Disaster Management Plan
2015

Public Works Department
Government of Himachal Pradesh

DISASTER MANAGEMENT PLAN GROUP

1) Superintending Engineer (W)
Nigam Vihar Shimla-2 — **Convener**

2) Superintending Engineer,
HPPWD, 4th Circle Shimla (HP) — **Member**

3) Executive Engineer (P&M) H.Q.
HPPWD, Nigam Vihar Shimla-2 — **Member**

4) Executive Engineer (PMGSY)
HPPWD, Nigam Vihar Shimla-2 — **Member**

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CHAPTER - I

PROFILE OF THE DEPARTMENT

The Government of India (GoI), in recognition of the importance of Disaster Management as a national priority, set up a High-Powered Committee (HPC) in August 1999 and a National Committee after the Bhuj earthquake, Gujarat in 2001, for making recommendations on the preparation of Disaster Management plans and suggesting effective mitigation mechanisms. These efforts led to the enactment of the Disaster Management Acton 23rd December 2005, which envisaged the formation of National Disaster Management Authority (NDMA), headed by the Prime Minister, State Disaster Management Authorities(SDMAs) headed by respective Chief Ministers, and District Disaster Management Authorities (DDMAs) headed by Deputy Commissioner of the concerned district to organize and implement a holistic and integrated approach to Disaster Management. NDMA, as the apex body, is mandated to lay down the policies, plans and guidelines for Disaster Management to ensure timely and effective response to disasters. National Institute of Disaster Management (NIDM) was also established to carry on planning, training and research work in the area of Disaster Management (DM). National Disaster Response Force (NDRF) was created for specialist response to a threatening disaster situation. Section 18 of the Disaster Management Act, 2005 mandates the State Disaster Management Authority (SDMA) to lay down guidelines to be followed by the departments of the Government of the State for the purposes of integration of measures for prevention of disasters and mitigation in their development plans and projects. It will also formulate State disaster management policy and approve the Disaster Management Plan (DMP) prepared by the different departments. All the departments of the State shall prepare their departmental plans. DMPs are to be improved and updated at least once in a year. (Guidelines for various departments under the Disaster Management Act, 2005)

" As per Section 40 of Act every department of the State Government, in conformity with the guidelines laid down by the State Authority, shall draw up their own disaster management plans. The SEC as per Section 22 (2) (c) of the Act would lay down guidelines for preparation of disaster management plans by departments of the State and District Authorities. Further as per Section 38 (2)(g) of the Act, the State Government shall ensure the preparation of disaster management plans by different departments of the State in accordance with the guidelines laid down by the National Authority and the State

Authority"(HPSDMA), Guidelines for various departments under the Disaster Management Act, 2005; P 6)

1.1 STATISTICAL PROFILE

Himachal Pradesh Public Works Department is headed by the Engineer-in-Chief with Headquarters at Shimla. Works and matters regarding Planning, Construction & Monitoring, Inter- State Connectivity for the entire State and also the entire establishments of PWD are controlled by the Engineer-in-Chief.

On administrative and functional considerations, the department has been divided into four zones namely **Mandi Zone, Hamirpur Zone, Shimla Zone and Kangra Zone at Dharmshala**. All the four zones are headed by **Chief Engineers**. Headquarters of **Shimla Zone** is at **Shimla**, Mandi zone at Mandi, **Hamirpur Zone at Hamirpur and Kangra zone at Dharamshala**.

Chief Engineer (National Highways) with headquarters at **Shimla** controls the Planning and Execution of works of **National Highways** traversing through the State.

Engineer-in- Chief (Quality & Design) acts as State Level Quality Co-Ordinator for achieving quality parameters of works in the State. Material Testing Laboratories at State level and Zonal Laboratories are under his control. He conducts quality control checks throughout the State. He is the in-charge for Standardization of Designs and Drawings for Buildings, Bridges and Assurance of common Technical Instructions, Manual of Order, Codes & Specifications, Schedule of Rates, Training Programs, Workshops and allied fields etc.

Chief Engineer (PMGSY) is doing monitoring, planning and having day-to-day interaction with Govt. of India (MoRD) for the works of PMGSY and PMGSY (world bank) funded projects through National Rural Road Development Agency (NRRDA) .

Superintending Engineer (Electrical) controls the works related to electrical installation, central heating, air conditioning, lifts, fire-fighting, fire alarm system, L.T. Sub-Station, Public Address system and CCTV systems in all Govt. residential & non-residential buildings.

Chief Architect is heading Architectural Wing at Shimla . This wing deals with all Architectural planning for buildings undertaken by PWD under North, South and Central Zones. In addition, this wing also undertakes consultancy jobs for corporate bodies and institutions, such as Regional Engineering College Hamirpur and Railways etc.

Superintending Engineer Arbitration Circle Solan deals with the entire arbitration cases of the Department as well as other Department.

HPPWD., has a vast network of roads of 35,000 kms. In length, Bridges, Buildings, Labour & Machinery etc. (Table 1.1). Chief Engineers offices, Superintending Engineers offices & Executive Engineers offices are located at Zonal, Circle and Division level respectively. Engineer-in-Chief office controls CEs/SEs/EEs in the entire State. **Table 1.1:** Detail of main posts in HPPWD.,

	Name of Category	Sanctioned Strength	Vacancy Position
1	**Engineer-in-Chief**	2	-
2.	Chief Engineer	7	-
3.	*Chief Architect*	1	-
4.	Superintending Engineer	35	-
5.	*Senior Architect*	4	-
6.	Executive Engineer	109	-
7.	*Architect*	8	-
8.	*Asst. Architect*	10	4
9.	Assistant Engineer	374	12
10.	Junior Engineer	1365	369
11.	Driver	724	47
12.	Operator	612	67
13.	Bulldozer Driver	140	12
14.	Work Inspector	1799	218
15.	Surveyor	285	99
16.	Beldar	23,539	1,427
17.	Excavator Operator	200	10
18.	Rock Driller-cum- Blast Man	2	-
19.	Electrician	467	24
20.	Mech. Cum- Fitter	651	142
21.	Welder	437	72
22.	Mate	2478	1040
23.	Chowkidaar	1166	212

1.2 OBJECTIVE OF THE PLAN

Main objective of the Disaster Management Plan (DMP) is to reduce the risk level through preparedness at various levels.

1. DMP helps to bring together the information related to equipment, machinery, skilled manpower and critical supplies.
2. It helps to know the standard operating procedures of the department at the time of disaster.
3. To fix the role and responsibility of each and every officer for disaster preparedness.
4. It helps the Department to assess its own capacity in terms of available resources and get ready to mitigate any unexpected disaster effectively and to prevent the loss of human lives and property through preparedness, prevention & mitigation of disasters.
5. To assist the line departments, block administration, communities in developing compatible skills for disaster preparedness and management.
6. To disseminate factual information in a timely, accurate and tactful manner while Maintaining necessary confidentiality.
7. To develop immediate and long-term support plans.
8. To have response system in place to face any eventuality.

1.3 ORGANISATIONAL STRUCTURE

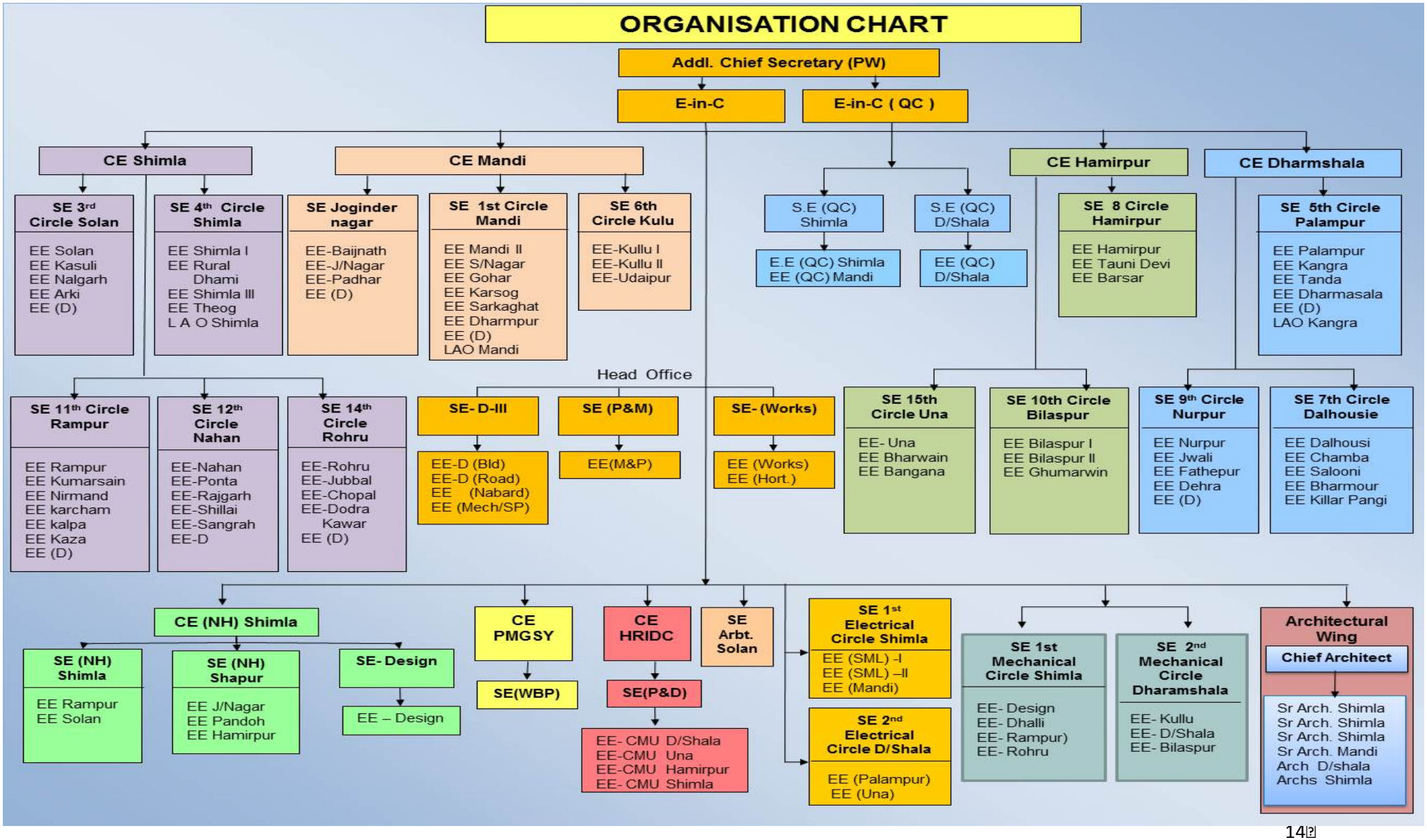
The HPPWD,. is under the overall charge of Chief Minister. All policy matters and major administrative decisions are generally taken by Chief Minister who is assisted by an Addl. Chief Secretary (PW) Secretary rank officer who enjoys full administrative and financial powers regarding department such as sanctioning of various schemes projects and budgeting. All schemes of C/o & M/o of roads/ Bridges, Plan and Non Plan are first approved by PW Secretary, and then submitted to Planning and Finance Department for final approval. PWD Secretary in addition is over all administrative head of the HPPWD., for all purposes.

