CHAPTER 1
DISASTER MANAGEMENT
An Introductory

1.1 Disasters – The Indian Scenario

India supports one-sixth of the world's population on just 2% of its landmass. It suffers heavily from natural disasters of every shade and description hits the poorest of the poor and which is why the considerations of disaster safety deserves prime attention.

A High Powered Committee (HPC) of the Government of India, in its report submitted to the Government of India in October 2001, outlined the huge scope for Disaster Management by listing some three dozen different types of disasters India must prepare for [see Annexure I]. Of these, earthquakes, floods, cyclones and landslides rank among the most fear disasters in India, and the fear is naturally heightened in the areas affected by multiple hazards.

Nearly 59% of India's land area is prone to earthquakes of moderate to high hazard, nearly 12% is flood prone, about 8% is cyclone prone, 2% is landslide prone and a long coastline is exposed to tsunamis and storm surges. Drought, regarded as disaster in slow motion, affect as much as 68% of India's land area. Of the 35 states and union territories, as many as 27 are disaster prone. And if the perceived threats due to other disasters such as chemical and terrorist attacks are added, every square inch of India is vulnerable, calling for immediate attention and sustained effort. These disasters along with others occur with unfailing regularity and the losses caused by them continue to mount year after year. This fact emphasizes the importance of protecting our buildings from hazards to prevent disastrous situations.

1. 2. Focus of Thinking in India

With the recurrent earthquakes; Uttarkashi (1991), Latur (1993), Jabalpur (1997) and the supercyclone in Orissa (1999), the Government of India constituted a High Power Committee (HPC) on Disaster Management in 1999, the scope of which was enlarged in April 2000 to cover manmade disasters as well. In January, 2001, the devastating earthquake of M 7.7 occurred in Kachchh, Gujarat, which virtually shook the whole Government system. The HPC submitted its report to the Government of India in October 2001 following a "participatory approach at the national, state and district levels involving all concerned government ministries, departments, scientific, technical, research and development organizations, social science institutions."

The HPC recommended multi-hazard approach to disaster management. The HPC echoed the IDNDR view that earthquake disaster mitigation efforts in

the country were mostly reactive and highlighted the need to "*proceed from hazard assessment to vulnerability analyses and ultimately estimation of earthquake risk, and Risk Mitigation.*

The Government of India subsequently setup a *National Committee on Disaster Management* which considered the recommendations of the HPC for implementation, and recommended formation of an independent Disaster Management Authority at the national level and also to shift the Disaster Management Division from *Ministry of Home Agriculture to Ministry of Home Affairs*. Subsequently the Ministry of Home Affairs (MHA), constituted a Core Group on Earthquake Mitigation in 2003, which helped in identifying the most significant mitigation and preparedness measures.

1. 3. National Disaster Management Act 2005

A committee was constituted on 11 January 2005 by the Government of India to draft the Disaster Management Bill. The Bill was introduced in the Rajya Sabha on the 11 May, 2005. It was referred to the Parliamentary Standing Committee for examination and report. The report was presented to the GoI on 25th August 2005. Rajya Sabha passed the Bill with amendments on 28 November 2005 and Lok Sabha did so on 12 and 13 December 2005. President of India signed the Bill on the 23 December 2005 and the Bill become the National Disaster Management Act. The Act brings about a paradigm shift in India's approach to disaster management. The centre of gravity stands visibly shifted to preparedness, prevention and planning simultaneously as the national disaster response is improved.

1. 4. Definition of Disaster

Disaster is the occurrence of a sudden or major misfortune, which disrupts the basic fabric, and normal functioning of a society. The High Powered Committee of the Government of India, in its October 2001 Report defines Disaster as "an occurrence of a severity and magnitude that normally results in deaths, injuries and property damage and that cannot be managed through the routine procedures and resources of government. It usually develops suddenly and unexpectedly and requires immediate, coordinated and effective response by multiple government and private sector organizations to meet human needs and speedy recovery".

The Disaster Management Act 2005 defines disaster as "a catastrophe, mishap, calamity or grave occurrence affecting any area, arising from natural of manmade causes, or by accident or negligence which results in substantial loss of life or human suffering or damage to, and destruction of, property, or damage to, or degradation of, environment, and is of such a nature magnitude as beyond the coping capacity of the community of the affected area".

It remains to be seen as how are we going to interpret an event when terms like catastrophe, mishap, calamity and grave occurrence co-exist and will naturally be seen as interchangeable. As if to complicate the matters further, the definition of hangs on the knife edge of local coping capacity. Suppose there are two identical events at two different locations A and B, and the local coping capacity at A is higher than that required to manage the event whereas at B the local coping capacity is much lower. Clearly it would mean that the same event would be recognized as a disaster at location B but not at location A?

