DISASTER MANAGEMENT PLAN

HIMACHAL PRADESH HOUSING AND URBAN DEVELOPMENT AUTHORITY

GOVERNMENT OF HIMACHAL PRADESH

Nigam Vihar, Shimla 171002

CONTENTS

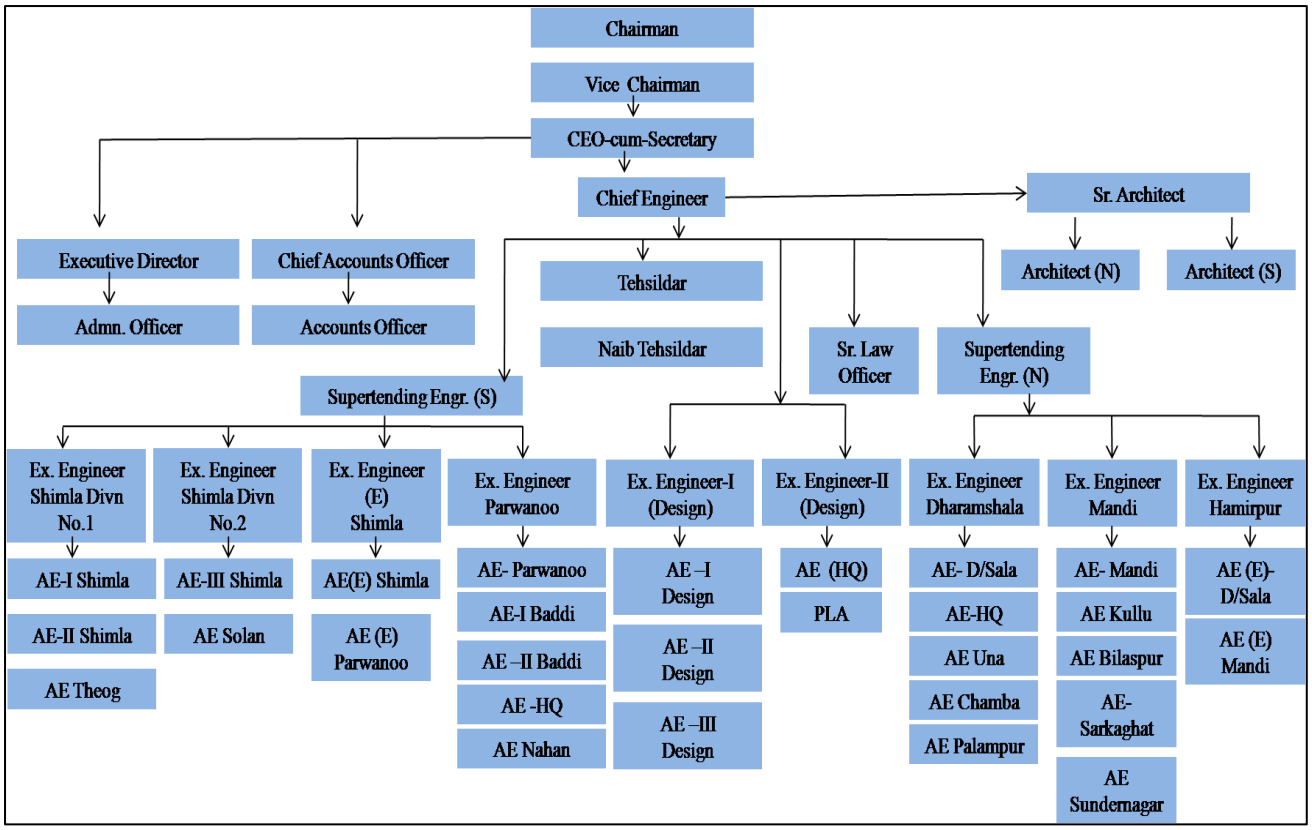
1. INTRODUCTION

1.1 OVERVIEW OF THE DEPARTMENT

Himachal Pradesh Housing and Urban Development Authority (HIMUDA) was constituted in 2004 by an act of Legislation under HIMUDA Act, 2004, with objective to provide for the creation of a Development Authority to plan& develop land and create infrastructure to meet with the Housing needs of different income groups and to provide for development schemes for mobilizing public and private resources for the promotion of housing colonies and related infrastructure and to provide for the creation of appropriate Authority and mechanism for planned development of housing colonies. Erstwhile, H.P Housing Board established in 1972 was re-christened as H.P Housing and Urban Development Authority (HIMUDA) in 2004.