1.3 INFRASTRUCTURE AVAILABLE

Abstract of Machinary available in working order in Himachal Pradesh Public work Department as on 31/03/2015

Sr.No.	Name of Circle/Division	Category of Machinery																			
		Bull dozer	Ex-Cum-Loader	Air Comp.	Road Roller	Tipper	Truck	LCV	MUV	Pickup	Skid Steer Loader	Track Ex.	Front End Loader	Mini Track Ex.	Stone Crusher	Hot Mix Plant	Tractor	Paver Finisher	Crane	Misc.	Insp. Veh
1	**Shimla Zone**																				
	3rd Cirlce Solan	7	13	12	11	13	4	5	8	0	0	1	0	0	0	2	1	0	0	0	8
	4th Circle Shimla	7	6	13	9	11	6	2	4	0	1	0	1	0	0	1	0	0	0	0	11
	11th Circle Rampur	7	10	20	17	14	8	3	8	0	1	0	0	0	0	1	0	0	0	0	11
	12th Circle Nahan	5	9	7	13	11	5	6	12	0	0	0	1	0	0	2	0	0	0	0	11
	14th Circle Rohru	10	12	22	10	11	9	3	8	1	1	0	0	1	0	1	0	0	0	0	11
	Mech. Circle Shimla	0	0	0	0	0	1	5	2	0	0	0	0	0	0	0	0	0	3	0	6
	Total	**36**	**50**	**74**	**60**	**60**	**33**	**24**	**42**	**1**	**3**	**1**	**2**	**1**	**0**	**7**	**1**	**0**	**3**	**0**	**58**
2	**Mandi Zone**																				
	1st Circle Mandi	9	14	13	9	13	1	4	10	0	0	0	0	0	0	1	2	0	0	0	8
	6th Circle Kullu	4	7	16	10	8	5	4	6	0	1	0	0	0	0	1	0	2	1	1	9
	Jogindernagar circle	9	11	16	15	11	3	2	4	0	0	0	0	0	0	4	1	0	0	0	11
	Total	**22**	**32**	**45**	**34**	**32**	**9**	**10**	**20**	**0**	**1**	**0**	**0**	**0**	**0**	**6**	**3**	**2**	**1**	**1**	**28**
3	**Hamirpur zone**																				
	8th Circle Hamirpur	12	18	24	18	18	6	7	8	-	-	-	-	-	-	2	-	1	-	-	12
	10th Circle Bilaspur	3	9	9	13	10	6	2	6	0	0	0	0	0	0	2	1	0	0	0	6
	15th Circle Una	2	9	2	9	9	5	3	3	0	0	0	1	0	0	1	0	0	0	0	7
	Total	**17**	**36**	**35**	**40**	**37**	**17**	**12**	**17**	**0**	**0**	**0**	**1**	**0**	**0**	**5**	**1**	**1**	**0**	**0**	**25**
4	**Kangra Zone**																				
	5th Cirlce Palampur	10	18	12	20	19	10	5	10	1	0	0	1	0	0	1	3	0	0	0	11
	7th Circle Dalhousie	10	10	35	17	12	13	4	3	4	1	0	0	0	0	2	0	0	0	0	8
	8th Circle Nurpur	6	16	4	19	13	6	4	6	0	0	0	2	0	0	2	4	0	0	4	10
	Total	**26**	**44**	**51**	**56**	**44**	**29**	**13**	**19**	**5**	**1**	**0**	**3**	**0**	**0**	**5**	**7**	**0**	**0**	**4**	**29**

	Name of Circle/Division	Category of Machinery																			
		Bull dozer	Ex-Cum-Loader	Air Comp.	Road Roller	Tipper	Truck	LCV	MUV	Pickup	Skid Steer Loader	Track Ex.	Front End Loader	Mini Track Ex.	Stone Crusher	Hot Mix Plant	Tractor	Paver Finisher	Crane	Misc.	Insp. Veh
5	Tribal Area																				
	Shimla Zone																				
	11th Cirlce Rampur	11	9	43	10	11	6	2	5	1	0	0	0	0	2	3	0	0	0	0	7
	Mandi Zone																				
	6th Circle Kullu	7	5	8	5	2	2	1	3	0	0	0	0	0	0	0	0	0	0	0	4
	Dharamsala Zone																				
	7th Circle Dalhousie	9	9	70	11	10	1	6	8	4	1	0	0	1	1	1	0	0	0	0	5
	Total	**27**	**23**	**121**	**26**	**23**	**9**	**9**	**16**	**5**	**1**	**0**	**0**	**1**	**3**	**4**	**0**	**0**	**0**	**0**	**16**
6	NH Wing																				
	NH Circle Shimla	6	6	3	9	10	0	0	7	0	0	2	0	0	0	5	0	0	0	0	3
	NH Circle Shahpur	3	16	3	16	14	1	0	11	0	0	0	0	0	0	0	0	0	0	0	8
	Total	**9**	**22**	**6**	**25**	**24**	**1**	**0**	**18**	**0**	**0**	**2**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**11**
7	Electrical wing	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	7
8	HPRIDC	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	8
9	En-in-C office	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22
10	N Z Dharamsala	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
11	C Z Mandi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
12	C E Elect.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
13	Field SEs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18
14	Arch. Wing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
	Total in the Dept.	**137**	**207**	**332**	**241**	**220**	**98**	**68**	**140**	**11**	**6**	**3**	**6**	**2**	**3**	**32**	**12**	**3**	**4**	**5**	**239**


ORGANISATION CHART
Addl. Chief Secretary (PW)
E-in-C
E-in-C (QC)
CE Shimla
SE 3rd Circle Solan
EE Solan
EE Kasuli
EE Nalgarh
EE Arki
EE (D)
SE 4th Circle Shimla
EE Shimla I
EE Rural Dhami
EE Shimla III
EE Theog
L A O Shimla
CE Mandi
SE Joginder nagar
EE-Baijnath
EE-J/Nagar
EE-Padhar
EE (D)
SE 1st Circle Mandi
EE Mandi II
EE S/Nagar
EE Gohar
EE Karsog
EE Sarkaghat
EE Dharmpur
EE (D)
LAO Mandi
SE 6th Circle Kulu
EE-Kullu I
EE-Kullu II
EE-Udaipur
S.E (QC) Shimla
E.E (QC) Shimla
EE (QC) Mandi
S.E (QC) D/Shala
EE (QC) D/Shala
CE Hamirpur
SE 8 Circle Hamirpur
EE Hamirpur
EE Tauni Devi
EE Barsar
CE Dharmshala
SE 5th Circle Palampur
EE Palampur
EE Kangra
EE Tanda
EE Dharmasala
EE (D)
LAO Kangra
Head Office
SE 11th Circle Rampur
EE Rampur
EE Kumarsain
EE Nirmand
EE karcham
EE kalpa
EE Kaza
EE (D)
SE 12th Circle Nahan
EE-Nahan
EE-Ponta
EE-Rajgarh
EE-Shillai
EE-Sangrah
EE-D
SE 14th Circle Rohru
EE-Rohru
EE-Jubbal
EE-Chopal
EE-Dodra Kawar
EE (D)
SE- D-III
EE-D (Bld)
EE-D (Road)
EE (Nabard)
EE (Mech/SP)
SE (P&M)
EE(M&P)
SE- (Works)
EE (Works)
EE (Hort.)
SE 15th Circle Una
EE- Una
EE Bharwain
EE Bangana
SE 10th Circle Bilaspur
EE Bilaspur I
EE Bilaspur II
EE Ghumarwin
SE 9th Circle Nurpur
EE Nurpur
EE Jwali
EE Fathepur
EE Dehra
EE (D)
SE 7th Circle Dalhousie
EE Dalhousi
EE Chamba
EE Salooni
EE Bharmour
EE Killar Pangi
CE (NH) Shimla
SE (NH) Shimla
EE Rampur
EE Solan
SE (NH) Shapur
EE J/Nagar
EE Pandoh
EE Hamirpur
SE- Design
EE – Design
CE PMGSY
SE(WBP)
CE HRIDC
SE(P&D)
EE- CMU D/Shala
EE-CMU Una
EE-CMU Hamirpur
EE- CMU Shimla
SE Arbt. Solan
SE 1st Electrical Circle Shimla
EE (SML) -I
EE (SML) –II
EE (Mandi)
SE 2nd Electrical Circle D/Shala
EE (Palampur)
EE (Una)
SE 1st Mechanical Circle Shimla
EE- Design
EE- Dhalli
EE- Rampur)
EE- Rohru
SE 2nd Mechanical Circle Dharamshala
EE- Kullu
EE- D/Shala
EE- Bilaspur
Architectural Wing
Chief Architect
Sr Arch. Shimla
Sr Arch. Shimla
Sr Arch. Shimla
Sr Arch. Mandi
Arch D/shala
Archs Shimla

CHAPTER- II

HAZARD, VULNERABILITY, CAPACITY AND RISK PROFILE

2.1 INTRODUCTION

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

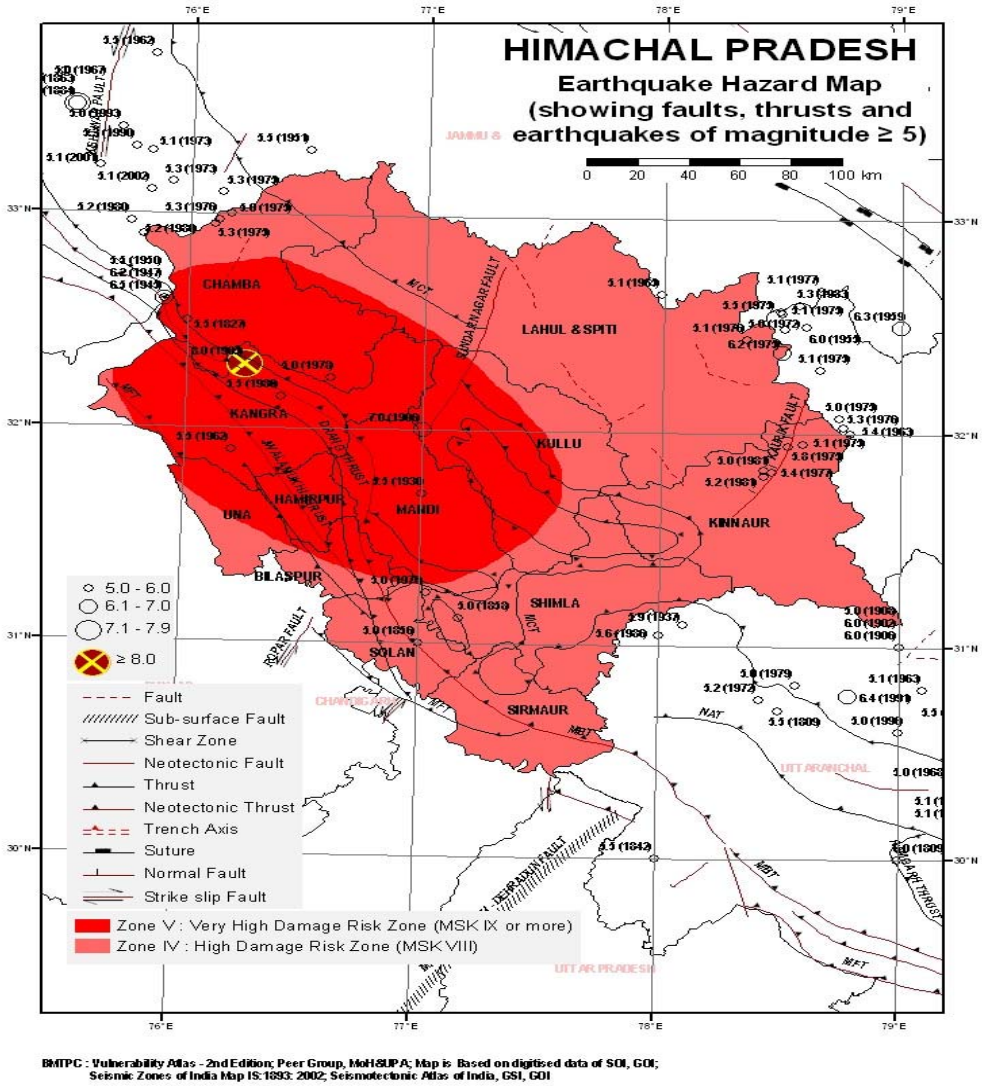
Table-2.1: Frequency and intensity of disasters

Sl. No	Nature of Disaster	Frequency	Intensity
1.	Flood	Regular feature	High
2.	Cloudburst	Regular feature	High
3.	Earthquake	Regular feature	Moderate to Very High
4.	Landslide	Regular feature	High
5.	Avalanche	Regular feature	Low
6.	Accidents	Regular feature	High

2.2 NATURE, FREQUENCY AND INTENSITY OF DISASTERS

State is vulnerable to many hazards. These are summarized as under:-

2.2.1 Earthquake: Himachal Pradesh is located in the northwestern part of Himalaya. Himalaya came into being due to inter-continental collision between Indian Plate and Eurasian Plate. The inter-continental collision caused volcanism, folding, faulting, under thrusting, uplift, crustal shortening and accumulation of seismic energy. There are a number of faults viz. Himalayan Frontal Thrust (HFT), Jawalamukhi Thrust (JT), Barsar Back Thrust (BBT), Muree Thrust MT; Main Boundry Thrust MBT; Panjal Thrust; Main Central Thruct (MCT), Kulu Thrust (KT), Vaikrita Thrust (VT) etc. Release of accumulated energy along these fault lines has resulted into some devastating earthquakes and great losses to the State. Every year state is experiencing a number of earthquakes. Whole of the state is either in seismic zone IV of high risk zone or in seismic zone V of very high risk zone (Figure 2.1) District wise area of seismic risk is shown in table 2.2



BMTPC : Vulnerability Atlas - 2nd Edition; Peer Group, MoH-SUPA; Map is Based on digitised data of SOI, GOI; Seismic Zones of India Map IS:1893: 2002; Seismotectonic Atlas of India, GSI, GOI

Fig. 1.1 Earthquake hazard map of Himachal Pradesh.

Table 2.2: District wise area under seismic zone IV and V

SL No	District	Zone V	Zone IV
1	Kangra	98.80	1.20
2	Mandi	97.40	2.60
3	Hamirpur	90.90	9.10
4	Chamba	53.20	46.80
5	Kullu	53.10	60.90
6	Una	37.00	73.00
7	Bilaspur	25.30	74.70
8	Lahul and Spiti	2.10	97.86
9	Shimla	00.38	99.62
10	Solan	1.06	98.94
11	Sirmour	Nil	100
12	Kinnaur	Nil	100
	Himachal Pradesh	**32.02**	**67.98**

Source: Vishwa, B. S. Chandel and Karanjot Kaur Brar

Table 2.3: Some devastating earthquakes of Himachal Pradesh.

