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CRITICAL APPRAISAL OF DISASTER PREVENTION PREPAREDNESS AND MITIGATION MANAGEMENTIN HIMACHAL PRADESH

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Abstract

The Disaster Management is a process of involving all stakeholders with a continuous and integrated process of planning, organizing coordinating and implementing measures for minimizing the loss of human and properties. The role of culture of prevention, culture of preparedness, culture of mitigation and culture of response through a well designed and well prepared response team with utmost care and safety as well as efficient and effective administrative response mechanism are the backbone of administration. An attempt has been made to critically examine the existing initiatives and efforts made in this paper to reduce the impact of disasters due to vulnerabilities as well as lack of prevention, preparedness and mitigation strategies and management in the state through an empirical study.

Keywords: *Risk, Disaster, Prevention, Mitigation, Disaster Management Plan, Mock Drill, Hazard*

Introduction

It was all of a sudden a single devastating blast, then the sound as of the crashing of a thousand chandeliers, men and women cowered under the shower of debris and glass. There was one awful moment when hearts sank and breaths were held. Then women cried aloud, and men looked dumbly into each other's eyes, and awaited the crack of doom. To some death was quick and merciful in its coming. Others were blinded and staggered to and fro before they dropped. Still others with shattered limbs dragged themselves forth into the light- naked, blackened, un-recognizable human shapes. Authority and function should be clearly delineated and understood before disaster strikes, it should not be left to

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resolution during the stress and chaos of the immediate post-disaster period. Questions of authority and jurisdiction that have to be resolved after disaster has struck an extremely detrimental to efficient and effective relief efforts. In this area as in many others, the essential requirement of effective disaster planning lies in the organization, training, integration and coordination of both the general populace and the formal passive defense forces[2]. It is therefore, necessary to initially start with concept understanding.

The term "disaster" is certainly the key concept in the area. Yet even what is assumed in the subtitle of the roundtable-namely, different social constructs of the concepts, is not fully agreed upon or used.[3]

Conceptual Equation of Risk, Impact and Vulnerability: A hazard may be regarded as the pre-disaster situation, in which some risk of disaster exists, in principal because the human population has placed itself in a situation of vulnerability. This can be defined as, "the degree of loss to a given element or set of element at risk resulting from the occurrence of natural phenomenon of a given magnitude.[4]

The hazard has a potential threat to human and their welfare arising from a dangerous phenomenon or substance that may cause loss of life, injury, property damage and other community losses or damage. Then risk-the likely consequence-becomes the combination of the probability of a hazardous event and its negative consequences[5]. The energy, ability and patriotic sentiment back of the campaign for "preparedness" would certainly be most praiseworthy, were they exerted for a truly purpose. It is an excellent thing to prepare, with energy, ability and love of country, provided that we prepare for the right thing and by the right means.[6]

What is necessary is to educate the public on what needs to be done during and after an earthquake as well as teach them methods of simple retrofitting of non-engineered structures, so that damage due to earthquake could be reduced considerably. Time and again it has been demonstrated that it is Not Earthquakes But Buildings That Kill People.[7]

Concept in Disaster Management

a) Hazard: Hazards are defined as phenomena that pose a threat to people, structure, environmental resources and economic assets and which may cause disaster[8]. They could be either man-made or naturally occurring in our environment. Therefore, this can be classified into two broad types:

1) Natural hazards including earthquake, drought, avalanches etc.
2) Man-made hazards including war, armed conflicts, technological failures, oil spillage, factory expansion, fire, gas leakage, transport collision (Road Accidents) etc.

Disaster Identified by the High Powered Committee are described below:[9]

a) Water and Climate Related Disaster		**c) Chemical, Industrial and Nuclear related Disasters**	
1	Floods	1	Chemical and Industrial Disaster
2	Cyclones	2	Nuclear Disaster
3	Tornadoes and Hurricanes	**d) Accident related Disasters**	
4	Hailstorms	1	Forest Fire
5	Cloud burst	2	Urban Fire
6	Heat Wave and Cold Wave	3	Mine Flooding
7	Snow Avalanches	4	Oil Spills
8	Droughts	5	Major Building Collapse
9	Sea Erosion	6	Serial Bomb Blast
10	Thunder and Lightning	7	Festival related disasters
b) Geological Related Disasters		8	Electrical Disasters and Fire
1	Landslides and Mudflows	9	Air, Road and Rail Accidents
2	Earthquakes	10	Boat Capsizing
3	Dam Failures/Dam Burst	11	Village Fire
4	Mine Fires		

