

Disaster Management: "Environmental Quality Risk Management"

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Abstract:

The author dedicates this study to all the innocent pilgrims and residents who have become victims of the natural calamity of the recent past we have witnessed in Uttarakhand, India." All communities and countries are vulnerable to disasters, both natural and man-made. The geo-climatic conditions of India, as well as its high degree of socioeconomic openness, make it one of the most disaster-prone countries in the world that suffers very often from various natural disasters, namely droughts, floods, cyclones, earthquakes, landslides, forest fires, hailstorms, lobsters, volcanic eruptions, etc. What strike causes a devastating impact on human life, the economy and the environment? Various disasters such as earthquakes, landslides, volcanic eruptions, fires, floods and cyclones are natural hazards that kill thousands of people and destroy billions of dollars in habitat and property each year. The rapid growth of the world's population and its increased concentration often in dangerous environments has increased both the frequency and severity of natural disasters. With the tropical climate and unstable land forms, along with deforestation, unplanned growth proliferation, undesigned constructions that make disaster-prone areas merely vulnerable, late communication, poor or no budget allocation for Disaster prevention, developing countries suffer more or less chronically from natural disasters. Asia tops the list of victims due to natural disasters. Among the various natural hazards, earthquakes, landslides, floods and cyclones are the main disasters that negatively affect very large areas and populations in the Indian subcontinent. The perception of the disaster and its management has undergone a change following the enactment of the Disaster Management Act, 2005.

Keywords: National Disaster Management Authority (NDMA), National Disaster Response Force (NDRF), National Institute of Disaster Management (NIDM), The International Association (IAEM), The International Recovery Platform (IRP), World Conference On Disaster Reduction (WCDR), International Strategy For Disaster Reduction (ISDR).

I. INTRODUCTION:-

Disaster management is the discipline of treating and avoiding natural and man-made disasters. It implies preparation, response and recovery to reduce 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 does not necessarily prevent or eliminate threats themselves, although the study and prediction of threats is an important part of the field. The basic levels of emergency management are the various types of search and rescue activities. [1] Disaster management can be defined as the organization and management of resources and responsibilities to address with all humanitarian aspects of emergencies, in particular preparedness, response and recovery to reduce the impact of disasters. The complete Disaster Management cycle can be represented following Figure 1.1.



Figure 1.1: Etymology

The word "disaster" derives from the French half-disaster and the old Italian disaster, which in turn comes from the Greek pejorative prefix δυσ-, (dus-) "bad" + ἀστήρ (aster), "star". 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.

II. DEFINITION OF DISASTER MANAGEMENT:-

The disaster is an event or series of events that result in victims and damage or loss of property, infrastructure, environment, essential services or livelihoods on a scale that is beyond the normal ability of the affected community to do front. The disaster is also sometimes described as a "catastrophic situation in which the normal pattern of life or ecosystem has been altered and extraordinary emergency interventions are required to save and preserve lives and / or the environment." [2]

III. TYPES OF DISASTERS:-

There is no other such country which is being immune from disaster, though vulnerability to disaster varies. There are four main types of disaster:-

3.1 Natural disasters

These disasters include floods, hurricanes, earthquakes and volcano eruptions that can have immediate impacts on human health, as well as secondary impacts that cause more deaths and suffer floods that cause landslides, earthquakes that cause fires, tsunamis that cause widespread flooding and Typhoons that sink ferries.

3.2 Environmental Emergencies

These emergencies include technological or industrial accidents, which generally involve hazardous materials, and occur where these materials are produced, used or transported. Large forest fires are generally included in this definition because they tend to be caused by humans.

3.3 Complex Emergencies

These emergencies involve a collapse of authority, looting and attacks on strategic facilities. Complex emergencies include conflict and war situations.

3.4 Pandemic Emergencies

These emergencies involve the sudden appearance of a contagious disease that affects health but also disrupts services and businesses, which generates economic and social costs.

3.5 Man-made Disaster

Disasters caused by chemical or industrial accidents, environmental pollution, transportation and political accidents. riots are classified as "man-made" or "man-induced" disasters, as they are the direct result of human action.[5]

IV. INSTITUTIONAL AND LEGAL ARRANGEMENTS OF DISASTER MANAGEMENT:-

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

4.1 Institutional Framework under the Disaster Management Act

4.1.1 National Disaster Management Authority (NDMA)

The NDMA, as the lead agency for disaster management, is headed by the Prime Minister and has the responsibility of establishing policies, plans and guidelines for DM (and coordinating its application and

implementation to ensure a timely and effective response to disasters). Approve the national disaster management and DM plans of central ministries / departments. The NDMA has the power to authorize interested departments or authorities to make emergency procurement of supplies or rescue materials and relief in a threatening disaster or disaster situation.