Sl No.	Date	Magnitude	Maximum affected area	Losses
1.	1 4th April, 1905	8.0	Great losses around Dharamshala	20,000 died, one lakh houses demolished, 53000 domestic animals killed.
2	28 Feb, 1906	6.5	Shimla	26 died and 45 injuried
3	19th Jan, 1975	6.8	Leo, Chango, Shalkar, Sumdoh, Giu, Thabo, Sumera, Hurling are among worst affected villages.	60 deaths 278 houses destroyed, and about 2000 damaged.
4	26 April, 1986	5.5	Dharamshala	6 people died and damage to property.

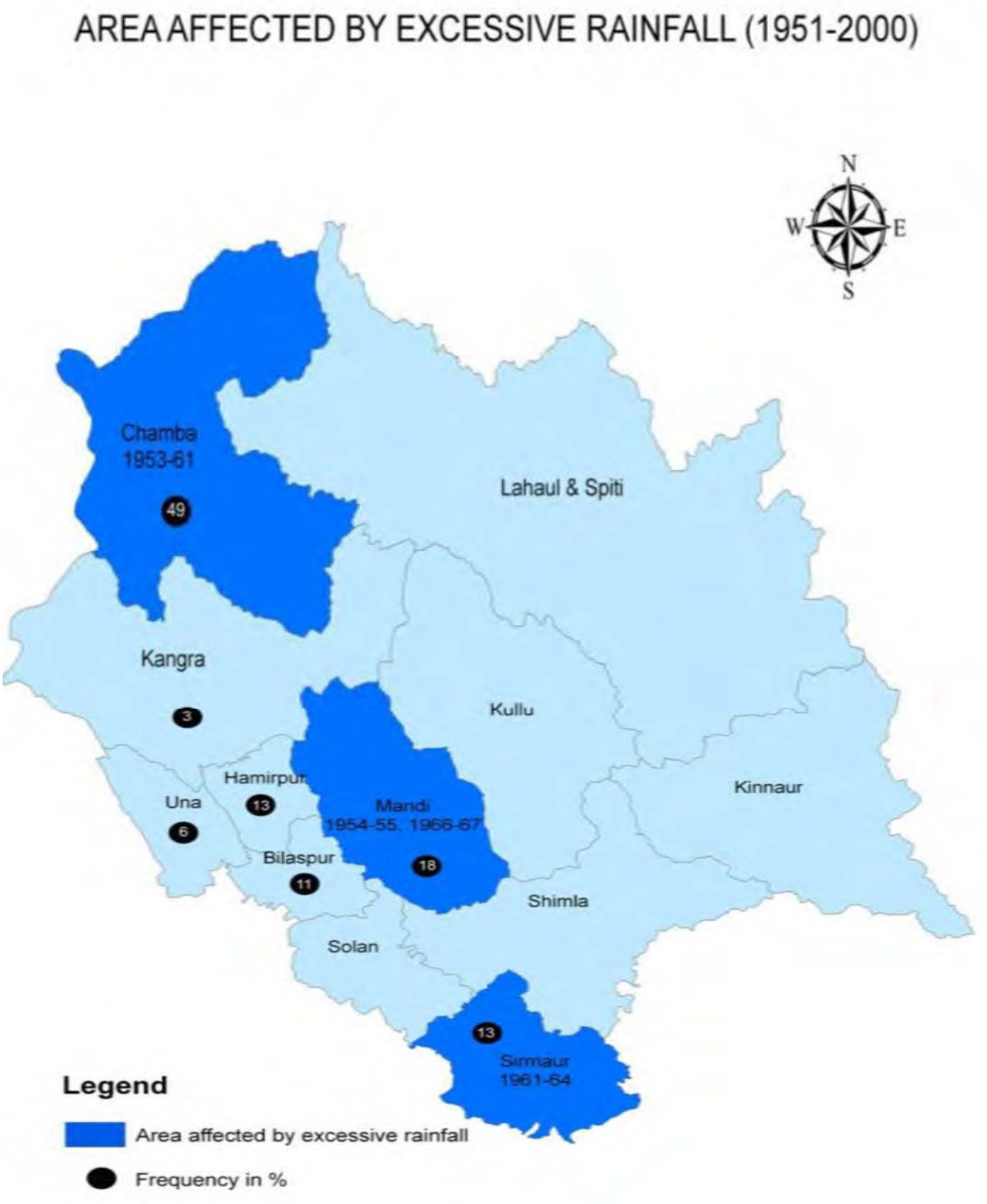


Fig. 1.2 Area affected by Excessive Rainfall (1951-2000).

2.2.2 FLOODS :-

All the major rivers of the State have their sources in glaciers. One common feature of glacier area is the presence of glacier lakes. When these lakes burst causes flash floods. Sudden discharge of huge volume of water from glacial lake is known as Glacial Lake Outburst Floods (GLOFs).The frequency of GLOFs increases with the climate change and deforestation. Cloud bursting is another cause of flash floods during monsoon period. State has harnessed its hydroelectric potential owing to perennial rivers. This has produced a number of hydroelectric dams. These dams and natural lakes may get damaged especially during earthquake. Sudden release of water by opening floodgates of hydroelectric power project also increases the volume of water in the downstream. This poses a great threat due to floods in the downstream.

Elements at risk: roads, bridges, buildings, villages on adjoining low elevation river terraces, agricultural land, forest cover, hydroelectric power projects.

Table 2.4: Recent floods in the Himachal Pradesh

SL No	Date	location	Damage
1.	1. June 8, 2014. At about 6.30 PM	Release of water from Larji hydroelectric dam	25 dead; 24 students and one tour coordinator; among students 18 boys and 6 girls
2.	June 2005	Pareechu lake, Kinnaur, Rampur	5 bridges damaged, 50 houses submerged
3.	August 2004	Satluj river, Kinnaur, Shimla, Kullu, Bilaspur	3500 people and 56 villages evacuated
4.	July 2003	Gadsa valley – Kullu	35 dead
5.	August 2001	Chamba	16 dead, 3010 sq km affected
6.	July 2000	Satluj River, Kullu, Mandi, Kinnaur, Rampur	140 dead, 400 shifted, 12400 sq km. Affected

Source: adapted from HPDMP, 2012

Table 2.5: Summary of glaciers, glacial lakes and potentially dangerous lakes in Himachal Pradesh

River Basin	Glaciers			Glacier Lakes		
	Number	**Area (Sq. Km)**	**Ice Reserves (Cu. Km)**	**Number**	**Area (Sq. Km)**	**Potentially dangerous**
Beas	358	758	76.40	59	236.20	5
Ravi	198	235	16.88	17	9.6	1
Chenab	681	1705	187.66	33	3.22	5
Sutlej	945	1218	94.45	40	136.46	3
Sub-basins	372	245	11.96	7	0.18	2
Total		4161	387.35	156	385.22	16

(Source: Ives, JD; Shrestha, RB; Mool, PK (2010) Formation of Glacial lakes in the H-K-H and GLOF Risk Assessment, ICIMOD.)

Fig.1.3: Debris available for river transportation

2.2.3 Cloudburst: Cloudbursts are associated with convective clouds. Vertical Development of clouds in Himalayan region is associated with its topography and southwestern monsoon wind direction. Himalaya is arch shape mountain located in east-west direction in the northernmost part of India. Average elevation of Himalaya is about 6100 meters above mean sea level. Himalayan river valleys are open towards south and are closed in the north. Summer monsoon winds enter in the river valleys and are forced to rise vertically along the valley slopes. Vertical development of clouds can extend up to 15 kilometers above the earth surface. Sometimes a very heavy rainfall occurs of equal to or greater than 10 centimeters per hour which is called cloudbursts. Cloudbursts are usually associated with landslides and flash floods.

2.2.4 Landslide: Downward movement of rocks primarily under the influence of gravity is called landslide. Besides gravity there are factors that build a specific subsurface condition to make area prone to slope failure. However, the actual landscape often requires a trigger before the event. Earthquake and rainfall trigger the rocks downward movement. It is both natural and manmade phenomena and varies spatially with variation in altitude, geology and topography. The controlling factors of landslide are steepness of slope, type of rocks, change in vegetation and developmental activities like C/o roads, tunnels, Hydropower projects etc.

Fig. 1.4 Destabilizing slope for the development of infrastructure
Disaster Management Plan, of HPPWD., for 2015

Table 2.6: Landslide vulnerable areas in Himachal Pradesh (area in square km)

(Source: HPSDMP, 2012)

District	Severe to very high	High	Moderate to low	Unlikely	Total area
Bilaspur	216	842	83	1	1142
Chamba	2120	3829	351	70	6370
Hamirpur	0	851	204	45	1100
Kangra	123	3698	1233	557	5611
Kinnaur	868	4956	498	0	6322
Kullu	1820	3513	65	3	5401
Lahaul &Spiti	127	11637	1825	2	13591
Mandi	968	1978	826	98	3870
Shimla	893	3345	767	14	5019
Sirmaur	95	1805	614	228	2742
Solan	556	1118	157	79	1910
Una	2	678	517	311	1508

2.2.5 Avalanche: Sudden slide of large mass of snow along the slopes of mountain is called avalanche. They occur in high altitude area with steep valley slopes and are common in Kinnaur, Lahul and Spiti, Kullu, Chamba and Kangra districts.

Table 2.7: Damage caused by avalanche in the past

Date	**Location**	**Damage**
March, 1978	Lahaul and Spiti	30 people killed
March, 1979	Lahaul and Spiti	237 people killed
1988	Shimla	Lahaul-Spiti, Kinnaur and Solan districts blocked
March, 1991	HP state affected	Road blockage for 40 days
September 1995	HP state affected	Flood caused by melting of snow brought by avalanche
September, 2001	HP state affected	Devastated flood caused huge amount of damage

2.2.6 Road Accidents: Roads in the state are along the former river beds or by cutting the mountains and are curving. Common causes of accidents are poor visibility due to fog, non use of horns especially on curves, use of alcohol, over speeding, overtaking on curves and poor maintain of the vehicles.

Table 2.8: Year-wise road accidents in Himachal Pradesh

Year	Cases Occurred	Persons killed	Persons injured	Vehicles Involved
2003-04	2,794	843	4,293	3,195
2004-05	2,758	920	4,674	3,423
2005-06	2,868	861	4,755	2,868
2006-07	2,737	929	4,886	2,917
2007-08	2,953	921	5,272	3,756
2008-09	2,840	898	4,837	3,583
2009-10	3,023	1,173	5,630	3,705
2010-11	3,104	1,105	5,350	3,810

2.3 HAZARD WISE VULNERABILITY

Table: 2.9: District-wise hazard threat in Himachal Pradesh

Sl No	District	Earthquake	Landslide	Floods	Avalanche	Forest Fire	Drought	Cloud Burst
1	Kangra	VH	L	M	M	H	H	M
2	Chamba	VH	VH	H	M	H	M	H
3	Hamirpur	H	L	L	--	VH	M	L
4	Mandi	VH	H	H	--	VH	M	H
5	Kullu	VH	VH	H	H	H	M	VH
6	Bilaspur	H	M	L	--	VH	M	L
7	Una	H	L	H	--	M	H	L
8	Sirmour	H	L	L	--	VH	M	M
9	Solan	H	M	L	--	M	M	L
10	Kinnaur	H	H	H	VH	M	M	VH
11	Lahaul Spiti	M	M	M	VH	M	M	H
12	Shimla	VH	H	H	M	H	M	H

(Source: HPSDMP, 2012)

2.4 CAPACITY OF THE DEPARTMENT

HPPWD., has vital pool of resources located in the entire State for construction and maintenance of roads, bridges, buildings etc. The services of various units of the Department can be utilized during Disasters. E-in-C office located in Shimla has a separate IT cell with one Nodal Officer posted there. All the offices right from E-in-C office down to Division office are equipped with telephone, fax, photocopier and internet facility. These offices can be used as control rooms.

2.4.1 GAPS IN EXISTING CAPACITY: Human resources of the department need training on management and mitigation of different type of disasters including relief, rescue and rehabilitation. Department also needs to establish a monitoring mechanism at Circle level to check the Circle level Disaster management plans. For this a pool of resource persons is needed in each Circle to help in the preparation of safety plans. It will also be helpful in the auditing of these plans at grass root level to ensure the implementation of the concerns of risk reduction. Adequate financial powers are needed to be vested with the Circle level and Divisional officers to manage the crisis situation. There remains lot of vacancies at various level, yet to be filled up as per sanctioned strength & specially with technical/ skilled posts.