b) Disasters: "A disaster is a sudden, calamitous event that seriously disrupts the functioning of a community or society and causes human, material and economic or environmental losses that exceed the

community's or society's ability to cope using its own resources". As per the Disaster Management Act, 2005, disaster means a catastrophic mishap, calamity or grave occurrence in any area, arising from natural or manmade causes or by accident of negligence which results in substantial loss of life or human suffering, damage to and destruction of property, or damage to or degradation of environmental and is of such a nature or magnitude as to be beyond the coping capacity of the community of the affected area[10]. Disaster- a calamitous event, especially one occurring suddenly and causing great crash, or business failure. The key words here are calamitous event, suddenly, great less of life, damage, and hardship (none of which sound appealing, but particularly distressing when put together in a single sentence!). When described in this way, it becomes clear why we are interested in mitigation the hardship caused by such a crisis[11]. Hence, disasters can generally be divided into five broad categories: natural, pandemic, man-made, war/terrorism/crime and personal. The cause of each type of disaster may differ, but the impacts are often the same (e.g. loss of life, damages, destruction injuries loss of electricity, water contamination, food shortages evacuations and mass casualties). The goal therefore is to come up with a comprehensive preparedness plan that addresses these impacts the specific cause.

c) Vulnerability

i) Physical Vulnerability: vulnerability in the built environment. Social vulnerability experienced by people and their social, economic and political systems[12]. The word vulnerability is used in the English hazards and disaster management literature in a large number of ways. Ben Wisner has classified the vulnerability into seven:

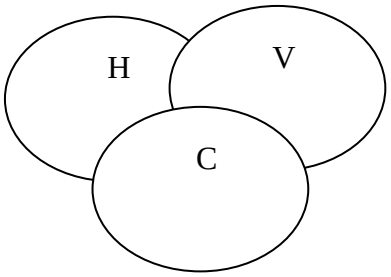
- Structural engineering vulnerability
- Lifeline infrastructural vulnerability
- Macro-economic vulnerability
- Regional economic vulnerability
- Commercial vulnerability (including insurance exposure)
- Social vulnerability[13]

ii) Social vulnerability

Some groups in society are more prone than others to damage, less, and suffering in the context of differing hazards. Key characteristics of these variations of infact include class, caste, ethnicity, gender, disability, age or seniority. Social vulnerability reflects the stratified conditioned in which people compete for scare, limited resources to mitigate against, respond to and recover from disasters[14]. Vulnerability may be defined as, the

amount of damage done to the people, public, community, infrastructure, services or geographic area by the impact of particular hazard or disaster, on account of their nature construction and closeness to danger or a disaster susceptibility. Vulnerability can be categorized into physical and socio-economic vulnerability. It is defined as, "the extent to which a community, structure, service or geographic area is likely to be damaged or disrupted by the impact of particular hazard on account of their nature, construction and proximity to hazardous terrain or a disaster prone area.

d) Risk Assessment: Risk is a measure of the expected losses (deaths, injuries, property, economic activity etc.) due to a hazard of a particular area over a specific time period. There are four most important factors like hazards, location, exposure and vulnerability which contribute to risk.



- Hazards (physical effects generated in the naturally occurring event)
- Location of the hazard relative to the community at risk
- Exposure
- Vulnerability of the exposed structure and system to the hazards expected to affect them during their useful life.

