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Natural Disasters: Rebuilding and Recovery

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ABSTRACT

"Natural disasters like earthquakes, floods, cyclones, drought, landslides, etc. are very frequent in some parts of the globe and wreak terrible harm to the ecology, the economy, and living beings. India suffers significantly because of natural disasters because it is one of the most defenceless developing countries. Although it's impossible to entirely prevent natural disasters, it is possible to reduce the dangers by implementing the proper management systems, such as creating early warning plans, planning and putting into practise resilience-building strategies, know how to utilize for interaction, and post-disaster rebuilding. Here, space exploration is essential for the effective and effective disaster response. After the mega storm in Odisha and the earthquake in Bhuj, it was necessary to take an interdisciplinary, multi-sectoral strategy and include reduced risk in development plans and strategies. The new approach of GOI proceeds from the belief that development cannot be sustainable unless disaster mitigation is built into the development process. Disaster Management consists of an important place in India's policy framework. The motive of the paper is to highlight India's disaster profile and management strategies."

***Keywords*-** natural disasters, vulnerable, management systems, potential risks, multi-sectoral approach.

INTRODUCTION

What is a Natural Disaster?

A Natural Disaster is an unexpected, disastrous event bringing great mutilation, loss, and devastation and destruction to life and property. The damage caused by disasters is hard to measure and differs with the geographical location, climatic changes, and the type of earth surface/degree of vulnerability. This affects the mental, socio economic, political and cultural conditions of the affected areas. Usually, disasters have the following effects in the concerned areas:

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i. It disturbs the normal day-to-day life of people.
ii. It depressingly influences the emergency systems.
iii. General needs and wants like food, shelter, health, etc. gets affected and the quality depreciates depending on the intensity and cruelty of the disaster.

A natural tragedy has the following crucial traits since this phenomena is frequently described as "a severe disruption of society's operation, resulting in large human, material, or environmental losses that surpass the afflicted population's and area's capacity to subsist on its own resources". These are as follows:

a) Unpredictability
b) Unfamiliarity
c) Speed
d) Urgency
e) Uncertainty
f) Threat

TYPES OF DISASTER

The bifurcation of disasters can be done as Natural Disasters and Man-made Disasters.

1. Natural Disaster: A disaster caused due to natural factors called as a natural disaster e.g., earthquake, flood, cyclone etc.

2. Man-made disaster: A disaster caused because of human activities e.g., wars, fire accidents, industrial accidents, etc.

Earthquake

“An earthquake refers to the violent shaking of the earth's crust i.e., the uppermost layer of earth, due to the breaking of shifting of rocks beneath the earth's surface. Of the earthquake-prone areas, 12% are susceptible to very severe earthquakes, 18% to severe earthquakes, and 25% to damageable earthquakes. The Andaman and Nicobar Islands, Kutch, Himachal, and the North-East experience the largest and most destructive earthquakes. Earthquakes are highly likely to occur in the Himalayan regions. (As the Eurasian plate is being approached by the Indian plate). Significant earthquakes in India (Source: National Geophysical data center, NIDM & GOM).”

Flood

Floods mean an overflowing of water (or, in exceptional situations, another fluid) that covers normally dry ground. It is an increase, typically momentary, in the stream's water table to a peak where the level of water falls more slowly as per WMO/UNESCO. The Indo-Gangetic-Brahmaputra plains experience higher floods on an annual basis. Every year there around few

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hundred people die, millions become homeless, and many hectares of crops are destroyed. The Mumbai flood of 2005 is said to have cost "20,000 crores."

Drought

In the natural climate cycle, a prolonged dry spell that can happen anywhere in the world is referred to as a drought. Every year, a little over 50 million people are impacted by drought. About 40 million hectares of the approximately 90 million hectares of rain-fed regions are vulnerable to scant (very little) or no rain. Nine meteorological subdivisions have poor rainfall.

Cyclone

Cyclones are disasters which is produced by atmosphere turbulences surrounding a region of low pressure that is marked by weak, occasionally damaging wind. Typically, violent and powerful storms and unfavourable weather accompany cyclones. Approximately 8% of the land is at risk from cyclones, with two to three tropical cyclones of varied intensities hitting coastal areas annually. The east coast experiences more heavy winds action than the west.

Landslides

A landslide is the term used to describe the motion of a volume of stone, rock fragments, or earth down a slope. A sort of "mass wasting" that includes landslides is any downward movement of rock and soil that defies gravity. Landslides can occur in mountainous terrain such as the Alps, Northeast India, the Andaman islands, and the Eastern and Western Ghats.

