CHAPTER-VII

CONCLUSIONS AND SUGGESTIONS
India has been traditionally vulnerable to natural disasters on account of its unique geo-climatic conditions. Floods, droughts, cyclones, earthquakes, and landslides have been a recurrent phenomenon. About 60% of the landmass is prone to earthquakes of various intensities; over 40 million hectares is prone to floods, about 8% of the total area is prone to cyclones and 68% of the area is susceptible to drought. In the decade 1990-2000, an average of about 4,344 people lost their lives and about 30% million people were affected by disasters every year. The loss in terms of private, community, and public assets has been astronomical.

A disaster management has to be a multi-disciplinary and proactive approach. Besides various measures for putting in place institutional and policy framework, disaster prevention, mitigation, and preparedness enunciated earlier and initiatives being taken by the central and state governments, the community, civil society organizations, and media also have a key role to play in achieving our goal of moving together, towards a safer India. The message being put across is that, in order to move towards safer and sustainable national development, development projects should be sensitive towards disaster mitigation. Our mission is vulnerability reduction to all types of hazards, whether natural or man-made. This is not an easy task to achieve, keeping in view the vast population and the multiple natural hazards to which this country is exposed. However, if we are firm in our conviction and resolve that the government and the people of this country are not prepared to pay the price in terms of massive causalities and economic losses, the task, though difficult, is achievable and we shall achieve it.
We have taken the first few but significant steps towards vulnerability reduction, putting in place prevention and mitigation measures and preparedness for a rapid and professional response. With a massive awareness generation campaign and building up of capabilities as well as institutionalization of the entire mechanism through a technolegal and techno-financial framework, we are gradually moving in the direction of sustainable development.

The present study which was worked out on disaster management is a study of Mandi district keeping in view of Himachal Pradesh as a whole. The main aim of the study was to evaluate the functioning and role of the state disaster management in Himachal Pradesh with special reference to the Mandi district. Whatever objectives set for this study they are being explained as below:

- To study the disasters in Himachal Pradesh.
- To analyse the role of disaster management of the state level with special reference to the Mandi district.
- To examine the role of NGOs, CBOs and training in disaster at the state level in H.P. with special reference to the Mandi district.
- To analyse the role of media, awareness in the disasters at the state level in H.P. with special reference to the Mandi district.
- To make the community understand about the benefits & effective disaster management.
- To offer suggestions for the improvement of disaster management system in the state level with special reference to the Mandi district.
The primary data was collected through observation, taking personal interviews and structured questionnaire, whereas the secondary data had been collected from official/revenue records, reports, relief manuals, action plans, newspapers, magazines, journals, books, articles, websites and memorandum of the state revenue department. The field work for the present study was undertaken in the Mandi district. There were 6 sub-division, 9 tehsils, 422 panchayats, 1029 NGOs and 420 CBOs. The 100 samples of the said questionnaire were filled up personally from the officials of different departments who were directly concerned with disaster management while the other 100 non officials respondents were taken from NGOs, CBOs and home guards of the district. Whereas 100 respondents were asked from the area which was most vulnerable sub-division like Sadar, Sunder Nagar, Karsog and Joginder Nagar of Mandi district. The present study can prove a milestone in future in the field of public administration in order to study the role of disaster management in Himachal Pradesh. The study can also be helpful for district/state administration for making strategy, action plan, disaster policy devising warning mechanism, proper coordination system, developing communication tools, information window, relief and rescue operations, education & awareness related to disaster management. Further it will also guide NGOs, CBOs, VOs, Arm forces, Police, Home guards, Medical, Paramedical, Other concerned departments with disaster management, PRIs, mahila mandals, youth mandals, cooperative sector and general community for effective implementation of disaster management. It may be
also helped to guide the other scholars in the field of disaster management. This study has been divided into seven chapters, 1st chapter deals with introduction, 2nd chapter relates to disasters in Himachal Pradesh, 3rd chapter is Policy Framework and Organisation for Disaster Management in Himachal Pradesh, 4th chapter marks the role of NGOs, CBOs and arm forces, 5th chapter is related to media awareness and training, 6th chapter deals with the evaluation of disaster management and last but not the least deals with conclusions and suggestions.

