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Disaster Management in India

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ABSTRACT

India is hit by one major natural disaster or another every year. Floods, drought, landslides, tsunami, earthquakes, volcanoes etc frequently occur in India. Disasters result not only in loss of shelter but also create hardships, lack of food availability, loss of livelihood and disrupt social and economic scenario. Disaster management is the discipline of dealing with and avoiding both natural and manmade disasters. It involves preparedness, response and recovery in order to lessen the impact of disasters. All aspects of emergency management deal with the processes used to protect populations or organizations from the consequences of disasters, wars and acts of terrorism .Disaster management doesn't necessarily avert or eliminate the threats themselves. Some factors 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 among people etc create problems during disaster management. There is a need to adopt more innovative techniques for disaster management.

Keywords: Key words: Disaster, management ,vulnerability, sustainability, response ,recovery

Introduction

The word 'Disaster' derives from Middle French désastre and that from Old Italian disastro, The root of the word disaster ("bad star" in Greek and Latin) comes from an astrological theme in which the ancients used to refer to the destruction or deconstruction of a star as a disaster.

National Disaster Management Act, 2005 defines "Disaster means catastrophe, mishap, calamity or grave occurrence in any area, arising from nature or man-made causes, or by accident or negligence which result in substantial loss of life, of human suffering or damage to, and destruction of property, or damage to, or degradation of environment, and is of such nature or magnitude as to be beyond the coping capacity of the community of affected areas."

Disasters have been mankind's constant inconvenient companion. Natural disasters strike mankind without notice and are perceived to be on the increase in their magnitude, complexity, frequency and economic impact. These disasters create a threat to people, structures, and economic assets. Since 1960, natural disasters have resulted in the loss of more than three millions lives and affected many more. At global level, 90 percent of natural disasters and 95 percent of total disasters occur only in developing countries. It is because most of the worst

disasters occur between the areas of tropic of cancer and tropic of capricon. Disasters result not only in loss of shelters but also create hardship, lack of food availability, temporary loss of livelihood disrupt socio- economic activities.

The Indian scenario

The Indian subcontinent is among the world's most disaster prone areas. Almost 85% of India's area is vulnerable to one or multiple hazard. Of the 29 states and 7 union territories, 22 are disaster-prone. It is vulnerable to wind storms spawned in the Bay of Bengal and the Arabian Sea, earthquakes caused by active crustal movement in the Himalayan mountains, floods brought by monsoons, and droughts in the country's arid and semi-arid areas.

Almost 57% of the land is vulnerable to earthquakes,68% to drought, 8% to cyclones and 12% to floods. India has also become much more vulnerable to tsunamis since the 2004 Indian Ocean tsunami.

Classification of Disasters:

The classification of disaster differs as per the criterion of classification. For example, on the basis of their origin, they are classified as natural and manmade. If we take into account their severity, they may be classified as major and minor disasters .However, a high powered committee constituted in Aug. 1999 by the Government of India, under the Chairmanship of J.C. Pant adopted origin as the criterion for the classification of disaster.

1. Water and Climate Disaster: Such as flood, cyclones, hailstorms, cloudburst, heat and cold waves, snow avalanches, droughts, sea erosion, thunder and lightning.

2. Geological Disaster: Such as landslides and mud flows, earthquakes, mine fires, dam failures and general fires.

3. Biological Disaster: Such as epidemics, pest attacks, cattle epidemic and food poisoning.

4. Nuclear and Industrial Disaster: Such as chemical and industrial disasters and nuclear accidents.

5. Accidental Disaster: Such as urban and forest fires, oil spill, mine flooding incidents, collapse of huge building structures, bomb blasts, air, road and rail mishaps, boat capsizing and stampede during congregations.

Major disasters in India

Earthquakes:

Of the earthquake-prone areas, 12% is prone to very severe earthquakes, 18% to severe earthquakes and 25% to damageable earthquakes. The biggest quakes occur in the Andaman and Nicobar Islands, Kutch, Himachal and the North-East. The Himalayan regions are particularly

prone to earthquakes .All 7 North East states of India – Assam, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tripura and Meghalaya; Andaman & Nicobar Islands; and parts of 6 other states in the North/North-West (Jammu and Kashmir, Uttaranchal, and Bihar) and West (Gujarat), are in Seismic Zone V that are very earthquake prone.

Floods:

About 30 million people are affected annually. Floods in the Indo-Gangetic -Brahmaputra plains are an annual feature. On an average, a few hundred lives are lost, millions are rendered homeless and several hectares of crops are damaged every year .Nearly 75% of the total rainfall occurs over a short monsoon season (June – September). 40 million hectares, or 12% of Indian land, is considered prone to floods. Floods are a perennial phenomenon in at least 5 states – Assam, Bihar, Orissa, Uttar Pradesh and West Bengal. On account of climate change, floods have also occurred in recent years in areas that are normally not flood prone. In 2006, drought prone parts of Rajasthan experienced floods.

Droughts:

About 50 million people are affected annually by drought. Of approximately 90 million hectares of rain-fed areas, about 40 million hectares are prone to scanty or no rain .In India annually 33% area receive rainfall less than 750 mm (low rainfall area) and 35 % area receive between 750 to 1125 mm rainfall (Medium rainfall) and only 32 percent falls in the high rainfall (>1126 mm) zone.