Main aim of the Authority is the development of housing colonies at various places of the State under different housing schemes like Social Housing Schemes, Self-Financing Schemes, Rental Housing Schemes for H.P Govt. employees, Police Personnel etc. by taking loan from financial institutions like HUDCO, National housing Bank etc. or by inviting public finances. Authority has also executed prestigious deposit work projects of different Department of sports and Youth Services, Police, Prison, Health, Animal Husbandry and Fisheries, Horticulture etc.[1]

Figure 1: Organizational Structure of HIMURA



[1] www.himuda.com

1.2 PURPOSE OF THE PLAN

- To identify hazards and vulnerability present in the department.
- To identify and implement the measures to be adopted for prevention and mitigation of disasters.
- To implement the capacity building and preparedness measures to be undertaken for reducing the hazard risk and vulnerabilities.
- To fix the roles and responsibilities of each staff of the office in relation to the measures specified above.
- To lay down the role and responsibilities of the staff in responding to a threatening disaster or disaster.

1.3 SCOPE OF THE PLAN[2]

As the Disaster Management Act, 2005 provides for the making of disaster management plan by each Government Department based on which the annual disaster management of the State shall be prepared, a provision in the Plan has been made for each department to have a Disaster Management Cell (DMC). The roles and responsibility of the Cell shall be:

- To deal with disaster management related issues of the Department.
- To participate on behalf of the department in the Disaster Management related programme and activities.
- To work out annual disaster management related programmes and activities of the department along with an estimated budget for the same.
- To incorporate disaster management related inputs in the developmental projects of the department.
- To co-ordinate with State Disaster Management Department on disaster issues related to the department.
- To monitor the implementation of programme and activities of the department.
- During a disaster the officers of the Cell shall remain present at the State Emergency Operation Centre (SEOC) and shall provide required support in disaster response related requirements.
- Develop mechanisms in which the mitigation measures shall be integrated with the development plans and projects.

1.4 AUTHORITIES, CODES AND POLICIES [3] [4]

Himachal Pradesh Housing & Urban Development Authority Department, having its own Act i.e. The Himachal Pradesh Housing and Urban Development Authority Act,2004 but does not have direct Law to enforce. The department does not have its own policy as well. HIMUDA follows either Building Byelaws from Town and Country Planning Department i.e. H.P. Town and Country Planning Act, 1977 and H.P. Town and Country Planning Rules, 1978, H.P. Apartment & Property Regulation Act, 2005.

[2] State Disaster Management Plan 2012, Himachal Pradesh

[3] The Himachal Pradesh Housing and Urban Development Authority Act,2004 and

[4] HPTCP Act ,1977

#	Act	Functioning and Power of Local Planning Authorities
1	The Himachal Pradesh Housing & Urban Development Authority Department Act, 2004	• To re-enact the law to provide for the creation of a Development Authority to Plan and develop land and create the infrastructure to meet with the housing needs of different income groups and to provide for development schemes for mobilizing.
2	The Himachal Pradesh Town and Country Planning Act, 1977	• Land use hazard zoning technique used for planning for new buildings/ roads. • Quality standards & guidelines for hazard-resistant construction of the building. • Retrofitting policy for the disaster-resistant strengthening of existing buildings. • Retrofitting policy for Non-structural building components (falling hazards). • Coordination & Capacity development. • Education & training on disaster risk management for the staff in HPTCP. • Conduct disaster preparedness programmers (e.g. mock drills, first aid, search and rescue training) Risk-proofing & monitoring. • Safety norms are followed in the construction of buildings. • Risk assessment done in site- selection and construction of new infrastructures. • Retrofitting of existing buildings.