TESTING OF HYPOTHESIS

The first hypothesis that disaster management is not being handled effectively in the state have been proved true. It has been found that the majority of the respondents were not satisfied with the state disaster management system to handle disaster situation effectively. The did not agree with disaster management organisation set up. They expressed their feeling for the need of separate ministry and department for handling effectively the disaster management system in Himachal Pradesh.

The second hypothesis that there was lack of coordination seen among the different functionaries at all levels have been proved true after checking the validity of testing. The majority of the respondents were not satisfied with the coordination system among different functionaries at all the levels of disaster management. Therefore, it can said that these was lack of coordination seen among the different functionaries at all levels.

The third hypothesis that the cooperation of NGOs, CBOs and media is generally ignored has been proved true. It has been found that the
majority of the respondents were not satisfied with the cooperation of NGOs, CBOs and media. Keeping in view the above finding we can say that the NGOs, CBOs and media have not been cooperating government and administration to handle any disaster situation.

The fourth hypothesis that the administration is not much capable to provide effective training system to NGOs, CBOs and media has been proved true. It has been found that the majority of the respondents were not satisfied with the administration disaster training system. Therefore, it can be analyzed that the administration is not much capable to provide effective training system to NGOs, CBOs and media and also not effective to community awareness.

The fifth hypothesis that there was no proper communication system established in the concerned departments which are responsible for disaster management has been proved true. It has been found that the majority of the respondents were not satisfied with the proper communication system with in the concerned departments which were responsible for disaster management. Keeping in view above findings we can say that there was lack of proper communication system among the concerned departments for the disaster management.

The last hypothesis that administration itself is not properly trained and well equipped to face such situation has been proved true. It has been found that the majority of the respondents expressed that administration itself is not properly trained and well equipped to face such situation. Therefore it can be said that administration was not much trained to manage disaster situation.
CONCLUSIONS

After making an analytical study of disaster management in Himachal Pradesh: A study of Mandi district on the basis of the data collected, following conclusions may be drawn.

1. Himachal Pradesh is a multi-hazard prone state. It comes under the zone III & IV according to seismic hazard zone map of India. Heavy rain monsoon, floods, cloud burst, flashflood, landslide, avalanches, earthquake, blizzards, hail storms, droughts, fire, forest fire and accidents are the main disasters in Himachal Pradesh.

2. The Mandi district also comes under the seismic hazard zone IV & V. It is most vulnerable and seismic hazard prone district to earthquake and floods, cloudburst, landslide, heavy rain monsoon, flashfloods, fire, droughts, forest fire and accidents are the main disasters of the district.

3. During study of disaster management in Himachal Pradesh a study of Mandi district it has been observed that there has been no separate department for disaster management at the state level as well as district level only the revenue department of government has been managing all kind of work related to disasters at the state and district level. In Mandi district the revenue department of the district administration manage disaster management/

4. There was no permanent disaster management authorities at all the levels of the state in Himachal Pradesh. Only at the time of disasters happening anywhere, the government and administration make efforts to establish disaster management. There is also lack of such
5. The disaster management committees have been set up earlier at the state and district level in the state and also in Mandi district disaster management committee set up district to sub-division level. There has not been any such committees existing at the tehsil, block and panchayat levels.

6. It can be analysed after the study the role of government and administration in any disaster situation was not effective. Only the government employees in the favour of effective role. While the non officials and affective community were not in the favour of effective role. Government and administration were not preparing disaster management policy regarding prevention, mitigation and reduction policies. The action plan of the state government and district Mandi was not also effective during any disaster situation in a real sense.

7. It was also concluded that the financial arrangement of the state government and district administration were not fullfilling the need of affected community in meeting any disaster situation. The relief measures were very low in real devasting properties. The emergency relief funds did not fullfill the need of affected community. The rescue operation of the government and administration did not satisfy affected community needs. It was very slow and not effective in any disaster situation.

8. Govt. and administration did not make efforts to link NGOs, CBOs, VOs and corporate sector to manage disaster situation. They ignored
by the govt. and administration to invite for the meeting of disaster management.

9. The government and administration were also not making efforts to provide them funds for sources and other equipments inventories to handling disasters. The state govt. and the district administration were not providing all the facilities to the affected community in right time during disasters. The rehabilitation system was not satisfactory.

