

## Disaster Management, Education and Training in India

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**BRIEF SUMMARY:** Prevention is better than cure is an old saying which is very apt in the context of disaster management. Natural disasters have been visiting every part of the globe at one time or the other. The world is becoming increasingly vulnerable to natural disasters, from earthquakes to floods and famines, mankind is even more threatened by the force of nature, and disasters can strike at any time, at any place. Among the top ten disaster prone countries, India stands second after China. More than 6% of the total population bear the brunt of natural disasters. It is really an unfortunate and undesirable situation that in our country where more than 6 crore people are affected by disasters every year. Education, Training and Awareness is an important tool in creating this culture of prevention and preparedness. Education for disaster reduction cannot be a onetime affair but should be reinforced time and again throughout one's life. Government of India has been stressing the need to sensitise the young learners to the basic element of the management of these disasters.

**Keywords:** Proper Disaster Management and its Training can save the life of human being on a waster scale.

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### I. INTRODUCTION

India with its vast population and unique geo-physical characteristics is one of the world's most disaster-prone countries. Natural hazards such as cyclones, earthquakes, droughts, floods or landslides occur in different parts of India in varying intensity. India has been traditionally vulnerable to natural disaster on account of its unique geo-climate conditions. Floods, droughts, cyclones, earthquakes and landslides have been recurrent phenomena. About 60% of the landmass is prone to earthquake of various intensities; over 40 million hectares is prone to floods; about 8% of total area is prone to cyclones and 68% of the areas are susceptible to drought. Tens of thousands of people are affected by these natural disasters. We have seen in the recent past that country suffered impact of earthquake even where the seismicity was low as per the seismic zoning map, as in the case of Maharashtra and droughts have occurred in the areas with highest rainfall i.e. Mosimnaram in the North East. The loss in terms of private, community and public assets has been astronomical. At the global level, there has been considerable concern over natural disaster. Even as substantial scientific and material progress is made, the loss of life and property due to disaster has not decreased. In fact human toll and economic losses have mounted. All these disaster phases are inter-linked and are cyclic i.e. one phase cannot be effective in isolation of the others. In other words, the phases before an event-prevention, preparedness and mitigation are as important as response, every and rebuilding.

#### Definition Of Disaster Management

Disaster is an event or series of events, which gives rise to casualties or damage or loss of properties, infrastructures, environment, essential services or means of livelihood on such a scale which is beyond the normal capacity of the affected community to cope with. Disaster is also sometimes described as a "catastrophic situation in which the normal pattern of life or eco-system has been disrupted and extraordinary emergency interventions are required to save and preserve lives and or the environment".

#### Types Of Disasters

There is no country that is immune from disaster, though vulnerability to disaster varies. There are two main types of disaster.

##### 1. Natural disasters

These disasters include floods, hurricanes, earthquakes and volcano eruptions that can have immediate impacts on human health, as well as secondary impacts causing further death and suffering from floods causing landslides, earthquakes resulting in fires, tsunamis causing widespread flooding and typhoons sinking ferries.

##### 2. Man-made Disaster

Disasters caused by chemical or industrial accidents, environmental pollution, transport accidents and political unrest are classified as "human-made" or "human-induced" disasters since they are the direct result of human action.

