new programmes, activities or projects have the potential to create new risks of disasters. If such investments cannot be avoided these must be protected by safeguards through adequate structural and non-structural prevention measures so that the benefits of investments are fully protected from risks of disasters. Disaster impact can be prevented for by strict adherence to the safety norms and practices given below:

- Construction of earthquake resistance structure. The Bureau of Indian Standards (BIS) has been publishing seismic hazard maps of India since 1962.
- Fire Safety Norms
- Electrical Safety Norms
- Conduct hazard hunt and secure hazards (structural and non-structural)
- Preparation of Emergency Preparedness plans.
- Basic disaster awareness and sensitization
- Conduct of Mock drills to test the plans and organized response.
- General awareness among people about the nature and intensity of the impact and resultant damages, losses and hardship caused by different types of disasters.

3.2 RISK MITIGATION

Risk mitigation is reducing the risks of disasters that are already there due to exposure of 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. Structural mitigation refers to any physical construction to reduce or avoid possible impacts of hazards, which include engineering measures and construction of hazard-resistant and protective structures and infrastructure. Non-structural mitigation refers to policies, awareness, knowledge development, public commitment, information sharing which can reduce risk. The primary objective of mitigation efforts would be:

- To identify, delineate and assess the existing and potential risks and to work towards reducing potential causalities and damage from disasters.
- To substantially increase public awareness of disaster risk to ensure a safer environment for communities to live and work.
- To reduce the risks of loss of life, infrastructure, economic costs, and destruction that result from disasters.

In view of the prevailing risk and the vulnerabilities perception, the mitigation measures proposed have been categorized under following five major groups:

- **Risk assessment:** Risk information should be provided to concern stakeholders on time and for that, a proper risk assessment should be done by the department.
- **Construction work:** All the newly constructed assets should follow the building by-laws of the state.
- **Repair and maintenance:** Retrofitting and renovation of the lifeline buildings should be done by the department.
- **Research and technology transfer:** The department should identify and interact with research institutions to evolve mitigation strategies both structural and non-structural.
- **Training and capacity building:** Training programs about the awareness of disaster with respect to agriculture can be planned at the village level.
- **Communication arrangements:** A good communication system is a prerequisite in the disaster mitigation.

3.3 MATRIX OF HAZARD SPECIFIC MITIGATION MEASURES

HAZARD	MITIGATION MEASURES	
	STRUCTURAL	NON-STRUCTURAL
Earthquake	<ul style="list-style-type: none"> • Undertaking mandatory technical audits of structural designs of infrastructure under department by the competent authorities. • Retrofitting and reinforcement of old and weak structures. • Assessing the seismic risk and vulnerability of the existing built environment by carrying out structural safety audits of all critical structures. 	<ul style="list-style-type: none"> • Seismic hazard risk mapping pertaining to departmental assets. • The training to the local masons for construction of earthquake resistant structures. • Developing appropriate risk transfer instruments by collaborating with insurance companies and financial institutions.
Floods, Flash Floods and GLOF	<ul style="list-style-type: none"> • Along with DDMA, the department should demarcate the flood-prone area and no construction related to the department should be done there. • Open space for emergency construction of sheds etc. shall be left to the extent possible. 	<ul style="list-style-type: none"> • Flood mapping pertaining to departmental assets. • Mitigation plan should be in place to safeguard the departmental infrastructure/ inhabitants from the flash flood.
Landslides	<ul style="list-style-type: none"> • Check dams to be constructed at the places where required. • Contour trenches to be made. • Contour bunds and gabion structures can also be made under IWMP. • Afforestation should be done. 	<ul style="list-style-type: none"> • Conduct land suitability studies on GIS and Remote Sensing form before building an infrastructure.

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 linkage of DRR in Development has 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.