10. The system of information dissemination of the state government and district administration was not much capable. It was seen that there was not proper coordination system among the different functionaries of state and district levels. There was lack of coordination at the state, district, sub-division, block, tehsil as well as village levels among the different functionaries of the disaster management.

11. In the sense of the role of NGOs, CBOs, VOs and arm forces it was observed that the role of NGOs, CBOs, VOs has not been effective in any disaster situation in Himachal Pradesh. They generally ignore disaster situation and ignore cooperation to govt. and administration to handle disaster situation due to lack of funds, resources and interest. it was seen that only the armforces, police, home guards and fire service men were making efforts to handle the disaster situation because they were trained by their department to handle disaster situation.

12. The state government and district administration were not forcefully implementing Indian standard codes for the new constructions/
buildings and community also not aware Indian standard codes for the constructions. The state government and district administration were not making efforts to stop deforestation and encroachment.

13. In the context of media awareness and training the role of H.P. govt. and administration was not much noticeable and effective. The govt. of Himachal Pradesh and the administration of the Mandi district have not provided proper disaster training facilities to concerned officials, non officials NGOs, CBOs, VOs with the disaster management.

14. In the field of information communication and awareness programmes for the community they have not been playing much imitative role. Only the media was making the community aware regarding disasters. But some time it has been observed that media created panic through wrong information during any disaster situation in the community.

15. In meeting any disaster situation the affected community was not receiving sufficient help from the govt. officials NGOs, CBOs, VOs and media. The affected community suffered more times years to years without receiving sufficient help from the govt. officials and other corporate and incorporate sector.

16. Regarding proper information system it has been observed that in any disaster situation there was a lack of proper information system among the different functionaries of the disaster management. Some times they were very much late to collect information from the disaster occurred places. So they were not able to start relief and rescue operation well in time for the affected community.

388
17. It was also assessed after the study that there was also lack of resources, inventories, facilities and infrastructure for handling any disaster situation. Some time it was found that the state government and district administration had failed to handle a disaster situation for the want of infrastructure, resources, inventories and other facilities.

18. It was found that community was not participating in the government and administration disaster management system. They were not giving cooperation to the government and administration to successfully manage disaster management system. The community was not fully aware about the disasters' causes and their recovery.

19. It was seen that the control room of state and district administration was not functioning properly all the time. Only in the rainy and winter season the control rooms was made for disaster management. The control rooms of the disaster management as well as state and district level were not functioning properly all over the years, only when the disaster situation occurred they were functioning.

20. It has been observed that during any disaster situation there was no proper coordination among the government and administration functionaries without proper information system. The information system of the administration to government and government to administration was a long process. In the long process there was no proper and effective coordination system established among the government and administrative functionaries.

21. Detection and risk assessment by first responders and specialized response team to rapidly and accurately detect, recognize and identify and assess the associated healthy risks may be slow, leading to rapid spread of the hazards.
SUGGESTIONS

On the basis of the conclusions drawn, the following suggestions may be given below:

1. **Efficient Organizational Setup:** There is a need of efficient permanent organization set up for disaster management in Himachal Pradesh. It should be established at state level to panchayat level.

2. **Good Governance and Sound Administration:** There should be a need of good governance and sound administration for the better performance to manage disaster situation in Himachal Pradesh.

3. **Separate Ministry for the Disaster Management:** There should be a separate ministry for the disaster management at the national and state level. It should be called the ministry of disaster management.

4. **Separate Department for Managing Disaster Management:** There should be a need to establish separate department to manage disaster management system in Himachal Pradesh. It should be established at state level in block level in Himachal Pradesh.

5. **Disaster Management Act:** The govt. of Himachal Pradesh should enact disaster management act for authorities, coordination, mitigation, preparedness and response as well as for various mitigation preparedness measures of the disaster management.

6. **Disaster Management Committees at All Levels:** Setting up of disaster management committees is urgently needed at state level to panchayat level in Himachal Pradesh.
7. **Effective Implementation of Disaster Management Policy:** The state govt. and district administration should implement disaster management policy effectively.

8. **Effective Planning:** The state govt. and the district administration should develop and integrate "all hazard" disaster management plans on priority. Which too must be practiced and updated periodically.