### **The Indian Scenario For Disaster Management**

India due to its geo-climatic and socio-economic condition is prone to various disasters. During the last thirty years' time span the country has been hit by 431 major disasters resulting into enormous loss to life and property. According to the Prevention Web statistics, 143039 people were killed and about 150 crore were affected by various disasters in the country during these three decades. The disasters caused huge loss to property and other infrastructures. In India, the cyclone which occurred on 25th November, 1839 had a death toll of three lakh people. The Super Cyclone of Orissa on 29th October, 1999 are still fresh in the memory of most Indians and cloud burst and mudflow in Leh and surrounding areas in the morning of 6th August, 2010. The most recent natural disaster of a cloud burst resulting in flash floods and mudflow in Uttarakhand and Kedarnath areas in the early hours of 16th June, 2013, caused severe damage in terms of human lives as well as property. There was a reported death toll of 1200 persons, about 5000 missing persons, 4200 pets (have economic value) 3,661 damaged houses in about 500 villages and 27,350 hectares of affected crop area. Jammu and Kashmir, Himachal Pradesh, Uttarakhand, Sikkim and all the seven states of North East India are landslide prone. Landslides are caused by deforestation, earthquakes, construction of roads and buildings, and shifting agriculture. A very severe earthquake occurred on 26 January, 2001 in Gujarat. Earthquakes not only destroy life and property, but also change the courses of rivers. Tsunami, mud fountains, cracks and fissures are also caused by severely devastating earthquakes. The quake prone areas are North East India, Gujarat, Uttarakhand, Himachal Pradesh and Jammu and Kashmir. Cyclones originate in the Bay of Bengal and affect the states of eastern coasts. Cyclones that originate in the Arabian Sea have a devastating impact over Maharashtra and Gujarat coast if some precise precautions are taken, the impact of cyclones could be minimised. India's response to and tackling of this major disasters has thrown up the following weakness in our disaster management efforts.

### **Inadequate Early Warning System**

Though the forecasting monitoring and warning mechanism are beautifully articulated on paper in practice, the warnings are not early enough and they do not reach all these likely to be affected. In case of Tsunami, earthquake, flood, cyclones and landslide, communication facilities which could have resulted in better co-ordination of warning and reduction of damage to life and property were inadequate.

### **Inadequate and Slow Relief**

Relief is an important aspect of the disaster management to provide help to the affected people. The relief operations are often handled in ad hoc and haphazard manner. How efficiently to provide food, medicine, to reduce the suffering of the affected people are addressed and met improperly. Even days after the Uttarakhand misshaping many people could not be provided with safe drinking water, temporary shelter and medicines. Such a scenario gives rise to law and order problem- looting of the relief materials and outbreak of the epidemic due to rotting dead bodies on the other hand.

### **Lack of Pre-disaster Preparedness**

With disasters striking India with increased regularity, there should be a plan in place to tackle the disaster and reduce its impact. On the contrary, people are caught unaware time and again. There is not planned information system as to what needs to be done when faced with a calamity.

### **Lack of Co-ordination**

Disaster management requires concerted efforts from Central Government, State Government, NGOs, International agencies and private sectors etc. Because of the lack of the co-ordination, relief material is not properly distributed among the people. Even worst happens when they are mis-utilized and are not distributed uniformly.

### **Slow Rehabilitation and Reconstruction**

While immediately after a disaster strikes, there is hectic relief and rescue mission, mainly aimed at feeding the people and stalling the outbreak of an epidemic, relief and rescue cannot go on endlessly and rehabilitation and reconstruction should be given proper attention. However, this is an area which is often ignored and progressed is slow once the initial attention fades away. Restoration of infrastructure, hospitals, schools, houses, and sources of living of the people needs to be given proper attention.

### **Poor Management of Finances for Post-disaster Relief**

Mostly relief and rehabilitation work suffers from the lack of co-ordination, proper management, and supervision at all levels and indicated the absence of adequate planning and preparedness to meet any emergency. Consequently, the funds are miss-utilized and relief measures were tardy and inadequate, providing

scope for pilferage of relief and Rehabilitation remained unutilized and there is huge shortfall in distribution of emergency relief, shelter material Cloths, house building assistance etc.

**Symbolism Rather than Relief**

It has been a recurrent experience that rather than making a serious effort at planning and management for tackling frequent disasters, our government adopts symbolic gestures like helicopter survey of disaster affected areas. The politics of relief works in a manner that tall claims are made by the Government other than the affected state to help the affected districts and by sending huge financial help but these claims prove hollow once the calamity recedes.