2.5 RISK ANALYSIS

Risk involved to the department when exposed to different types of disasters in view of data available and past experiences is summarized in Table-2.10

Table 2.10: Types of risks while exposed to different disasters

Sl. No	Hazard	Risk
1	Earthquake	**Very High Risk:** In Himachal Pradesh 60% population lives in very high risk zone; 38 % population lives in high risk zone and the rest of population lives in moderate to low risk zone. Limited awareness, Preparedness, structural weaknesses of the buildings, Flouting of bye laws by public and high population density in various institutions reveal very high vulnerability to day time earthquake and low capacity. This suggests very high risk.
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 river beds poses high risk.
3	Cloudburst	High Risk: Impact of cloud burst is dual. It leads to landslides and flashfloods. 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 it causes flash foods.
5	Avalanche	Low Risk: Six districts viz. Hamirpur, Una, Bilaspur, Mandi, Sirmour, and Solan have no risk of avalanche. Further Kangra, Chamba and Shimla have medium risk. Kullu falls in High risk zone, whereas Kinnaur and LahulSpiti are in Very High Risk zone. Further there is small proportion of population living in High and very Avalanche risk prone districts. Low vulnerability suggests Low risk.
6	Road accident	High Risk: Steep slopes, Sharp bends in roads, narrow roads, overloaded buses & reckless driving, negligence, unskilled drivers, causes accidents.

CHAPTER III

PREVENTION, MITIGATION AND PREPAREDNESS PLAN

3.1 NECESSARY MEASURES

Whole landmass of the Himachal Pradesh is in Seismic Zone IV or in Zone V. An Earthquake of magnitude 8 or above will lead to 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.

i. Basic disaster awareness and sensitization

ii. Detailed guidelines shall be prepared & circulated to key functionaries of Department in the event of any impending disaster like situation.

iii. Preparation of Emergency Preparedness Plans

iv. Conduct of Mock drills to test the plans and organized response

v. Discuss emergency plan with stake holders

vi. All the Govt. life line 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.

vii. Discuss earthquake safety at home and in the office.

HPPWD Specific Illustrations of DRR Integration

Policies & Legislation

• Land use hazard zoning technique used for planning for new buildings/ bridges & roads

• Quality standards & guidelines for hazard-resistant construction of buildings/bridges

• Retrofitting policy for disaster resistant strengthening of existing buildings/bridges

• Retrofitting policy for Non-structural building components (falling hazards)

Coordination & Capacity development

• Education & training on disaster risk management for the staff in HPPWD

• Conduct disaster preparedness programmers (e.g. mock drills, first aid, search and rescue training)

Risk-proofing & Monitoring

• Safety norms are followed in construction of buildings

• Risk assessment done in site- selection and construction of new infrastructures

• Retrofitting of existing buildings

3.1.1 Action Plan for Earthquake Mitigation: Action plan for earthquake mitigation is as under:-

i. Revision and adoption of model building bye-laws for construction, both in urban and rural areas in association with TCP & Municipal bodies.

ii. Wide dissemination of earthquake-resistant building codes, the National Building Code 2005, and other safety codes & construction practices.

iii. Launching demonstration projects to disseminate the earthquake-resistant techniques.

iv. Training of trainers in every HPPWD Division for professional & technical expertise.

v . Launching awareness campaigns on seismic safety and risk reduction and sensitizing all stakeholders on earthquake mitigation.

vi . Undertaking mandatory safety audits on structural designs of Old and New major building/projects by the respective competent authorities related to all Govt. & Pvt. Buildings.

vii. Developing seismic strengthening and retrofitting standards and guidelines for existing structures.

viii. Undertaking seismic strengthening and retrofitting of critical Govt. structures, initially as pilot projects and then extending the exercise to the other structures in a phased manner.

ix. Strengthening the EOC network and flow of information.

x. Carrying out the vulnerability assessment of earthquake-prone areas and creating an inventory of resources for effective response.

xi. Strengthening earthquake safety research and development in professional and technical institutions.

3.1.2. Landslide Mitigation: The main features related to the landslide mitigation are:-

1. Preparing an inventory of existing landslides, active or inactive.
2. Wide dissemination of model land use practices in hill areas for different developmental activities.
3. Launching awareness campaign on landslide and risk reduction, and sanitizing all stakeholders on landslide hazard mitigation.
4. Establishing appropriate mechanisms for compliance reviews of all land use of Govt. premises as per bye- laws in hilly areas.
5. Preparing DM plans with specific reference to the management of landslide disaster.

3.1.3 Early Warning System for Meteorological disasters: Forecasting and early warning helps in mitigating the effects of disasters. The loss of life and property can be considerably reduced with accurate and timely warning. Climate-meteorological disaster such as flash floods/cloud burst/snow avalanches etc. can be predicted with certain degree of accuracy.

i. A network of rain/snow gauges would be strengthened in the information.

ii. Tie-up with weather reports, IMD would be strengthened so that EWS can be effectively communicated to the vulnerable areas.

iii. Modern media would be utilized to communicate the EWS.

iv. Tie-up for sharing of information would be done with the other institutions.

v. ICT tools need to be used for data receptions, forecasting and timely dissemination.

3.1.4 Communications and Information Technology (IT) Tools for DM: Use of modern communication and information technology tools is crucial for effective and efficient disaster management. The communication and IT tools would be utilized for compiling of information, dissemination, and for spread of forecasting and early warnings. The digital mapping of resources would be done and the same would be hosted in web-based portals for easy access and retrieval. These tools can be used in the following areas:

i. Creating decision support system for the policy makers, disaster managers and responsible officers at all levels.

ii. Real time dissemination of early warning to the all the stakeholders etc.

iii. Information and broadcasting mediums such as television, radios, FM stations etc. can be used keeping in view their geographical reach and availability.

iv. Emergency communication system during disasters.

v. Collecting information on damage and needs assessment.

3.1.5 Road Accident/ Mitigation: The Dept. is focusing on the identification and improvement of Black Spots through allocating special budget for this purpose for every Division, every year. Recently online/ Road Accident Data Management System (RADMS) has been launched/ road out in HP with the help of World Bank involving Dept. of Police, Transport and HPPWD which will result in improved accident data analysis and management in safe & efficient roads.

3.2 CAPACITY BUILDING PROGRAMME

For better supervision, monitoring and preventive measures capacity building programme will be launched for officials working at various levels as per their requirements.

3.2.1 **Provision of funds**: There is a need of funds to strengthen the existing facilities both at State level as well as Division level under the caption "Disaster preparedness" which is not available with the department. Hence, in the annual budget plan for the HPPWD a mitigation fund needs to be created. Department of revenue has suggested to keep 10 % of all development plan for non-plan budget disaster management issues. A budget provision of Rupees 41.89 crore has been proposed to ensure disaster preparedness as indicated below.

Table-3.2 Funds for capacity building programme:

Budget Requirement-provision of fund for disaster preparedness (Cap. Bldg.)

Sr. No.	Name of programme	Co-ordinate unit	Venue	Unit Cost (in Rupees)	No. of prog. To be held	Total cost (in Lacs)	Cost for three years (in lacs)
1	One day training - cum-awareness prog.	Head Office	HIPA	25,000/-	2 in a year	.50	1.50
2	One day sensitization prog. At Distt. Level	S.E. concerned	Circle HQ	25,000/-	2 in a year for each circle	.50 X 19	1.50 X 19= 28.50
3	Learning RVS/retrofitting techniques	E.E. concerned	Div. HQ	50,000/-	2 in a year for each Division	1.00 X 56 =56	3.00 lacs X 56 = 168
4	Exposure to hazard resistant technologies and mitigations techniques	Head Office	HIPA	50,000/-	2 in a year	1.00	3.00 lacs
						Total	**201 lacs**

Table-3.3 Budget Requirement-provision of funds (for Disaster Preparedness).

Sl. No.	Name of the programme/ items	Coordinating Unit	No. of Units per year	Cost per Unit (Rs. in lacs)	Total Costs (in Lacs) per year	Fund requirement for three years (in Lacs)
1.	Strengthening and retrofitting of lifeline/ critical Buildings in the State	S.E's	100	10	1000	3000
2.	Procuring basic emergency equipments for managing Disaster i.e. X-cut Seesaw ,Gas cutters, conc. Breaker, demolition hammer (11kg), stones, CGI Sheets, helmets, road signages, conc. Cutters, Ropes Emergency lights, axes, chainpully blocks, gen. sets, crains etc.	E.E's	20	4	80	240
3.	Procuring/ Stocking 6 Bailey Bridges, (150 mtr. span) wire crates, dhullas, Wire ropes (25 mm/ 16mm) rolls, jacks, portable welding sets, crains, diesel gen. sets etc.	E.E (Mech.)	2		250 (lump sum)	750
					Total	**3990 lacs**

The required budget provision shown above are purely tentative requiring actual estimating/ R.V.S. studies.

3.2.2 - LOGISTIC ARRANGEMENT

In case of any disaster, logistics play a vital role in delivery of services. The provision of following items is prerequisite for mitigating disaster.

1. Necessary Items: Items in this head include Steel wire ropes, torch, alternative communication system, Siren, Public addressable system, stones, Jhullas, trollies, CGI sheets, angle iron and tents, wire crates etc.

2. Six nos. Balley Bridge material upto 50 mtr. Span alongwith trained staff and accessories for launching like portable gas plant, portable welding set, portable gas cutter, jacks, monkey winch, chain pulley, block, steel wire ropes etc.

3. Repair of computer, printer, phone, fax etc: Most of the offices have phones, computers, printers etc. These accessories may be used for warning and information during the period of emergencies. Such equipments need to remain functional.

4. Contingency: It will be used to establish warning and information cell in each Division. This cell should be able to communicate with DCR. The contingency fund can also be utilized for the requirements of various teams constituted under SDMP or CDMP.

CHAPTER - IV

RESPONSE PLAN

4.1 MECHANISM FOR EARLY WARNING AND DISSEMINATION

After getting warning from State Disaster Management Authority or District Disaster Management Authority, information shall be disseminated to the field by the State/District Incident Response Team. Mass media like TV, Radio, and Press shall also be included for awareness.

The State and District Control room will be activated to function round the clock in the affected district. The State IRT shall furnish the status report about the establishment of control room at Circle level. S.E.'s will be responsible to provide all kinds of support to the control room at district level.

4.2 TRIGGER MECHANISM FOR RESPONSE

After issue of early warning, Superintending Engineer HPPWD of the vulnerable Districts will explain the detailed response plan at District level meeting of District Disaster Management Authority constituted in every district in conformity with GOI guidelines for planning, coordinating and implementing various activities.

4.3 RESPONSE PLAN FOR RESPONDING EFFECTIVELY AND PROMPTLY

The S.E.s 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 second team and so on. All the field staff will be asked to remain at their respective head quarter 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 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 disaster till 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 S.E.'s 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.

4.4 APPOINTMENT OF NODAL OFFICERS

Superintending Engineer (Works) O/o E-in-C HPPWD Shimla will be the nodal officer at state level and will be supported by Deputy Controller (Finance) and S.E. (P&M). HPPWD 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. S.E.,s of the concerned Circles will be the nodal officer at the Circle level to perform emergency support functions.

Roles and responsibilities of the nodal officers: Roles and responsibilities of the nodal offices are as under:-

1. 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.
2. 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.
3. Accountable to any communication/actions related to disaster management of the department.
4. Take lead to prepare the department disaster management plan, Emergency Support Function (ESF) plan and Standard Operating Procedure (SOP).
5. Constitute the Incident Response Team (IRT) in the department as per the need and organize training for members.
6. Help the department to procure the equipments necessary for search and rescue, first aid kits and disburse the same to IRTs and for the department if required.

7. Provide regular information on disaster or task assigned to him to SEOC/ Revenue Department during and after disasters in consultation with the department head.
8. Attend Disaster management meeting, trainings, workshops or any related programme on behalf of the department.
9. Identify an alternate nodal officer and build his/her capacity.
10. As per the need of the department, set up control room and assign other official (s) for control room duty.
11. Identification and staffs for deployment on site operation centers (on site control room during a disaster)
12. In consultation with the department, make arrangement of alternative communication system for the department.
13. 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.
14. Organize regular awareness programmes in the department.
15. 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.
16. To have liaison with other departments and functionaries working in the field of DM.