1.5 INSTITUTIONAL ARRANGEMENTS FOR DISASTER MANAGEMENT

Chief Engineer will be the nodal officer at the state level and will be supported by Sr. Architect, Architect (N & S) and Tehsildar HIMUDA will serve as a support agency for regulating relief/ restoration operations. The department will also assist the District administration for spreading the information of do's and don'ts to the people of the affected areas. **HIMUDA** of the concerned District will be the nodal officer at the Division level to perform emergency support functions.

1.6 PLAN MANAGEMENT (IMPLEMENTATION, MONITORING AND REVISION)

Disaster Management Planning is a continuous process in itself and needs to be reviewed and should be updated on regular basis. The job of updating of Disaster Management Plan is hereby entrusted to Sr. Architect and Architect (N & S) The review of this plan shall be done by the Disaster Management Committee on yearly basis.

Implementation of the Plan

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

System of Updation

The Plan shall be updated by HIMUDA 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 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 and should also be updated on the department website.

2. HAZARD, RISK AND VULNERABILITY ANALYSIS

2.1 RISK ASSESSMENT OF HIMACHAL PRADESH

Himachal Pradesh is highly vulnerable State to a large number of natural as well as man-made disasters. Earthquake and floods have jolted this hilly State many times and caused great losses to the State. Flood, cloudburst, landslide are other common natural calamities of the State that are very frequent.

Table 2: Frequency and Intensity of Disasters

#	Type	Level of Vulnerability
1.	Fire	High
2.	Landslide	High
3	Soil erosion	High
4.	Flood	Low
5.	Cloudburst	Medium
6.	Traffic hazard	Medium
7.	Structural failure	High
8.	Stampede	Low
	Overall vulnerability	Medium

2.2 HAZARD WISE VULNERABILITY AND RISK ASSESSMENT

As Per State HRVA Report5

2.2.1 EARTHQUAKES

The State building vulnerability assessment cited in the HRVA report of Himachal Pradesh shows that in the last two decades brick masonry and RC frame construction have been on the rise but the quality of construction was not maintained which resulted into increasing vulnerability and can cause the huge loss of life in the state.

Traditional construction practices like Dhajji Dewari and Kath Khunni should be promoted as these structures have shown the great capability to resist the lateral forces during strong earthquake also. Mitigation planning should be taken at tehsil and district level to improve the building condition.

2.2.2 CLIMATE CHANGE HAZARD RISK:

Climate extremes show that minimum of maximum and minimum of minimum temperatures is consistently increasing in MC and EC compared to the BL, indicating significant warming up increasing over the Himachal Pradesh districts. Very wet and extremely wet day precipitation is projected to increase for all the districts in MC and EC compared to the BL implying that rainfall and its intensity would increase in

[5]HRVA Analysis Atlas-H.P, (Powered by TARU Leading Edge Pvt. Ltd)

the future. Percentage of warm days and warm nights is projected to increase while the percentage of cool days and cool nights is projected to decrease for all the districts implying warming up.

2.2.3 LANDSLIDES

Hazard and Vulnerability mapping are the most vital steps to be conducted so as to tackle the adverse effects of the landslide risk. This exercise was carried out to delineate the areas under different hazard zones and further analyse the vulnerability to landslides in the state of Himachal Pradesh. Comparison of both the results obtained from methodology as adopted in BMPTC Vulnerability atlas with incidences of past landslides recorded by GSI indicates that Hamirpur, Bilaspur and Una although falling under high to very high hazard area hardly having any incidences of landslides in the past. Similar results are observed in the case of revised methodology as well.

2.2.4 FOREST FIRES

Hazard and Vulnerability mapping are the most vital steps to be conducted so as to tackle the adverse effects of the landslide risk. This exercise was carried out to delineate the areas under different hazard zones and further analyze the vulnerability to landslides in the state of Himachal Pradesh. Comparison of both the results obtained from methodology as adopted in BMPTC Vulnerability atlas with incidences of past landslides recorded by GSI indicates that Hamirpur, Bilaspur and Una although falling under high to very high hazard area hardly having any incidences of landslides in the past. Similar results are observed in the case of revised methodology as well.