OVERVIEW OF THE DISASTER MANAGEMENT PLAN

In August 2002, “An agreement was signed by the Government of India (GOI), the Ministry of Home Affairs (MHA), and the United Nations Development Program (UNDP) to implement "The Disaster Risk Management "Software to lessen the population's vulnerability to natural disasters in areas to be inter tragedy prone. Aim: ""Sustainable Reduction in Natural Disaster Risk" in a couple of India's most perilous and exposed regions. The four main objectives of the programme are:

1) The National capacity-building support to the Ministry of Home Affairs (MHA).
2) Environmental improvement, education, awareness campaigns, and a minor increase in capability for catastrophe risk management and long-term recovery.
3) Plans for the program's multi-hazard readiness, response, and mitigation at the state, district, block, village/ward, and in some programme states and districts.
4) Sharing information on efficient techniques, strategies, and instruments for managing the risk of natural disasters, as well as creating and advancing policy frameworks.

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Government of India and Ministry of Home Affairs, Disaster Management in India:

i) A review of the disaster management mechanism was carried out and distributed by the Government of India after the Bhuj earthquake. It was noted that there was a need for building up holistic capabilities and facilities for disaster management – so as to be able to handle both natural and man-made disasters. It was accordingly decided that the subject of Disaster Management should be transferred from the Ministry of Agriculture to the Ministry of Home Affairs (excluding drought and epidemics and those emergencies/disasters which were specifically allotted to other Ministries).
ii) India has been very vulnerable and prone to natural hazards and calamities. The Bhuj earthquake accounted for about 13,805 deaths, and the super cyclone in Orissa accounted for nearly 9,885 deaths. The Government authorities are of the view that if appropriate mitigation measures had been taken timely, these casualties could have been reduced significantly.
iii) Not only human life but each year, the disasters also account for the loss of thousands of crops in terms of social and community assets. It is clear that development cannot be sustainable and isn't possible without building in mitigation into the planning process. Keeping the above factors in view, the Government of India have brought some changes in policy which emphasizes mitigation, prevention and preparedness. A strategic roadmap is being prepared on the succeeding pages that has been drawn up for reducing the country's vulnerability to disasters. Action for reducing our vulnerabilities to disasters should be taken in accordance with the roadmap and the plan. The roadmap will be reviewed after every two years to see if any change in direction is required.

A Disaster Management Plan in India includes various points:

- The Institutional and policy framework;
- Early warning system;
- Disaster prevention and mitigation;
- Prepared-ness

DISASTER MANAGEMENT ACT

The Disaster Management Act came into effect on December 23, 2005. This Act establishes the Disaster Response Fund and Disaster Mitigation Fund at the national, state, and district levels. It also creates the National Disaster Management Authority (NDMA), State Disaster Management Authority (SDMA), and District Disaster Management Authority (DDMA).[1] Penalties for obstruction, fraudulent claims, misappropriation, etc. are established by NIDM and NDRF. It declares that when the National Disaster Management Authority provides compensation and

[1] Pragya Agrahari, *Disaster management act, 2005*, *iPleaders*, https://blog.ipleaders.in/disaster-management-act-2005/ (Accessed: March 19, 2023).

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relief, there should be no discrimination based on a person's caste, community, ancestry, religion, or other factor (NDMA). *"It is headed and governed by the Prime Minister with up to a maximum of nine members who get nominated by the Prime Minister. An advisory committee made up of professionals in the field of disaster management may be formed by the Authority. A National Executive Committee of Secretaries, to be formed by the Central Government, will lead and assist the Authority."* It lays out the rules, policies, and procedures for disaster management. The NDMA should make suggestions for the fundamental standards of help that should be provided to disaster victims. The National Executive Committee shall develop a National Disaster Management Strategy that contains all measures for disaster mitigation and prevention, in addition to preparedness and building capacity, in cooperation with and assistance from the State Governments. *State Disaster Management Authority (SDMA) at the state level coordinates all activities that comprise eight members to be nominated by the Chief Minister and the Chairperson of the State Executive Committee.*[2] The Chief Minister may name one of the group's participants as the State Authority's vice-chairperson. As and when required, SDMA may form an advisory committee of professionals. A District Disaster Management Authority (DDMA) must be established by the State Government in each district. The District Authority will be led by the District Magistrate and have a maximum of seven members, as set forth by the State Government. *"The District Authority will serve as the district's disaster management planning, coordinating, and executing agency. The Local Authority is responsible for ensuring that its officers and staff are trained and that resources are kept in good condition so that they can be used quickly in the event of a crisis. It ensures that all construction projects under it conform to the standards and specifications laid down. In the afflicted area within its jurisdiction, it conducts relief, rehabilitation, and reconstruction works. The National Institute of Disaster Management (NIDM) is responsible for organising and advancing disaster management education and research, as well as for developing a national database of disaster management guidelines, defences, and countermeasures. Indian disaster management."*

ANALYSIS

Risk depends on both vulnerability and hazards. India is one of the nations with the highest threat levels in the world. India is more vulnerable than other countries because of its continually growing population, existing poverty, increasing urbanisation, environmental deterioration, and lack of catastrophe planning and awareness. Although we cannot completely eliminate threats, we can certainly lessen their vulnerability by taking some preparation and mitigation actions. In

[2] *Disaster Management Division Ministry of Home Affairs Government of India: NDM India,* https://ndmindia.mha.gov.in/ (Accessed: March 19, 2023).