Risk is a function of the probability of particulars hazardous event and the losses each would cause. The level of risk depends upon the nature of the hazard, its type and magnitude. Risk management is the process of analysis which leads to the estimation of the magnitude of a given risk and the determination of how important such a risk is to matters of our concern. It includes an evaluation of all the elements that are relevant to an understanding of existing hazards and their effects on a specific environment. When this evaluation is considered in social or political terms, it enables the determination of appropriate hazard prevention, or vulnerability reduction or mitigation of hazard prevention, or vulnerability reduction or mitigation strategies. "What we are arguing is that the risk of disaster is a compound function of the natural hazard and

the number of people, characterized by their varing degree of vulnerability to that specific hazard, who occupy the space and time of exposure to the hazard event. There are three elements here: risk (disaster), vulnerability and hazard, whose relations we find it convenient to schematize in a pseudo-equation.[15]

$$R = H \times V$$

Alexander (2000) distinguished between risk and vulnerability, nothing that "vulnerability refer to the potential for casualty, destruction, damage, disruption or other form of loss in a particular element; risk combines this with the probable level of loss to be expected from a predictable magnitude of hazard (which can be considered as the manifestation of the agent that produces the loss). A disaster occurs when a significant number of vulnerable people experience a hazard and suffer severe damage in such a way that recovery is unlikely without external aid.

Risk is defined as the probability of meeting danger or suffering harm or loss. In relation to disaster, risk has been more specifically described as the probability that a disaster will occur, using relative terms such as high risk, average risk, and low risk to indicate the degree of probability. Risk assessment includes an evaluation of all the elements that are relevant to an understanding of existing hazards and their effects on a specific environment.[16]

e) Prevention and Preparedness: Prevention is better than cure. The HPC also pointed out about the culture of prevention. A growing shift in approach to disaster management is the initiative for prevention and preparedness rather than relief. Preparedness includes the formulation of viable emergency plan, the development of warning systems, the maintenance of inventories and the training of personnel. It may also embrace search and rescue measures as well as evacuation plan for areas that may be at risk from a recurring disaster. Preparedness, therefore, encompasses those measures taken before a disaster event which are aimed at minimizing loss of life, disruption of critical services, and damage before the disaster occurs. Prevention and preparedness are they key elements of mitigation for the Disaster Management.

Unlike man-made disasters, natural hazards, like floods, earthquakes and cyclones cannot be avoided. However, with mitigation measures along with proper planning of developmental works in the risk prone area, these hazards can be prevented from turning into disaster. A three-

pronged approach needs to be adopted to undertake mitigation measures:[17]

$$\text{Risk Management} = \frac{\text{Hazard} \times \text{Vulnerability}}{\text{(Capacity (Preventin, Preparedness, Mitigation, Plan, Mockdrills, @SchoolSafety, Training and upgradation of existing plans, enhancing awareness amogn @the vulnerable communities)}}$$

- ❖ Building mitigation measures into all development projects
- ❖ Imitating of National level mitigation projects by the NDMA, in high priority areas, with the help of the Central Ministries and departments concerned and the States.
- ❖ Encouraging and assisting State level mitigation projects in accordance with the guidelines.
- ❖ Indigenous knowledge on disaster and coping mechanisms adopted by various States will be given due weight age with special focus on protection of heritage structures.

f) Mitigation: Mitigation refers to efforts for reducing the actual or probable effects of a disaster on people, structures, economic and social systems and the environment. Mitigation seeks to reduce risk that is vulnerability to damages or losses. Mitigation focuses on the hazard that causes the disaster and attempts to minimise the adverse impacts of the hazard on communities. The reasons to focus on mitigating disaster impacts include rising economic and social costs of disasters, existence of technical know-how to reduce disaster impacts and costs, and the fact that mitigation is an integral component of sustainable development.[18]

Components of Mitigation:

The comprehensive emergency management is a widely used approach at all levels of government to deal with the inevitability of natural hazards and their potential to cause disaster in a given community. The components of a comprehensive emergency management system include:

1. Preparedness activities
2. Response activities
3. Recovery activities
4. Mitigation activities

Disaster Mitigation Approach[19]:

i) Structural Approach
ii) Non-Structural Approach

i) Structural Approach: Structural approach for mitigation may refer to both engineered structures and non-engineered structures. The engineered structures involve architects and engineers during the planning, designing and construction of structures including building, dams, roads, flyovers, bridges and communication network etc. The non-engineered structures are generally constructed by the local people individuals with the help of local masons, carpenters, contractors using local raw materials without design and techniques. These non-engineered structures can be made safer if communities are trained and aware about the planning, designing land use planning, structural engineering, retrofitting of existing weak structures.

