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Natural Disasters and Management in India

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Abstract
When there is an imbalance in nature, then calamities occur due to which development and progress are obstructed. Apart from natural calamities, some calamities are also man-made. Natural calamities like earthquake, tsunami, landslide, volcano, drought, flood, melting of glaciers etc. These calamities can be overcome only by patience, prudence, mutual cooperation and management. Disaster management is done in two ways, pre-disaster and post-disaster. Recently, severe floods in India, Bangladesh and Nepal, category 5 hurricanes in the Caribbean and America, and drought in 20 countries in Africa had caused great devastation in these areas, causing hundreds of deaths on the one hand, while on the other hand On the other hand, the lives of millions of people have also become disrupted. It may be noted that 'International Day for Disaster Reduction' is celebrated every year on 13 October. On this day the measures taken by the world community to minimize the impact of the disaster are assessed.

Keywords:- Natural Disasters, situation of india , Disaster Management & disaster management assistance program

I. Introduction :-

A sudden destructive event is called a disaster, which causes widespread physical damage and loss of life and property.
It is an adverse condition which affects human, physical, environmental and social activities in a big way.
In the Disaster Management Act, 2005 – Disaster means any destruction, disaster, calamity or extremely serious incident in any area, which occurs due to natural or man-made causes or by accident or negligence and which causes loss of human life in large numbers. Loss occurs.
In this, either human beings suffer or property gets damaged and there is huge degradation of the environment. This phenomenon often exceeds the capacity of the community in the affected area to cope.

What causes disasters?

At present, due to the increase in the temperature of the oceans, the amount of water vapor in the atmosphere is increasing, due to which excessive rainfall at some places leads to floods, while at other places a terrible form of drought is seen. Apart from this, there are some areas where the situation of flood and drought occurs simultaneously. Therefore, the impact of disaster is very devastating.

The first satellite named TOPEX/Poseidon was launched 25 years ago to measure rising sea levels in the world and this has been confirmed by the measurements of sea levels made since then. That the global sea level is increasing by 3.4 mm every year. Therefore, during these 25 years it has increased by a total of 85 mm. Rising ocean temperatures and warming are contributing significantly to the intensity of tropical storms globally.

Effect

These disasters have a deep impact on the least developed countries and can become a threat to people's lives there, while they have a greater impact on the infrastructure in developed and middle-income countries.

Globally, 4.3 million people die every year due to pollution, but no special attention is paid to it. Greenhouse gases that absorb heat have an impact on weather events. Therefore, more attention is focused on this side only.
More than 40 million people in those countries fled their homes due to disasters during the past two years, contributing little to global warming.
Disaster in India is divided into the following categories-
Water and climate related disasters: cyclone, tornado and storm, hailstorm, cloud burst, heat wave

and cold wave, avalanche, drought, sea erosion, thunder and lightning.
Land related disasters: Landslide, earthquake, dam collapse, mine fire.
Accidental disasters: forest fires, urban fires, flooding of mines, oil spills, collapse of major buildings, multiple bomb explosions, electrical fires, air, road and rail accidents.
Biological disasters: Epidemics, insect attacks, animal epidemics, food poisoning.
Chemical, industrial and nuclear related disasters, leakage of chemical gas, falling of atomic bombs.

situation of india

Mountains, rivers, seas etc. have great importance in the natural structure of India. They provide livelihood to innumerable people. But when there is a situation of imbalance in nature, then disasters occur, due to which progress is disrupted and the development work done with hard work and effort is destroyed. According to astrology, when planets are in a bad position, disasters occur. According to religious scriptures, when sins increase, disasters occur on earth. These disasters include floods, cyclones, tornadoes, earthquakes, landslides, tsunamis, droughts, volcanic eruptions, Apart from these natural disasters like forest fire, locust attack, epidemic, sea storm, heat waves and cold wave etc., there are some man-made disasters like communal riots, terrorism, arson, refugee problems, air, rail and road accidents etc. Apart from this, there are many types of disasters which devastate human life. Appropriate disasters in India between 1980 and 2010 included drought 7 times, earthquake 16 times, epidemic 56 times, extreme heat 38 times, flood 184 times, insect infestation 1 time, large-scale drought 34 times, storm 92 times, volcano 2. The times have arrived. Due to which life was disrupted and there was huge economic and human loss.

Earthquake - Earthquake is one of the most destructive forms of natural disaster, which can cause widespread devastation. The simple meaning of earthquake is "earthquake" i.e. shaking of the ground. Earthquakes occur as a result of Earth's internal actions. The activities taking place in the interior of the Earth also affect the crust and many activities start taking place in it. When the movement of the crust becomes so powerful that it breaks rocks and forces them to move along a fault, tremors, or tremors, occur on the Earth's surface. Vibrations are earthquakes, the destructive effect of earthquakes on the earth is visible in the form of landslides, subsidence of the surface, damage or destruction of man-made structures like bridges, buildings, etc. Although earthquakes can occur anywhere and anytime on the earth, but their Some areas are very sensitive for origin. Sensitive area means those weak parts of the earth where there are more incidents of thrust and fault, along with this, the areas of continental and oceanic convergence, volcanoes are also the main places causing earthquakes.

