

**Government of Himachal Pradesh
Department of Revenue,
Disaster Management Cell (DMC)**

No. Rev. (DMC)(F)2-2/2023-Monsoon PDNA

Dated, Shimla-171002,

31st Dec. 2024

ORDER

WHEREAS, under clause (d), Sub Section (2) of Section 18 of The Disaster Management Act, 2005 (Act No. 53 of 2005), the State Disaster Management Authority (SDMA) may "lay down guidelines to be followed by the Departments of the State Government for the purposes of integration of measures for prevention of disasters and mitigation measures in their development plans and projects and provide necessary technical assistance therefore" and Section 18 (2) (g) of the Act further says that SDMA may "review the development plans of the different Departments of the State Government and ensure that prevention and mitigation measures are integrated therein". The detailed Guidelines for various Departments were issued by the HPSDMA during the year 2012. As per the provisions of the Chapter 4 of these guidelines, the Departments/Organization of the State have been mandated to take measures for preparedness, capacity building, preparation of Disaster Management Plans, prevention/mitigation of disasters, integration of disaster management into development plans and projects and preparing schools and hospitals for disasters;

WHEREAS, since disaster management activities are integral part of all departments and agencies of the State and all departments and agencies are duty bound to address the concern of local hazards by implementing the guidelines/directions issued under the provisions of the Disaster Management Act, 2005 by the National Disaster Management Authority, HP SDMA and State Executive Committee (SEC);

WHEREAS, keeping in view the high vulnerability of the State to multiple hazards, especially landslide, earthquake, flash floods, GLOFs, etc. And taking serious note of the destruction occurred during the monsoon disaster of 2023 to public infrastructure and in order to further ensure standardization of the process of integrating the effective measures for prevention of disaster and mitigation thereof and recognizing the need to mainstream risk informed planning, the State Executive Committee (SEC) intends to issue directives under Section 22 (2) (h) for departments and organisations of the State to follow and provide self-certification in the standard format so that risk awareness is clear to the executing entities and the beneficiaries at the stage of design of the project itself, is in line with Section 38 (2) (e) and Section 39 (b) of the Disaster Management Act, 2005;

NOW THEREFORE, in view of foregoing discussion and in order to ensure integration of measures for prevention of disasters and mitigation by the departments in their development plans and projects, to ensure the preparedness and readiness of the State to meet the challenges posed by various hazards and disaster caused by them and to ensure compliance with the provisions the Disaster Management I, Chief Secretary-cum-Chairman, SEC in exercise of powers vested out under Sub Section (2) (h) of Section 24 of the DM Act, do hereby order as under:

- a) For infrastructure projects, the Departments/Organizations are directed to carry out risk assessment in the enclosed format **(Annexure-A)** while planning and designing the project to ensure integration of DRR concerns so that the envisaged projects do not become vulnerable at the time of any occurrence of the disaster and may withstand the impact of disaster and improves the resistant of State.
- b) The Guidelines issued by HPSDMA during the year 2012 **(Annexure-B)** for preparedness, capacity building and mainstreaming DRR (Disaster Risk Reduction) shall be strictly implemented by all the Departments/ organizations of the State and the compliance be reported on quarterly basis to the HPSDMA.
- c) Cutting of hill cutting or any type of excavation for formation of the hill roads or any other infrastructure should be as per Cl.1.4.1 of the **Hill Road Manual- First Revision - 2023(IRC;SP:48-2023)** based on three broad categories as: -

1. Ordinary /Heavy Soil: with side slopes of 1:1 to 1½:1(H:V)
2. Ordinary /Soft Rock: with side slope of ¾:1 to 1/8:1 (H:V)
3. Hard Rock: cut may vary from 80 to 90 degree to horizontal.


(Prabodh Saxena, IAS)
Chief Secretary-cum-CEO
SDMA, Himachal Pradesh

Endst. No. As above

Dated Shimla-171002, the

31st December 2024

Copy forwarded to the following for information and immediate necessary action:

- 1) All the Administration Secretary to the Govt. Of Himachal Pradesh
- 2) The Secretary to the Governor, Himachal Pradesh, Shimla-2
- 3) All the Divisional Commissioner of Himachal Pradesh.
- 4) The Chairman HPSEBL/CMD SJVNL/ NHPC/NTPC
- 5) All Deputy Commissioners-cum Chairman, DDMA, Himachal Pradesh
- 6) All the Heads of the Departments of the Himachal Pradesh.
- 7) The Principal Pvt. Secretary-cum-Special Secretary to the Chief Minister, HP, Shimla-2
- 8) The Sr. Pvt. Secretaries of all Hon'ble Ministers of the State.
- 9) The Sr. Pvt. Secretary to the Chief Secretary to the GoHP.
- 10) Guard File.


(D.C.Rana, IAS)
Director-cum- Ex Officio Special Secretary (Rev-DM)
Government of Himachal Pradesh

Annexure A

Checklist for Detailed Disaster Impact Assessment

Sr. No.	Title	Details/Particulars	
1	Name of Project		
2	Proposing Department		
3	Location of the Project	Latitude:	Longitude:
4	Elevation		
5	Past history of disasters that have hit the proposed area or any location within 1 km radius of the proposed area (Type of disaster and year of occurrence)		
6	Depth of Flood Level (m)		
7	Type of Project (Select from the ones below)		
8	Communications: Towers, Lines, Building; Transportation: Roads, Railways, Bridges, Tunnels; Power: Power Houses, Sub Stations, Power Lines; Water Resources: Dams, Barrages, Appurtenant Structures, River Training Structures, Canals; Habitations: Townships- planning from the point of view of safety against hazards; Water Supply and Sanitation Projects including Water Supply and Sewer lines; Building projects; Any other		
9	Hazards Risk to the Project	Have the following been evaluated?	
10	Probable maximum seismicity at site and site dependant seismic design parameters; Probable Maximum water surge; Probable Maximum wind speed; Probable Maximum precipitation; Probable maximum flood discharge and level; Probability of occurrence of floods, earthquakes, landslides, mud flows, avalanches, fires, GLOFsetc.		
11	Mitigation/Reduction of Risk	There are specific codes, manuals, guidelines, etc. of Risk developed by Bureau of Indian Standards, NDMA, HPSDMA and concerned organizations for sitting, design, construction and maintenance of various types of infrastructures. Have they been taken into consideration; details thereof	

12	Have the relevant BIS Codes and guidelines been complied with	
13	Have adequate safeguards to meet the risks of natural hazards as evaluated at Para 3 above been adopted.	
14	Have an environmental and social impact assessment been undertaken?	
15	Has any study been made to assess the collateral damage probability of the project? [Major calamities may cause collateral damage such as damage to pipelines, storages of chemicals; peak maximum flood exceedance may result in dam break etc.]	
16	Does the project cross any natural waterways? If yes, have adequate provision been made to not restrict natural flow of water?	
17	Any other specific measure taken to mitigate local hazards?	
Note: No construction shall be made to obstruct the natural drains and streams in plot. Failure to comply with this instruction will invite penalization under Section 51 of the Disaster Management Act, 2005 (Central Act, 53 of 2005).		