Table 4: Policy Framework on Mainstreaming

#	Name of Scheme	Main Component	DRR Component
1	AMRUT	<ul style="list-style-type: none"> • Water supply • Sewerage facilities and seepage management • Storm water drains to reduce flooding • Non-motorized and public transport facilities, parking spaces, and enhancing amenity value of cities by creating and upgrading green spaces, parks and recreation centres for children. 	<ul style="list-style-type: none"> • Resilience: Incorporation of resilience and securing projects against disasters will be done at the stage of preparation of the SLIP itself, particularly for the vulnerable and the poor, and at the project development stage where disaster-secure engineering and structural norms would be included in the design. This will be again ensured by the States / ULBs while preparing the SAAPs. • The SHPSC may nominate more members on the SLTC from other concerned State Government Departments / Government organizations if considered necessary. The key functions of the SLTC are to incorporate resilience and secure projects against disasters and ensure that disaster-secure engineering and structural norms are included in the design
2	Smart Mission	<ul style="list-style-type: none"> • The objective is to promote cities that provide core infrastructure and give a decent quality of life to 	<ul style="list-style-type: none"> • Proposal level evaluation Criteria: • What is the impact of the proposal on the environment and resilience from disasters? • (E.g. reducing heat islands in retrofitting) • Smart City Features:

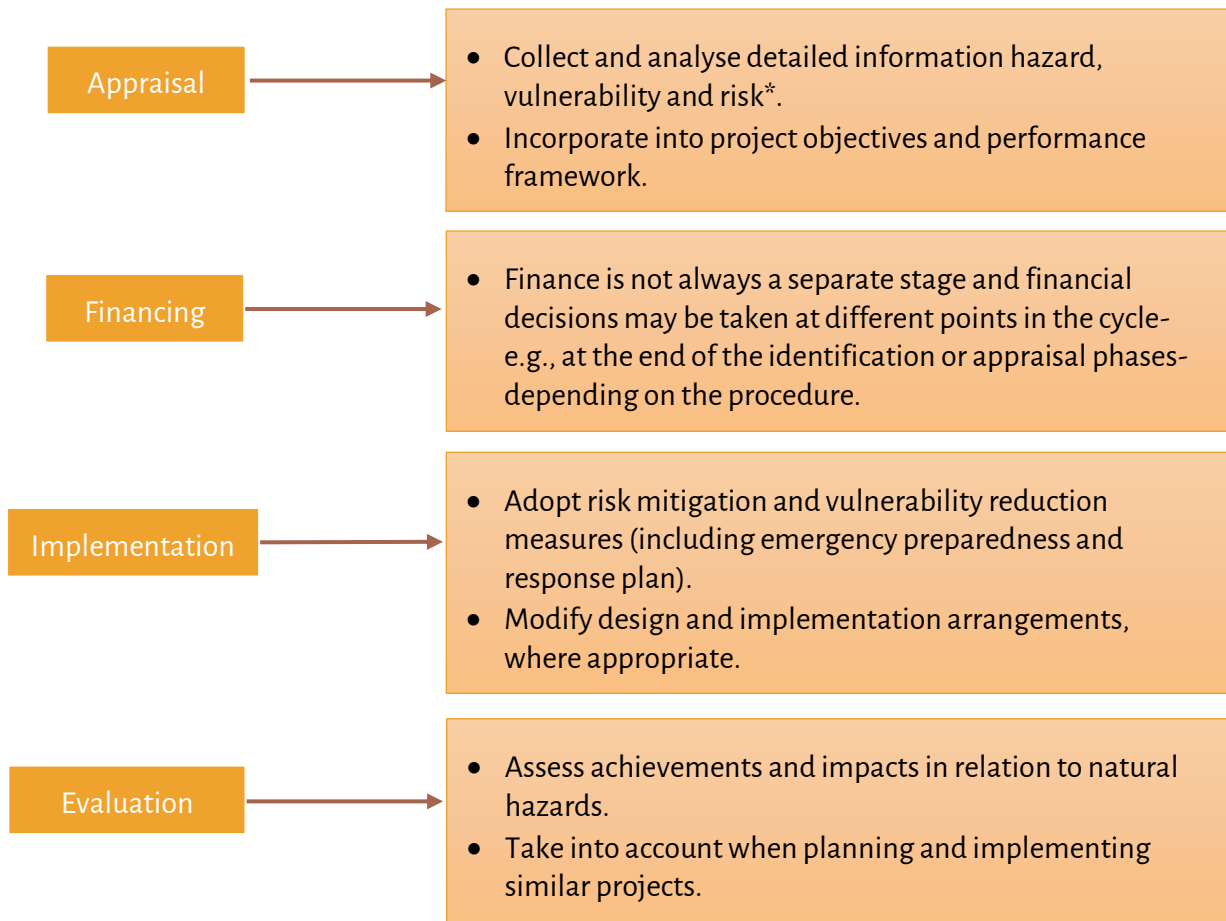
		its citizens, a clean and sustainable environment and application of 'Smart' Solutions.	<ul style="list-style-type: none"> Applying Smart Solutions to infrastructure and services in area-based development in order to make them better. For example, making Areas less vulnerable to disasters, using fewer resources, and providing cheaper services.
3	Development plan {Sangla, Aut [Mandi] and Hiner [Kandaghat]}	<ul style="list-style-type: none"> Development of these areas should be in a planned manner with enough opens paces and appropriate infrastructure within the planning area and make safer & disaster resilient places. 	<ul style="list-style-type: none"> The Development should be designed and constructed to meet the requirements of structural safety against earthquake, flood & landslides etc. conforming to the National Building Code and other relevant Bureau of Indian Standards (BIS) codes.
4	Model Town & Country Planning Legislation, Zoning Regulations, Development Control, Building Regulations / Bye-Laws	<ul style="list-style-type: none"> Recommendations for amendment in Model Town & Country Planning Act, 1960 and Model Regional & Town Planning and Development Law, 1985 	<ul style="list-style-type: none"> Addition of definition of Natural Hazard. Natural Hazard Prone Areas, Natural Disaster and Mitigation. To keep in view natural hazard proneness in preparation of Development Plans by Local Planning Authorities. Due to Consideration to follow the Regulations pertaining to Land Use and Necessary protection measures in perspective and Development Plan of State, district and local planning areas. Existing maps(s) to indicate hazard provisions of the area. Regulations for Land Use Zoning for Natural Hazard Prone Areas. Development Control Regulations & Bye-Laws. Seismic Strengthening of Existing Buildings. Review of Structural design