**No Instruction for Pre-seismic Period**

There is no instruction for the pre-seismic period. Unfortunately, in the present administrative set up, no official will visit the people during pre-seismic period to tell them about an eminent earthquake. But, during the post-seismic period, a large number of officials will visit the affected people with food, tents, medicine, cloths and compensation funding to the relatives of the dead. This scenario has been repeated after Latur (1993), Jablpur (1997), Bhuj (2001), Andman (2004), and Kashmir (2005) earthquakes. This pathetic situation has to be changed at the earliest. The issue need to be seriously pondered at the national level. The sole reason for this is the lack of knowledge about earthquake precursors and earthquake prediction.

**II. DISTRIBUTION OF PEOPLE AFFECTED BY DISASTER IN INDIA**

**Figure 1.1** shows the distribution of people affected by disaster in the world between 1975 and 2001.

Figure 1.1:- From the above figure we can easily understand that Alaska, North America, Australia are the safe place while the India is most dangerous place to live on the view of Disaster.

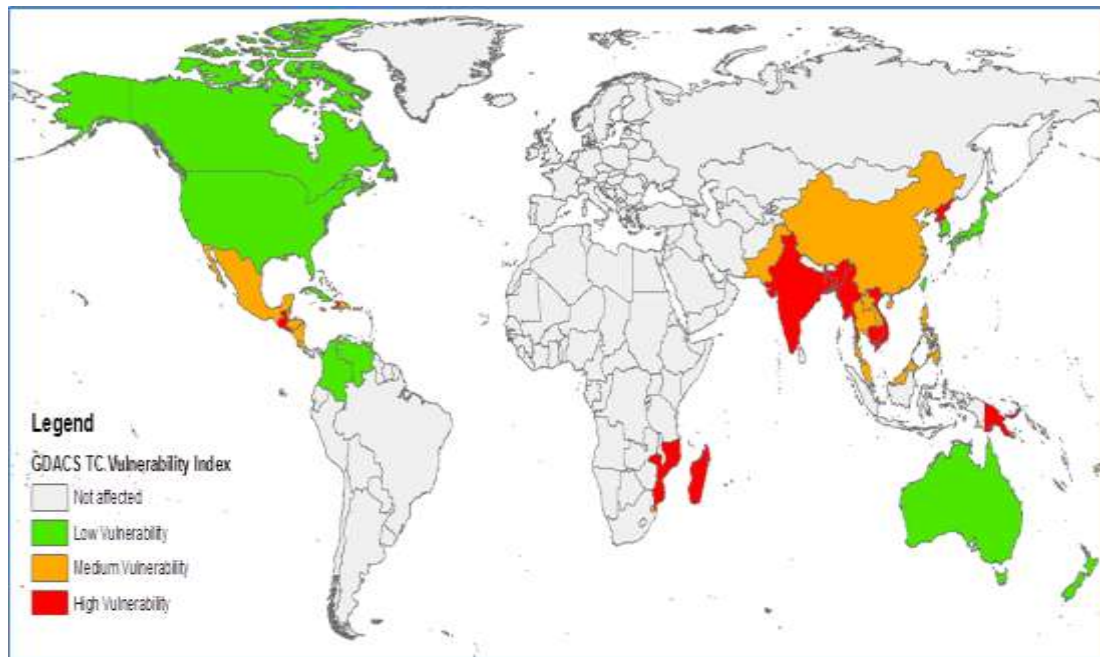
**Table 1: Disaster Statistic (1900-2011)**

Disasters Number	Number of Events	Number of People Killed	Total Affected
Drought	14	42, 50, 320	1,06,18,41,000
Earthquake (Seismic Activity)	26	78,094	2,79,19,695
Epidemic	68	45,43,874	4,21,473
Extreme Temperature	47	13,801	250
Insect Infestation	235	60,188	79,86,54,220
Mass Movement Dry	1	45	0
Mass Movement Wet	42	4,762	38,39,116
Storm	154	1,64,179	9,32,94,512
Wildfire	2	6	0
<b>Total</b>	<b>590</b>	<b>91,15,269</b>	<b>198,59,70,266</b>

Table 1: Source: EM-DAT: The OFDA/CRED International Disaster Database, 2011

**Vulnerability Of Natural Disaster In India**

Natural hazards are pronounced due to its tectonic activity, litho logical, structural and ecological settings, topography and changing landscapes owing to various natural and anthropogenic activities. Natural hazards like earthquakes, landslides, land subsidence, slope failures, rock fall, avalanches, cloudburst, hailstorms, glacial lake outburst floods, floods, flash floods, lightning, forest fires etc. are frequent in India causing loss of life and property from time to time. **Figure 1.2** shows the distribution of vulnerability of natural disaster in the world.