ii) Non-Structural Approach: It encompasses those initiatives which attempt to bring about planning organizing, coordination, between all organizations and personnel during all phase of disasters, management, control, command, training, public awareness, legislation, policy training, public awareness, legislation, policy making, State Disaster Management Plan, District Disaster Management Plan etc. and installation of Early Warning System, Response Mechanism like (IRS)Incident Response System and Recovery Phase. Federal Emergency Management Agency (FEMA) of USA defines preparedness as:The leadership, training, readiness and exercise support and technical financial assistance to strengthen citizens, communities, state, local and tribal governments, and professional emergency workers as they prepare for disasters, mitigate the effect of disasters, respond to community needs after a disaster, and launch effective recovery efforts.[20]

Need of the Study

Himachal Pradesh is one of the most beautiful hill state and also known as the "Switzerland of India", meaning laps of snow. This, etymologically, Himachal Pradesh is situated in the North-West India and it lies between 30°22′40″ degree to 33°12′40″ North altitude and 75°47′55″ to 79°04′22″East longitude. Himachal Pradesh is prone to various hazards both natural and man-made. The main hazards consist of earthquakes, landslides, floods, flash floods, snowstorms and Avalanches, drought, dam failure, fire (domestic and forest fire) road accidents, stampede, boat capsizing, cold waves, lighting, biological industrial and chemical hazards.

Therefore, the risk for human and property losses are always on the rise and Himachal Pradesh also lies in the seismic zone V & IV for earthquake i.e. Seismic Hazard. (Geographical Area is 55673 sq. km)

Objectives of the Study:

This study conducted in district Shimla and Mandi and covered the critics of the disaster prevention, preparedness and mitigation. The main objective of the empirical study was the following:

1) To assess the preparedness activities in the state of Himachal Pradesh with special reference to prevention, preparedness and mitigation for disaster risk reduction measures.
2) To suggest appropriate strategies and action plan for drastic improvement in the Administrative System.

This paper highlights the shortcomings and gaps in the implementation of National Policy on Disaster Management, State Policy on Disaster Management and the Disaster Management Act, 2005.

Methodology

In this study, primary data was collected and interpreted. The primary data was collected through a schedule of questionnaire and interviewing was conducted. The questions were required to be replied by the respondents i.e. 150 Administrative and Political stakeholders, 40 Rural stakeholders, 40 urban stakeholders, 72 stakeholders from communities, NGOs, Media and professionals (total 302 respondents interviewed in district Shimla and Mandi).

Significance

The findings of the paper will help in improving the administrative preparedness for tackling the impending disasters in the state of Himachal Pradesh in future with utmost care, efficiently with effective response and ultimately minimize the human and property losses.

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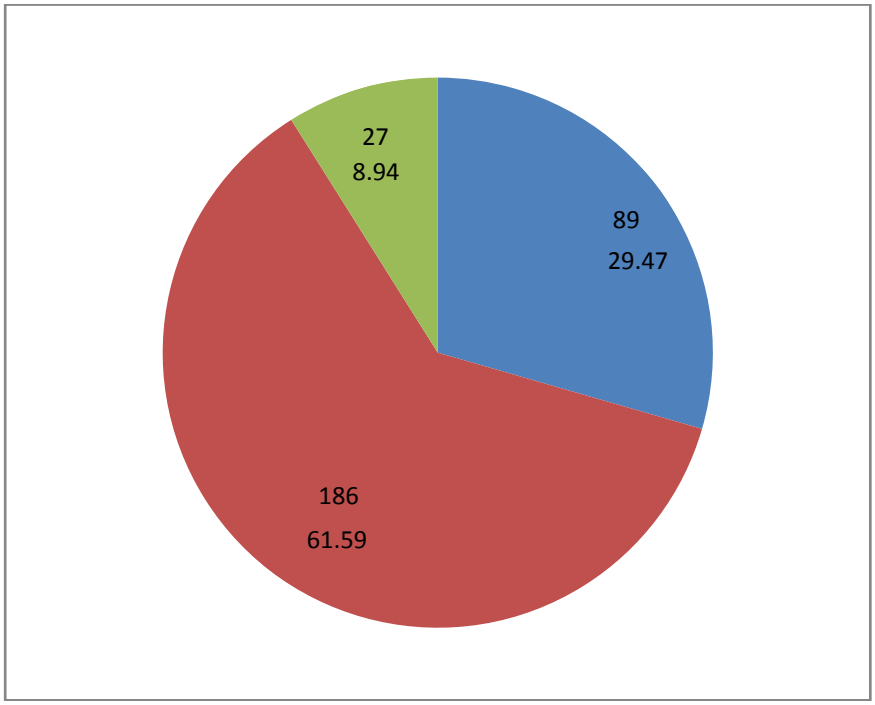
Table No.1 Preventive initiative and special campaign for hazards mitigation