4.1 MAINSTREAMING DRR IN PROJECT CYCLE MANAGEMENT²

Identification

- Identify target area and their environmental characteristics.
- Collect basic information including natural hazards data.
- Determine general significance of natural hazards in or affecting projects areas.
- Identify information gaps and needs.
- Make provisions for obtaining information's.

²Adapted from Benson and Twig, 2007



5. DISASTER PREPAREDNESS

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

Table 5: Disaster Preparedness Framework

Vulnerability Assessment Starting point for planning and preparation linked to long-term mitigation and development intervention as well as disaster preparedness	Planning Disaster preparedness plan agreed and in place that are achievable and for which commitment and resources are relatively available	Institutional Framework Coordinated disaster preparedness and disaster response system at all levels, with a commitment from the department, its roles and responsibilities are clearly defined.
Information Systems Efficient and reliable systems for gathering and sharing information (e.g. Warning, forecasts etc.)	Resource Base Goods (Food, shelter etc.) and Services (Medical, search and rescue & engineering) and disaster relief available and accessible.	Warning System Communication system capable of transmitting warning information effectively.
Response Mechanism Evacuation procedures and shelters, search and rescue teams, activation of emergency lifeline service.	Education and Training Training courses, workshops and extension programs for staff and disaster responders. Knowledge of risk and appropriate response shared through training within the department for enhancing the capacity of staff.	Rehearsals Evacuation response procedures practised, evaluated and improved.