Cyclone - We all know that in this the air rotates from the outside towards the center and rises up. There is low air pressure in its center and high air pressure all around. Both horizontal and vertical movement of air remains fast which results in storm, hailstorm and heavy rainfall. The weather changes in no time. In this context, it is important to mention tropical cyclones, hurricanes and typhoons. They are called typhoons in China and hurricanes in southern United States and America and Mexico. Its speed is 90-125 km. Seen up to hourly. Due to the high speed of the wind, they become pillars of sea water and enter the coastal areas and wreak havoc.

India has traditionally been vulnerable to natural disasters due to geo-climatic conditions. The incidents of floods, droughts, cyclones, earthquakes and landslides are common here.

About 60% of India's land area remains prone to earthquakes of various intensities. An area of more than 40 million hectares is subject to frequent floods. Total 7,516 km. Out of the long coastline, 5700 kms. There is a danger of cyclone.

About 68% of the cultivable area here is sensitive to drought. Tsunami danger persists in the Andaman-Nicobar Islands and the Eastern and Western Ghats areas.

Deciduous and dry deciduous forest fires are common in many parts of the country. The Himalayan region and the areas of the Eastern and Western Ghats are prone to frequent landslides.

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Landslides - Landslides are also a natural phenomenon. Landslides directly affect land use. Often occurs in mountainous areas such as the slopes of the Himalayan Mountains of India. Sliding of rocks downwards is called landslide. This action can happen due to natural and human reasons, in which the road gets blocked. Dams break and villages and cities are destroyed, earthquake is the most influential factor among natural causes for landslides. Along with this, human activities like road construction, excavation, tunnel, dam, reservoir encourage landslides along with degradation of forests, leakage of water, erosion and excess rainfall. Landslides often block roads in hilly areas like Sikkim, Bhutan and Nepal.

Flood Disaster - The submergence of a large urban area in which there is immense loss of life and wealth is called flood. The factors responsible for this are excessive environmental destruction, landslides, breaking of dams, embankments and barrages, road and other construction works, increasing silt in rivers, filling sediments in dams built in rivers, etc. According to the report of the Central Flood Commission, between the years 1953 to 1990, on an average, 7944 mm. The area continues to be affected by floods. The area most affected by flood was 17500 m.ha. in the year 1978. The area has also been there. In the period between 1953 and 1990, on an average, 12, 18, 690 buildings and 1532 persons were victims of flood disaster every year. Whereas in the same period maximum 3507542 buildings were destroyed in the year 1978 and maximum 11316 persons were victims of flood in the year 1977. In our country, not only the flood affected area is increasing, but the flood affected population is also increasing. According to a recent estimate by the Food and Agriculture Organisation, about 250 million people of the country are living in areas prone to floods.

Tsunami Tsunami Disaster - Tsunami is made up of two words TSU meaning harbor and NAMI meaning waves. These are also called tidal or seismic waves. Due to the movement of the sea surface, the water filled above the bottom rises up and falls. Due to which tsunami waves are generated. The northern part of the main center of Tsunami in India is connected to the same sensitive seismic belt. This belt extends from the Bhuj region of Gujarat to the Himalayan foothills and Sumatra Island passing through Myanmar.

Cloud burst - In these the winds rise rapidly. There is intense rain accompanied by lightning and thunder. Hail may also occur. Villages are washed away due to torrential rains. Apart from this, there are many man-made calamities which can be solved by our understanding, caution, prudence and mutual cooperation. Almost all the time some kind of natural, man-made or other type of calamities keep coming in the country. It needs to be managed.

Disaster Management -

There are two different and important aspects of disaster management. Pre-disaster and post -disaster management. Pre-disaster management is also known as risk management. Disaster risks arise from the confluence of severity and vulnerability, which vary with seasonal variation and time. There are three parts of risk management. Risk identification, risk reduction and risk transfer An effective strategy for managing the risk of any disaster begins with risk identification. It includes knowledge of nature and, to a large extent, information about the risks involved. It includes knowledge about the natural environment of a particular place as well as pre-determination of access to it. In this way a proper decision can be taken as to where and how much to invest. It may help to design such a project. Which can remain stable in the face of serious impacts of disasters. Therefore, in risk management and the work of the professionals associated with it, forecasting the risk areas and trying to determine its danger and taking precautions accordingly, mobilizing human resources and finance and other disaster management is a part of this sub-branch.

earthquake disaster management

Disaster management happens at many levels

Disaster Management at the Central Level - The High Powered Committee (H.P.C.) has made it difficult to have a comprehensive and effective disaster management system at the national level and the Ministry of Disaster Management, which is the NCCM in floods. Can form appropriate supporting bodies including centers and authorities or existing centers can be used for assistance. The all-party committee constituted by the Central Government for disaster management is headed by the Prime Minister. The Scientific and Technical Advisory Committee will also assist him in the operation of this scheme.