**Figure 1.2:-** From the above figure we can easily understand that India is most vulnerability place of Natural Disaster.

### **Disaster Management – A New Approach**

Disaster Management is an effort to inquire into the process of a hazard turning to disaster to identify its causes and rectify the same through public policy. Therefore disaster management is a policy issue concerned with minimizing and preventing the damaging impact of a natural or manmade hazard. Some of the policy and administrative factors relevant to disaster management are such as poor and weak or overcrowded buildings in earthquake prone zone, poor land use planning in flood prone areas, inadequate and faulty laws regulating various processes and facilities, general low risk perception towards among people etc. The above description of disaster management underlines the difference between the hazard and the disaster. A hazard is a natural or manmade damaging event which is beyond the effective control of human being, whereas the disaster is the sum total of consequences of natural hazard due to vulnerability of people or regions subject to hazard.

Thus same natural hazard may produce different amount of disastrous impact on different group of people or regions. The new approach to disaster management evolved gradually in 1990s beginning with the declaration of 1990-2000 by UN General Assembly as the International Decade of Natural Disaster Reduction. The United Nation Report titled “Living with risk” claims that though there has been decline in the number of losses to human lives from disaster the occurrence of disaster is raising. The Yokohama Strategy for disaster management was renewed at the world conference on Disaster Reduction held at Hyogo (Japan) in Jan. 2005. The conference laid emphasis on some crucial but neglected aspects of disaster management such as governance and policy framework, risk identification and early warning, knowledge management, reducing risk factors and preparedness for effective response and recovery. The Hyogo conference adopted the framework of Action, 2005-2015 called “Building the Resilience of Nations and Communities to Disaster.”

### **III. DISASTER MANAGEMENT AND EDUCATION**

The number of disaster over the world is increasing year by year. Here education plays a significant role in society. Since disasters are infrequent in nature and memories are short in terms of passing knowledge from one generation to another, there is a need to promote culture of prevention. The misconception about disasters as nature’s curse of divines force till recent time is also a barrier in changing mindset of people towards safety culture. Here only the education reform can change this status quo and promote the disaster prevention practice. The necessity of integration of the disaster society concept in all forms daily life is an obvious condition to achieve the goal of disaster reduction. The education to build up this new culture for disaster reduction must be permanent and integrative and cut across all formal and informal education effort in close contact with reality. The goal of education efforts is to change people’s behaviour.

Disaster management and education can help communities in hazard-prone areas is to gain a better grasp of the ways to cope with risks. Knowledge and innovation, education, formal and informal are closely linked to disaster reduction efforts. Disaster can strike at any time and it is the magnitude of the related impacts that will reflect the level of preparedness and education of exposed country and community. It is now widely

agreed that achieving disaster-resilience is essentially a process of using knowledge and of learning at all levels. Government of India, Ministry of Human Resources Development in its Tenth five year plan emphasized the need for integrating disaster management in the existing education in India. Disaster education is aimed at developing a culture of preparedness and safety besides implementing disaster management Blass.