**GUIDELINES FOR VARIOUS DEPARTMENTS
UNDER
THE DISASTR MANAGEMENT ACT, 2005**

HP State Disaster Management Authority

Government of Himachal Pradesh

Disaster Management Cell, Department of Revenue.

CHAPTER – 01

Introduction

Hazard Profile of Himachal Pradesh – A Brief Overview

Himachal Pradesh is prone to various hazards both natural and manmade. Main hazards consist of earthquakes, landslides, flash floods, snow storms and avalanches, draughts, dam failures, fires- domestic and wild, accidents- road, rail, air, stampedes, boat capsizing, biological, industrial and hazardous chemicals etc. However, the hazard which poses the biggest threat to the state is that of earthquakes. Another form of the natural hazards in the state is the frequent occurrences of landslides. The hills and mountains of Himachal Pradesh are liable to suffer landslides during monsoons and also in high intensity earthquakes.

2. Although widespread floods problems do not exist in the state because of topographical nature, the incidences of flash floods are increasing and causing large scale damage. Besides, with the increase of road connectivity and number of vehicles plying on these roads in the State, the number of road accidents and loss of precious human lives is increasing day by day. Another major hazard that affects the state is forest fires. Over the years the forest wealth of the State is being destroyed by the incidences of fire attributed to both anthropogenic and other reasons. The destruction of rich flora and fauna of the State due to forest fires will have serious repercussions on the ecological balance of the State.

3. The State is known as land of Gods. Every year, large numbers of devotees visit temples and religious sites for pilgrimage and religious purposes. Sometimes, especially during the days of religious festivities, human stampedes pose a great risk to the lives of the devotees and tourists. In one such notable accident at the temple of Naina Devi in district Bilaspur, 162 people died when a human stampede occurred on 3rd of August 2008. Possibility of such instances is always there if there is any laxity on the part of the management. Boat-capsizing and Helicopter crash are some uncommon but not unprecedented types of anthropogenic disasters.

Disaster Risk in Himachal Pradesh

4. As stated above, the State of Himachal is prone to various hazards – natural and manmade - namely earthquakes, flash floods, riverine floods, landslides, snow storms and avalanches and dam failures, fires – domestic and wild, road accidents etc. However, the hazard which poses biggest threat to the State is the earthquake hazard. The State has been shaken by more than 80 times by earthquakes having a magnitude of 4 and above on the Richter Scale as per the recorded history of earthquakes. According to seismic zoning map of the state five districts, namely Chamba (53.2%) Hamirpur (90.9%), Kangra (98.6%), Kullu (53.1%), Mandi (97.4%) have 53 to 98.6 percent of their area liable to the severest design intensity of MSK IX or more, the remaining area of these districts being liable to the next severe intensity VIII. Two districts, Bilaspur (25.3%) and Una (37.0%) also have substantial area in MSK IX and rest in MSK VIII. The remaining districts also are liable to intensity VIII.

5. Unfortunately, inspite of the probable maximum seismic intensities being high, the house types mostly fall under Category A, consisting of walls of clay mud, unburnt bricks or random rubble masonry without any earthquake resisting features. Now all such houses are liable to total collapse if intensity IX or more actually occurs in future and will have severe damage called “destruction” with very large cracks and partial collapses even in Intensity VIII areas. Also, the burnt-brick houses, classified as Category B, as built in Himachal Pradesh do not have the earthquake resisting features, namely good cement mortar seismic bands and roof typing etc. therefore, they will also be liable to severe damage under intensity IX as well as in VIII whenever such an earthquake would occur. This became quite evident even in M 5.7 Dharamshala earthquake of 1986.

Paradigm Shift in Disaster Management

6. On 23rd December, 2005, the Government of India took a defining step by enacting the Disaster Management Act, 2005, which envisaged creation of the National Disaster Management Authority (NDMA) headed by the Prime Minister, State Disaster Management Authorities (SDMA) headed by the Chief Ministers, and District Disaster Management Authorities (DDMA) headed by the District Magistrates or Deputy Commissioners as the case may be, to spearhead and adopt a holistic and integrated approach to disaster management (DM). There will be a paradigm shift, from the erstwhile relief-centric response to a proactive prevention, mitigation and preparedness-driven approach for conserving development gains and to minimize loss of life, livelihood and property.

7. Section 2 (e) of the Act defines disaster management as follows:-

“Section 2(e) "disaster management" means a continuous and integrated process of planning, organising, coordinating and implementing measures which are necessary or expedient for-

- (i) prevention of danger or threat of any disaster;
- (ii) mitigation or reduction of risk of any disaster or its severity or consequences;
- (iii) capacity-building;
- (iv) preparedness to deal with any disaster;
- (v) prompt response to any threatening disaster situation or disaster;
- (vi) assessing the severity or magnitude of effects of any disaster;
- (vii) evacuation, rescue and relief;
- (viii) rehabilitation and reconstruction;”

8. The definition encompasses the cycle of disaster management which has the elements of pre-disaster phase such as prevention, mitigation, preparedness and capacity building and post disaster phase such as prompt response, evacuation, search, relief, rehabilitation and reconstruction. The present system of disaster management is relief centric and needs to prepare itself for other aspects of disaster management which are equally important.