Disaster Management at the State Level – In our country, the responsibility of dealing with national

disasters essentially rests with the states. The role of the central government is to provide support with physical and financial resources. Most of the states have Relief Commissioners who are in charge of relief and rehabilitation works in case of natural disasters in their states and the Chief Secretary is in full charge and the Relief Commissioners work under his direction and control. The state government invites NGOs and other national and international organizations to join efforts to reach out to the affected people during disasters.

Disaster management at the district level - District administration is the focal point for the implementation of all government schemes and activities for disaster management. Adequate powers have been given to the District Magistrate to run the relief work in the shortest possible time. It is necessary to make an advance emergency plan to deal with the coming disasters in each district and the District Magistrate has the right to supervise.

Important areas in disaster management

1. Communication- Communication can be very useful in disaster management. Through communication means, awareness, dissemination and disaster response through housing information system can be very helpful.

2. Remote Sensing- Space technology plays an important role in effectively managing the impact of disaster. use this-

1. Develop an early warning strategy
2. In making and implementing development plans
3. Resource mobilization including communication and telemedicine services
4. Can be done to help in rehabilitation and post-disaster reconstruction.

3. Geographical Information System - Geographical Information System software is used for geography and computer-generated maps, for coordination and assessment of location-based information stores. Geographic Information System can be used in scientific investigation, resource management and disaster and development planning.

Role of a person in disaster control - what can a person manage in earthquake, flood, typhoon, storm. In the context of its disaster, the following role has been suggested-

Role of a person during an earthquake - Do not run outside in such a time, take your family members under the table near the door or under the bed if sick in bed, stay away from windows and chimneys. If outside, stay away from buildings, high walls or hanging power lines, do not re-enter damaged buildings.

Earthquake can also be predicted - T.V. Stay connected to radio, internet as far as possible, after forecasting natural calamities like excess rainfall and famine, now earthquake can also be predicted, but the person working on computer will be able to know about it only a few seconds before. California Institute of Technology, US Seismologists from the Geological Survey and the California Department of Minerals and Geology are constantly trying to make earthquake predictions online. It will send such data in emergency. Through which email can be sent to computer users. TriNet aims to bring together 600 powerful motion sensors and 150 large international ones to inform the public about upcoming earthquakes. If TriNet is able to perform its proposed function, California will be the first state to observe earthquake zones, thus developing capabilities to forecast earthquakes. In short, Jim David, head of California's Department of Minerals and Geology, says that the sensor will be able to transmit information to the computer immediately after an event such as an earth tremor.

disaster management assistance program

Under the Disaster Management Assistance Program, optimal adjustment of services received from the infrastructure established in space by ISRO is done to provide the required data and information for the efficient management of natural disasters in the country.

Geostationary satellites (communications and meteorology), low earth orbit earth observation satellites, aerial survey systems and ground based infrastructure are the major components of the disaster management observation system.

Other important facts

The worst storm of the modern era came in the year 1201 in Egypt and Syria, in which one million people were killed. After this, 8.50 lakh people died in the earthquake in China in 1556.

India's worst known earthquake occurred in Calcutta in 1737, in which 3 lakh people were killed.

Russia, China, Syria, Egypt, Iran, Japan, Java, Italy, Morocco, Turkey, Mexico, Afghanistan, Pakistan, Greece, Indonesia and Colombia etc. are the most sensitive areas for earthquakes.

The Himalayan region is extremely vulnerable to disasters because the interior rocks of the region are

continuously moving northwards. There are 10 such dangerous volcanoes in the world that can destroy a large area.

According to the United Nations International-Disaster Mitigation Strategy (UNISDR), India is second only to China in terms of natural disasters.

The profile of disasters in India is largely determined by the geo-climatic conditions and features of the topography and the inherent weaknesses in them, as a result of which disasters of various intensities continue to occur annually. Climate-induced disasters rank high in terms of frequency, impact and uncertainties.

About 59 percent of India's land area is prone to earthquakes. The Himalayas and their surrounding regions, the Northeast, some areas of Gujarat and the Andaman and Nicobar Islands are the most seismically active regions.

II. Conclusion

It is clear that disaster is an event which impacts a large area and preventing it completely is not an easy task. But it can definitely be managed. Since all the countries in the world are affected by some kind of disaster, it is necessary that all the countries of the world make joint efforts in this direction. International coordination will be required to prevent disasters. Apart from this, good results can definitely be achieved in this direction by establishing an ecological balance between carbon emissions and the natural absorption capacity of the earth.

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