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# An Overview of Disaster Management in India

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**ABSTRACT:** : India is one of the hazard prone countries in South Asia. Floods, droughts, landslides, snowstorms, hurricanes and cyclones occur regularly. Among these earthquakes, floods and drought risk are extremely high. These hazards threaten millions of lives and cause large scale financial, infrastructure, agriculture and productivity losses that seriously hinder India's overall development. In India, as in the United States, the primary responsibility for responding to disaster lies at the state and the central level. The GOI have a national emergency plan for disaster management, some of the state also has a disaster management plan. It can be, and is called upon to assist when necessary, but there is a lack of awareness in the public. Many Indian States have limited resources and lack their own disaster management plans. Considering these problems, this paper attempts to throw light on a more integrated and responsive disaster management system in India. This paper will provide important information in three mutually reinforcing areas viz. disaster preparedness, response and rehabilitation management. The various case studies for disaster management will be discussed.

**KEYWORDS:** disaster, mitigation, hazards, risk, safety management, India

## I.INTRODUCTION

Disaster Management as a subject essentially deals with management of resources and information as far as a disastrous event is concerned and also how effectively and seamlessly one coordinates these resources. Disaster management, at the individual and organizational level, deals with issues of planning, coordinating, communication and risk management. The earth has been an unstable proposition throughout its existence over the past couple of years; the Government of India has brought about a paradigm shift in the approach to disaster management. The new approach proceeds from the conviction that development cannot be sustainable unless disaster mitigation is built into the development process. Another corner stone of the approach is that mitigation has to be multi-disciplinary spanning across all sectors of development. The new policy also emanates from the belief that investments in mitigation are much more cost effective than expenditure on relief and rehabilitation. Disaster management occupies an important place in this country's policy framework as it is the poor and the under- privileged who are worst affected on account of calamities/disasters. Man who entered this scene has been exploring during his exercise to unravel the various mysteries till date. These mysteries have been understood by and confined to the intellectual community. But when the victims of mysteries are the human being then they need to know the causes of disaster. Disasters are not totally discrete events. Their possibility of occurrence, time, place and Severity of the strike can be reasonably and in some cases accurately predicted by technological and scientific advances. It has been established there is a definite pattern in their occurrences and hence we can to some extent reduce the impact of damage. Though, we cannot reduce the extent of damage itself.

Disaster is a sudden, calamitous event bringing great damage, loss, and destruction and devastation to life and property. The damage caused by disasters is immeasurable and varies with the geographical location, climate and the type of earth surface/degree of vulnerability. This influences the mental, socio-economic, political and cultural state of the affected area. Generally, disasters have the following effects in the concerned areas

- i) It completely disrupts the normal day-to-day life.
- ii) Normal needs and processes like food, shelter, health, etc. are affected and deteriorate depending on the intensity and severity of the disaster.

It may also be termed as “a serious disruption of the functioning of society, causing widespread human, material or environmental losses which exceed the ability of the affected society to cope using its own resources.”



Fig-1 Cycle of disaster management

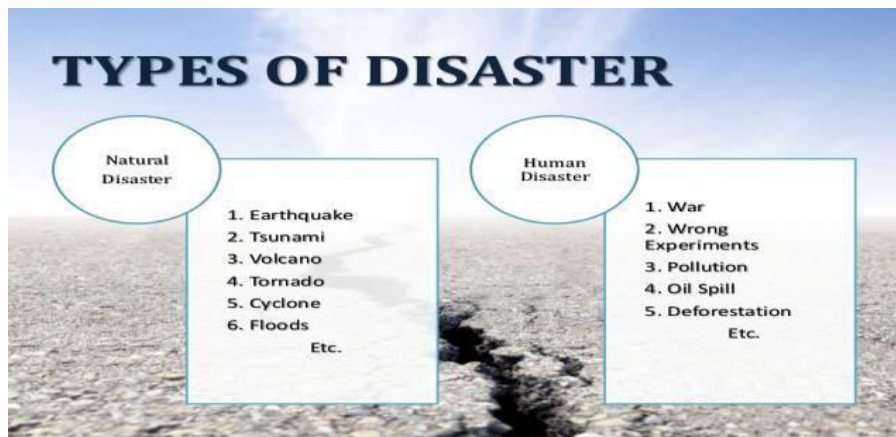


Fig.2 Types of Disaster

## II. LITRACTURE REVIEW

**Shubhendu S. Shukla** (2011) describes severe damage to ecology and economy of a region due to disaster. 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.



**Pramod Patil** (2012) highlighted disaster profile of India and Disaster Management in India. He concluded that there are some points on which we have to focus like effective warning system and effective communication system etc.

**Chen-Huei Chou** et al (2013) presented we focus on identifying the contents of a web based disaster management system from the perspectives of multiple stakeholders (victims and aid providers), the needs the system should meet, and crisis behaviors that the system should anticipate. We propose two conceptual models to investigate how these categories of web-design elements could enhance victims' coping mechanisms and reduce impacts of natural disasters on individuals (Model 1) and businesses Extending the theories of task-technology fit and self-efficacy, we propose the concepts of need-web element fit, behavior-web element fit, and disaster self- efficacy. We formulate an assessment model for dealing with the effectiveness of the proposed design.

**Dr. Priyanka Banerji** (2013) studied a comparison between Disaster Management in India and Japan and concluded that There is fast recovery growth in Japan after disaster as compare to India.