Disaster Management – A Multi-Agency Function

9. Disasters affect various aspects of life and development. Disasters destroy infrastructure, affect the mobility and communication, livelihood and severely impair the response capacity of the system. Therefore, disasters risk reduction and disaster management is a multi-agency function. Hence disaster management is a concern and responsibility of all the departments and agencies of the State and Central Government. The Disaster Management Act, 2005 mandates the State Government, SDMA and the SEC to issue guidelines to all the department of the State vis a vis training and capacity building, preparation of disaster management plans (DMPs), integration of measures of disaster risk reduction (DRR) into development planning, programmes and policies, and preparedness for disaster response. In view of the provisions of the Act, the following guidelines covering all the above major aspects are given in the succeeding chapters.

CHAPTER - 02

Imparting of Training to Government Functionaries and Other Stakeholders

10. And Section 22 (i) mandates the SDMA to “...promote general education, awareness and community training in regard to the forms of disasters to which different parts of the State are vulnerable and the measures that may be taken by such community to

prevent the disaster, mitigate and respond to such disaster..” Keeping in view the requirement of Act and for effective handling of disasters and building capacity at all level – Government machinery and other stakeholders - training needs to be imparted at various levels according to the needs and requirement of respective departments and other stakeholders. A “Training Needs Assessment” (TNA) workshop was organized by the Department of Revenue through HP State Council for Environment, Science and Technology on 25-26th April 2011. The Nodal Officers appointed by various departments for disaster management participated in the workshop. The findings of the workshop were presented before the Chief Secretary, Secretaries and HODs. The training needs of the departments has been worked out and as per the direction of the HP SDMA given by it in its first meeting held on 7.12.2011 every department is to ensure that the disaster management related training needs are incorporated into the training curriculum of the respective departments. General guiding principles for the departments would be as under:-

- i) Training would be provided as per the TNA of the respective department.
- ii) Disaster Management Cell, HIPA has been designated as a Nodal Agency to impart and coordinate training programmes in DM. HIPA would initiate the training process as per the DPR on training already approved by the State Executive Committee (SEC).
- iii) Every Department would train a cadre of Master Trainers in consultation with HIPA and HP SDMA at the designated specialized training institute or the training can be organized at the State Level after arranging suitable faculty.
- iv) SDMA and HIPA would provide necessary assistance to the departments for preparation their training material and modules. All trainings would be organized as per standard training modules.
- v) Wherever possible the issues of disaster management would be incorporated in the regular training programmes of respective departments such as training of teachers in SSA/RMSA, training of health officers/workers in NHRM, trainings under the rural development department schemes etc. However, if the departments feel to organize training of DM separately, or if it is not possible to club DM trainings with other training programmes they are free to do so.
- vi) The departmental training institutes would be fully utilized by the respective departments to impart training in DM. The existing capacity of the departmental training institutes would be upgraded so as to meet the requirement of DM related training.
- vii) Database of trained officials to be prepared and put in the departmental website;
- viii) Arrangement of training for local level also needs to be made for field level officials;
- ix) Focus would be hands on and practical training such as use of fire equipment, basics of search and rescue, medical first aid, etc. and
- x) Any other instruction issued by the NDMA, SDMA or the SEC from time to time.

CHAPTER - 03

Preparation of Disaster Management Plans by the Departments

11. Disasters occur with unfailing regularity in India and Himachal Pradesh causing loss of life, assets and livelihood. The increasingly shifting paradigm from a reactive response orientation to a proactive prevention mechanism has put the pressure to build a fool-proof system, including within its ambit, the components of prevention, mitigation, rescue, relief and rehabilitation. Pre-disaster planning is crucial for ensuring an efficient response at the time of a disaster. A well-planned and well-rehearsed response system can deal with the exigencies of calamities and also put up a resilient coping mechanism. Optimal utilisation of scarce resources for rescue, relief and rehabilitation during times of crises is possible only with detailed planning and preparation.

Legal Provision

12. Section 23 of the Disaster Management Act, 2005 mandates that there shall be a plan for disaster management for every State to be called the State Disaster Management Plan (DMP). Copies of the State Plan shall be made available to the departments of the Government of the State and such departments shall draw up their own plans in accordance with the State Plan. Besides, 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.

Note: The copy of the State DMP is available at: www.hpsdma.nic.in

13. **Brief guidelines for the departments for the preparation of DMPs are as under:-**

- i) The departments of the State, Centre located in the State and other Agencies of the State/Centre Government would draw their DMPs on the basis of State DMP;
- ii) The plans of the departments/agencies would depend upon the role they have in the disaster management - Emergency Support Functions (ESFs);

(For ESF Plan please refer to the EOC manual which is available at: www.hpsdma.nic.in However, the copies of the ESF plans stand shared with all the departments)

- iii) The DMPs would contain all aspect of DM as enshrined in the definition of DM under Section 2 (e) of the Act e.g. prevention, mitigation, preparedness, capacity building, response, etc. and other provisions of the Act;
- iv) The Guidelines issued by the NDMA for the management of various disasters and the roles assigned to various departments would be taken into consideration while preparing the plans. The guidelines issued by the NDMA are available at: www.ndma.gov.in and the actionable points of the guidelines are available at: www.hpsdma.nic.in);
- v) The plans would be regularly (at least once a year) improved and updated;
- vi) Nodal officers at all levels would be appointed to activate and implement the plans;
- vii) Financial provisions would be made within the normal programmes, schemes, and budgetary allocation of the department to implement the provisions of the DM Plan; and
- viii) Any other instruction issued by the NDMA, SDMA or the SEC from time to time.

CHAPTER – 04

Disaster Risk Reduction - Mainstreaming of Disaster Risk Reduction into Development Planning, Programmes and Policies

A. Introduction – Disaster and Development

14. Natural disaster risk is intimately connected to processes of human development. Disasters put development at risk. At the same time, the development choices made by individuals, communities and nations can generate new disaster risk. But this need not be the case. Human development can also contribute to a serious reduction in disaster risk. The destruction of infrastructure and the erosion of livelihoods are direct outcomes of disaster. But disaster losses interact with and can also aggravate other financial, political, health and environmental shocks. Such disaster losses may setback social investments

aiming to ameliorate poverty and hunger, provide access to education, health services, safe housing, drinking water and sanitation or to protect the environment as well as the economic investments that provide employment and income.

How can development increase disaster risk?