9. **Effective Disaster Preparedness, Prevention, Reduction, Mitigation and Rehabilitation System:** There is a need of effective disaster preparedness prevention, reduction, mitigation and rehabilitation system in Himachal Pradesh. The govt. and the administration must implement effective disaster preparedness, prevention, reduction, mitigation and rehabilitation policies to manage the crisis/disaster situations.

10. **Effective Coordination System between State Govt. and field Administration:** There should be effective coordination system between the state govt. and field administration in Himachal Pradesh.

11. **Relation between the Central and State Govt.:** For effective disaster management system there must be good relation between the central and state govt. they should cooperate them for relief and rescue measures in the disaster situation faced by the state community.

12. **Remote Sensing:** Conventional forecasting to be integrated with state-of-the art technologies namely remote sensing, data collection
platforms and geographical information system. Development activities proposed should use maximum possible information from remote sensing. Frequent monitoring and evaluation should also be carried out.

13. **Information Database**: A database of all area/region giving the land use, demographic, socio-economic data, infrastructure (like road, rail, network, hospital etc.) geography etc. maintained at state, district and local levels. Resource inventories of governmental and non-governmental systems, personnel and equipment should be made and networked. Historical documentation of previous disasters should include location of disasters, history, cause, mitigation details, financial etc. available and accessible for future planning.

14. **Forecasting, Warning and Alert Systems**: There is a need to improve communication links forecasting, control rooms by modernising the existing facilities in Himachal Pradesh at the state to district levels. Forecasting and warning works for river with in the state should be assessed on an individual basis.

15. **Structural Measures**: Provision for temporary shelters for human dwellings and animals in the event of a disaster has to be made in terms of appropriate design, material and cost effective construction technology. Storage facilities at a suitable scale need to be undertaken for food, fodder and other essential relief materials. Flood fighting through building temporary dykes along the river, dowel bunds on the banks need to be considered at all local and regional levels. Retrofitting of building, building foundation and
structures as a component of disaster management should be adopted as a policy of the government of India as well as the state government.

16. **Control Rooms/EOC:** Set up a network of EOCs in national and state capitals and headquarters of disaster prone or vulnerable districts. The EOCs will function as the nerve centres of an integrated command and control structure which will give primacy to the incident commander. They will be the convergence points for all inter-agency coordination and will be equipped with the state of art communication network – VHE/UHE network at panchayat village level and VSAT links: DSL – lines; broadband access to streaming audio video network for video-conferencing and complete computer support at district, state and national level. State government shall immediately set up a control room at the state capital manned round the clock by competent experienced officials. State government should issue a manual clearly laying down duties and responsibilities of each official designation-wise for each type of accidents.

The emergency operation centre provides a secure location to coordination actions and make critical decisions at the time of emergency and disaster situation. EOC communication would have radio communication on UHF, VHE, low band, HF and amateur radio frequencies. EOC reference library will contain research material to support the staff and personnel at the EOC particularly in the analysis room.
17. **Teams:** Search and rescue teams, disaster medical assistance teams, disaster mortuary assistance team. Specialized emergency operations teams to be instituted at the state and district level.

18. **Quality and Minimum Standards of Relief:** Minimum standard of relief not only addresses the food requirements of the victimized but also provides for the health and immediate first aid facilities, looks at the water and sanitation needs, shelter requirements and providing food that should be developed on the guidelines of SPHERE etc. When addressing the relief requirements of the disaster victims, focus should be placed on the special needs of the vulnerable population that is children, women, aged and the disabled. The state and district authorities of vulnerable states should prepare socio-cultural needs in relief supplies.

19. **Health and Medical:** Disaster management plans at all levels should have medical assistance teams, mobile hospitals, epidemic prevention measures, trauma counselling etc. Nursing and paramedics should be specially incorporated in the medical plans. Disaster specific medical plan would incorporate the special needs.

20. **Help Lines:** Establish information centres at pre-designed locations for giving details of the disasters and answering public queries etc. Telephone numbers of all information centres should be given wide publicity in electronic media. Tracing mechanism be a part of the response plan.

21. **Human Rights:** The rights of the victim in access to appropriate relief and dignified treatment also needs to be considered by the
relief agencies. Normally it is seen that the human rights of the people are not paid need to. In view of this it is recommended that codes for human rights be developed and incorporated into the response plans to serve the concept of "protection of Human Rights" organisations not to act as charity distributors but encourage people to stand on their own feet, instead of converting the poorest of the poor into beggars of relief.