Sr. No.	Description	Total	Yes		No		Can't say	
			Nos.	%	Nos.	%	Nos.	%
1.	Admin. Stakeholders	150	62	41.33	67	44.67	21	14.0
2.	Rural Stakeholders	40	8	20.0	32	80.0	-	-
3.	Urban Stakeholders	40	6	15	33	82.5	1	2.50
4.	Communities, NGO's, Media & Professionals	72	13	18.06	54	75.0	5	6.94
5.	Grand Total	302	89		186		27	
6.	% age	100%		29.47		21.59		8.94

Source: Computed from primary data



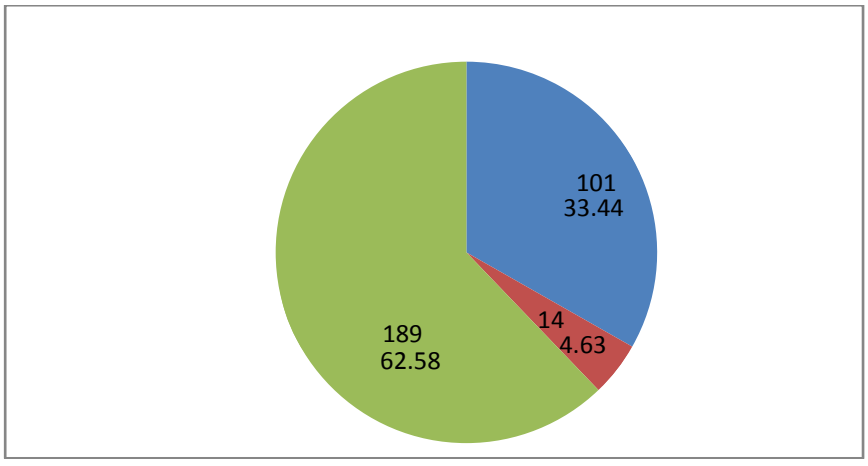
The above table described the preventive initiatives and special campaign held for hazard mitigation in the state of Himachal Pradesh. The eighty nine respondents i.e. 29.47 percent have appreciated the mitigation management but an overwhelming majority of respondents i.e. one

hundred eighty six comprising of sixty seven administrative stakeholders, thirty two rural stakeholders, thirty three urban stakeholders and fifty four communities, NGOs, Media and professionals i.e. 61.59 percent negatively responded and remaining twenty seven respondents i.e. 8.94 per cent did not say anything about the hazard mitigation management in the state of Himachal Pradesh. Hence, the overall preventive and mitigation management campaign could not be successful.

Table No. 2 General Awareness and Preparation of Family Disaster Management Plan

Sr. No.	Description	Total	Yes		No		Can't say	
			Nos.	%	Nos.	%	Nos.	%
1.	Admin. Stakeholders	150	74	49.33	71	47.33	5	3.34
2.	Rural Stakeholders	40	2	5.0	37	92.5	1	2.50
3.	Urban Stakeholders	40	4	10.0	35	87.5	1	2.50
4.	Communities, NGO's, Media & Professionals	72	21	29.17	46	63.89	7	9.72
5.	Grand Total	302	101		189		14	
6.	% age	100%		33.44		62.58		4.63