Table 6: Measures of Disaster Preparedness

#	Activities	Duration	Target group	Responsible Agency
1	Training on Basics of Disaster Management	Minimum 3 days in a year	All Staff Members and lined Departments	TCP will conduct with the support of HPSDMA and HIPA
2	Specialized training like earthquake resistant building, retrofitting etc.	Depend on the type of training	An identified group of engineers, architecture planner etc.	TCP will conduct with the support of HPSDMA and HIPA
3	Earthquake Safety week	First week of April	Citizens	ULBs & TCP with the support of HPSDMA
4	Mock drills	Twice in a year: Pre-monsoon & Pre-winter	Department and ULBs	TCP and All ULBs

6. DISASTER RESPONSE AND RELIEF

6.1 RESPONSE PLAN

The Town and Country Planner of non-affected districts will prepare separate teams of field staff for deployment to the affected areas on the request of State IRT. The first team will be replaced after specified time say 7 days by the second team and so on. All the field staff will be asked to remain at their respective headquarter with necessary preparations as per the standard operating procedure. The control room will collect, collate and transmit information regarding matters relating to the natural calamities and relief operations undertaken, if any, and for processing and communicate all such data to concerned quarters. The list of volunteers and community resources that are already available should be in readiness to support response measures.

The Control Room shall be manned round the clock during the peak period of the disaster until the relief operations are over. For this purpose one officer, one assistant and one peon will be on duty in suitable shifts. The Officer-in-Charge of the Control Room shall maintain a station diary and such other records as may be prescribed by the department. The particulars of all the information received and actions taken should be entered in the station diary chronologically. The **Town and Country Planner** shall furnish a daily report to the Head office on the important messages received and actions taken thereon. The head office shall indicate the particulars to be released for public information.

6.2 APPOINTMENT OF NODAL OFFICER

State Town Planner will be the nodal officer at the state level and will be supported by Deputy Controller (Finance) will serve as a support agency for regulating relief / restoration operations. The department will also assist the District administration in spreading the information of do's and don'ts to the people of the affected areas. **Town and Country Planner** of the concerned Planning Area will be the nodal officer at the Division level to perform emergency support functions.

Roles and responsibilities of the nodal officers:

- Act as the focal point for disaster management activities of the department. The department may ensure that he / she has the mandate to work immediately without waiting for directions from the higher authorities. This will save time.
- Provide his / her contact and alternate contact details to SDMA / DDMA and Revenue Department, State and District Emergency Operation Centre, all line departments and agencies.
- Accountable for any communication / actions related to disaster management of the department.
- Take lead to prepare the department disaster management plan, Emergency Support Function (ESF) plan and Standard Operating Procedure (SOP).
- Constitute the Incident Response Team (IRT) in the department as per the need and organize training for members.
- Help the department to procure the equipment's necessary for search and rescue, first aid kits and disburse the same to IRTs and for the department if required.
- Provide regular information on disaster or task assigned to him to SEOC / Revenue Department during and after disasters in consultation with the department head.
- Attend Disaster management meeting, training, workshops or any related programme on behalf of the department.

- Identify an alternate nodal officer and build his/her capacity.
- As per the need for the department, set up a control room and assign another official (s) for control room duty.
- Identification and staffs for deployment on-site operation centres (on-site control room during a disaster)
- In consultation with the department, make an arrangement of an alternative communication system for the department.
- Mobilize resources for disaster response activities as per the resource inventory put in the department DM Plan if it is needed by the department or other line departments.
- Organize regular awareness programmes in the department.
- Organize the periodic mock drills at least twice a year as per the suitability of the department and update the plans at all levels and ensure participation of the department in mock drills of other agencies and other departments.
- To have a liaison with other departments and functionaries working in the field of DM.

6.3 FORMATION OF THE INCIDENT RESPONSE TEAMS

Incident Response Teams (IRTs) will be constituted at State, Division level and Division level to deal with any disaster.