15. There are many examples of the drive for economic growth and social improvement generating new disaster risks. Rapid and unplanned urbanisation is an example. The growth of informal settlements and inner city slums, whether fuelled by international migration or internal migration from smaller urban settlements or the countryside, has led to the growth of unstable living environments. These settlements are often located in ravines, or steep slopes, along flood plains, sinking areas or adjacent to noxious or dangerous industrial or transport facilities. Rural livelihoods are put at risk by the local impacts of global climate change or environmental degradation. Coping capacity for some people has been undermined by the need to compete in a globalising economy, which at present rewards productive specialisation and intensification over diversity and sustainability.

Can development planning incorporate disaster risk?

16. The frequency with which our country and state experience natural disaster should certainly place disaster risk at the forefront of development planners' minds. This agenda differentiates from two types of disaster risk management. *Prospective disaster risk management* should be integrated into sustainable development planning. Development programmes and projects need to be reviewed for their potential to reduce or aggravate vulnerability and hazard. *Compensatory disaster risk management* (such as disaster preparedness and response) stands alongside development planning and is focussed on the amelioration of existing vulnerability and reduction of natural hazard that has accumulated through past development pathways. Compensatory policy is necessary to reduce contemporary risk, but prospective policy is required for medium – to long-term disaster risk reduction.

B. The Legal Context

17. As per the DM Act, 2005 the States have been mandated to take measures for prevention/mitigation of disasters and to ensure that appropriate preparedness measures for integration disaster management into development plans and projects are taken and further allocation of funds for prevention, mitigation, preparedness for disaster and capacity building are also made available. Since disaster management is not a function of DM department alone but of all departments hence mitigation concern must be addressed by

the respective departments in all aspects of development. The issue of DRR integration is also contained in the National Policy on Disaster Management, 2009. The Five Year Plan specifically contained the following provisions:-

- i) Do “no harm” approach;
- ii) Focus on integration of DRR in development
- iii) Finance Ministry has announced mandatory requirement to the effect that all new projects to be screened from a DM angle.
- iv) Multi-hazard profile needs to be considered while deciding the locations of projects
- v) Adequate mitigation features to be incorporated in the ongoing programmes.

18. Under clause (d), Sub Section (2) of Section 18 of the Disaster Management Act, 2005, the SDMA has been mandated 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 and provide necessary technical assistance therefor” and to “review the development plans of the different departments of the State and ensure that prevention and mitigation measures are integrated therein {Section 18 (2) (g)}. Similarly, the State Executive Committee (SEC) headed by the Chief Secretary has been held responsible to “monitor the implementation of the guidelines laid down by the State Authority for integrating of measures for prevention of disasters and mitigation by the departments in their development plans and projects {Section 22 (2) (e)}.

19. Under Section 38 (2) (e) of the Act the State Government is to ensure that the integration of measures for prevention of disaster or mitigation have been incorporated by the departments of the Government of the State in their development plans and projects. The State Government is further to ensure integration of measures to reduce or mitigate the vulnerability of different parts of the State to different disasters in the state development plan {38 (2) (f)}.

20. The Act also prescribes for preparation of State Plan and for incorporation of measures suggesting as to how mitigation shall be integrated into development plans and projects. The Act states that the State DMP shall prescribe “the manner in which the mitigation measures shall be integrated with the development plans and projects”. The DMPs of departments at State and district level shall also have provisions for prevention of disaster and mitigation of its effects or both in the development plans and programmes as provided for in the State DMP and as is assigned to the department or agency concerned.

C. Mainstreaming DRR into Development

Mainstreaming has three purposes:-

- To make certain that all the development programmes and projects that originate from or funded by Government are designated with evident consideration for potential disaster risks to resist hazard impact
- To make certain that all the development programmes and projects that originate from or are funded by Government do not inadvertently increase vulnerability to disaster in all sectors: social, physical, economic and environment.
- To make certain that all the disaster relief and rehabilitation programmes and projects that originate or are funded by Government are designed to contribute to development aims and to reduce future disaster risk.

Mainstreaming DRR into Development Sectors

21. DRR refers to the measures used to reduce direct, indirect and intangible disaster losses. The measures may be technical, economic or social. DRR encompasses the two aspects of a disaster reduction strategy: 'mitigation' and 'preparedness'. Mitigation refers to measures aimed at reducing the risk, impact or effects of a disaster or threatening disaster situation, whereas, preparedness refers to the measures undertaken to ensure the readiness and ability of a society to forecast and take precautionary measures in advance of imminent threat, and respond and cope with the effects of a disaster by organising and delivering timely and effective rescue, relief and other post-disaster assistance. 'Mainstreaming DRR' describes a process to fully incorporate the concerns of disaster preparedness, prevention and mitigation into development and post disaster recovery policy and practice. It means completely institutionalizing DRR within the development and recovery agenda. Accordingly, the following broad objectives of mainstreaming DRR into Development will be encouraged:

- Ongoing schemes and projects of the Ministries and Departments of GoI and State Governments, as well as of all Government agencies and Institutions, including Public Sector Undertakings, will be selectively audited by designated government agencies for ensuring that they have addressed the disaster risk and vulnerability profiles of the local areas where such schemes and activities are being undertaken.
- At conceptualization or funding stage itself, the development schemes will be designed with consideration of any potential hazardous impact associated with it and incorporate measures for mitigation of the same.
- All the development schemes will be pragmatic, incorporating the awareness of local disaster risk and vulnerability, and ensuring that the schemes have addressed these concerns and included specific provisions for mitigating such disaster concerns; and
- DDMA will ensure that all the disaster relief and recovery programmes and projects that originate from or are funded by any agency satisfy developmental aims and reduce future disaster risks.

D. Approaches for mainstreaming

22. There are three suggested approaches of mainstreaming disaster management into the development process and disaster management plans-

1. Structural Measures
2. Non Structural Measures
3. Disaster Mitigation Projects

23. Based on the suggested approaches the specific action would involve:-

- a. Adopting a Sectoral approach and identification of Key sectors for mainstreaming.
- b. Within each sector, key programmes/projects would have to be identified.
- c. This has to be followed by indentifying the entry points within the programmes/projects for integration.
- d. It would also involve work at the policy and planning level be it national, state and district level.
- e. It would also need a close coordination with State Planning Commission and Finance Department for promoting DRR into all development programmes and involve working with different departments to mainstream DRR into the Departmental Plans and policies.
- f. Advocacy would have to be done for allocation of dedicated budget for DRR within the Departmental plans.
- g. Further appropriate guidelines for different sectors would have to be development and for it to be effective and sustainable it has DRR would have to be ultimately integrated to the development plans of various departments at the district and sub-district levels.