2.2.5 FLOODS / GLOFS

Floods are natural phenomena, which can have severe economic, social and environmental consequences. The rising water level may be caused by heavy snowmelt or high-intensity rainfall creating soil saturation and high runoff either directly or in upstream catchment areas. Locally, soil saturation after prolonged natural recharge may contribute to the severity of the flooding. In Himachal Pradesh, flash flood due to cloudburst is a common phenomenon and the State experiences riverine flooding of varied magnitude almost every year. Whereas Sutlej and Beas are most vulnerable rivers, all the villages and property inside the floodplain and near close vicinity are in the vulnerable zone.

2.3 SECTORAL AND DEPARTMENTAL RISKS

As per State HRVA

2.3.1 URBANISATION IN HIMACHAL PRADESH

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 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.

2.3.2 ADMINISTRATION

Shimla is the only city with a Municipal Corporation. The towns in the state are governed as per three new Municipal Acts-HP Municipal Corporation Act 1994, Municipal Act 1994 and HP Municipal Services Act 1994. The Municipalities are responsible for activities of infrastructure building & improvement, maintaining public streets, bridges, town halls, embankments, drains, drinking water and sanitation, tanks and watercourses, solid waste management, maintenance of schools, hospitals and public institutions.

2.3.3 DEMOGRAPHY

The proportion of district urban population, as well as the proportion of district urban population to the state's urban population, is presented in the following Table 2.2.

Districts	Population (2011 Census)	Urban Population (2011)	% Urban to District population	% Urban to State urban population
Chamba	5,18,844	6,528	1	1
Kangra	15,07,223	86,359	6	13
Lahaul and Spiti	31,528	0	0	0
Kullu	4,37,474	41,258	9	6
Mandi	9,99,518	62,624	6	10
Hamirpur	4,54,293	31,413	7	5
Una	5,21,057	44,917	9	7
Bilaspur	3,82,056	25,126	7	4
Solan	5,76,670	1,02,078	18	15
Sirmaur	5,30,164	57,238	11	9
Shimla	8,13,384	2,01,500	25	31
Kinnaur	84,298	0	0	0
HP State	68,56,509	6,59,041	10	100

Source: State HRVA Report 2016

Urbanisation in Himachal Pradesh is quite low when compared to the other states and most of the urban population is concentrated to few districts only. 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.

2.3.4 ECONOMY

The urban centres are not growing at par with urban centres of neighbouring States of Punjab and Haryana. The Per capita income of the State is 47,106, the total working population in urban areas is 270,038 of which the highest working population is in Shimla Town. A total number of main workers in urban areas is

240,392. Whereas, tourism and trade sector of the State are growing within the urban areas. About one-third of the population was found to be Below Poverty Line (BPL).

2.3.5 INFRASTRUCTURE

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. Due to rapid urbanization over the last two decades availability of drinking water is decreasing tremendously within the State. There are 53 hospitals in the State, 10 dispensaries, 76 CHCs, 472 PHCs with a total 9,702 beds. Sewerage facilities are inadequate. 98 percent of households have electricity. About 10 percent of the urban population has access to the internet. The total length of Municipal roads is 750.84 km.

Socio-Economic Vulnerability and Risk Assessment:

Four capitals were used for assessing the urban household vulnerability. They include Human, Physical, Financial and Social capitals. The natural capital was not taken into consideration since the livelihoods and well-being in urban areas are not directly linked with natural capital. A total of 726 urban households across 12 cities (0.55% of the urban population) were interviewed. The questionnaire covered age distribution, income sources, housing, access to basic services and different aspects of vulnerability. Sustainable Rural Livelihood framework was used to analyse the data.

2.3.6 HUMAN CAPITAL

The Human Capital Index (HCI) is one of the indicators to identify the level of vulnerability of a household. This index is based on three indicators-the highest education level in the household, dependency ratio and presence of members with a disability or terminal illness. Equal weight was given for each of the sub-indicators.

2.3.7 PHYSICAL CAPITAL

Physical capital is one of the most important indicators in urban areas since the households depend on the physical infrastructure for meeting basic needs as well as to use to increase productive time. Physical Capital includes the private as well as public infrastructure and services, which are essential for the well-being of households. These include access to water supply and sanitation, housing, communication. For assessing the vulnerability of households following sub-indicators are used:

- Access to piped water supply
- Access to toilets
- Type of the house
- Age of the building
- Location of the dwelling (steep hill / flood prone area / landslide prone area / near a garbage dump / industrial area)
- Ownership of telephones / mobile phones.