4.1.2 The National Executive Committee

The National Executive Committee (NEC) is composed of the Minister of the Interior of the Union as President, and the Secretaries of the Government of India in the Ministries / Departments of Agriculture, Atomic Energy, Defense, Drinking Water Supply, environment and forests, finance (expenses), health, energy, rural development, science and Technology, space, telecommunications, urban development, water resources and the Chief of the Integrated Defense Staff of the Committee of Chiefs of Staff as members. Secretaries of the Ministry of Foreign Affairs, Earth Sciences, Human Resources Development, Mines, Maritime Transport, Road and Road Transport and Secretary, NDMA will be special guests at NEC meetings. [4]

4.1.3 State Disaster Management Authority (SDMA)

At the state level, the SDMA, headed by the Chief Minister, will establish policies and plans for the DM in the State. It will approve, among other things, the State Plan in accordance with the guidelines established by the NDMA, coordinate the implementation of the State Plan.

4.1.4 District Disaster Management Authority (DDMA)

The DDMA will be headed by the District Collector, the Deputy Commissioner or the District Magistrate, as the case may be, with the elected representative of the local authority as the Co-Chair. DDMA will act as the DM planning, coordination and implementation agency at the district level and will take all necessary measures for DM purposes in accordance with the guidelines established by NDMA and SDMA.

4.1.5 National Disaster Response Force (NDRF)

The Disaster Management Act, 2005, has established the legal provisions for the constitution of the National Disaster Response Force (NDRF) for the purpose of specialized response to natural and man-made disasters. In accordance with Section 45 of the Law, the Force must operate under the general supervision, direction and control of the National Disaster Management Authority (NDMA) and under the command and supervision of the Director General, NDRF. Although the units of this Force were nominated in 2003, it is only after the establishment of NDMA that their training and equipment were vigorously pursued. Instead of the Section

44 (i) of the Law establishing that the NDRF is a specialized force, the force is gradually emerging as the most visible and vibrant multidisciplinary, multidisciplinary and high-tech force of the NDMA capable of dealing with all types of natural and artificial products . Disasters With the purpose of a specialized response to a situation of threatening disaster or disasters / emergencies, both natural and man-made, such as those of chemical, biological, radiological and nuclear origin, the Law has ordered the constitution of a National Response Force a Disasters (NDRF). The general superintendency, direction and control of this force will be vested and exercised by the NDMA and the command and supervision of the Force will fall to an officer who will be appointed by the Central Government as Director General of Civil Defense and National Disaster Response Strength. Currently, the NDRF comprises eight battalions and can be considered an additional expansion in due course. These battalions will be placed in different places as needed.

4.1.6 National Institute of Disaster Management (NIDM)

The National Institute for Disaster Management, established under the Disaster Management Act of 2005, has been responsible for national nodal responsibility for human resources development, capacity development, training, research, documentation and the promotion of policies in the field of disaster management. Improved from the National Center for Disaster Management of the Indian Institute of Public Administration on October 16, 2003, NIDM constantly advances to fulfill its mission of achieving a disaster-resistant India through the development and promotion of a culture of prevention and preparedness at all levels. The NIDM, in association with other research institutions, has capacity development as one of its main responsibilities, along with training, research, documentation and development of a national information base. It will connect with other knowledge-based institutions and will function within the general policies and guidelines established by the NDMA. [3] The list of the ten deadliest disasters that have occurred worldwide and in India in known history and in the last century can be seen in the Table 1.1

V. DISTRIBUTION OF PEOPLE AFFECTED BY DISASTER IN INDIA:-

Figure 1.2 shows the distribution of people affected by disaster in the world between 1975 and 2001.