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this regard, there are a few crucial issues about disaster management in India that require discussion.[3]

Effectiveness in Warning System: Diffusion of info is as important as prediction which is still missing behind in a emerging country like India. The absence of a warning system was experienced in Tsunami in 2004.[4] An effective warning system is very important that help us by giving sufficient time for preparing.

Communication: Alternative modalities like HAM radio and satellite phones should be embraced and promoted because communication is one of the first and most severely affected areas in huge and devastating disasters like earthquakes. The epicentre of the Bhuj earthquake was found six hours after the earthquake (Reference, Disaster Management – GK Ghosh, Volume III). The reduction in mortality tolls was crucial during this time period. Insurance: There is still a larger disparity between economic damage and insured property. There isn't a requirement for it in our system as it is in Turkey.

Prioritize Mitigation: More stress must be given to mitigation and preparation instead on response of disaster.

Implementation: Although we know that if buildings are built in accordance with the standards, then casualties and economic losses will be kept to a minimal in the event of disasters like earthquakes, the absence of strict legislation and frequently inadequate execution of laws is a major flaw in the system. There are already rules and building codes in place, but no one is required to abide by them.

Awareness: There is a relatively low degree of awareness in the neighbourhood. The idea that the government is solely responsible for disaster management and for keeping people safe is one that is widely held by the public. Moreover, disaster is prioritised only after it occurs; no attempts are made to decrease risk or increase awareness as a continuous process.

Recommendations: The local community plays a significant role in disaster management. At every level of the disaster management cycle, it is crucial. By raising awareness and providing training that can assist in catastrophe readiness and response, we can reduce susceptibility. By providing training to unofficial groups, we can supply skilled labour. It is necessary to shift people's perspectives from disaster response to disaster risk management.

[3] *Disaster risk and vulnerability: The role and impact of population and society*, *PRB*, https://www.prb.org/resources/disaster-risk/ (Accessed: March 19, 2023).

[4] *Early warning for all: Saving lives in Asia and the Pacific*, *ESCAP*, https://www.unescap.org/blog/early-warning-all-saving-lives-asia-and-pacific#:~:text=When%20the%202004%20Indian%20Ocean,wide%20commitment%20for%20tsunami%20preparedness. (Accessed: March 19, 2023).

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TODAY'S GENERATION RESPONSIBILITY IN THE DM

The majority of training for "rescue emergency crews" occurs concurrently with "mandatory military training" programmes, which involves a lot of the nation's older youths. I want to dissuade the student body from participating in search and rescue because it is a very specialised duty that ought to be left to experts.[5]

According to the study, the student's first duty is to KNOW what to do in the event of a calamity. This would lessen the amount of people who are constantly anxious and suspicious. Also, being ready for emergencies will help fewer people die. By learning what to do after a crisis and at least basic first aid, students will be able to help the authorities save lives.

If pupils are well-trained, they can both protect themselves and others in the event of a tragedy. The branch of the community with the most knowledge is the student branch. They could raise awareness of catastrophe preparedness. Additionally, they can organise into groups to aid during emergencies. Children can assist in disaster management in a variety of ways, and students can aid in victim rehabilitation and resettlement.

- They can raise awareness by holding street rallies.
- Participate in the information centres as a volunteer and create organisations for the disaster day.
- Take care of the victims' basic necessities.
- Avoiding tragedies at home, such as putting out building fires brought by by trivial causes like a short circuit

CONCLUSION

"Natural hazards are the result of climatic imbalance and cannot be prevented but we can develop an effective warning system and minimize loss by reducing vulnerability and increasing capacity. We need to be more proactive than reactive. Disasters are inevitable. The truth is found in the statement that "we must all endeavour to survive the current and upcoming crises." Although we cannot control nature, we may at least exercise caution and vigilance. The organised and well-thought-out preparation as well as the sensible response to the tragedy will help preserve lives. The great people who have lived and are living on Earth have emphasised that "unity and unanimity devoid of discords" are the keys to success. At all levels, steps have already been taken, but more has to be taken."

[5] An overview of disaster management in India – researchgate. Available at: https://www.researchgate.net/publication/271440240_An_overview_of_disaster_management_in_India (Accessed: March 19, 2023).