In urban areas, road connectivity and other basic services are fairly well developed, therefore road access and drainage were not considered. Since a significant proportion of the old city areas has buildings of various vintages, the age of the house was also considered. Equal weight was given for all the six indicators.

2.3.8 FINANCIAL CAPITAL

Financial capital includes the amount of incomes as well as earning member to non-earning member ratio. The financial capital was assessed by per capita household income and working to non-working members ratio. Equal weightage was given to both the indicators

2.3.9 SOCIAL CAPITAL

Social Capital includes social relationships and institutions from where households gain social security at the time of need, stress or shock. Often in an event of a disaster, people rely on their networks, groups or institutions for support and for coping with the stress. In the absence of such networks and groups or poor ties, households may become vulnerable. To identify vulnerability based on social capital, membership of any social group and participation in the group is used. Equal weightage was given for two indicators. A total of seven types of social groups were considered.

2.4 BUILDING VULNERABILITY ASSESSMENT

As per HVRA Report of the State

- Stone masonry and rammed earth building types are the most vulnerable.
- Brick masonry and RC frame construction have been on the rise, but the quality of construction was not maintained.
- For 475-year return period of the earthquake, 52% stone masonry buildings and 89% rammed earth buildings may suffer severe damage while only 1% brick masonry will suffer D4 & D5 category of damage.
- 100 and 200-year return period earthquakes will cause mostly economic damage and less number of casualties. 475 and 2475-year return period earthquakes will cause maximum casualties in Kangra, Mandi, Kullu and Hamirpur.
- Increase of one level of earthquake intensity (from VIII to IX) will cause 30% increase in the numbers of stone masonry buildings affected severely while 2 to 3 times more brick masonry building will suffer severe damage.
- Earthquake safety features are absent in almost all buildings whether it's new or old, as a result, it increases the vulnerability.
- Traditional way of construction practices should be promoted (like Dhajji Dewari & Kath Khunni).
- Non-engineered constructions are larger in number and lot of alteration occurs without approval from concerned authorities which make them more vulnerable.
- Inventory of building typology should be updated at least in every decade to get more information on the existing building stock so that risk estimate can be updated more precisely.
- Vulnerability and damage assessment of buildings represent the areas having a concentration of risk in certain areas. Mitigation planning should be taken at tehsil and district level to improve the building condition.

2.5 ASSESSMENT OF SECTORAL AND DEPARTMENTAL RISKS[6]

The risk involved to the Department when exposed to different types of disasters and in view of data available & past experiences is nil up to to date. Department building is prone to both natural and man-made disaster. HIMUDA department is situated in an old building at Nigam Vihar, sharing the building with various other departments as well and it lies on the Top Floor i.e. 4th Floor of the building.

If any disaster occurs within the department Manmade or natural, the entire official record can be destroyed in fire and loss of life would be more as well. Moreover, the entire structure of the building is made of wood & RCC and requires Rapid Visual Screening and retrofitting to ensure the safety of building from any disaster. The premises also do not have a fire system installed which should be in place.

2.6 ASSESSMENT OF CAPACITY GAPS AND NEEDS[7]

The HIMUDA has less sufficient open corridors. Moreover, there is only one inlet/outlet in the office premises. The other exit one is blocked with the construction material which can be used as an emergency exit in case of a disaster. The close proximity of the office building to the major Government offices like Himachal Pradesh Public Service Commission, Employment Office puts them in danger as well in case of fire etc. The Government and Private Hospitals are also far from the office which further increases the vulnerability. Also, the office building is not so easily approachable for relief vehicles such as firefighting tenders and ambulances etc. for a quick response mechanism.

2.6.1 GAPS IN EXISTING CAPACITY

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:

i. **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.
ii. **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.
iii. **No Mock Drills-** No Mock drills conducted to ascertain the preparedness for dealing with such disaster.
iv. **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.
v. **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.
vi. **Lack of Barrier Free facilities-**There is no provision in the building for the evacuation of persons with disability.

[6] Visual observation
[7] Primary information collected from Department Dated on 25/11/2016.