**Vicky Walters** et al (2014) presented focuses on the linkages between the multi-faceted marginalisation of homeless people and their various vulnerabilities to disaster associated with both everyday small-scale hazards and large-scale natural hazards. Highlighting the complexity and acute vulnerability of homeless people to disaster from a multitude of man-made and natural hazards at different scales, it argues for more attention and integration of homeless people's needs and everyday hazards in disaster research and policy.

**Deeptha V Thattai** et. al. (2017) researches about two case studies – cyclones and floods – are taken up for comparison of disaster management strategies adopted in the country.

**Chandana S.A. Siriwardana et. al. (2018)** investigated the efficiency and effectiveness of the existing disaster management frameworks in Sri Lanka and found that only minor alignments with the global standards are present, and that the existing framework has not been able to manage previous disaster incidents properly. There are considerable inefficiencies in the “whole of government” response, coherence and integration as well as in the resource allocation.

### III. OVERVIEW OF PROPOSED SURVEY

The Government of India (GOI), Ministry of Home Affairs (MHA) and United Nations Development Programme (UNDP) signed an agreement in August 2002 for the implementation of “Disaster Risk Management” Programme to reduce the vulnerability of the communities to natural disasters, in identified multi– hazard disaster prone areas.

Goal: “Sustainable Reduction in Natural Disaster Risk” in some of the most hazard prone districts in selected states of India”.

The four main objectives of this programme are:

1. National capacity building support to the Ministry of Home Affairs.
2. Environment building, education, awareness programme and strengthening the capacity at all levels in natural disaster risk management and sustainable recovery.
3. Multi-hazard preparedness, response and mitigation plans for the programme at state, district, block and village/ward levels in select programme states and districts.
4. Networking knowledge on effective approaches, methods and tools for natural disaster risk management, developing and promoting policy frameworks.



#### ●Disaster prevention and mitigation

The Government of India have adopted mitigation and prevention as essential components of their development strategy. The Tenth Five Year Plan document has a detailed chapter on Disaster Management.

The Government of India have issued guidelines that where there is a shelf of projects, projects addressing mitigation will be given a priority. Measures for flood mitigation were taken from 1950 onwards. As against the total of 40 million hectares prone to floods, an area of about 15 million hectares has been protected by construction of embankments.

A National Core Group for Earthquake Mitigation has been constituted consisting of experts in earthquake engineering and administrators. A Disaster Risk Management Programme has been taken up with the assistance from UNDP, USAID and European Union in 169 most hazard prone districts in 17 States including all the 8 North Eastern States. Under this programme disaster management plans have been prepared for about 3500 villages, 250 Gram Panchayat, 60 blocks and 15 districts.

#### ●Management of earthquake

India high earthquake risk and vulnerability is evident from the fact that about 59 per cent of India's land area could face moderate to severe earthquakes. During the period 2000 to 2010, more than 25000 lives were lost due to major earthquakes in India, which also caused enormous damage to property and public infrastructure. All these earthquakes established that major casualties were caused primarily due to the collapse of buildings. These emphasise the need for strict compliance of town planning bye-laws and earthquake resistance building codes in India. These guidelines have been prepared taking into account an analysis of critical gapes responsible for specific risk.

These guidelines emphasis the need for carrying out the structural safety audit of existing lifelines **structures and** other critical structures in earthquake prone areas, and carrying out selective seismic strengthening and retrofitting. The earthquake guidelines rest on the following six pillars of seismic safety for improving the effectiveness of earthquakes management in India.

#### ●Role of engineering student for disaster management

A lot of the nation's older teenagers are part of 'emergency rescue teams' – mostly the training goes side by side along with 'compulsory military training' programs. I would like to negate student community from search and rescue since that is a highly specialized job and should be left to professionals. The basic role of the student, in my opinion, is AWARENESS of what to do during and after disasters. This would lessen panicking, paranoid and uncontrollable people running around. Also, knowing what to do when disaster strikes will also lessen the death toll. Knowing what to do after a disaster, and at least basic first aid, will enable students to help the authorities in saving lives. If students are well trained then if there is a disaster they are able to protect themselves and they can also help others. The student branch is the most well informed branch of the community. They can spread awareness about disaster management. In addition, they can form association to help in times of disaster. Children can help in managing disasters in many ways, and students can help in rehabilitation and resettlement of victims.

- They can spread awareness through rallies in streets.
- Volunteer in the information centers and form associations for the Disaster-Day.
- Provide the victims with basic needs.
- Preventing disasters at home – stopping building fires due to petty reasons like a short circuit.



#### IV. CONCLUSIONS

Disasters are inevitable. The fact lies in stating “we must all be prepared to try to survive the current and the forthcoming disasters.” We cannot rule the nature but we can at least be watchful and vigilant. The structured and preplanned preparedness and the healthy response to the disaster will help save the lives. Our success lies in, as is preached by the great people that existed and exist on earth “unity and unanimity devoid of discords.”

In their exhaustive study, it is concluded that the disaster is a big problem and the necessary preventive measures should be taken for this. Losses due to disasters have shown growing trend in terms of lives and property throughout the world due to urbanization, increasing population and increasing degradation of environment. The global efforts to manage disasters are not matched with the frequency and magnitude of disasters. NDMA (National Disaster Management Authority) runs various programs for mitigation and responsiveness for specific situations. These include the National Cyclone Risk Management Project, School Safety Project, Decision Support System and others. India Disaster Response Summit recently held on 9 November 2017 held at New Delhi.

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