Source: computed from primary data

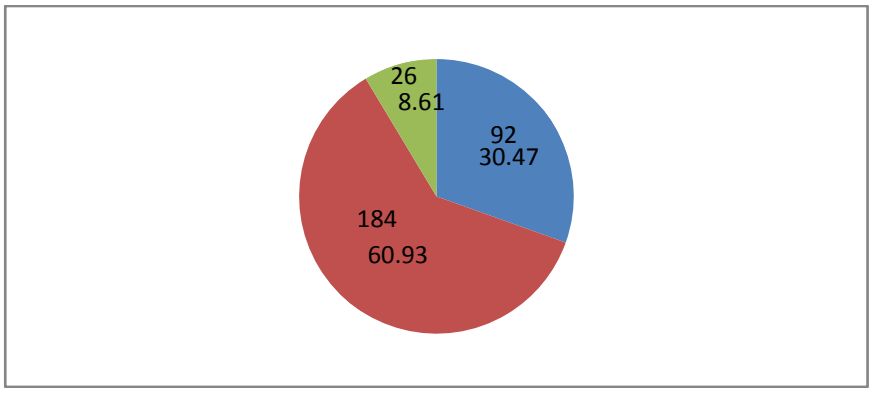


The above table depicted the general awareness of the respondents and their preparation for family disaster management plan. One hundred and one respondents i.e. 33.44 per cent had revealed that they have had prepared their family level disaster management plan, but actually they prepared First Aid Medical Kit whereas an overwhelming majority i.e. 189 respondents (62.58) percent opined that they did not prepare any plan so far, and remaining respondents i.e. 4.63 said nothing about such preparation. The above table clearly highlights the lackadaisical attitude of the authorities about any special campaign for prevention and preparedness at the level of individual and family as well as at the State/District/Sub-Division/Tehsil/Block/MC/PRIs and communities level too. Even the media, NGO and professional were not involved in special campaign for disaster preparedness activities.

Table No. 3 Preparation of State District, Departmental Block MC & PRI Level Disaster Management Plan

Sr. No.	Description	Total	Yes		No		Can't say	
			Nos.	%	Nos.	%	Nos.	%
1.	Admin. Stakeholders	150	59	39.33	77	51.33	14	9.33
2.	Rural Stakeholders	40	5	12.5	32	80.0	3	7.50
3.	Urban Stakeholders	40	9	22.5	28	70.0	3	7.50
4.	Communities, NGO's, Media & Professionals	72	19	26.39	47	65.28	6	8.33
5.	Grand Total	302	92		184		26	
6.	% age	100%		30.47		60.93		5.61

Source: computed from primary data

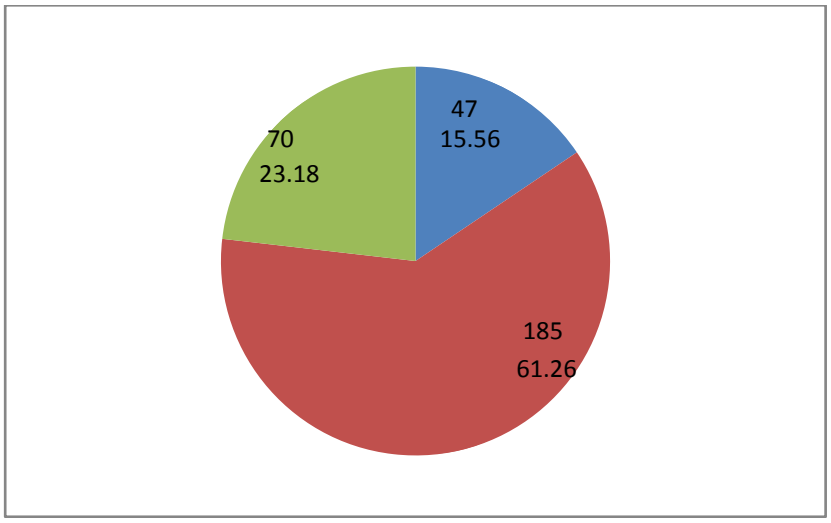


The above table revealed the status of preparation of State Disaster Management Plan, District Disaster Management Plan, Departmental Disaster Management Plans, Sub-Divisional Disaster Management Plans, Block Disaster Management Plans, M.Cs., DMPs, PRI, Panchayats Disaster Management Plans, in the State of Himachal Pradesh. An overwhelming majority of respondents i.e. one hundred eighty four i.e. (60.93%) described the factual position and replied negatively and 92 respondents i.e. 30.47% replied positively and remaining 26 respondents i.e. 8.61% did not say anything. As per website of the H.P. State Disaster Management Authority only State and District level SDMP& DDMPs had been prepared but the line departments like HPPWD, IPH, HPSEB, BBMB, NHPC, HPCCL, SJVNL, Industry Department, MCs, PRIs in the State did not bother to prepare their DMPs and get it approved from the State Executive Committee & State Disaster Management Authority, since there is a the provisions contained in the Disaster Management Act, 2005, which is mandatory to get the DMPs be approved from the competent authority.