22. **Disaster Knowledge Network:** A national disaster knowledge network be established to cover natural, manmade and biological disasters in all their varied dimensions. The proposed disasters knowledge network should be a network of network tuned to the felt need of a multitude of users like disaster managers, decision makers, affected communities and media. It should also serve as an interactive platform, and in fact a huge blackboard in cyberspace for all players, major and minor in this respect.

23. **Media:** An appropriate publicity management plan media publicity plan for disaster management will be very useful in imparting timely and correct information to the public. The role of this growing sector need to be tapped for disseminating preparedness aspects of disaster management among all sections of society and making special provisions for the more vulnerable sections of the community viz. women and children. Media should play a responsible role not only in terms of awareness but also in terms of accurate and informed reporting of events. The media could establish dedicated
channels during aftermath of a calamity to provide specific information about the local people and conditions.

24. **Early Warning System:** The early warning systems for different disasters should be in place so that the concerned administration and the communities can initiate appropriate actions, to minimise loss of life and property. These should be based on the parameters developed for the trigger mechanism and give an indication of the level of magnitude of the mobilization required by the responders.

25. **Good Disaster Management Information System:** The information collected for disaster must be accurate and must be available in time; otherwise its use would be limited. A good information system should not be a prestigious show-piece. It should be according to the need of the disaster organization. The information must flow constantly, otherwise its use would be limited. There should be a need of H.P. govt. and administration to make more efforts to apply modern techniques and methods for better disaster management information system.

26. **Efficient Communication System:** For efficient communication system staff must be adequately and currently informed about plans, methods, schedules, problems, events and progress. It is necessary that instruction, knowledge and information be passed on for practical application to all concerned, and that they be so clearly presented as to make misinterpretation or misunderstanding impossible. Proper and adequate communication is not just in one direction. It requires two-way passage. Administrators must be
certain that they know and understand the problems of workers for whom they are responsible. Communications must flow from the bottom upwards, as well as from the top down.

27. **NGO, CBOs, VOs Armed Forces and Home Guards:** NGOs, CBOs, VOs armed forces and home guards in Himachal Pradesh with special reference to the Mandi district are needed to make their agencies more effective. The govt. and administration must interact with them in disaster management programme from time to time. They should invite regularly in the meeting of district disaster management. They should be involved in civil defence and other organisations for disaster management by supplementing and not supplanting these services. They can be utilised for ambulance service, medical including nursing/para-medics and provision of medicines, rehabilitation activities like arrangement of food, shelter and clothing; communication; and awareness of people. NGOs, CBOs and VOs should assist to evolve model panchayat level sustainable development and disaster management plan.

28. **Corporate Sector:** There is a need to identify the infrastructure, equipment, expertise and other resources of large private and public sector units and its incorporation in to the local, state and national disaster management plan. These should be draft contracts prepared for the supply of equipments and relief material which could be activated on occurrence of calamities, corporate sector should take up components of disaster management activities as part of their social marketing. A silent disaster is the phenomenon of massive
rural-urban migration. The corporate sector can play a vital role in this context. They can help to create markets for the produce of our cottage and village industries to generate gainful rural employment by extending this facility through their own marketing networks.

29. **Linking Development to Disaster Reduction**: Integration of development plans with disaster-mitigation is the key for successful disaster management. The construction of roads, railway lines, bridges, etc. should be tuned to the analysis of hazard, vulnerability and risk in a given situation. All development project (engineering and non engineering) including irrigation and industrial projects should be targeted towards disaster mitigation. Environmental protection, afforestation programme, pollution control, construction of earthquake – resistant structures, etc. should have high priority within the plans.