Table 7: State-level IRT for Department of HPTCP

#	Name & Designation	Role
1	Director	Chairman
2	State Town Planner	Convener-cum-Nodal officer
3	Town and Country Planner (HQ)	Member
4	Assistant Town Planner (HQ)	Member
5	Superintend Gd.-I	Member

Role and Responsibility of the State Incident Response Team is:

- To coordinate with SDMA, NDMA, and other concerned Government Departments. Visit the spot and assist the Circle level Response Team for pre-disaster planning
- To prepare a status report regarding the disaster.
- To facilitate execution of orders for declaring the disaster.
- Assess the staff and another logistic requirement for field operation and monitor effectiveness.
- To attend training and refresher courses for how to respond after receiving any information related to the disaster.
- IRT should be familiarized with the SOP / ESF / DM plan of the department as well as State DM Plan and their roles and responsibilities.
- IRT should prepare and update the DMP periodically by incorporating the views of stakeholders for the effectiveness of the plan.
- To ensure availability of funds at District level to meet contingency expenses
- To develop the media messages to update the status of disaster mitigation and response work.

- To monitor and guide the District Response Teams.
- To maintain an inventory of all related guidelines, procedures, action plans, district maps and contact numbers.
- To document the lessons learnt at different stages of disaster management and make suggestions for necessary addition / alteration.
- The department needs to plan to depute officials for the purpose or to plan new recruitment if needed.

IRT at State level shall meet at least twice in a year. 1st meeting will be held in the 1st week of April and 2nd meeting in the 1st week of October.

6.4 ROLES, RESPONSIBILITIES AND COORDINATION

The Role of Response Team is crucial and need to be performed sincerely and within the shortest possible time of occurrence of a disaster. The details of the Role are given in the following Table 8.

Table 8: Role of the Response Team

Item	Response System			
	Preparedness	Pre-Disaster	During Disaster	Post Disaster
Division Control Room	<ul style="list-style-type: none"> • Setting up control room and ensure round the clock functioning • Assigning responsibilities to district IRT members • Vehicle arrangement • Coordination with NGOs / Contractors • Ensure functioning of warning and communication systems • Ensure Mock Drill. 	<ul style="list-style-type: none"> • Monitor functioning of DCR • Coordination with officials • Assigning duties to NGOs • Holding DDMC meetings 	<ul style="list-style-type: none"> • Dissemination of information regarding status of the disaster and submission of report to HPPWD Head office 	<ul style="list-style-type: none"> • Report to State Control Room
DDMC	Assign responsibilities to all concerned officials	Arrangement of all important telephone numbers	Coordinate with Distt. Administration on a regular interval	Report to Dist. Control Room
SDMC / CDMC	<ul style="list-style-type: none"> • Ensure formation of Division level disaster management Teams • Coordinate with local NGOs working in the area 	<ul style="list-style-type: none"> • Ensure institutions are risk-free • Monitor mock drills • Ensure safety plans are updated regularly 	<ul style="list-style-type: none"> • Open GP office and other Shelters available • Rescue operation and Relief Measures 	<ul style="list-style-type: none"> • Report to Authority

6.5 EMERGENCY SUPPORT FUNCTIONS

Provide and coordinate Department Support with primary and secondary agencies i.e. Department of Revenue, Urban Development, Rural Development, HPPWD and IPH. Support to Local Administration; ensure hazard resistant features are in all buildings and constructed in safe zone sites.

7. DISASTER RECOVERY AND RECONSTRUCTION

Quantify the loss and damage within the quickest possible time and finalizes plans for rehabilitation. Coordination with other departments (secondary agencies) to ensure relief distribution as per the direction of the State Disaster Management Plan already laid down norms by the government.