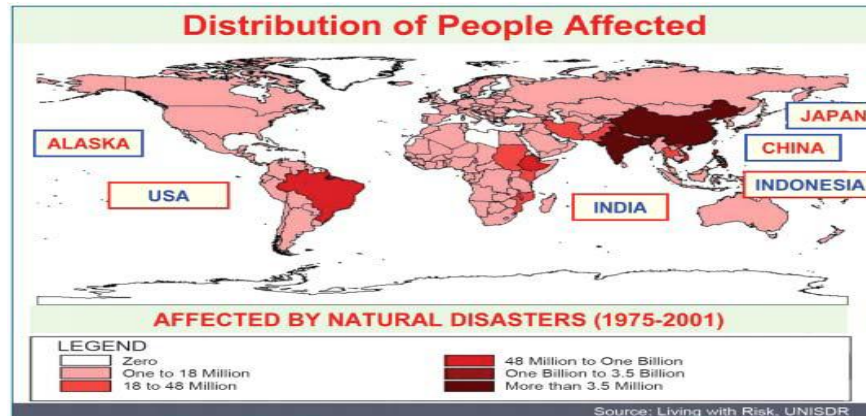


Figure 1.2: From the above figure we can easily understand that Alaska, North America, Australia are the safe place while the India is most dangerous place to live on the view of Disaster

VI. THE INDIAN SCENARIO FOR DISASTER MANAGEMENT:-

India due to its geo-climatic and socioeconomic status is prone to several disasters. Over the past thirty years, the country has been affected by 431 major disasters that have resulted in huge losses of life and property. According to Prevention statistics on the Web, 143039 people died and around 150 million rupees were affected by several disasters in the country during these three decades. Disasters caused huge losses to property and other infrastructure that cost more than Rs.48 billion. In India, the cyclone that occurred on November 25, 1839 had a death toll of three lakh people. The 2001 Bhuj earthquake in Gujarat and the Orissa Super-cyclone on October 29, 1999 are still fresh in the memory of most Indians and the cloud burst and mud flow in Leh and its surroundings on the morning of August 6, 2010. The most recent natural The cloud disaster that resulted in flash floods and mudflow in the areas of Utterakhand and Kedarnath in the early hours of June 16, 2013, caused serious damage in terms of human lives and property. There were a reported death toll of 1,200 people, about 5,000 missing persons, 4,200 pets (have economic value) 3,661 damaged homes in approximately 500 villages and 27,350 hectares of affected crop area.[9]

VII. INDIA - DISASTER STATISTICS:-

Data related to human and economic losses from disasters that have occurred between 1980 and 2010

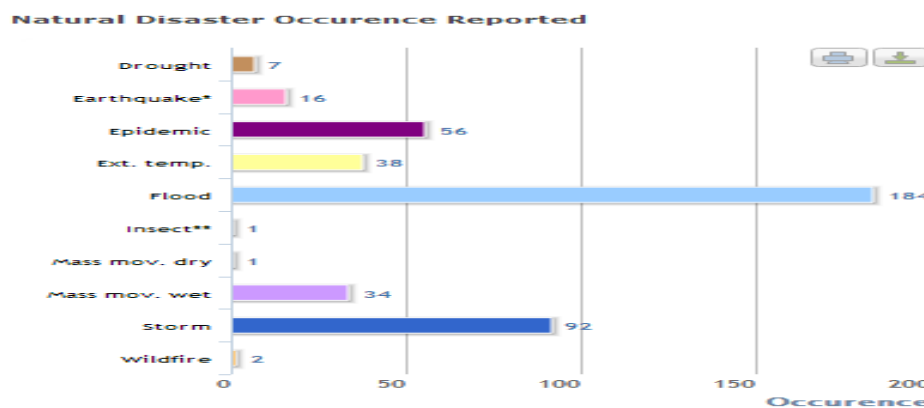


Figure 1.3: Top 10 Natural Disasters Reported

VIII. INTERNATIONAL ORGANIZATIONS OF DISASTER MANAGEMENT:-

8.1 International Association of Emergency Managers

The International Association of Emergency Managers (IAEM) is a nonprofit educational organization dedicated to promoting the goals of saving lives and protecting property during emergencies and disasters. The mission of IAEM is to serve its members by providing information, networks and professional opportunities, and advance the emergency management profession..[8]

8.2 International Recovery Platform

The International Recovery Platform (IRP) was conceived at the World Conference on Disaster Reduction (WCDR) in Kobe, Hyogo, Japan, in January 2005. As a thematic platform of the International Strategy for Disaster Reduction (ISDR) system, the IRP is a key pillar for the implementation of the Hyogo Framework for Action (HFA) 2005–2015: Building Resilience of Nations and Communities to Disasters, a global plan for disaster risk reduction for the decade adopted by 168 governments in the WCDR. The key role of the IRP is to identify the gaps and limitations experienced in post-disaster recovery and serve as a catalyst for the development of tools, resources and capacity for resilient recovery. The IRP aims to be an international source of knowledge about good recovery practices.