WHO defines disaster as 'any occurrence that causes damage, economic destruction, loss of human life and deterioration in health and health services on a scale sufficient to warrant an extraordinary response from outside the affected community or area.' A disaster is the product of a hazard such as earthquake, flood or windstorm coinciding with a vulnerable situation, which might include communities, cities or villages.

UNDRO "Disaster Management Training Manual" defines Disaster as a serious disruption of the functioning of a society, causing widespread human, material or environmental losses which exceed the ability of the affected society to cope using only its own resources".

The United Nations (UNDRO 1987, cited in Hanisch 1966 define disasters as :

"A disaster is an event that is concentrated in space and time and that subject to a society to a severe danger and such serious losses of human life or such major material damage that the local social structure breaks down and the society is unable to perform any or some of its key functions."

The definition of disaster provided by the Centre for Research on the Epidemiology of Disasters (CRED) is relatively simpler. CRED defines a disaster as a situation or event which overwhelms local capacity, necessitating a request to national or international level for external assistance; an unforeseen and often sudden event that causes great damage, destruction and human suffering. Then it goes on to add that for a disaster to be entered into the database, at least one of the following criteria must be fulfilled: (1) ten or more people recorded killed (2) 100 people reported affected (3) declaration of State of Emergency and (4) call for international assistance.

Clearly the difficulty of the kind faced in the definition given in the Act does not arise if such a definition is used.

1.5. Hazards

Hazards are defined as "Phenomena that pose threat to people, structures or economic assets and which may cause a disaster". They could be either man made or naturally occurring in our environment (UNDRO). A natural hazard pertains to a natural phenomenon which occurs in proximity and poses a threat to people, structures and economic assets caused by biological, geological, seismic, hydrological or meteorological conditions or processes in the natural environment.

1.6. Definition of Disaster Management

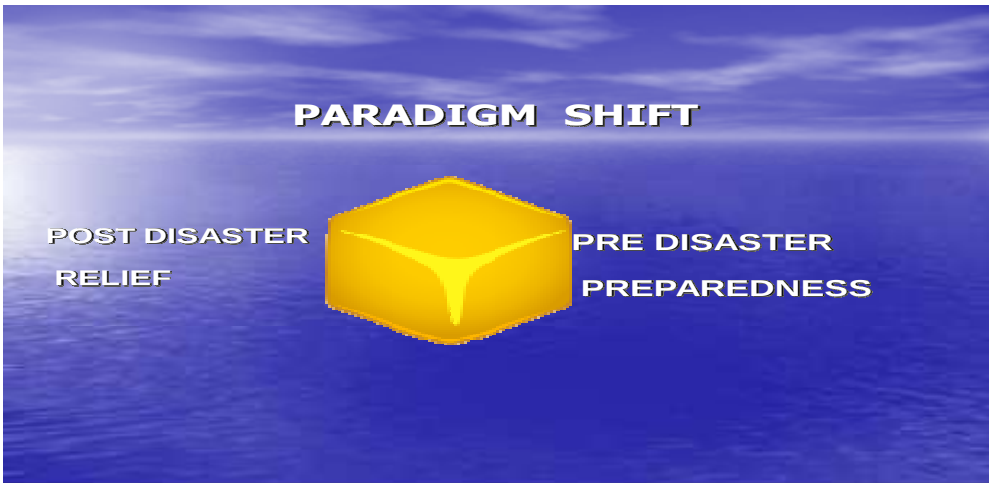
Disaster Management Act 2005 define disaster management as a continuous and integrated process of planning, organizing, coordinating and implementing measures which are necessary or expedient for (1) prevention of danger or threat of any disaster (2) mitigation or reduction of risk of any disaster or its severity or consequences (3) capacity building (4) preparedness to deal with any disaster (5) prompt response to any threatening disaster situation or disaster (6) assessing severity or magnitude of effects of any disaster (7) evacuation rescue and relief and (8) rehabilitation and reconstruction.

The High Powered Committee defined as "a collective term encompassing all aspects of planning for and responding to disasters, including both pre and post disaster activities. It may refer to the management of both the risks and consequences of disasters".

Clearly the term management has emerged as an umbrella term that encompasses the entire disaster cycle, including mitigation. This needs careful noting and wide spread awareness because traditionally the term management was restrictively used to address only post disaster operations. Unless the old mindsets get changed, the cause of disaster mitigation will continue to suffer at the hands of traditional disaster managers.

1.7. Disaster Mitigation

According to Disaster Management Act 2005, "mitigation means measures aimed at reducing the risk, impact or effects of a disaster or a threatening disaster situation". There is the urgent need to ensure that disaster mitigation strategies get enmeshed and integrated with the very development process.