Table No. 4 Quarterly Mock Drills conducted state and district

Sr. No.	Description	Total	Yes		No		Can't say	
			Nos.	%	Nos.	%	Nos.	%
1.	Admin. Stakeholders	150	28	18.67	95	63.33	27	18.0
2.	Rural Stakeholders	40	03	7.5	27	67.5	10	25.0
3.	Urban Stakeholders	40	07	17.5	19	47.5	14	35.0
4.	Communities, NGO's, Media & Professionals	72	09	12.5	44	61.11	19	26.39
5.	Grand Total	302	47		185		70	
6.	% age	100%		15.56		61.26		23.18

Source: Computed from primary data

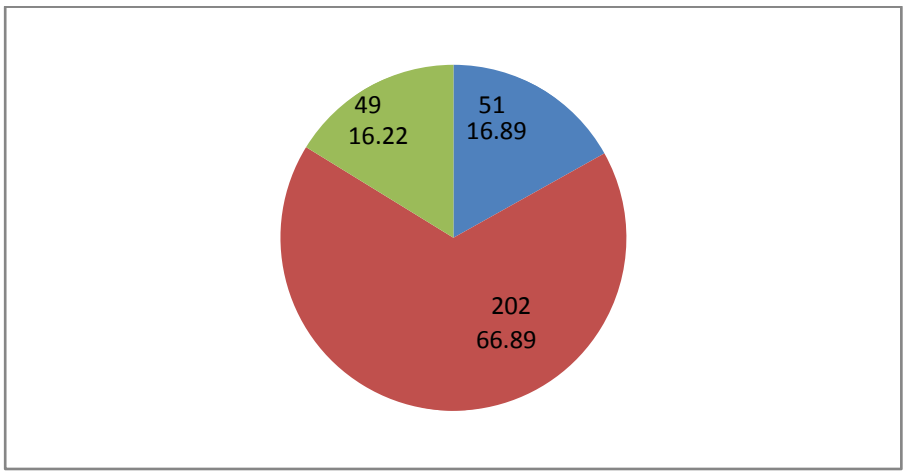


The above table transpired the factual position of mock drills conducted at state capital and at the district head quarter level. An over whelming majority of the respondents i.e. 185 opined (61.26 percent) opined that no mock drill was conducted so far, whereas merely 47 i.e. 15.56 percent opined that in positive and stated that some mock drills were conducted but not at every quarter level. The remaining respondents 70 (23.18 percent) did not say anything about the mock drill exercise. As such the overall scenario of disaster prevention and preparedness is not satisfactory up to the mark in the state of Himachal Pradesh.

Table No. 5 Disaster risk reduction assessment and management

Sr. No.	Description	Total	Yes		No		Can't say	
			Nos.	%	Nos.	%	Nos.	%
1.	Admin. Stakeholders	150	38	25.33	87	58.00	25	16.67
2.	Rural Stakeholders	40	3	7.5	30	75.0	7	17.50
3.	Urban Stakeholders	40	5	12.5	29	72.5	6	15.0
4.	Communities, NGO's, Media & Professionals	72	5	6.94	56	77.77	11	15.28
5.	Grand Total	302	51		202		49	
6.	% age	100%		16.89		66.89		16.22

Source: Computed from primary data



The above table described about the disaster risk reduction measures in the State of H.P. as well as management in the local jurisdiction but the alarming situation showed that there was no such drastic efforts were made so far. An overwhelming majority of the respondents, two hundred two (i.e. 66.89%) opined that then was no such efforts made so far. Since 58% administrative sample, 75 percent from rural sample, 72.5 percent urban sample and 77.77 percent from the communities, NGOs, CVO, Media and press respondents replied in negative as they seen nothing about the disaster risk reduction. Nearly 51 (i.e. 16.89 percent) respondents replied in positive as they felt that some initiative were taken whereas, 49 respondents i.e. 16.22 percent did not say anything about the said question. As such, the dream of Disaster Risk Reduction could not be achieved in the state of Himachal Pradesh.