### **PREPAREDNESS, MITIGATION AND PREVENTION OF DISASTER MANAGEMENT**

In disaster situations, a quick rescue and relief mission is inevitable; however damage can be considerable minimized if adequate preparedness levels are achieved. Indeed, it has been noticed in the past that as and when attention has been given to adequate preparedness measures, the loss to life and property has considerably reduced. Going along this trend, the disaster management setup in India has, in the recent years, oriented itself towards a strong focus on preventive approaches, mainly through administrative reforms and participatory methods. Preparedness measures such as training of role players including the community, development of advanced forecasting systems, effective communications, and above all a sound and well networked institutional structure involving the government organizations, academic and research institutions, the armed forces and the non-governmental organizations have greatly contributed to the overall disaster management in the country. This can clearly be seen from the various instances of reduced damages from disasters due to better preparedness and coordinated inter-agency response. Preparedness is the key to breaking the disaster cycle. The good practices are a result of the heightened awareness and sensitivity towards communities at risk. The approach of reducing community vulnerability for reducing disasters has paid rich dividends. The first step in this direction has been of identification of vulnerable communities. Those communities periodically exposed to natural hazards, and within them those with low levels of coping powers, such as economically weaker sections, are the first focus of preparedness efforts. Marginal sections of rural communities and dwellers of informal settlements and slums in urban areas fall within this class. Efforts in the direction of integrating disaster prevention into habitat planning processes are one of the most viable disaster prevention means. The National Centre for Disaster Management's work on developing and testing methods for integrating risk reduction using community participation into urban planning is one such initiative. The general direction of current efforts is one of multi-pronged approach of mobilization of community perceptions towards a culture of prevention of natural disasters.

### **INSTITUTIONAL, LEGAL AND TRAINING ARRANGEMENTS OF DISASTER MANAGEMENT**

The Act lays down institutional, legal, training, financial and coordination mechanisms at the national, state, district and local levels. These institutions are not parallel structures and will work in close harmony.

#### **National Disaster Management Authority (NDMA)**

The NDMA, as the apex body for disaster management, is headed by the Prime Minister and has the responsibility for laying down policies, plans and guidelines for DM (and coordinating their enforcement and implementation for ensuring timely and effective response to disasters). It will approve the National Disaster Management and DM plans of the Central Ministries/Departments. NDMA has the power to authorize the Departments or authorities concerned, to make emergency procurement of provisions or materials for rescue and relief in a threatening disaster situation or disaster.

#### **The National Executive Committee**

The National Executive Committee (NEC) comprises the Union Home Secretary as the Chairperson, and the Secretaries to the GOI in the Ministries/Departments of Agriculture, Atomic Energy, Defence, Drinking Water Supply, Environment and Forests, Finance (Expenditure), Health, Power, Rural Development, Science and Technology, Space, Telecommunications, Urban Development, Water Resources and the Chief of the Integrated Defence Staff of the Chiefs of Staff Committee as members. Secretaries in the Ministry of External Affairs, Earth Sciences, Human Resource Development, Mines, Shipping, Road Transport & Highways and Secretary, NDMA will be special invitees to the meetings of the NEC.

#### **State Disaster Management Authority (SDMA)**

At the State level, the SDMA, headed by the Chief Minister, will lay down policies and plans for DM in the State. It will, inter alia approve the State Plan in accordance with the guidelines laid down by the NDMA, coordinate the implementation of the State Plan.

#### **District Disaster Management Authority (DDMA)**

The DDMA will be headed by the District Collector, Deputy Commissioner or District Magistrate as the case may be, with the elected representative of the local authority as the Co-Chairperson. DDMA will act as

the planning, coordinating and implementing body for DM at District level and take all necessary measures for the purposes of DM in accordance with the guidelines laid down by the NDMA and SDMA.

#### **National Disaster Response Force (NDRF)**

The DISASTER MANAGEMENT Act, 2005 has made the statutory provisions for the constitution of the National Disaster Response Force (NDRF) for the purpose of specialized response to natural and man-made disasters. According to Section 45 of the Act, the Force has to function under the general superintendence, direction and control of the National Disaster Management Authority (NDMA) and under command and supervision of Director General, NDRF.

Though the units of this Force were nominated in 2003, it is only after the establishment of NDMA that their training and equipping were vigorously pursued. In lieu with the Section 44 (I) of the Act that states NDRF a specialist force, the force is gradually emerging as the most visible and vibrant multidisciplinary, multi-skilled, high-tech force of the NDMA capable of dealing with all types of natural and man-made disasters. For the purpose of specialized response to a threatening disaster situation or disasters/emergencies both natural and man-made such as those of Chemical, Biological, Radiological and Nuclear origin, the Act has mandated the constitution of a National Disaster Response Force (NDRF). The general superintendence, direction and control of this force shall be vested in and exercised by the NDMA and the command and supervision of the Force shall vest in an officer to be appointed by the Central Government as the Director General of Civil Defence and National Disaster Response Force. Presently, the NDRF comprises eight battalions and further expansion may be considered in due course. These battalions will be positioned at different locations as may be required.