4.5 FORMATION OF THE INCIDENT RESPONSE TEAMS

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

Table 4.1: State level IRT for Department of HPPWD

Sl. No	Designation	Role
1.	E-in-C	Chairman
2.	CE(SZ)	Member
3.	CE (HZ))	Member
4.	CE (MZ)	Member
5.	CE (KZ)	Member
6.	CE (NH)	Member
7.	SE (Works)	Convener-cum-Nodal officer
8.	SE (Mech.)	Member
9.	SE (Electrical)	Member
10.	Supdt.	Member

Role and Responsibility of the State Incident Response Team is:-

i. To coordinate with SDMA, NDMA, and other concerned Government Departments.

ii. Visit the spot and assist the Circle level Response Team for pre disaster planning

iii. To prepare a status report regarding the disaster.

iv. To facilitate execution of orders for declaring the disaster.

v. Assess the staff and other logistic requirement for field operation and monitor effectiveness.

vi. To attend training and refresher courses for how to respond after receiving any information related to disaster.

vii. IRT should be familiarized with the SOP/ESF/DM plan of the department as well as State DM Plan and their roles and responsibilities.

viii. IRT should prepare and update the DMP periodically by incorporating the views of stakeholders for the effectiveness of the plan.

xi. To ensure availability of funds at District level to meet contingency expenses.

xii. To develop the media messages so as to update the status of disaster mitigation and response work.

xiii. To monitor and guide the District Response Teams.

xiv. To maintain an inventory of all related guidelines, procedures, action plans, district maps and contact numbers.

xv. To document the lessons learnt at different stages of disaster management and make suggestions for necessary addition/alteration.

xv. 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.

4.2 Circle Level IRT: For circle level IRT members are shown in table 4.2

Table 4.2: Circle level IRT for HPPWD

SL NO	Designation	Role
1.	S.E.	Chairperson
2.	EE (Design)	Convener-cum-Nodal Officer
3.	All Field Ex. Engineers	Members
4.	AE (Mech.)	Member
5.	AE (Electrical)	Member
6.	Supdt.	Member

- EO shall be the Nodal officer if EE (D) is not posted/ available

Role and Responsibility of the Circle level Incident Response Team is:-

i. To coordinate with DDMA.

ii. To activate Disaster Management Plan.

iii. To procure required resources as per incident specific action plan.

iv. To manage the overall response activities in the field.

v. To deploy adequate staff for the response and monitor its effectiveness.

vi. To attend training and refresher courses to know how to respond after receiving any information related to disaster.

vii. IRT should be familiarized with the SOP/ESF/DM plan at District and State level of the department as well as State DM Plan and their roles and responsibilities.

viii. IRT should prepare and update the district DMP periodically by incorporating the views of stakeholders for the effectiveness of the plan.

ix. To develop the media messages to update the status of disaster mitigation and response work.

x. To collect and store disaster related information for post incident analysis

xi. To visit the affected areas to assess the extent of damage.

xii. A proposal may be sent to the State headquarter for deputation of officials or for new recruitment.

4.3 Divisional level IRT:

Table 4.3:

SL NO	Designation	Role
1.	EE	Chairperson cum Nodal officer
2.	All field AE.'s	Members
3.	Supdt.	Member

Role and Responsibility of the Divisional level Incident Response Team:

• Preparation of the disaster management plan.

• Evaluation of the Disaster Management plan

• Carrying out the mock drill twice a year

• Updating of the plans at regular intervals (at least once a year, and after any Significant disaster) to ensure that the plan is workable.

• Look into the structural safety requirements for various hazards (Earthquake, floods, Road accident etc.)

• During a disaster the IRT shall coordinate with District control room/ EOCs.

• To help and monitor the working of different teams engaged in relief operation during emergency in the Division.

• Media management to be carried out by the IRT

• Mobilizing relief and external support in case of necessity for those who have taken shelter in the departmental buildings/ space.

• Identify separate shelter places for the public in case necessary.

Divisional IRT shall meet at least twice in year after fifteen days of the meeting of Circle IRT. Similarly Circle IRT shall meet twice in a year within fifteen days after getting the proceedings of the meetings/ instructions/ guidelines from State IRT. State IRT's 1st meeting shall be held in the 1st week of April and 2nd meeting in the 1st week of October every year.

Delegation of Authority: At the Circle & Division level, quick response in case of any disaster is hampered due to want of earmarked funds and power to spend. Therefore, following financial powers needs to be delegated to the Superintending Engineers to facilitate rescue and relief measures in case of any disaster. The expenses should be made from district fund and can be reimbursed later on after sanction of funds from Relief Commissioner. The details of delegation of power (proposed) are in table given below.

Table 4.4: Delegation of financial power during disasters (for single tender/ quotation.

Sl. No.	**Nature**	Maximum Limit of expenditure (in Rupees)
1.	Transportation	50,000/-
2.	Material & Equipment	5,00,000/-
3.	Temporary shelters	3,00,000/-
4.	Logistic arrangements	1,00,000/-
5.	Contingency	1,00,000/-

4. 6 REPORTING PROCEDURES AND FORMATS

The HPPWD Division is the lowest unit and the Ex. Engineer will be responsible to collect and compile the statutory reports determined by the department for disaster management. The first choice for sending the report will be through Email. The following regular reports will be collected. The other occasional reports will be collected as per the need specific to disaster.

a. Pre assessment of institution wise vulnerability

b. Department Buildings affected and loss thereof

c. Loss of life and other infrastructure

d. Relief measures needed

Table 4.5 Reporting procedure format

Sl. No.	Preparedness Measures	Action Taken/Remarks
1	Update Disaster Management Plan once a year specifically with reference to the resources available.	
2	Check upon communication network such as phones, wireless, fax, internet etc every month.	
3	Identify and determine Hazard wise most vulnerable & risk prone pockets quarterly.	
4	Activate Control Rooms.	
5	Designate In-charge officials	
6	Check the availability and deployment of resources and mobilize them.	
7	Convene meetings with concerned Authority on a regular interval	
8	Convene meetings with NGOs, PRIs etc and prepare a list with their Functional Specialization and Geographical Coverage.	
9	Check the availability of transportation modes and their functioning	
10	Prepare a media plan for dissemination of information to the people of the district; local newspaper , radio, TV and cable, etc.	

4.7 ROLE OF NGOS, VOLUNTEERS AND COORDINATION THEREOF

There is a wide network of Community Based Organizations and voluntary agencies in State. Regular meetings will be held at more frequent intervals to face any untoward incident. Such coordination meetings can be held at district level under the chairmanship of Deputy Commissioner.

The role of the voluntary agencies and the CBOs which operate at the grass root level is crucial. Such organizations can be helpful in motivating and mobilizing community participation for ensuring uninterrupted schooling during disasters as they have close linkages with the local population and flexibility in procedural matter. Some NGOs are already active in conducting mock drills in schools and fixing non-structural elements.

4.8 SYSTEM OF ASSESSING THE DAMAGE

The concerned Ex. Engineers will keep all the record of the damage to property. The amount of loss and damage will be submitted to District Collector and concerned S.E. HPPWD in the prescribed format.

4.9 ROLES, RESPONSIBILITIES AND COORDINATION

The Role of Response Team is crucial and need to be performed sincerely and within shortest possible time of occurrence of disaster. The details of the Role are given in the following Table 4.6.

Table 4.6: Role of the Response Team

Item	Response System			
	Preparedness	**Pre-Disaster**	**During Disaster**	**Post Disaster**
Circle 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

4.10 DISASTER SPECIFIC RESPONSE PLAN

Disaster specific response for the HPPWD is summarized in table 4.7

Table 4.7: Disaster specific response plan for HPPWD

Sr. No.	Major Disaster	How	Mobilization required	Cost involved
1.	Earthquake	Provision of temporary shelters in open spaces cleaning roads & construction of temporary access roads to relief camps	Labour, machineries and material of Dept. and contractors in the area.	Repair of damaged buildings & roads
2.	Flood	Provision of temporary shelters in open spaces, repair of roads & construction of temporary access roads to relief camps	Labour, machineries and material of Dept. and contractors in the area.	Repair of damaged buildings & roads
3.	Cloud Burst	Provision of temporary Shelters in open spaces & construction of temporary roads to relief camps	Labour, machineries and material of Dept. and contractors in the area.	Repair of damaged buildings & roads
3.	Landslide	Provision of temporary shelters in open spaces & construction of temporary roads to relief camps	Labour, machineries and material of Dept. and contractors in the area.	Repair of damaged buildings & roads

4.	Avalanche	provision of temporary Shelters in open spaces & construction of temporary access roads to relief camps	Labour, machineries and material of Dept. and contractors in the area.	Repair of damaged buildings & roads
5.	Road Accidents	Immediate opening of road/ diversion	Labour, machineries and material of Dept. and contractors in the area.	Repair of roads

4.11 SUPPLIES

4.11 SUPPLIES IN EMERGENCIES

The sources for procurement of tents and temporary shelters within the district and nearest locations are identified, and the suppliers kept informed about the emergency situation, which might require action at their level for production and supply to the identified areas within the shortest possible time. Pre arrangement for tie up with Wholesalers, HP State Civil Supplies Corporation, HPSIDC, HP Agro. Etc. for procuring material be done.

CHAPTER -V

RELIEF, REHABILITATION AND RECONSTRUCTION

Occurrence of any disaster will be immediately communicated to the Circle control room and DDMA. The responsibility of communication lies with the warning and information cell of the Dept. This cell should immediately apprise the circle headquarters of the calamity and the action which has already been taken. If there is disruption in telecommunication facilities, special messenger should be sent to communicate with Circle headquarters. In case of severe nature of calamity the Superintending Engineer of the concerned Circle should get in touch with the E-in-C. E-in-C will brief the SDMA about the nature of the natural calamity and the action which he has already taken and further assistance required by him. This should be done without any loss of time.

5.1 NORMS OF RELIEF

After the disaster first attempt will be to open the roads. To count and assess the damage roads & buildings. Adequate road signages shall be put on the important locations for the drivers/ commuters. Assistance for search and rescues operation shall be provided to the administration.

Relief measures will vary with the nature and degree of natural calamity. Information of the amount of damage done will help in deciding the extant of relief, reconstruction or rehabilitation. The detailed loss of life and property will be assessed immediately after the completion of relief and rescue operations. The following measures may require to be taken in the event of a calamity:-

The losses to the buildings, roads & bridges will be reported on the prescribed formats as per guidelines. This should be followed up with detailed report containing description of the event, damage/loss details, causes, pictures etc.

Standard reporting format for damage reporting during monsoon or any other occasion specifically desired by the Relief Commissioner is given at Annexure – C.

Generally in case of large scale and monsoon damages the State submits memorandum to the GOI for allocation of funds out of NDRF. For this purpose the consolidated report of damages for the District/ Circle should be sent in form given in Annexure – II. In case of disaster like earthquake a damage assessment reporting format is given at Annexure – III should be more relevant.

5.2.1 MINIMUM STANDARD OF RELIEF

In case of a severe earthquake or other natural calamity the homes of people & other infrastructure may be destroyed at mass level in the State. Temporary approach roads to relief camps & helipads shall be constructed for starting rescue & search operation.

5.2.2 REHABILITATION PLAN

A very important task before the SDMC or CDMC is to create access to relief camps, hospitals without any loss of time. HPPWD will mobilize all labour, material & machineries owned by the Dept./ Contractors for immediate repair, retrofitting & restoration of roads, bridges & critical buildings.

HPPWD management will provide all the human and material resources till the rehabilitation of affected areas in association with DDMA, SDMA and NDMA. A close relationship between government and community actions will be established till restoration of basic and alternative means of shelter and mobility is not achieved.

5.3 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, budgetary requirement can be reduced considerably by addressing structural and non-structural mitigation measures.

5.4 ACTION PLAN FOR RECONSTRUCTION

Reconstruction is time and funds absorbing phase of disaster management. The HPPWD will include disaster resilient features in all new constructions irrespective of size of structure. Reconstruction programmers will be within the confines and the specification as laid down in the National Building Codes. Access to shelters/ camps will be established in the shortest possible time Road/ Bridge connectivity shall be ensured by mobilizing required men, material & machinery.

CHAPTER- VI

KNOWLEDGE MANAGEMENT

The HPPWD caters to the population living in every corner of the State. Department can propagate awareness campaign in the State. This will help in reducing disasters by creating awareness. People will be motivated towards a practice of disaster prevention and resilience. This in turn requires the collection, compilation and dissemination of relevant knowledge and information on hazards, vulnerabilities and capacities. In a broader context, information about disaster preparedness, do's and don'ts in emergency, Disaster Management Plans; policies and guidelines are available at various domains from decades. However, millions of people are getting severely affected by disasters every year due to lack of adequate coping mechanisms. This may be attributed to the fact that the information lying at one place is not getting transformed into life saving knowledge for the communities at risk.

6.1 NEED OF CREATING NETWORKS OF KNOWLEDGE INSTITUTIONS

The network of knowledge institutions bridges the gap between information Coordination and sharing. It brings together knowledge and experiences of disaster Practitioners to capture organize and share this knowledge. Networking of knowledge institutions creates a versatile interface among policy-makers and disaster managers' at all administrative levels. This network brings in information on different aspects of Disaster Risk Management and delivers it to the Disaster Risk Management practitioners. It intends to establish linkages with the on-going development information systems that need to be established.

6.2 IDENTIFICATION OF INSTITUTIONS AND KNOWLEDGE SHARING

At the State level, HPPWD acts as a "Knowledge hub" house for collection, training and dissemination. The HPPWD prepares an annual plan consisting details of the training programmers to be conducted on disaster management.