E. Sector Specific Illustrations of DRR Integration (Source: NDMA Guidelines)

i) Integrating DRR in Shelter & Infrastructure:

24. In every disaster huge losses happen due to destruction of shelter and infrastructure and pose challenges to quick recovery. Focus on disaster resilient shelter and infrastructure can reduce the impact of disaster to a great extent.

Shelter and Infrastructure

Policies & Legislation

- Quality standards & guidelines for infrastructure focus on hazard-resistant construction
- Land-use planning technique is used in pre-planning an affected village area

Advocacy & Awareness

- Implementing agencies and beneficiaries are aware
- Implementing agencies and people are aware of new disaster resilient construction techniques
- Affected people, including the most vulnerable, are aware of their land and housing rights
- Public information on entitlements has been spread
- Families are encouraged to prepare household disaster preparedness plans

Coordination & Capacity development

- Institutional arrangements are in place to promote use of calamity-resistant techniques including retrofitting
- Necessary technical training is imparted to implementing staff and inspectors, district and local government and NGOs, on DRR in reconstruction (e.g. hazard analysis for site location, awareness on how to monitor hazard resistant construction etc.)
- Masons are trained in hazard resistant construction

Risk-proofing & Monitoring

- Land is allotted by the district administration to the private sector or NGOs provided they undertake disaster resistant construction
- Retrofitting of existing houses
- Quality of construction is monitored through regular inspections

Engagement of Local Bodies & Communities

- Following the owner driven reconstruction principle, self-help groups, including the most vulnerable, are organised and engaged in construction with assistance in the form of finances, building materials, and DRR engineering services
- Communities are trained in quality monitoring

ii) Integrating DRR in Restoration of Livelihoods:

25. Integrating DRR into livelihoods is a key challenge to sustain the socio-economic development achieved in the development process.

Restoration of Livelihood**Policies & Legislation**

- Land-use planning technique is used for livelihood planning

Advocacy & Awareness

- Institutions like ICAR study and prepare development plans as a long term strategy for improved livelihoods, development of livestock, and overall agricultural development
- Vocational training is imparted to affected people including women and the most vulnerable
- Small entrepreneurs have developed business contingency plans
- Coordination & Capacity development
- Economic programmes are launched for masons, entrepreneurs and self-employed
- Maximum support is given to revitalization of dairy, handicraft, handloom & small Industries with special focus on women and disadvantaged groups
- Use of locally available material and traditional livelihoods is supported and encouraged
- There are provisions in government programmes (e.g. NREGA for disaster-affected areas)
- Partnerships have been formed with Micro Finance Institutions on micro-credits and Micro-insurance

Risk-Proofing & Monitoring

- Income-generation activities are piloted for upscaling
- Comprehensive risk assessment of the agricultural land /livestock is done

- There are changes in crop pattern and growing of resistant/ alternative crops
- Alternative viable livelihoods are mapped, including market linkages
- There is the option of cash for work in reconstruction of key infrastructure for informal sector workers
- Access to financial tools for risk reduction is improved (e.g. insurance is offered to small enterprise owners and workers on livelihood assets; agreements in place with MFIs on reduced interest rates or grace period for loan repayments etc.)

Engagement of Local Bodies & Communities

- Self-help groups are organised and covered under Swarn Jayanti Swarojgar Yojana for developing livelihoods
- Women have been trained in handloom and other economic activities
- Youth groups are trained in preparedness, response, mitigation, etc.
- Contingency funds at the local government and community level are created
- Vulnerable groups are prioritized in service provision

iii) Integrating DRR in Food Security and Nutrition:

26. Food insecurity and malnutrition adversely affect poor households and their vulnerability further gets aggravated in post-disaster situations. Elderly, disabled, women and children are usually the worst affected in disaster situations. Special efforts must be made to ensure that the needs of these groups are assessed carefully.

Food Security and Nutrition

Policies & Legislation

- Adequate safety net for poor in the situation of acute food crisis in the policy mostly in disaster prone areas
- Long term strategy for draught management
- Introduction of insurance schemes for the poor for covering post disaster losses (post floods, earthquake, cyclone, etc.)

Advocacy & Awareness

- Public information campaign on existence and content of Govt. agricultural livestock schemes and entitlement/access to them.
- Awareness raising of the risk to food crops from hazards & from environmental degradation – those currently experienced and those likely to appear in future through climate change
- Making the vulnerable community aware of the nutritious content of the local food which is cheap and accessible to them
- Creating awareness among people on climate variability and impact of human induced extreme weather events in disaster zone

Coordination & Capacity development

- Training of farmers in alternative farming methods, crop types & varieties, and water resource management
- Training of mothers and adolescent girls on preventive measures of maternal & child

nutrition especially in disaster situation

- Training of SHG women members in preparedness and post disaster response for food security
- Proper engagement of ICDS in multi hazard zone and train the staff accordingly
- Training of MPW, FHW and AWW to take up special counselling for mothers and family members on maternal and child nutrition in multi hazard zone before the onset of disaster

Risk-proofing & Monitoring

- Increased cultivation of drought (or flood) resistant crop types or varieties; revival of traditional crops and varieties which are more hazard tolerant.
- Diversification of crops grown in different seasons of the year
- Introduction of water-conservation farming systems, e.g. minimal tillage, mulching, contour bunding (using earth or stones), half-moon pits, terraces, etc.; afforestation and pastureland development for soil and water conservation
- Small scale irrigation systems such as cross dams, sub-surface dams, and hand, foot or animal-operated pumps
- Community grain banks.

Engagement of Local Bodies & Communities

- Formation or strengthening of farmers co-operatives (for access to Govt. schemes, bulk purchase of inputs, grain banks, etc.).
- Awareness raising of women SHG members, youth club and schoolchildren to increase engagement of vulnerable groups in preparedness/post disaster
- Involvement of local Govt. (Gram Sabha) in schemes to manage natural resources – e.g. building cross dams, managing grazing or reducing environmental damage.

iv) Health Services:

27. Health services are very important during disasters but often get badly affected by disasters. Integrating DRR into health services is of utmost importance.