#### **National Institute of Disaster Management (NIDM)**

The National Institute of Disaster Management constituted under the Disaster Management Act 2005 has been entrusted with the nodal national responsibility for human resource development, capacity building, training, research, documentation and policy advocacy in the field of disaster management. Upgraded from the National Centre for Disaster Management of the Indian Institute of Public Administration on 16th October, 2003, NIDM is steadily marching forward to fulfil its mission to make a disaster resilient India by developing and promoting a culture of prevention and preparedness at all levels. The NIDM, in partnership with other research institutions has capacity development as one of its major responsibilities, along with training, research, documentation and development of a national level information base. It will network with other knowledge-based institutions, and function within the broad policies and guidelines laid down by the NDMA.

#### **WHAT INDIA NEEDS**

In the view of the frequency of disaster striking India, there is a need for continued vigilance, preparedness and conscious efforts to reduce the occurrence and for mitigation of impact of natural disaster? What is required is a planned approach to disaster management; its management is a fundamental component of sustainable development because the reduction of disaster equivalent to increased development. The following suggestions can be offered for effective disaster management system in India:-

(I) there should be a proper multi-tier organizational structure in a focussed and co-ordinated manner responsible for the overall management at national, state, districts and village levels.

(II) The basic design of disaster management should consist of planned co-ordinated efforts in following important areas:-

- Identification and prediction
- Early warning system
- Evacuation
- Relief
- Rescue
- Rehabilitation
- Compensation
- Reconstruction
- Preparedness

(III) There is a need to share the expertise and experiences so that states can learn from each other. There is also a need for training personnel likely to face natural disaster and those who deal with the relief operations.

#### **IV. CONCLUSION**

India in the recent years has made significant development in the area of disaster management. A new culture of preparedness, quick response, strategic thinking and prevention is being ushered. The administrative framework is being streamlined to deal with the various disasters. Effort are also being made to make disaster

management a community movement wherein there is greater participation of the people. This is as much a result of the recognition of the increasing frequency and intensity of disasters as it is an acknowledgement that good governance, in a caring and civilized society, needs to deal effectively with the devastating impact of disasters. However, a lot more need to be done to make disaster management a mass movement in near future.

### REFERENCES

- [1]. "Geological Survey of India", IS-1893 (Part I) Kanpur: IIT, BIS; 2002.
- [2]. "An International Decade for National Disaster Reduction" UN, General Assembly Resolution 44/236.
- [3]. "Disaster Management & Education in India", Government of India Plan X and XI, (Five Year Plan).
- [4]. Kilpauk, Chennai, "Academy for Disaster Management Planning & Training ADEPT", 2009, Feb 09, (Handbook for community counsellor trainer).
- [5]. Annan K. "Guiding the United Nations", 2007. New York, NY: InfoBase Publishing; 2007. (Former UN Secretary General, April 2000).
- [6]. "Hyogo Framework for Action and its implications for Disaster Management", Hyogo, Japan: UNISDR; 2005.
- [7]. Rouhban B. "Knowledge Management and education for Disaster Reduction", France, UNESCO, 2010.
- [8]. "Management now part of Curriculum in schools & colleges in Andhra Pradesh", Hyderabad: 2010.
- [9]. Government of Uttarakhand, "Department of Disaster Management and Rehabilitation" letter no 99/DMMC/XIV/183(2014) dated 09 May 2014.
- [10]. Rathore, S. R., I. G., "National Disaster Response Force (NDRF), 2013" "Uttarakhand Disaster – 2013, Response of NDRF", presented in the National workshop on "Uttarakhand Disaster 2013: Lessons Learnt", 19 August 2013, organized by National Institute of Disaster Management, New Delhi.

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