6.3 DOCUMENTATION OF LESSONS LEARNT

Himachal Pradesh is a multi-hazard prone State. It is essential to document the lessons learnt from each of the disaster experience. The HPPWD will document the cause, lacunae, and the preventive measures which should be undertaken to avoid its re-occurrence. Attempt will be made for documenting case studies.

6.4 DOCUMENTATION OF BEST PRACTICES

Disasters lead to loss of life and property at mass level. There are many incidents to cite in which little knowledge or slightly different practices would have saved many lives and property. Documentation of such practices will be helpful in improving safety measures. Attempt will be made to prepare an inventory of such practices. HPPWD has a large pool of Engineers having long experience and exposure to field activities. Their experiences will be utilized in preparing the data base of best practices.

CHAPTER - VII

REVIEW, UPDATION AND DISSEMINATION OF THE PLAN

7.1 DMP A LIVING DOCUMENT

DM Plan is a “Living document” and would require regular improvement and updating. The plan must be updated at least once a year. The Disaster Management plan prepared by the Department shall be circulated to all its circle offices. The Plan shall be shared on the Departmental portal. The plan will be updated as and when required and modified plan shall be communicated to the key stake holders. For the annual review of the disaster management plan participation of different stakeholders will be ensured by inviting them to workshops. Based on their feedback, necessary changes will be incorporated in the plan.

7.2 DISSEMINATION OF PLAN

The primary responsibility for dissemination of the plan will be with the State HPPWD. It would involve HPSDMA for capacity building at different levels for training and dissemination. The Disaster Management Plan will be disseminated at various levels. Disaster Management Plan will be uploaded in the HPPWD website. A printed document will be supplied to all the stakeholders.

TELEPHONE NO. HEAD OFFICE AT NIRMAN BHAWAN NIGAM VIHAR,SHIMLA-2

(STD CODE-0177)

Designation	Name	Telephone Nos. and e-Mail				
		Office	Fax No.	Residence	Mobile	e-Mail
Engineer-in-Chief	Er. Naresh Sharma	2621401	2625039	2626426	94180-03060	pwd-hp@nic.in
Engineer-in-Chief (QC & D)	Er. Rakesh Gupta	2658706	2802029		94181-55501	hp-sqc@nic.in
C.E. (Shimla Zone)	Er. A.K. Chauhan	2620474	2629319		94180-14973	hp-shi4@nic.in
C.E. (PMGSY)	Er. A.K. Kohli	2621402	2629312			hp-ce@nic.in
C.E. (SRP)	Er. B.S. Chauhan	2627602	2620663		94184-77325	pdsrp-hp@nic.in
S.E. (Works)	Er. Ajay Gupta	2625821	2625821		94180-61404	hp-shi6@nic.in
S.E. (World Bank)	Er. Archana Thakur	2628238	2629312		94180-27633	hp-shi-wb@nic.in
S.E. (D-III)	Er. Naresh Gupta	2629320	2625821	2673112	94185-05201	hp-shi5@nic.in
S.E. (P & M)	Er. kuldeep Rao	2629827		2629584	94180-45000	semp-pwd-hp@nic.in
N.O (I.T)	Er. L.K. Pandey	2629315			94181-08484	hp-sno@nic.in

E.E. (M&P)	Er. Mahesh Kanwar					ee-d2-hp@nic.in
E.E. (D) Roads & Bridges	Er. Vinay Sharma	2621037	2629319		94183-90000	ee-d1-hp@nic.in
E.E. (Building)	Er. B.D Bagga		2629319			ee-d3-hp@nic.in
E.E. (PMGSY)	Er. A.K. Dutta				94180-55464	ee-pmgsy-hp@nic.in
E.E. (Project)	Er. Vipin Sharma	2629317	2629317	2812575		ee-nab-hp@nic.in
E.E. (Mech.)/(SP)	Er. Rohit Thakur	2624781	2629319		94184-57129	ee-mec-hp@nic.in ee-sp-hp@nic.in
E.E. (Horticulture)						ee-hor-hp@nic.in
Addl. Pr. Conservator of Forest	Sh. U.K. Banerjee	2651348		2671219	94188-00592	ccf-pwd-hp@nic.in
Social Development Officer	Sh. Lokender Chauhan	2622231	2620663	2658499	94180-48499	sdhpridec-hp@nic.in
Registrar	Smt. Kanya Negi	2621403	2621403			reg-enc-hp@nic.in
Jt. Controller (F&A)	Sh. K. S. Verma	2621295		2625083	94180-18493	jc-enc-hp@nic.in
Dy. Controller (F&A)	Sh. D. S. Chauhan	2629313				dc-enc-hp@nic.in
F.C. (PMGSY)	Sh. B.L. Shukla	2628237	2629312	2621310		hp-finc@nic.in
Joint Director (Legal Cell)	Sh. Purinder K Sharma	2629316			94184-83414	da-enc-hp@nic.in

Superintendent(ES-I)	Sh. Karam Chand	2625492	2621403		98160-36500	
Superintendent (ES-II)		2621404				
Superintendent (ES-III)		2621404				
Superintendent (Works)		2625821				
Superintendent (SP)						
Superintendent (CTR)						
Superintendent (Budget)		2629313				
Superintendent (Cash)						
Superintendent (PMGSY)						
Computer Cell		2625159				cc-pwd-hp@nic.in

TELEPHONES SHIMLA ZONE

STD CODE: SHIMLA-0177, FAX-2653362)

Designation	Name	Telephone Nos. and e-Mail				
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Chief Engineer	Er. A.K. Chauhan	2620474	2653362		94180-14973	hp-shi4@nic.in

TELEPHONES 3RD CIRCLE, SOLAN

(STD CODE: SOLAN 01792, KASAULI-01792, ARKI-01796,NALAGARH-01795)

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S.E.	Er. S.K. Ganju	220675	223802	220676	94180-94909	hp-sol@nic.in
E.E. (D)	Er. Jitender Singh	223802	223802	229648		ee-de3-hp@nic.in
E.E. Solan	Er. Anil Kumar Sharma	223811	223811		94184-83297	ee-sol-hp@nic.in
E.E. Kasauli	Er. Ashwani K Gupta	272067	272067	272076	94180-90727	ee-kas-hp@nic.in
E.E. Nalagarh	Er. S.K. Attri	222199	222199	222298	94180-17630	ee-nal-hp@nic.in
E.E. Arki	Er. A.K Soni	220714	220714	220713	94184-62543	ee-ark-hp@nic.in

TELEPHONES 4TH CIRCLE SHIMLA

(STD CODES; SHIMLA, 0177 ,THEOG-01783)

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S.E.	Er. Ajay Garg	2653455	2653455	2658771	98160-04654	hp-shi3@nic.in
E.E. Shimla.I.	Er. Ayub Chaudhary	2658385	2658385			ee-sml1-hp@nic.in
E.E., Shimla. (Rural) at Dhami	Er. R.K. Sridhar	2790534	2790534	2651445	94180-76440	ee-sml2-hp@nic.in
E.E. Shimla.III	Er. Sanjay Gupta	2652832	2652832		94184-66696	ee-sml3-hp@nic.in
E.E. Theog	Er. Ajay kapoor	238376	238376	2812575	94180-58404	ee-the-hp@nic.in
L.A.O. Shimla.	Sh. Vikas Shukla	2801055	2801055	-	98161-98810	laopw-shi-hp@nic.in

TELEPHONES 11TH CIRCLE, RAMPUR

(STD CODE:RAMPUR, 01782, KUMARSAIN, 01782, KALPA, KARCHAM-01786, KAZA-01906, NIRMAND-1904)

Designation	Name	Telephone Nos. and e-Mail				
		Office	Fax	Residence	Mobile	e-Mail
S.E.	Er. Kehar Singh Thakur	233044	233167	233169	94180-28745	hp-shi1@nic.in
E.E. (D)		233167	233167	233381		ee-de11-hp@nic.in
E.E. Rampur	Er. K.K. Kaushal	233017	233017	233016	94180-26247	ee-ram-hp@nic.in
E.E. Karcham	Er. Hans Raj	263303	263303	204744	94180-74836 91295-18888	ee-karc-hp@nic.in
E.E. Kalpa	Er. M.R Negi	226027	226027	226028		hp-kin@nic.in
E.E. Kumarsain	Er. Atul Jyoti	240075	240075	240071	94184-77655	ee-kum-hp@nic.in
E.E. Nirmand		255140	255140	255147		ee-nir-hp@nic.in
E.E. Kaza	Er. Vishwanath Prashar	222252	222252	222301	94180-37572	hp-lsp1@nic.in

TELEPHONES 12TH CIRCLE NAHAN

(STD CODES: NAHAN,01702,SANGRAH-01702, PAONTA,SHILLAI-01704,RAJGARH-01799)

Designation	Name	Telephone Nos. and e-Mail				
		Office	Fax	Residence	Mobile	e-Mail
S.E.	Er. N.K. Vashist	222826	333581	224007	94180-24131	hp-nah@nic.in
E.E.(D)	Er. Anil Dhiman	222370	222581	222344	94180-91111	ee-de12-hp@nic.in
E.E.Nahan	Er. Raujif Sheikh	222260	222260	222460	94180-13465	ee-nah-hp@nic.in
E.E.Paonta	Er. Rajinder Singh	222373	222373	222393	94181-27844	ee-pao-hp@nic.in
E.E.Rajgarh	Er. Ajay Kumar Sharma	221023	221023	221024	94180-10550	ee-raj-hp@nic.in
E.E.Shillai	Er. P.K. Khanna	278524	278524	278501	94184-75125	ee-shi-hp@nic.in
E.E.Sangrah	Er. K.L Chaudhary	248207	248207	248008	94180-61409	ee-san-hp@nic.in

TELEPHONES 14TH CIRCLE ROHRU

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Designation	Name	Telephone Nos. and e-Mail				
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S.E.	Er. D.S Dehal	240921	241713	241006	94181-60400	hp-shi2@nic.in
E.E.(D)		241713	241713			ee-de14-hp@nic.in
E.E.Rohru	Er. Umesh Sharma	240087	240087	240021	94180-62620	ee-roh-hp@nic.in
E.E.Jubbal	Er. R.K. Verma	252004	252004	252005	94184-86600	ee-jub-hp@nic.in
E.E.Chopal	Er. Devender Thakur	260033	260033	260592		ee-cho-hp@nic.in
E.E.Dodra Kawar	Er. Vijay K Chauhan	272016	272016	272016		ee-dod-hp@nic.in

TELEPHONES MANDI ZONE

(STD CODE: MANDI-01905,FAX-221146,222536)

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C.E.	Er. R.K. Verma	224850	221146	224851	94184-69357	hp-man2@nic.in
S.E. (D&W)	Er. P.K. Gupta	222536	221146	225783	94184-50445	se-cz-hp@nic.in se-czw-hp@nic.in
E.E. (D)			221146			ee-czd1-hp@nic.in
E.E. (D)	Er. Deepak Sharma	223913	221146	223799	94181-08799	ee-czd2-hp@nic.in
E.E. (Q.C.)	Er. Duni Chand Yadav	225784	221146		94184-66844	eeqc-man-hp@nic.in
Registrar	Sh. Lal Singh Chawla	225929	221146		98160-04337	reg-cz-hp@nic.in
Dy. Controller (F&A)		223913	221146			dc-cz-hp@nic.in
Dy. Distt. Attorney	Sh. N.S. Katoch	223913	221146		94597-80868	da-cz-hp@nic.in

TELEPHONES I[st] CIRCLE-Mandi

(STD CODES : MANDI -01905,SUNDERNAGAR, KARSOG & GOHAR-01907,JOGINDERNAGAR-01908, SARKAGHAT,DHARAMPUR-01905)

Designation	Name	Telephone Nos. and e-Mail				
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S.E.	Er. Kartar Chand	224129	221576	225871	94180-44469	hp-man1@nic.in
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E.E. Sundernagar	Er. Suresh Kapoor	266245	266245	266346	94180-01941	ee-sun-hp@nic.in
E.E. Gohar	Er. N.L. Chauhan	251336	251336	251236	94182-60899	ee-goh-hp@nic.in
E.E. Karsog	Er. Sudhir K Gupta	222229	222229	222239	94184-71478	ee-kar-hp@nic.in
E.E. Sarkaghat	Er. Mahesh Rana	230034	230907	230037		ee-sar-hp@nic.in
E.E. Dharampur	Er. Naresh Gupta	272269	272862	272210	94180-27810	ee-dhar-hp@nic.in
L.A.O.Mandi	Sh. Ajit Kumar	222147	222147	222227	94595-07514	laopw-man-hp@nic.in

TELEPHONES 6th CIRCLE KULLU

(STD CODE:KULLU-01902 ,UDAIPUR-01909,KEYLONG-01900)