Health

Policies & Legislation

- Quality standards & guidelines for infrastructure focus on hazard-resistant construction of hospitals and health facilities/ centres
- Land use planning technique used for planning for location of new hospitals/health centres

Advocacy & Awareness

- Health workers are aware of NDMA Guidelines on medical preparedness and mass casualty management for disasters
- Hospital Disaster Management Toolkits, Community Health Workers manuals etc. are available for health workers to use

Coordination & Capacity development

- Health training: Anganwadi workers, health volunteers are trained on various aspects of health and hygiene during emergencies
- Anganwadi centres are strengthened (e.g. safe structure, adequate stocks of medicines/

- emergency kits, DRM training for workers, more staff during risk prone season etc.)
- Health workers are involved in disaster preparedness efforts (e.g. inclusion of disaster management and first aid into MPW and FHW training curriculum, MPW, FHW workers part of Village Disaster Management Teams etc.)
 - A Contingency plan exists for health services and delivery during the monsoon season (e.g. equipping paramedical staff in villages that are hard to reach)
- Risk-proofing & Monitoring**
- Primary health centres and Community health centres are fully equipped to continue functioning during disasters
- Engagement of Local Bodies & Communities**
- Communities are trained in counselling skills to deal with post-disaster trauma

v) Water - Sanitation –Hygiene:

Water - Sanitation - Hygiene

- Policies & Legislation**
- Policy on WASH recovery includes provisions on upgrading facilities in terms of hazard resistant and accessibility
- Advocacy & Awareness**
- Awareness at various level on safe WASH practices
 - Disaster Risk Reduction is integrated into Watershed programme (e.g. Nirmal Gram)
- Coordination & Capacity development**
- A Contingency plan exists for service delivery system for WASH for monsoon season
- Risk-proofing & Monitoring**
- Risk assessment is done for site-location of water pumps, supply systems, drainage & sewage systems, sanitation facilities etc.
 - Construction of community drainage systems, sanitation facilities, waste management system etc. is risk-proof
- Engagement of Local Bodies & Communities**
- Quality control is exercise by the community by participating in the risk proof creation of community drainage systems, sanitation facilities, waste management etc.

vi) Education:

Education

- Policies & Legislation**
- Land use hazard zoning technique used for planning for new schools
 - Schools have disaster management plans -
 - Quality standards & guidelines for hazard-resistant construction of schools
 - Retrofitting policy for disaster resistant strengthening of existing school buildings
 - Retrofitting policy for Non-structural building components (falling hazards) in schools
- Advocacy & Awareness**

- DRR lessons in school curriculum advocate safe behaviour

Coordination & Capacity development

- Education & training on disaster risk management including for teachers
- Schools conduct disaster preparedness programmes (e.g. mock drills, first aid, search and rescue, swimming and crowd management training)
- A Contingency plan exists for continuing education during the monsoon and winter season

Risk-proofing & Monitoring

- School safety norms are followed in construction of safe schools
- Risk assessment done in site-selection and building new schools
- Retrofitting of existing schools

Engagement of Local Bodies & Communities

- Engaging community in design and monitoring of education program

vii) Environment and Disaster Management:

Environment and Disaster management

Policies & Legislation

- Environment regulations are adhered to and include hazard considerations (e.g. EIAs for recovery projects incorporate disaster risk assessments)
- Institutions to update state, district and local disaster management plans reflect current needs and priorities for recovery

Advocacy & Awareness

- Safe reconstruction of embankments is advocated
- Public information on quality control is spread
- There is awareness on climate change mitigation (energy saving) and adaptation

Coordination & Capacity development

- Capacity development on updating disaster management plans
- Knowledge transfer to duty-bearers esp. DDMCs on factoring and monitoring risk Reduction into reconstruction, livelihoods programs and restoration of ecosystems
- Risk-proofing & Monitoring:
- EIA incorporate Disaster impact assessment
- Eco-systems that contribute to risk reduction are restored (eg. forestation)
- There is a public investigation into embankment construction underway

Risk-proofing & Monitoring

- All projects can be evaluated and audited from the design to commissioning phases for risk proofing

Engagement of Local Bodies & Communities

- Quality control by beneficiaries
- Community-based risk assessments are done
- Community Early warning systems are in place
- CBOs are trained on embankment monitoring

F. Illustrations of Mainstreaming DRR into ongoing Flagship Programmes

28. More specifically some of the following flagship programmes for Government of India could be used as an entry point for mainstreaming the DRR in development plans and the following steps may be undertaken:-

Sl. No.	Name of The Programme	Department/ Sector	Proposed Strategies for DRR Integration into the Flagship Programmes
1.	Indira Awas Yojana	Rural Development	i. Inclusion of such measures like application of Hazard resistant design in construction of IAY houses, appropriate siting of IAY housing in guideline of IAY ii. Development of model design for IAY houses which could be easily referred to by DRDAs at district level and used for community awareness depending on the geographical location. iii. Capacity Building of Rural masons on safe construction. iv. Capacity Building of PRIs. v. Community Awareness. vi. Capacity Building Programmes for DRDA officials on Disaster Risk Reduction issues.
2.	Mahatma Gandhi National Employment Guarantee scheme	Rural Development	i. Utilisation of MGNREGS funds to reduce the vulnerability of Panchayat vis a vis natural hazards such as landslide, drought, forest fire, cloud burst, flash floods, earthquake etc. ii. Giving priority to those works which reduce the vulnerability of area over the works which enhances the vulnerability of the area to natural hazards. iii. Identified works are available which take into account the hazard profile and offer continuous employment opportunities in the event of disasters to ensure livelihood security in the event of disasters. iv. Works which reduce disaster risk are given priority in plans-such as local mitigation works etc. v. Any other implement able suggestion within the ambit of the scheme.
3.	Pradhan Mantri Gram Sadak Yojana	PWD	i. The Master Plan for rural roads, the district rural road plan and identification of core network under the planning process of this scheme should, which the overall guidelines of its preparation, explicitly address the disaster risk reduction concerns and accord priority to connect the vulnerable habitations. ii. The technical guidelines should explicitly provide for suitable protection and inclusion of disaster risk concerns explicitly - while provision of cross drainage, slope stabilization, protection works are already included, in multi-hazard and especially flood and landslide prone areas fair weather roads need to be upgraded on a priority basis. iii. The maintenance guidelines are modified to ensure that in case of disasters these roads get provision for restoration to ensure all weather connectivity.