Cyclones:

About 8% of the land is vulnerable to cyclones of which coastal areas experience two or three tropical cyclones of varying intensity each year. The Indian continent is considered to be the worst cyclone-affected part of the world, as a result of low-depth ocean bed topography and coastal configuration. Cyclones typically strike the East Coast of India, along the Bay of Bengal, i.e. the states of West Bengal, Orissa, Andhra Pradesh and Tamil Nadu, but also parts of Maharashtra and Gujarat at the Arabian Sea West Coast.

Landslides:

Landslides occur in the hilly regions such as the Himalayas, North-East India, the Nilgiris, and eastern and western Ghats. Landslide-prone areas largely correspond to earthquake-prone areas, i.e. North-west and North-East, where the incidence of landslides is the highest.

Droughts:

Drought is another recurrent phenomenon which results in widespread adverse impact on vulnerable people's livelihoods and young children's nutrition status. It typically strikes arid areas of Rajasthan (chronically) and Gujarat states. Drought is not uncommon in certain districts

of Uttar Pradesh, Madhya Pradesh, Orissa, Andhra Pradesh, etc. Drought has caused poverty, hunger and unemployment.

Disaster Management

Disaster Management is an effort to inquire into the process of a hazard turning to disaster to identify its causes. Therefore, disaster management is a policy issue concerned with minimizing and preventing the damaging impact of a natural or manmade hazard .The traditional practice of disaster management has been limited to calamity relief which involved provision of rescue and relief operation when disaster occurred. In recent approach, development is not sustainable unless disaster management is built in development process. Another aspect is that mitigation has to be multi- disciplinary including all aspects of development.

The process of disaster management involves (1) Risk assessment and vulnerability analysis (2)Mitigation(3) Preparedness (4)Response (5) Recovery

1. Risk assessment and vulnerability-
In disaster management, first stage is to identify hotspots where a particular disaster is likely to occur. Today we have enough knowledge about earth's topography, our vegetation cover, pressure and temperature patterns. With remote sensing, satellite communication, Global positioning system (GPS),Geographical information System (GIS),We can anticipate, and estimate the extent of damage.

2. Mitigation-
Mitigation involves prevention of incidence from developing into disaster and to reduce the damage to life and property Strategies to reduce damage involves structural measures includes technological solutions such as erection of flood levees, embarkments to stop flood water ,structural adaptation to prevent building from collapse in case of earthquakes, proper management of fire fighting measures in case of fires. Non structural measures involve legislation, land use planning, insurance, provision of buffer zones to accommodate flood water etc. Mitigation is most effective method to reduce impact of disaster.

3. Preparedness-
A well planned schemes of actions should be developed and well rehearsed before occurrence. Preparedness includes the following steps- 1. Easily understandable plans,proper maintenance of emergency services including human resource, developing emergency shelters and evacuation plans ,stockpiling and maintenance of disaster equipments, provision of trained volunteers. Casuality prediction is another aspect of preparedness.

4. Response-
It includes mobilization of necessary services at once on disaster occurrence. The emergency services like police, fire- fighters, medical help and ambulance should reach immediately. Special rescue teams and volunteers should reach to disaster place.

5. Recovery

It targets restoration of affected areas to normal life. Recovery efforts include activities like building the damaged property, re- employment and repair of essential infrastructures like water and power lines, re construction of roads and railways. Many mitigated measures should be implemented.

National Disaster Management Act 2005

Disaster management Act, 2005 defines Disaster Management as a continuous cycle and integrated process of planning, organizing, coordinating and implementing, coordinating and implementing measures which are necessary or expedient for-

(i) Prevention of danger or threat of any disaster;

(ii) Mitigation or reduction of risk of any disaster or its severity or consequences;

(iii) Capacity-building;

(iv) Preparedness to deal with any disaster;

(v) Prompt response to any threatening disaster situation or disaster;

(vi) Assessing the severity or magnitude of effects of any disaster;

(vii) Evacuation, rescue and relief;

(viii) Rehabilitation and Reconstruction.

The National Institute of Disaster Management (NIDM) is required to design, develop and implement training programmes, undertake research, formulate and implement a comprehensive human resource development plan, provide assistance in national policy formulation, assist other research and training institutes, state governments and other organizations for successfully discharging their responsibilities, develop educational materials for dissemination and promote awareness among stakeholders in addition to undertake any other function as assigned to it by the Central Government .Flaws in intelligence are causing some disasters, say, terrorism, strikes, social tensions, etc. Camp managing Committees lack sufficient number of women, to take care of women, in relief and rehabilitation. Low income and Poverty creates problems in matters of preparedness. Still there are deficiencies in Geographical Information System (GlS) as a plan scheme. Community participation is less. Digital dissemination of information by Disaster Management Authorities is still inadequate. There is need to link disaster management and development plans. Planned improvement in legal framework in needed.

Conclusion:

With installation of new technologies and by adopting space technology as INSAT and IRS series of satellites, India has developed an operational mechanism for disaster warning especially cyclone and drought, and their monitoring and mitigation. However, prediction of certain events likes earthquake, volcanic eruption and flood is still at experimental level. Disasters hinder progress and destroy the hard-earned fruits of developmental efforts. Thus, efficient management of disasters, rather than mere response to their occurrence has, in recent times, received increased attention both within India and abroad. Due to recognition of the increasing frequency and intensity of disasters, there is a in a need to deal effectively with the devastating impact of disasters.

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