Designation	Name	Telephone Nos. and e-Mail				
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S.E.	Er. Lalit Bhushan	222530	222299	222242	98161-28816	hp-kul@nic.in
E.E. Kullu-I	Er. Anil K. Sharma	222426	222426	222474	94181-13913	ee-kul1-hp@nic.in
E.E. Kullu-II	Er. G.C. Gupta	222561	222561	222472	94180-63333	ee-kul2-hp@nic.in
E.E. C.V.Udaipur	Er. Guman Singh Negi	262238	262502	262242	94180-50747	hp-lsp2@nic.in

TELEPHONES JOGINDERNAGAR CIRCLE

(STD CODE:JOGINDERNAGAR-01908,BAIJNATH-01894,PADHAR-01908)

Designation	Name	Telephone Nos. and e-Mail				
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S.E.	Er. J.S Guleria	224598	224584		94180-15925	se-jog-hp@nic.in
E.E. (D)	Er. Bhagmal Thakur	224602			94181-62973	ee-djog-hp@nic.in

E.E. Baijnath	Er. Mast Ram Rana	263035	262327	263069	94184-66220	ee-baij-hp@nic.in
E.E. Jogindernagar		222033	222033	224237		ee-jog-hp@nic.in
E.E. Padhar	Er. K.K. Sharma	260665			94180-23188	ee-mandiv1-hp@nic.in

TELEPHONES HAMIRPUR ZONE

(STD CODE: Hamirpur-01972)

Designation	Name	Telephone Nos. and e-Mail				
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S.E. (D&W)	Er. S.R. Sharma	222926			94180-46892	se-dhz-hp@nic.in
E.E. (D-1)	Er. N.P Singh	222961			94181-37606	ee-dhz-hp@nic.in
E.E. (D-2)	Er. S.K Soni	222961			94182-88963	ee-whz-hp@nic.in

TELEPHONES 8th CIRCLE HAMIRPUR

(STD CODE:HAMIRPUR,01972,BARSAR,TAUNI DEVI:01972,)

Designation	Name	Telephone Nos. and e-Mail				
		Office	Fax	Residence	Mobile	e-Mail
S.E.	Er. B.R. Dhiman	223965	223965	222228	94187-51357	hp-ham@nic.in
E.E. Hamirpur	Er. N.P.S. Chauhan	222510	222510		94180-89849	ee-ham-hp@nic.in
E.E. Tauni-Devi	Er. Ramesh K Sharma	278422	278422	222845	94181-03303	ee-tou-hp@nic.in
E.E. Barsar	Er. P.K Sharma	288041	288041	288022	94180-94116	ee-bar-hp@nic.in

TELEPHONES 15TH CIRCLE UNA

(STD CODES: UNA-01975,BANGAGA,HAROLI,MEHATPUR-01975, BHARWAIN,

GAGRET,AMB,DAULATPUR CHOWK-01976)

Designation	Name	Telephone Nos. and e-Mail				
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E.E. Una	Er. Gurcharan Rana	226036	-	223131	94180-12285 98164-42595	ee-una-hp@nic.in
E.E. Bharwain	Er. Bhupinder Singh	255822	255562	255797		ee-bharw-hp@nic.in
E.E. Bangana	Er. Mast Ram Rana	262283	262283	262284		ee-ban-hp@nic.in

TELEPHONES 10th CIRCLE BILASPUR

(STD CODE:BILASPUR-01978,GHUMARWIN-01978)

Designation	Name	Telephone Nos. and e-Mail				
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E.E. Bilaspur-I	Er. Vishwanath Prashar	222550	223690	222422	94180-37572	ee-bil1-hp@nic.in
E.E. Bilaspur-II	Er. C.L. Gupta	222551	223690	222462	94180-95116 94180-34343	ee-bil2-hp@nic.in
E.E. Ghumarwin	Er. Prakash Chand	255281	254381	255282	94184-67869	ee-ghu-hp@nic.in

TELEPHONES KANGRA ZONE AT DHARAMSHALA

(STD CODE: DHARAMSHALA-01892,FAX-223100)

Designation	Name	Telephone Nos. and e-Mail				
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C.E.	Er. Rakesh K. Sood	224948	223100	226551	94181-11090	hp-kan1@nic.in
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S.E. (QC&D)	Er. A.K Abrol	223189		226264	94181-52966	
E.E. (Design-I)	Er. Naresh K Dhiman	223167		236001	94184-79889	ee-nzd1-hp@nic.in
E.E. (Design-II)	Er. D.C. Chauhan	223177		265877	94184-73193	ee-nzd2-hp@nic.in
E.E. (Q.C.)		223167				
Registrar		224949		227661		reg-nz-hp@nic.in
Dy. Controller (F&A)		223151		202034		dc-nz-hp@nic.in
Dy.Distt. Attorney	Sh. A.K Sugyan	224949			94181-88327	da-nz-hp@nic.in
Vigilance Officer						

TELEPHONE 5TH CIRCLE PALAMPUR

STD CODES: PALAMPUR - 01894 ,BALAKRUPI-01894,KANGRA,DHARAMSHALA-01892)

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S.E.	Er. D.R Shashni	230566	230566	230565	94181-28277	hp-kan3@nic.in
E.E. (D)	Er. S.P. Jagota	230562	-	233271	94188-03013	ee-de5-hp@nic.in
E.E. Palampur	Er. K.C. Sharma	230561	230561	230898	94181-84545	ee-pal-hp@nic.in
E.E. Kangra	Er. Vikas Sood	265028	265028	265248	94184-79582	ee-kan-hp@nic.in
E.E. Balakrupi	Er. Sanjeev Sharma	271488			94180-83101	ee-tan-hp@nic.in
E.E. Dharamshala	Er. Vijay K. Chaudhary	224946	222065	226275	94184-71224	ee-dha-hp@nic.in
L. A. O. Kangra	Sh. Sanjeev Thakur	265109	265109	213154	94185-56178	laopw-kan-hp@nic.in

TELEPHONE 9TH CIRCLE, NURPUR

(STD CODE: NURPUR-01893,JAWALI,FATEHPUR-01893,DEHRA-01970)

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S.E.	Er. S.V. Sharma	220098	220102	220097	94184-62449	hp-kan2@nic.in
E.E. (D)	Er. G.K. Jhamb	221514	221514		94184-60400	ee-de9-hp@nic.in
E.E. Nurpur	Er. Inder Singh Uttam	220033	220033	220030	94180-01023	ee-nur-hp@nic.in
E.E. Jawali	Er. Nanak Chand	264186	264186	264106	94183-87183	ee-jaw-hp@nic.in
E.E. Fatehpur	Er. A.K Puri	256602	256577	250028	94184-03809	ee-fat-hp@nic.in
E.E. Dehra	Er. R. K. Minhas	233116	233116	233122	94180-69411	ee-deh-hp@nic.in

TELEPHONES 7TH CIRCLE, DALHOUSIE

(STD CODE:CHAMBA,DALHOUSIE-01899 ,SALOONI-01896,BHARMOUR-01895 PANGI-01897

Designation	Name	Telephone Nos. and e-Mail				
		Office	Fax	Residence	Mobile	e-Mail
S.E.	Er. B.S. Bharwal	240606	242177	240630	94180-24928	hp-chm2@nic.in
E.E. (D)	Er. Arun K Pathania	242419	242177	254905	94181-59362	ee-de7-hp@nic.in
E.E. Dalhousie	Er. Virender K. Sharma	240618	240618	240601	94181-55765	ee-dal-hp@nic.in
E.E. Chamba	Er. Jeet Singh	222229	222229	222731		ee-cha-hp@nic.in
E.E. Salooni	Er. D. S. Pathania	233287	233287	233289	94184-79387	ee-slo-hp@nic.in
E.E. Bharmour	Er. M. K. Minhas	225003	225003	225007	94180-64162	ee-bhar-hp@nic.in
E.E. Killar (Pangi)	Er. Mohinder Pal	242223	242223	242225	94180-32961	hp-chm1@nic.in

TELEPHONES QUALITY CONTROL & DESIGN AT U. S. CLUB SHIMLA-1

(STD CODES: SHIMLA-0177)

Designation	Name	Telephone Nos. and e-Mail				
		Office	Residence	Fax No.	Mobile	e-Mail
Engineer-in-Chief (QC & D)	Er. Rakesh Gupta	2658706	2836996	2802029	94181-55501	hp-sqc@nic.in
S.E.(QC&D)	Er. B.B Bhardwaj	2652438			94181-70382	se-qc-hp@nic.in
E.E.(Q.C&D)	Er. D.S. Chauhan	2808108	2621348		94181-20020	ee-qd-hp@nic.in
Sr. Research Officer (Field Testing Lab)	Sh. Manohar Sharma				89883-70618	

TELEPHONES CHIEF ENGINEER (NATIONAL HIGHWAY)U.S CLUB,SHIMLA-1

(STD CODES: SHIMLA-0177)

Designation	Name	Telephone Nos. and e-Mail				
		Office	Fax	Residence	Mobile	e-Mail
Chief Engineer (NH)	Er. B.C. Pardesi	2801416	2801416		94181-41272	ce-nh-hp@nic.in
S.E. (D-I) (NH)		2652568	2814801			senh-sml2-hp@nic.in
E.E (D) (NH)	Er. B.C. Sharma	2805870		2621797	98165-99111	eenh-sml-hp@nic.in

TELEPHONES NH CIRCLE SHIMLA

(STD CODE :SHIMLA-0177, 2657551,RAMPUR-01782,SOLAN-01792)

Designation	Name	Telephone Nos. and e-Mail				
		Office	Fax	Residence	Mobile	e-Mail
S.E.	Er. H.S. Negi	2657551	2814801		94181-19481	senh-sml-hp@nic.in
E.E. Rampur	Er. Pasang Negi	233214	233214	233216	94180-27276	eenh-ram-hp@nic.in
E.E. Solan	Er. Mahesh Singhal	223804		223717	94184-58404	eenh-sol-hp@nic.in

TELEPHONES NH CIRCLE SHAHPUR

(STD CODES:SHAHPUR-01892,JOGINDERNAGAR-1908,HAMIRPUR-01972,PANDOH-01905)

Designation	Name	Telephone Nos. and e-Mail				
		Office	Fax	Residence	Mobile	e-Mail
S.E.	Er. Satish Nag	238663	239007	239311	94180-36887	se-sha.nh-hp@nic.in
E.E.(D)	Er. Sarwan Kumar	239007	239007	230684	94182-98405	
E.E Jogindernagar	Er. Rajeev Sharma	222135	222135		94185-12330	eenh-jog-hp@nic.in
E.E.Pandoh	Er. B.S Mehta	282059	282059	282060	94593-54797	eenh-pan-hp@nic.in
E.E.Hamirpur	Er. Harbans Lal	222783	222783	224911		eenh-ham-hp@nic.in

TELEPHONES 1ST MECHANICAL CIRCLE, SHIMLA

(STD CODES:SHIMLA-0177, RAMPUR 01782, & ROHRU 01783)

Designation	Name	Telephone Nos. and e-Mail				
		Office	Fax	Residence	Mobile	e-Mail
S.E. Shimla	Er. M.K Sood	2842353	2842353	2626109	94180-19836	se-mec-hp@nic.in
E.E(D)		2843273	2842353	2841556		
E.E.Dhalli	Er. B.C. Negi	2841169	2841169	2841476	94189-45218	ee-smlm-hp@nic.in
E.E.Rohru		240261	240261	241019		eem-roh-hp@nic.in
E.E.Bilaspur	Er. Tejpal Sharma	222392	222392	222399	94180-48519	ee-bilm-hp@nic.in
E.E.Rampur	Er. C.D. Thakur	233265	233265	233349	89882-06061	eem-ram-hp@nic.in

TELEPHONES 2ND MECHANICAL CIRCLE, DHARAMSHALA

(STD CODES: DHARAMSHALA-01892,BILASPUR-01978,KULLU 01902,)

Designation	Name	Telephone Nos. and e-Mail				
		Office	Fax	Residence	Mobile	e-Mail
S.E. Dharamshala	Er. Anil Sharma	224053	224053	224570	94184-68955	
E.E. Kullu	Er. Ajay Sharma	260104	260104	226175	94184-81177	eems-kul-hp@nic.in
E.E.Dharamshala	Er. B.P Sharma	222111	222111	223273	94180-17575	eem-dha-hp@nic.in

TELEPHONES ARCHITECTURAL WING AT NIGAM VIHAR SHIMLA-2

(STD CODES: SHIMLA-0177,MANDI-01905,DHARAMSHALA-01892)