3. RISK PREVENTION AND MITIGATION

All risk assessment measures will be considered while developing new projects. All the Government 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

The whole landmass of the Himachal Pradesh is in Seismic Zone IV or in Zone V. An Earthquake of magnitude 6 or above will lead to a large number of injuries, loss of life, and damage to infrastructure. In such a scenario human life is in more danger. If no action is taken right now, the problem will worsen due to population growth, construction of unplanned buildings and poor knowledge of private construction agencies regarding EQ resistant design and geotechnical considerations in making risk resistant construction.

Table 3.1 (a): Structural and Non-Structural Risk Prevention and Mitigation Measures

Mitigation Measures	Activity	Authority for implementation	Start (Month / Year)	Completion Month / Year)
Zoning and Land Use	Ensure that new buildings follow liquefaction, landslide and faulting	TCP	Ongoing	-
Building codes	Should be adopted by the department in anticipation of the seismic event	TCP	Ongoing	-
Capacity Building	Training on Basics of Disaster Management	TCP & Urban Development Department	Ongoing	-
	Specialised training like earthquake resistant building, retrofitting etc.			
Awareness	Earthquake Safety week	TCP & Urban Development Department	First Week of April 2017	-
Mock drills	Mock drills in all ULBs	ULBs with the support of DDMA and UD Department	Twice in a year	-

Table 3.1 (b): Matrix of Hazard Specific Mitigation Measures

Hazard	Structural and Non-Structural Mitigation Measures
Earthquake	• Earthquake resistant features should be incorporated in all buildings at high-risk areas. • Retrofitting of weak structures in highly seismic zones. • Preparation of disaster-related literature in local languages with dos and don'ts for construction. • Mock drills at regular interval.
Landslide	• Land Use Planning • Landslide Hazard Zonation of Vulnerable Areas • Proper Retaining Walls • Increasing Vegetation Cover (Initiative Measures are considered) • Insurance (Secure)
Flood	• Identify the Flood plain areas and ensure no construction in those areas. • Mitigation plan should be in place to safeguard the inhabitants from the flash flood.
Fire	• Fire safety should be ensured in all the buildings • Mock drills on fire at regular interval • Insurance

3.2 RISK MITIGATION

- Land use hazard zoning technique used for planning for new buildings/ roads.
- Quality standards & guidelines for hazard-resistant construction of the building.
- Retrofitting policy for the disaster-resistant strengthening of existing buildings. Retrofitting policy for Non-structural building components (falling hazards).
- Coordination & Capacity development.
- Education & training on disaster risk management for the staff in HIMUDA.
- Conduct disaster preparedness programmers (e.g. mock drills, first aid, search and rescue training) Risk-proofing & monitoring.
- Risk assessment done in site- selection and construction of new infrastructures.
- Safety norms are followed in the construction of buildings.

4. MAINSTREAMING DISASTER RISK REDUCTION IN DEVELOPMENT

4.1 POLICY FRAMEWORK ON MAINSTREAMING[8]

HIMUDA is having its own Act i.e. The Himachal Pradesh Housing and Urban Development Authority Act, 2004. HIMUDA is largely associated with the structural part of the construction i.e. the plan is done only to develop land and create the infrastructure to meet the housing needs. They have their own Residential Plot Schemes going on like;

i. Jarja Nahan H.P Plots Scheme
ii. Jarja, Nahan, H.P Flats Scheme
iii. Sector-6, Parwanoo, H.P Flats Schemes

4.2 CHECK LISTS FOR DISASTER RISK REDUCTION

This checklist suggests steps that can be taken to prepare for natural and man-made disasters that threaten the collections of Department Documents, necessary files, infrastructures and equipment's presents within the department. (Annexure)

4.3 MAINSTREAMING DRR IN PROJECT CYCLE MANAGEMENT9

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.
Appraisal	• Collect and analyse detailed information hazard, vulnerability and risk*. • Incorporate into project objectives and performance framework.
Financing	• Finance is not always a separate stage and financial decisions may be taken at different points in the cycle-e.g., at the end of the identification or appraisal phases- depending on the procedure.
Implementation	• Adopt risk mitigation and vulnerability reduction measures (including emergency preparedness and response plan). • Modify design and implementation arrangements, where appropriate.
Evaluation	• Assess achievements and impacts in relation to natural hazards. • Take into account when planning and implementing similar projects.