Findings

There are the following findings as per the data analysis. The main objectives of this research article proved beyond doubt because in Himachal Pradesh the prevention, preparedness and mitigation activities could not be implemented vigorously in the field and Disaster Risk Reduction measures could not be incorporated in projects and schemes due to lack of coordination, planning, and monitoring mechanism. The line departments like H.P.P.W.D, I.P.H, H.P.S.E.B, H.P.C.C.L, Hydel Dams, Social Justice, Education, Public Relation Department Media NGOs, VOs, Mahila Mandals etc. could not be assigned their role in the Disaster Management. Hence, majority of the line department did not even prepare their Departmental Disaster Management Plans so far:

- ❖ The Hazard and vulnerability mitigation management initiative could not be launched in the State of Himachal Pradesh.
- ❖ The prevention and preparedness activities like community preparedness at the family level also failed as the majority of respondents did not have their family disaster management plan and which also covered Education, mock drill, water, food and medical first aid in disaster management kit at family level and subsequently at the community level, village Disaster Management Plan, PRIs/ULBs level called block DMP/MC, DMP Plan, did not prepare by the line departments.
- ❖ The Disaster Risk Reduction could not be implemented in the State so far.
- ❖ The updation of state disaster management plan, District Disaster Management plan and organizational level DMPs were not updated and upgraded annually. The mandatory mock drills of response forces, task forces could not be conducted regularly at state HQ as well as at district HQ level to check the preparedness level.
- ❖ The state of Himachal Pradesh also unable to mainstream plans& mitigation strategies into developments plans/projects/schemes at the ground zero level.

Suggestions and Strategies:

- Plan Formulation at every organization level must be prepared as well as updation and upgradation of existing plan.
- Sendai framework be also referred and consulted on the disaster preparedness and mitigation management.
- A special campaign be also launched for general awareness among the students and communities through IEC information Education and Communication Network.
- Administrative Preparedness for the worst situation be readily available.
- An early warning mechanism for natural and man-made disaster be installed at the critical/vulnerable points.
- Capacity building and training institutions like Indian Institute of Public Administration, National Institute of Disaster Management, Disaster Management Centers at the Administrative Training Institutes be also strengthened.
- Risk management be also assessed in the state and all component of disaster risk be mitigated as follows:

$$\text{Risk Management} = \frac{\text{Hazard} \times \text{Vulnerability} \times \text{exposure}}{\begin{array}{c}\text{(Capacity (Preventin, Preparedness, Mitigation,}\\ \text{Plan, Mockdrills,@SchoolSafety,}\\ \text{Trainingandupdation of plans and}\\ \text{strategies@participation of all stakeholders)}\end{array}}$$

Structural Mitigation

- The structural drawing and designs be made compulsory for future construction in the state.
- Land use planning be also adopted and have to be enforced through various agencies of the state government.
- The National Building Code 2005 of the Bureau of Indian Standards (BIS)be also enforced in letter and spirit in the State of Himachal Pradesh.
- The Incident Response System be also to be notified in the state for imparting the mandatory training on incident management.
- Life line structure like H.P. Secretariat, IGMC, Hospital, Schools, District Collectorates etc. must be retrofitted and repaired and in future please don't create unsafe school buildings and public infrastructure.
- Technical audit of all governments buildings be started through recognized agencies.
- Mock drills be also conducted regularly at the state headquarter as well as in the district and school level/PRIs/ULB levels.

Conclusion

The Disaster Prevention, preparedness and mitigation initiatives in the state of Himachal Pradesh have a dire need to be emphasized for execution and implementation of national policy,on Disaster Management Act, 2005 as well as State policy on Disaster Management but at the ground zero level, a huge gaps and shortcomings were foundas per the empirical analysis, hence more hard work, appropriate coordination, advances planning, mitigation strategies, involvement of all stakeholders, N.G.O., C.B.O., U.L.B.S., P.R.Is, Communities, Media experts, engineers, Architects, Doctors, Para Medical Staff, Contractors and Builders, sub-contractors, Masons, Drivers and even common people women and persons with disabilities, all should be involved in the prevention preparedness and mitigation activities, so that a safe and disaster resilient community could be transformed and culture of prevention, preparedness and mitigation could be inculcated and promoted in Himachal Pradesh.

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