Designation	Name	Telephone Nos. and e-Mail			
		Office	Residence	Mobile	e-Mail
Chief Architect	Ar. N.K Negi	2628000	2835684	94180-02181	ca-pwd-hp@nic.in
Sr. Architect		2623434	2625454		sa-sml1-hp@nic.in
Sr. Architect	Ar. Prem Singh Negi	2622196	2674022	94180-83944	sa-sml2-hp@nic.in
Sr. Architect	Ar. Amita Gupta	2623434	2801529	94184-71529	sa-sml3-hp@nic.in
Architect	Ar. Indira Gupta	2625392	2657410	98160-48731	
Architect	Ar. Sushma Gupta	2623434	2841833	94180-03767	
Architect	Ar. Anita Gupta	2625392	2621062	94187-54932	
Architect	Ar. Rajiv Sharma	2622231	2652515	94181-03678	
Architect	Ar. Santosh Mongra	2623434	2628320	94180-13320	
Architect	Ar. Veena Verma	2623434	2633596	94181-53596	
Architect	Ar. Kahan Singh Chauhan			94184-66433	
Sr. Architect (KZ)	Ar. L. M. Mastana	222861	222710	94180-08126	
Sr. Architect (MZ)	Ar. N.L.Chandel	222701	222390	94180-22130	

TELEPHONES 1ST ELECTRICAL CIRCLE , KASUMPTI, SHIMLA

(STD CODES: SHIMLA -0177 , MANDI-01905)

Designation	Name	Telephone Nos. and e-Mail				
		Office	Fax	Residence	Mobile	e-Mail
Superintending Engineer	Er. O.P. Shama	2620055	2621494		88944-48338	se-ele-hp@nic.in
E.E. (D)	Er. B.S. Gora	2621494	2621494		94592-57861	
E.E. Shimla-I		2621398	2621398	2620554		ee-eled1-hp@nic.in
E.E. Shimla-II	Er. R.S. Rana	2629418	2629418	2671001	94184-88996	ee-eled2-hp@nic.in
E.E. Mandi	Er. Sanjay Kumar	222172	222172	223453	94181-02827	ee-elem-hp@nic.in

TELEPHONES 2ND ELECTRICAL CIRCLE, DHARAMSHALA, KANGRA

(STD CODES:DHARAMSHALA-01892, PALAMPUR-01894, UNA-01975)

Designation	Name	Telephone Nos. and e-Mail				
		Office	Fax	Residence	Mobile	e-Mail
Superintending Engineer	Er. R.K. Arora	222280	227780		94180-14750	seelect2-pwd-hp@nic.in
E.E. (D)	Er. Pankaj Kapoor	227780	227780		94181-02324	
E.E. Palampur	Er. Rakesh Kumar	230563	230563	231107	94180-63000	ee-elep-hp@nic.in
E.E. Una	Er. Kulbhushan Singh	223484	223484	223568	94184-24250	ee-eleu-hp@nic.in

TELEPHONES ARBITRATION CIRCLE SOLAN

(STD CODE: SOLAN-01792)

Designation	Name	Telephone Nos. and e-Mail			
		Office	Residence	Mobile	e-Mail
Arbitration Solan					
Superintending Engineer		226719	226718		se-arb-hp@nic.in

Disaster Management Plan, of HPPPWD , for 2015	
ANNEXURE - I	Rapid Assessment
ANNEXURE- II	First Information Report
ANNEXURE- III	Situation Report
ANNEXURE- IV	S.O.P. of the HPPWD

ANNEXURE- I

RAPID ASSESSMENT

Disaster brings in its wake damages to life, property, infrastructure, economy and environment. For adequate and effective response to disasters it is of paramount importance to assess the extent of physical harm to assets, property and infrastructure which render them less valuable or less effective. The objective of Rapid Assessment is to determine the precise nature and extent of damage so that Rescue and Relief measures are undertaken in the affected people. The following are the major components to be included in the rapid damage assessment:

i) Geographical area impacted
ii) Structural damage to buildings, Housing stocks
iii) Damage to roads and bridges, public buildings shops, workshops, stalls etc.
iv) Damage to water supply lines, electricity supply lines, public utilities
v) Damage to agricultural crops, livestock, etc.

Tools for Rapid Assessment

- Arial surveys
- Photographs, video graph/film of the affected area
- Satellite imagery
- Field reports
- TV/Press coverage

Visual Inspection Checklist:

- Camera
- Laptop
- Notebook
- GIS Map
- GPS

ANNEXURE- II

FORMAT FOR FIRST INFORMATION REPORT ON OCCURRENCE OF NATURAL CALAMITY

(To be sent to SEOC and NEOC, Government of India within maximum of 24 hours of occurrence of calamity)

From: District/State ---------- Date of Report ----------

To

i) The Relief Commissioner cum Principal Secretary Revenue (Fax: _____ email:_)

ii) JS (DM), MHA (fax : _____ ; email :_____)

iii) I/c National Integrated Operations Centre, MHA (fax: _____; email:_____)

a. Nature of Calamity
b. Date and time of occurrence
c. Affected area (number and names of affected districts)
d. Population affected (approx.)
e. Number of Persons
i) Dead
ii) Missing
iii) Injured
f. Animals
g. Affected
h. Lost
i. Crops affected and area (approx.)
j. Number of houses damaged
k. Damage to public property
l. Relief measures undertaken in brief
m. Immediate response and relief assistance required and the best logistical means of delivering that relief from State/National
n. Forecast of possible future developments including new risks.
o. Any other relevant information

ANNEXURE – III

SITUATION REPORT

DATE OF REPORT:			
Sl. No.	**CATEGORY**	**REPORT OF HAPPPENING DURING THE LAST 24 HOURS**	**CUMULATIVE DAMAGE/LOSS**
I - Rainfall and Damage/ Loss Position			
1	Indicate Place and rainfall (in CMs)		
2	Details of rainfall		
3	Brief details & cause (s) of flash/riverine floods, landslides, road blocked etc.		
4	Population affected if any		
5	Number of human lives lost district wise (specify the cause of death)		
6	Number of Cattle/ livestock lost/ perished.		
7	Area affected (in hectares)		
8	Estimated value of damaged crop (Rs. In lacs)		
9.	Number of houses damaged i) Fully ii) Partially		
10	Estimated value of damaged to Houses (Rs. In lacs) i) Fully ii) Partially		
11	Impact of flood on infrastructure (sector-wise i.e. power supply, water supply, road transport, health sector and telecommunication etc. –in physical term)		
12	Estimated value of damage to public properties- sector-wise in monitoring terms (Rs. In lacs)		
13	Estimated value of total damage (8+10+12)		
II- **Fire Incidents**			
1.	No. of domestic fire incidents, causes, with brief details		
2.	Loss of life		
3.	Loss of cattle		
4.	Total loss of property (in lakh)		
5.	No. of wild fire incidents		
6.	Area involved (in hectares)		
7.	Estimated loss of forest wealth (in lakh)		
8.	Estimated value of loss/damage		

III- **Accidents**			
1.	No. of accidents –roads and others (Please specify the category)		
2.	Loss of life		
3.	N o. of injured		
4.	Cause of accident		
IV- **Snow Fall**			
1	Indicate Place and snowfall (in CMs)		
2.	Details of loss/damage if any		
3.	Estimated value of loss (in lakh)		
V- **Hailstorm**			
1.	Indicate Place and area of hailstorm (in hectares)		
2.	Estimated Value of loss (in lakh)		
VI- **Other incidents of loss of life & Property**			
1.	Number of persons evacuated (district wise)		
2.	Number of relief camps opened (district wise)		
3.	Number of persons accommodated in the relief camps (district wise)		
4.	Details of distribution of essential commodities		
5.	GR paid, if any specify the items and amount		
6.	Steps taken to prevent outbreak of epidemic including the deployment of medical terms (district-wise). Whether outbreak of any epidemic occurred?		
7.	Whether assistance of from Army, Air Force and Navy sought (Specify details of no. of column/helicopters/ naval divers provided and their place of deployment as well as number of days etc.)		
8.	Whether assistance of NDRF Battalions sought, if so details of deployment.		
9.	Number of cattle camps opened & details of cattle accommodated therein		
10.	Any other relief measures undertaken (give details)		

Note: Kindly attach annexure for details wherever required.-

Disaster Management Plan, of HPPWD, for 2015

ANNEXURE – IV

Standard Operating Procedure

>> Department of Public Works Primary Task:

- To ensure the trouble free road communication.
- To evolve and implement earthquake design of building design of building.
- To evolve appropriate code and guidelines.
- To inspect buildings & critical buildings for their safety.
- To coordinate with BRO for road traffic ability.
- To ensure appropriate designs of structures in areas of operation such as roads, bridges & buildings.

Non Disaster Time – Preparedness

- Designate one Liaison Officer in the department as the Disaster Preparedness Focal Point.
- Take precautionary steps for the protection of government property against possible loss and damage during disaster.
- Formulate guidelines for safe construction of public works.
- Prepare list, with specifications and position, of the heavy construction equipment in the state.
- Organize periodic training of engineers and other construction personnel on disaster resistant construction technologies.
- Procure HRV analysis of PWD.
- Based on HRV analysis, prepare a Contingency Action Plan division wise and vulnerable zone wise plan.
- Establish communication with State Emergency Operations Center, District Control Rooms and departmental HQ within the division and state.
- Create an inventory of Earth moving machinery available with each division and with private contractors.
- Create linkage and communication with power project authorities and identify resources available with them.
- Make an unambiguous written agreement for mobilization of private resources at the time of crisis.
- Officers at SDO level should be familiar with pre-disaster precautions and during and post-disaster procedures for road clearing and for defining safe evacuation routes.
- Review and update measures and procedures taken for the maintenance and protection of equipment.
- Clear areas beneath bridges to ensure smooth flow of water and especially prior to the monsoon season.
- Undertake rapid visual inspection of critical buildings and structures of the state government (including hospital buildings) by a specialized team and identify structures which are endangered requiring retrofitting or demolition.
- Emergency tools kit should be assembled for each division and should include:
- Crosscut saws

- Axes
- Power chain saw with extra fuel, oil
- Sharpening files
- Chains and tightening wrenches
- Pulley block with chain and rope
- Cutters and Cranes
- Routes strategic to evacuation and relief should be identified and marked in close coordination with police and DEOC.
- Within the cities establish priority listings of roads which will be cleared and opened, among the most important are the roads to hospitals and main trunk routes.
- Identify locations for setting up transit and relief camps, feeding centers.

Non Disaster Time – Mitigation

- Actively work to develop a sustainable state-wide hazard mitigation strategy.
- Repair, Maintenance and retrofitting of public infrastructure.
- Identify/ prioritize mitigation activities of lifeline buildings and critical infrastructure and coordinate with the SDMC members for its implementation.
- Report to State Disaster Mitigation Committee about mitigation plans.

Alert and Warning Stage

- Establish radio communications with State Emergency Operations Centre
- Instruct all officials at construction sites to keep manpower and materials prepared for protection and repair of public works.
- Direct construction authorities and companies to pre-position necessary workers and materials in or near areas likely to be affected by disaster.
- Vehicles should be inspected, fuel tanks filled and batteries and electrical wiring covered as necessary.
- Dispatched extra vehicles from headquarters to be stationed at safe strategic spots along routes likely to be affected.
- Move heavy equipment's, such as front-end loaders, to areas likely to be damaged.
- Inspect all roads, road bridges by a bridge engineer, including underwater inspection of foundations and piers. A full check should be made on all concrete and steel works.
- Secure works under construction ropes, sandbags, and cover with tarpaulins if necessary.
- If people are evacuating an area, the evacuation routes should be checked and people assisted.
- Identify locations for setting up transit and relief camps, feeding centers and quantity of construction materials and inform SEOC accordingly.

During Disaster – Response

- Provide assistance to the damage assessment teams for survey of damage to buildings and infrastructure.
- Adequate road signs should be installed to guide and assist the drivers.
- Begin clearing roads. Assemble casual labourers to work with experienced staff and divide into work gangs.
- Mobilize community assistance for road clearing by contacting community organizations.
- Undertake repair of all paved and unpaved road surfaces including edge metalling, pothole patching and any failure of surface, foundations in the affected areas and keep monitoring their conditions.
- Undertake construction of temporary roads to serve as access to temporary transit and relief camps, and medical facilities for disaster victims.
- As per the decisions of the State Emergency Operations Center undertake construction of temporary structures required, for organizing relief work and construction of relief camps, feeding centres, medical facilities, cattle camps and SOC/s.

- clear the roads in case of any blockage.
- All response at district level teams should be provided with two way communication link.

After Disaster – Recovery and Rehabilitation

- Carry out detailed technical assessment of damage to public works.
- Assist in construction of temporary shelters.
- Organize repairs of buildings damaged in the disaster
- Prepare detailed programs for rehabilitation of damaged public works.
- Arrange technical assistance and supervision for reconstruction works as per request.
- Mobilize community assistance for road clearing by contracting community organizatior
- Undertake clearing of ditches, grass cutting, burning or removal of debris and the cuttin of dangerous trees along the roadside in the affected area through maintenance engineer's staff.
- As per the decisions of the DDMA, undertake construction of temporary structures required for organizing relief work and construction of relief camps, feeding centers, medical facilities, cattle camps and SITE OPERATIONS CENTERS.
- An up-to-date report of all damage and repairs should be kept in the Executive Engineer office and communicate the same to the District Control Room & SEOC.