8.3 Red Cross/Red Crescent

National Red Cross / Red Crescent societies often have fundamental roles in emergency response. In addition, the International Federation of Red Cross and Red Crescent Societies (IFRC or "The Federation") can deploy evaluation teams, p. Field Evaluation and Coordination Team - (FACT) to the affected country if requested by the National Red Cross or Red Crescent Society. After assessing the needs, the Emergency Response Units (ERU) can be deployed in the affected country or region. They are specialized in the response component of the emergency management framework..

8.4 United Nations

Within the United Nations system, responsibility for the emergency response rests with the Resident Coordinator of the affected country. However, in practice, the international response will be coordinated, if requested by the government of the affected country, by the United Nations Office for the Coordination of Humanitarian Affairs (UN-OCHA), through the deployment of a team of United Nations Disaster Evaluation and Coordination (UNDAC).

8.5 World Bank

Since 1980, the World Bank has approved more than 500 operations related to disaster management, which amount to more than US \$ 40 billion. These include post-disaster reconstruction projects, as well as projects with components designed to prevent and mitigate disaster impacts, in countries such as Argentina, Bangladesh, Colombia, Haiti, India, Mexico, Turkey and Vietnam, to name just a few. Common areas of focus for prevention and mitigation projects include forest fire prevention measures, such as early warning measures and educational campaigns to discourage farmers from cutting down and burning agriculture that ignites forest fires; early warning systems for hurricanes; flood prevention mechanisms, ranging from the protection of the coast and terraces in rural areas to the adaptation of production; and earthquake prone construction. In a joint venture with the University of Columbia under the umbrella of the Prevent Consortium, the World Bank has established a Global Risk Analysis of the critical points of natural disasters. In June 2006, the World Bank established the Global Fund for Disaster Reduction and Recovery (GFDRR), a long-term partnership with other aid donors to reduce disaster losses by incorporating disaster risk reduction into development, in support of the Hyogo Framework for Action. The facilities help developing countries to finance development projects and programs that improve local capacities to disaster prevention and emergency preparedness.[7]

8.6 European Union

Since 2001, the EU adopted the Community Mechanism for Civil Protection, which began to play an important role on the world stage. The main role of the mechanism is to facilitate cooperation in civil protection assistance interventions in case of major emergencies that may require urgent response actions. This also applies to situations in which there may be an imminent threat of such important emergencies. The heart of the Mechanism is the Monitoring and Information Center. It is part of the Directorate General for Humanitarian Aid and Civil Protection of the European Commission and is available 24 hours a day. It gives countries access to a platform, to a single window of civil protection means available among all participating states. Any country within or outside the Union affected by a major disaster can submit a request for assistance through the MIC. It acts as a communication center at headquarters level between the participating states, the affected country and the field sent experts also provides useful and updated information on the actual state of an ongoing emergency.

8.7 India

The role of emergency management in India lies with the National Disaster Management Authority of India, a government agency subordinated to the Ministry of Interior. In recent years there has been a shift in the emphasis on response and recovery to strategic risk management and reduction, and from a government-centered approach to decentralized community participation. The Ministry of Science and Technology, headed by Dr. Karan Rawat, supports an internal agency that facilitates research by bringing academic knowledge and

experience of earth scientists to emergency management. Recently, the Government of India formed a group representing a public / private. It is funded primarily by a large IT company based in India and aims to improve the general response of communities to emergencies, in addition to incidents that could be described as disasters. Some of the group's first efforts include the provision of emergency management training for first responders (a first in India), the creation of a single emergency telephone number and the establishment of standards for personnel, equipment and EMS training. It operates in three states, although efforts are being made to make this an effective group nationwide. [6]

8.8 Aniruddh Sharma's Academy of Disaster Management (AADM)

The Aniruddh Disaster Management Academy (AADM) is a non-profit organization in Mumbai, India, whose main objective is "Disaster Management".

IX. CONCLUSIONS

In addition to the loss of human lives, natural disasters cause serious damage to the ecology and economy of a region. With the installation of new technologies and adopting space technology such as the INSAT and IRS satellite series, India has developed an operational mechanism for disaster alert, especially cyclones and droughts, and their monitoring and mitigation. However, the prediction of certain events such as earthquakes, volcanic eruptions and floods is still at the experimental level. Disasters disrupt progress and destroy the hard-earned fruits of painstaking development efforts, often pushing nations, in search of progress, backwards for several decades. Therefore, the efficient management of disasters, instead of the mere response to their occurrence, has recently received more attention both within India and abroad. This is due both to the recognition of the increasing frequency and intensity of disasters and to a civilized society that needs to effectively address the devastating impact of disasters.

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