1.8. Need for Reducing Risk

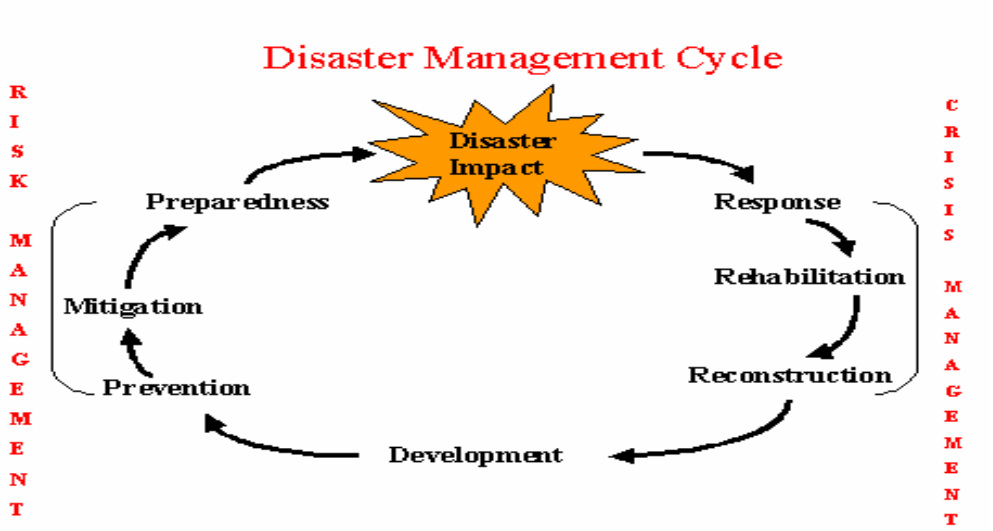
Over the past two decades, there has been an increase in disaster occurrences costing human and economic losses. This is due to the ever increasing

vulnerabilities of people to natural disasters. The need is felt to reduce disaster risks by improving capabilities of people and ensuring preparedness, mitigation and response planning processes at various levels. The objectives is to look at the entire cycle of Disaster Management in reducing risk and linking it to developmental planning process. In the past, disasters were considered as emergencies and viewed as isolated events, responded to by the government and various agencies without taking into account the social and economic causes and long term implications of these events

For an effective Disaster management, it is realized that the balance is maintained for all the stages of Disaster Management cycle. This imbalances leads to increased vulnerability of a society, resulting into huge losses due to the impact of the hazards.

The recent disasters and their impact underscored the need to adopt a multi dimensional approach involving diverse scientific, engeneering, financial and social processes to reduce vulnerability in multi hazard prone areas. In view of this, the GoI has brought about a paradigm shift in its approach to disaster management. The change is from Crisis management involving response, Relief and rehabilitation approach to a balanced approach covering all phases (Crisis and Risk Management) of the Disaster Management Cycle. This approach acknowledges disaster management as a part of the development process, and investments in mitigation are perceived to be much more cost effective than relief and rehabilitation expenditure. In this regard, GoI has taken various initiatives in area of disaster preparedness, mitigation and response through networking of various institutions, institutional capacity building and policy interventions at all levels.

Various initiative and programme on Risk management part of the Disaster Management cycle covering pre disasater preparedness, mitigation, prevention has been carried out besides evolving effective post disaster Crisis management to reduce the impact of disaster, in terms of property damage, injuries and death, suffering or a long term socio-economic vulnerabilitites.



Annexure 1 : Disasters identified by the High Powered Committee in 2001

I. Water and Climate related disaster

1. Floods and Drainage Management
2. Cyclones
3. Tornadoes and Hurricanes
4. Hailstorm
5. Cloud Burst
6. Heat Wave and Cold Wave
7. Snow Avalanches
8. Droughts
9. Sea Erosion
10. Thunder and Lighting

II. Geologically related disasters

1. Landslides and Mudflows
2. Earthquakes
3. Dam Failures/Dam Bursts
4. Mine Fires

III. Chemical, Industrial and Nuclear related disasters

1. Chemical and Industrial Disasters
2. Nuclear Chemicals

IV. Accident related disasters

1. Forest Fires
2. Urban Fires
3. Mine Flooding
4. Oil Spill

5. Major Building Collapse
6. Serial Bomb Blast
7. Festival Disasters and Fires
8. Electrical Disasters and Fires
9. Air, Road and Rail Accidents
10. Boat Capsizing
11. Village Fire

V. Biologically related disasters

1. Biological Disaster and Epidemics
2. Pest Attacks
3. Cattle Epidemics
4. Food Poisoning