4.	Sarva Siksha Abhiyaan	Education	i. Development of a Policy paper of school safety. ii. Introducing school safety as a part of the guidelines of SSA which is currently focusing on inclusive development. iii. Developing model structurally safe designs for schools. iv. Introducing School Safety in the Teacher's Training Curriculum. v. Training of Rural Engineers appointed under SSA Scheme as well as the SSA State Coordinators. vi. Training of masons in rural areas. vii. Construction of Technology Demonstration Units. viii. Community Awareness.
5.	Jawahar Lal Nehru Urban Renewal Mission	Urban Development	i. Strengthening of the compliance mechanism at the detail project report submission and appraisal stage in case of infrastructure projects as well as housing scheme to ensure structural safety. ii. Emphasis on disaster risk audit at the stage of preparation of detail project reports. iii. Inclusion of amending of building byelaws to ensure structural safety as a mandatory reform in the Mission cities to ensure safe habitat development.(Both structural safety and fire safety norms). iv. Inclusion of disaster management as a function of the Urban Local Bodies and allocate resources. v. Inclusion of Disaster Resistant features in the houses being constructed under the BSUP component as well as promote development of safe habitat. vi. Inclusion of strategies for disaster management in the City Development Plans. vii. Training and Capacity Building Programmes for municipal officers on disaster risk reduction.
6.	Rajiv Awas Yojana	Urban Development	i. Since Rajiv Awas Yojana is focusing on developing slum free cities and Capacity Building and Community Mobilization is also an important component of RAY, through this programme attempts can be made towards community level disaster preparedness as slum dwellers often become the most vulnerable community during such disasters as floods, fire and high wind speed. The 30 cities selected on a plot basis can be targeted to initiate community based disaster preparedness activities. ii. Also the Housing Programmes to be implemented in these selected cities can ensure incorporation of hazard resistant features and safe sitting.
7.	National Rural Health Mission	Health and family welfare	i. Ensure that the village Health Plan and the District health plan explicitly address the disaster risk reduction concerns in the vulnerable habitations and the vulnerable districts and the disaster management plan as per DM Act 2005 takes links itself to the District and village Health plans. ii. Provide training to the ASHA workers on disaster health preparedness and response. iii. Strengthening of Disease Health Surveillance System in rural areas. iv. Ensuring structural safety of the CHC/PHC and other health care service delivery centers in rural areas. v. Training of doctors and hospital staffs on mass casualty management and emergency medicine. vi. Community awareness on disaster management.

29. The list given in the above table is an indicative one and many more line departments can be added to it. DRR planning needs to be done at Municipal and Panchayat

levels with the involvement of local community representatives; and simultaneously the resource and responsibility to manage would be in the domain of the local authorities. Decentralised planning can enhance local participation along with improved efficiency and equitable benefits.

G. Mainstreaming DRR into Development Planning – Approaches

30. Disasters are basically unresolved problem of development. Development can increase vulnerability. Development can reduce vulnerability. The outcome rests on developmental choices. The seeds of disasters are often sown in development patterns: poor land use planning, environmental management and lack of regulatory mechanisms. It is due to this reason that despite having almost similar exposures disaster has greater impact on humans in developing or low developed countries than the developed countries. Therefore, disaster risk can best be addressed through integrating into the developmental planning, programmes and processes.

31. Mapping of hazards, identification of elements at risk and exposure data assist in quantifying risk. Thereafter risk reduction initiatives can be taken. Mainstreaming DRR is a prerequisite for safe and sustainable development. Mainstreaming as a term is used to describe the consideration of DRR elements in national and regional decision making process (Policy, planning and budgeting etc.). DRR integration leads to addition of specific measures to the development plans, programmes and strategies. Some of the key sector where mainstreaming/integration of DRR can be done with illustrations is as under:-

a) Public Infrastructure:-

- i) Incorporate disaster risk impact assessment as a part of the planning process before the construction starts.
- ii) Site analysis and risk sensitive land-use planning (either avoid development in hazard prone areas or adopt treatment and mitigation measures)
- iii) Strengthen compliance to the various provisions of the codes – set up hazard safety cell for advice and monitoring
- iv) Disaster resistant technologies mandatory in case of all construction using public/corporate funds.
- v) Training and capacity building of the department and functionaries.

b) Housing – Rural and Urban

- i) Application of hazard resistant designs
- ii) Prepare construction guidelines for rural areas, Nagar Panchayats and Municipal Councils.
- iii) Amendment of Building bye-laws, Zoning regulations and Development Control Regulations.
- iv) Strengthening the enforcement of techno-legal and managerial regime.

- v) Training of masons, engineers, architects, contractors, promoter and builders.
- vi) Sensitization of the banking and financial institutions.
- vii) Promotion of disaster insurance in housing sector.
- viii) Having a housing reconstruction policy.

c) Health Sector

- i) Ensure hospitals and health facilities are not located in hazard-prone areas.
- ii) Analyze the internal and external vulnerabilities of existing health care facilities during emergencies.
- iii) Retrofitting of the critical hospitals.
- iv) Prepare and implement hospital preparedness plan.
- v) Training of doctors on mass casualty management, trauma care and emergency medicine.
- vi) Training of health workers on emergency preparedness and response.
- vii) Strengthening of disease surveillance system.

d) MGNREGS – Scope of work – Some illustrations

- i) Water conservation and water harvesting;
- ii) Drought proofing, including forestation and tree plantation;
- iii) Irrigation canals, including micro and minor irrigation works;
- iv) Plantation and horticulture;
- v) Renovation of traditional water bodies, including de-silting of tanks;
- vi) Land development;
- vii) Flood-control and protection works, including drainage in water logged areas; and
- viii) Rural connectivity to provide all weather access.

e) Indira Awas Yojna

- i) Study IAY housing typology and develop hazard resistant model design (taking into consideration of available local materials and culture).
- ii) Training of DRDA officials and engineers.
- iii) Awareness generation among villagers and PRIs members and community mobilization campaign.
- iv) Construction of sample IAY units for promoting the technology.
- v) Training of Masons and community members on hazard resistant technology.