- Participate in conduct of structural damage assessments.
- Guide urban authorities and line agencies on structural repair work and package development of repair/reconstruction scheme for housing and related social infrastructure.
- Undertake detailed damage assessment of buildings.
- Advise reconstruction / recovery of buildings and community infrastructure.
- Coordinate, monitor progress and prepare a report - repair, reconstruction and strengthening / retrofitting of buildings.
- Prepare estimates and undertake repair / strengthening works.
- Provide technical guidance / guidelines for construction of new buildings.
- Supervise the civil work activities and ensure safe construction practices are streamlined during Recovery/Reconstruction phase.
- Restoration of basic services.
- Provision of temporary housing and implementation of R&R package for urban areas.

8. FINANCIAL ARRANGEMENTS

8.1 FINANCIAL MECHANISM

It is very difficult to estimate the budget requirement for relief and rehabilitation phase of disaster management. Funds required for this head will depend upon nature and intensity of natural calamity. However, the budgetary requirement can be reduced considerably by addressing structural and non-structural mitigation measures. Section 40(2) of the Disaster Management Act stipulates that every department of the State Department while preparing the DM Plan, shall make provisions for financing the activities proposed therein.

Normally the funds required for risk assessment and disaster preparedness must be provided in the budgets of every concerned department. Such funds are not very sizeable and Department of Town and Country Planning will allocate such funds within their normal budgetary allocations from coming budget year for risk assessment and preparedness. Although the department has been directly incurring funds on construction of new and maintenance of old department buildings where the mainstreaming of DRR is essential. 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. HIMUDA department plans will ensure the existing schemes and future activities to make department buildings safer and disaster resilient.

As per the guidelines issued by the Ministry of Finance, Government of India vide Memo No.55(5)/PF-II/2011 dated 06/01/2014 for 10% flexi-funds within the Centrally Sponsored Schemes (CSS) to be utilized, inter-alia, for disaster mitigation, restoration and innovation activities in the event of natural disasters.

Table 9: Budget Requirement

#	Activities	Budget
1	Training on Basics of Disaster Management	500000
2	Sensitization Programme at district level	200000
3	Specialized training like earthquake resistant building, retrofitting etc.	500000
4	Earthquake Safety week	100000
5	Mock drills	150000
6	PVA/RVS of important buildings	150000
7	IEC Material printing and dissemination	100000

Table 10: Budget Requirement - Logistic and Other

#	Name of the Programme	Coordinating Unit	No. of Units	Cost / Unit	Total Cost (in Lakhs)
1	Strengthening of Control Room and Incidence Response Team at the State Level	TCP	1	200000	2.00 One time investment
2	Strengthening of Control Room and Incidence Response Team at the District Level	DWO's	7	200000	14.00
3	Provision of a fire extinguisher	HGs / Suptd.	5000	1000	50.00
4	Provision of an aluminium portable ladder, light and rope etc.	Heads of the institutions	1000	10000	100.0
5	Repair and replacement of equipment and accessories like a computer, fax and telephones etc.	DWO's / Heads of the institutions	20+100+300 =420	5000	210.00
6	Miscellaneous expenditure (labour charges, polythene sheets, water purification tablets, medicines and evacuation chart in flex etc.)	DWO's / Heads of the institutions	1600	10000	160.0

I. Disaster Preparedness: A Checklist

This checklist suggests steps that can be taken to prepare for natural and man-made disasters that threaten the logistics of department.

a. Daily Procedures:

Locks on doors and windows secure and all keys accounted for No pipes, faucets, toilets, or air-conditioning units leaking Electrical equipment unplugged and no frayed wiring in evidence No signs of structural damage No burning materials in ashtrays and wastebaskets

b. Periodic Procedures: Date checked

Procedures to be updated periodically

- i. Emergency numbers are accurate and posted near every telephone.
- ii. Most recent inspection by fire department
- iii. Fire extinguishers operable
- iv. Smoke alarms operable
- v. Sprinkler system operable
- vi. Water detectors operable
- vii. Halon system operable
- viii. Public address system operable
- ix. Operable flashlights placed in every department and Civil Defense Shelter
- x. Transistor radio operable
- xi. Staff familiarized (by tour, not map) with locations of fire extinguishers, flashlights, radio, Civil Defense shelter, and how to reach members of the in-house disaster recovery team
- xii. Most recent fire drill
- xiii. Most recent civil defense drill

c. Locations of in-Department emergency equipment:

(Attach floor plan with locations labeled)

- i. CB radio
- ii. Cut-off switches and valves:

- iii. Electrical Equipment
- iv. Gas stoves & Cylinders
- v. Water
- vi. Sprinkler system (if separate)
- vii. Disaster kits
- viii. Fans
- ix. Fire alarms
- x. Fire extinguishers
- xi. First aid kits
- xii. Flashlights
- xiii. Freezer or water proof bags
- xiv. Fungicides
- xv. Heavy-duty extension cords
- xvi. Mops
- xvii. Nylon monofilament
- xviii. Paper towel supply
- xix. Plastic milk crates
- xx. Plastic sheeting
- xxi. Plastic trash bags
- xxii. Portable generator with fuel
- xxiii. Rubber gloves
- xxiv. Safety helmets (hard hats)
- xxv. Smoke alarms
- xxvi. Sponges, pails, brooms
- xxvii. Sump pump or portable pump
- xxviii. Transistor radio
- xxix. Unprinted newsprint
- xxx. Water detectors
- xxxi. Water hoses
- xxxii. Waterproof clothing
- xxxiii. Wet-dry vacuum
- xxxiv. Date members of in-Department disaster recovery team toured all locations noted above

d. Off-site services to be called (if needed) in the event of a disaster

#	Service	Name of contact	Telephone Number
1	Fire Department		
2	Police Department		
3	Ambulance		
4	Civil Defense		
5	Insurance Company		
6	Utility Companies		
7	Electrician		
8	Plumber		
9	Carpenter		
10	Exterminator		
11	Chemist		
12	Mycologist		
13	Locksmith		
14	Individuals and / or organizations to assist in clean-up		

II. Emergency Contact Numbers

a. Important contact numbers of the Department.

#	Designation	Office Name	Phone No.	Remarks
1	State Town planner	Directorate	94180-72391	Nodal Officer
2	Town and Country Planner	DTPO, Shimla	94180-70676	Nodal Officer
3	Town and Country Planner	DTPO, Solan	94180-20888	Nodal Officer
4	Town and Country Planner	DTPO, Mandi	94180-23382	Nodal Officer
5	Town and Country Planner	DTPO, Nahan	94180-46962	Nodal Officer
6	Town and Country Planner	DTPO, Hamirpur	94189-70020	Nodal Officer
7	Town and Country Planner	DTPO, Kullu	94180-23382	Nodal Officer
8	Town and Country Planner	DTPO, Dharamshala	94184-59559	Nodal Officer
9	Assistant Town Planner	SDTPO, Bilaspur	94596-07789	Nodal Officer
10	Assistant Town Planner	SDTPO, Rampur	98058-72993	Nodal Officer
11	Assistant Town Planner	SDTPO, Chamba	98575-71559	Nodal Officer
12	Assistant Town Planner	SDTPO, Una		Nodal Officer

13	Assistant Town Planner	SDTPO, Parwanoo		Nodal Officer
14	Planning Officer	Manali		Nodal Officer
15	Planning Officer	Palampur		Nodal Officer
16	Planning Officer	Sundernagar		Nodal Officer
17	Planning Officer	Rohru		Nodal Officer
18	Planning Officer	Nadaun		Nodal Officer

b. Important Emergency Numbers

Fire Station	The Mall, Shimla	101, 2658976
Fire Station	Chhota Shimla	2623269
Ambulance		108, 2804648
Police Control Room		2621714
IGMC Hospital		2803073, 2814725
DDU Hospital		2654071
Kamla Nehru Hospital		2624841