30. **Insurance**: Insurance brings quality in the infrastructure and consciousness and a culture of safety by insisting to follow building codes, norms, guidelines quality materials in construction etc. It would enforce safety standard by brining accountability. hazardous area to be announced, notified and publicly displayed so that people would be motivated not to settle in those areas and insurance by made mandatory in disaster prone areas. Premiums can be charged on the basis of higher the risk higher the premium, lesser the risk lesser the premium. Since many areas are multi hazard, there should be multi hazard insurance provisions. Insurance against all natural disasters to be made available including thunder and lightning etc.
Gramin, cattle and crop insurance are limited, ad-hoc and scattered in scale which needs to be strengthened. Incentives to be provided to those insurers who have quickly followed building codes and other prescribed guidelines prevailing in the area. Insurance companies for efficiency should have their own experts and supervisors. Insurance companies are limited in the rural areas hence other existing institutions and their services like panchayats, local bodies, cooperative banks, post offices be used by insurance agency. To bring the culture of safety and insurance a year may be declared as year of insurance and government may provide suitable incentives to cover the people in uncovered areas and the district administration and other development agencies to take upto a mission mode. Migrant labourers can be caught in the disasters and being from other states they are not given any compensation, this difficulty should go. Government may also make provisions to incorporate in identity cards, the insurance policy number etc. to create awareness and also facilitate insurance oriented information. The land-less, shelterless and other assetless and under privileged people have to be insured by the government on a tapering basis. There are policies for personal, property as well as disaster oriented schemes. Comprehensive insurance policy for covering all types of man made accidents must be brought into place. In due course as a policy, the provision of compensation should be taken over by insurance.

31. **Training:** The disaster management personnel should be trained in use of emergency communication and disaster warning system so as
to act efficiently in managing the mitigation works. Upgradation of skills of professionals by providing state of the art training and establishing public health laboratory training programme. State government shall be adequate training is imparted to all such officials for correctly carrying out their designated duties. Media should also be trained skillfully so that the tool of dissemination of information can be applied as effectively component. The govt. and administration should be made more efforts for disaster training programmes. NGOs, CBOs, VOIs, armed forces, home guards, police, medical paramedical and other govt. staff concern with disaster management and community should be well trained in the field of disaster management. Therefore, it is more needed that the govt. and administration should make more efforts to trained all of them. Community should be trained in grass root level so that they can interact with govt. and administration seek effective solution of disaster management and implement disaster policy effectively. The training programmes on disaster management can also be started in university, colleges, schools, DIET and ITI, engineering colleges etc. Separate budgetary provision to be made for disaster management related training, equipping and storing for there services. Drills should be a primary training ground for emergency management.

32. **Public Participation and Awareness**: Capacity building need to include development of appropriate tools that can be used to convey as well as elicit useful information pertaining to disaster from the citizens at large and vulnerable section in particular. Preparation and
circulation of area specific or city specific fact sheets with emergency preparedness check lists, family disaster plans, family disaster supply kits etc. Do's and don'ts for the public need to be developed using various methods and medium of video, TV, radio or print: on different types of disasters, how to prevent how to combat one and finally want to do should be made in local language and telecast. The village task force to be trained in emergency evacuation and relief within the village. The people elect the task force themselves and during disasters in serves as the nodal body of village level which has to mobilise resources for the community and disseminate necessary information passed on by the outside agencies. Building community leadership and a chain of trained community cadres through a participatory approach can help harness the resilience and resource fullness of the community to cope together with disaster and mitigation their effects.

33. **Youth Movement:** NCC, boy scouts and girls guides, national service scheme and such organised youth should include disaster management as one of their main activities. They could be incorporated into the local level relief and awareness programmes. NYKS, youth clubs and mahila mandals at the grass root level to be organized for creating a mass movement for disaster preparedness.

34. **Education:** The school and college curriculums to include disaster education and awareness, schools should take up such programmes through slogan writing, art competitions and essay writing competitions. disaster management and disaster resistant
development practices need to be incorporated as an integral part of higher level education and centers of engineering, architecture, development planning and disaster mitigation and management. All technical colleges, medical colleges, paramedic and nursing training institutions should have a module on disaster management. A committee of experts may be constituted to identify the syllabus for the same. Specific course related to disaster management could be introduced at the post graduate and research level. There is a need to build up the young to understand their community and its problems to involve them in problem-solving through community participation. To develop among them a sense of social and civic responsibility and build capacity to meet emergencies.

35. **Networking:** There is need for more timely and reliable assessment of the location, area and extent of damage to aid in response and recovery activities. An integrated system adequately equipped with the necessary infrastructure and expertise to constantly monitor the risk profile on all possible disasters and maintaining a database will become relevant. Proper networking mechanism should be incorporated at the state level and the district level in the different level of government, different departments, government, private sector NGOs, CBOs, VOs, international agencies and regional countries.