CHAPTER - 05

Schools and Hospitals Safe from Disasters

32. In addition to the general guidelines as given above for the health and education sector, guidelines for school and health safety are as under:-

A. Schools Safe from Disasters

33. Few would disagree that our children deserve the right to a safe education yet time and again we fail our children with unsafe schools. Schools are vulnerable to disasters and in the past thousands of children have been killed/injured in schools and large number of school buildings have been damaged or destroyed during disasters. School safety is important because children are the most valuable segment of any culture or society since the future rests in their hands. Moreover, children, the ill and the elderly are generally the most vulnerable segments of society. Children have no choice when they are exposed to unacceptable high levels of risk in their school buildings. Schools which are unprepared to face disaster respond with fear, panic, disorder, confusion, lack of proper response and unnecessary consequences. On the other hand schools which are prepared have less fear, fewer loss of life takes place, injuries are prevented, evacuation is organized and devastating consequences of disasters are reduced and lives are saved. Steps for safe school are:-

- i) Basic disaster awareness and sensitization;
- ii) Conduct hazard hunt and secure hazards at school (structural and non-structural);
- iii) Preparedness of Emergency Preparedness Plans;
- iv) Conduct of Mock drills to test the plans and organized response;
- v) Discuss emergency plan with parents;
- vi) Link school safety with community, SMC, PTAs etc. and
- vii) Discuss earthquake safety at home.

34. Himachal Pradesh has over 44% land are in Seismic Zone V and the rest in Zone IV. Earthquakes will cause injury, loss of life, disruption and economic damage related to schools. There are thousands of children in schools who may be in danger. If no action is taken, the problem will only get worse due to population growth and redistribution and our greater emphasis on “Education for All” initiatives. That each unsafe classroom added to our building stock will put 40-50 more children at risk.

35. Some suggestions for mainstreaming actions for school safety are as under :-

- a) Establish clear and measurable objectives for school seismic safety that can be implemented and supported by the community with timeline.
- b) Define the level of earthquake hazard and establish norms for school buildings in each zone.
- c) Set forth expectations or objectives that define the desired ability of school buildings to resist earthquakes – All school buildings designed, constructed or retrofitted to prevent collapse and prioritize school buildings with pre-defined post-earthquake roles should remain functional.
- d) Address all schools regardless of the ownership – private or public.

- e) Give initial priority to make new schools safe. A longer timeframe should be established to correct seismic weakness of existing school buildings – set standards for new schools and assess the existing school buildings.
- f) Establish programmes as long-term undertakings with a strong commitment to sustained effort rather than one-time action.
- g) Adopt multi-hazard approach to school safety with earthquake mitigation strategies that complement and enhance disaster counter-measures for other hazards.
- h) Employ advisory committees as needed to assure that policy and technical decisions are consistent, and to provide long-term independent support and evaluation to the State for the seismic safety effort.

B. Hospitals Safe from Disasters

36. When it comes to disaster mitigation, hospitals need special attention due to the vital functions they perform, their high level of occupancy, and the role they play during disaster situation. But time and again, these facilities fail the communities they were to serve in the most critical “golden hours”. The aims and objectives of DRR mainstreaming into health sector includes –

- a) to protect lives of patients and health workers by ensuring that the structural resilience of health facilities;
- b) to improve the risk reduction capacity of health workers and institutions; and
- c) to ensure health facilities and services continue to function in the aftermath of emergencies.

37. That in case of hospitals structural mitigation is important. But earthquake resistant hospital buildings are not enough for the facilities to remain functional. The non-structural elements – all those other elements that without forming part of the structure, but enable the facility to function such as equipment, services or lifelines - also need to remain operational. The main ingredients for a functional hospital are:-

- safe buildings,
- hospital staff is safe and prepared,
- medical equipment are functional,
- utility system is functional,
- communication is functional and
- supplies are available.

38. And the questions which health facility administrators must ask from themselves:-

- 1) Is there any earthquake hazard where we are?
- 2) Are our hospital buildings safe?
- 3) What can be done to reduce earthquake risk in existing hospital buildings?
- 4) Do we need retrofitting? What performance are we looking at?

- 5) How do we increase our capacity for effectively responding to emergencies involving mass casualties?
- 6) How safe are our equipment?

Steps for safe hospital are:-

- i) Basic disaster awareness and sensitization;
- ii) Conduct hazard hunt and secure hazards at hospital (structural and non-structural);
- iii) Preparedness of Emergency Preparedness Plans;
- iv) Conduct of Mock drills to test the plans and organized response;
- v) Discuss emergency plan with all stakeholders;

CHAPTER – 06

Preparedness for Disaster Management

Legal Provision

39. As per Section 38 (2) (i) of the Act the State Government shall ensure that different departments of the Government of the State and the District Authorities take appropriate preparedness measures to deal with disasters. The Act further says the SDMA shall review the measures being taken for mitigation, capacity building and preparedness by the departments of the Government and issue such guidelines as may be necessary {18 (2) (h)}.

Brief Guidelines for the Departments:-

1. The departments shall critically assess their present level of preparedness, availability of trained manpower and equipment to perform the roles and responsibilities envisaged for them as per the provisions of the Act, guidelines issued by the NDMA, SDMA and SEC;
2. The departments shall also evaluate their capabilities and preparedness as per the State ESF Plan and guidelines issued by the NDMA vis a vis various disasters;
3. An action plan to improve the capacity and level of preparedness of the department would be chalked out and implemented in a time bound manner;
4. The departments would also ensure office level planning and preparedness and conduct regular mock drills for various hazards such as fire and earthquake;

5. Nodal Officer DM of the department can be entrusted with this responsibility; and
6. Any other instruction issued by the NDMA, SDMA or the SEC from time to time.

For more information please contact:

HP State Disaster Management Authority
Department of Revenue, Disaster Management Cell,
HP Secretariat, Shimla – 171 002.

Website: www.hpsdma.nic.in

email: sdma-hp@nic.in



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