[8] www.HIMUDA.com
[9] Adapted from Benson and Twig, 2007

5. DISASTER PREPAREDNESS

5.1 STRATEGIES FOR DISASTER PREPAREDNESS

The department can incorporate the below given framework to incorporate the various component of disaster management in their ongoing work.

Table 5.1: 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

During a time of disaster, the HIMUDA 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 communicating all such data to concerned quarters.

The list of volunteers and community resources should be in readiness to support response measures. The Control Room shall be manned round the clock during the peak period of disaster till the relief operations are over. The particulars of all the information received and actions taken should be entered in the station diary chronologically. The **HIMUDA** 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

Chief Engineer will be the nodal officer at the state level and will be supported by Sr. Architect, Architect (N & S) and Tehsildar HIMUDA will serve as a support agency for regulating relief / restoration operations. The department will also assist the District administration for spreading the information of do's and don'ts to the people of the affected areas. **HIMUDA** of the concerned District 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* and *Institution* level to deal with any disaster.

Table 7: State-level IRT for Department of HIMUDA

#	Name & Designation	Role
1	Chief Engineer	Chairman
2	Sr. Architect	Convener-cum-Nodal officer
3	Tehsildar	Member
4	Naib Tehsildar	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 6.2: Role of the Response Team

Item	Response System			
	Preparedness	**Pre-Disaster**	**During Disaster**	**Post Disaster**
Division Control Room	• 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.	• Monitor functioning of DCR • Coordination with officials • Assigning duties to NGOs • Holding DDMC meetings	• Dissemination of information regarding status of the disaster and submission of report to HPPWD Head office	• 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	• Ensure formation of Division level disaster management Teams • Coordinate with local NGOs working in the area	• Ensure institutions are risk-free • Monitor mock drills • Ensure safety plans are updated regularly	• Open GP office and other Shelters available • Rescue operation and Relief Measures	• Report to Authority

6.5 EMERGENCY SUPPORT FUNCTIONS

The emergency support function as mentioned in the State Disaster Management Plan mentions that HIMUDA should provide and coordinate Department Support with primary and secondary agencies i.e. Department of Revenue, HPPWD, Urban Development and Panchayati Raj. Support to Local Administration; locate adequate relief camps based on a survey of damaged houses and develop alternative necessary arrangements for the population living in structures that might be affected even after the disaster. Provide adequate shelter to all population; quick assessment and identifying the area for the establishment of the relief camp; identifying the population which can be provided with support in their own places and need not to be shifted reallocated; locate relief camps close to open traffic and transport links.

7. DISASTER RECOVERY AND RECONSTRUCTION

Quantify the loss and damage within the quickest possible time and finalizes planning for rehabilitation and relocation of all population. HIMUDA plays an important role in assisting its Primary agency for shelter i.e. Rev-Deptt and coordination with other departments (secondary agencies) to ensure rescue & relief distribution as per the direction of the State Disaster Management Plan already laid down norms by the government.

- Provide adequate and appropriate shelter to all the population.
- Participate in the conduct of quick 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 as possible shelters.
- Advise reconstruction / recovery of buildings and community buildings.
- Identifying the population which can be provided support in their own places and need not be shifted.
- 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.
- 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 disinterment 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 8.1: Budget Requirement

#	Activities	Budget
1	Training on Basics of Disaster Management	500000
2	Sensitization Programme at Division Level	200000
3	Specialized training like earthquake resistant building, retrofitting etc.	500000
4	Earthquake Safety week	100000
5	Mock drills	150000
6	RVS of important buildings	150000

Table 8.2: 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

ANNEXURE

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

Important contact numbers of the Department

Office No.	0177- 2623860
Vice Chairman	0177-2623821
CEO-cum Secretary	0177-2623860
Executive Director	0177-2623156
Chief Engineer	0177-2626919
S.E. (S) (Add. Charge)	0177-2621601
Executive Engineer Parwanoo	0177-232359
Executive Engineer Mandi	01905-237021
Executive Engineer Dharamsala	01892-226153

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

NOTES