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DISASTER MANAGEMENT IN INDIA

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ABSTRACT:

India is most vulnerable developing countries to suffer very often from various natural disasters the locational and geographical features render it vulnerable to a number of natural hazards such as cyclone drought, floods, earthquakes, fire, landslides and volcanic eruption. This causes bad effect on human life, economy and surrounding environment. The country has an integrated administrative machinery for disaster management at National, Provincial (State), District and Sub-District levels. The responsibility for undertaking rescue and relief measures in the event of natural calamities is that of the State Government concerned. Minimize the potential risks by developing early warning strategies. Elaborate procedural mechanism outlined in relief manuals & codes for emergency management operations.

Space technology plays a crucial role in efficient mitigation of disasters. While communication satellite helps in disaster warning. The country has elaborate cyclone detection, tracking system, flood forecasting and warning systems covering major rivers and drought monitoring arrangements. Science & technology inputs constitute its basic thrust which is manifested in development of forecasting and warning systems, disaster resistant construction technologies, and appropriate cropping systems.

Disaster reduction could be a regular work, that involves with completely different components, completely different professions, and (totally different, completely different) scientific personal with different strategies & has become a crucial measures for human society Republic of India is committed to require necessary steps to realize the goals and objective of the International Decade for Natural Disaster Reduction. World Disaster Reduction Day is observed on 2nd Wednesday of October every year to create public awareness about natural disasters and motivate them to adopt preparatory measures. India has also become the member of the Asian Disaster Reduction Centre, Japan. This seminar deals with types of disasters, their effects, the measures like developing early warning strategies, information technology.

NATURAL DISASTERS:

Flood

In India the measure rainfall is in monsoon season out of the annual rainfall, 75 per cent is concentrated over four months of monsoon (June - September) and as a result almost all the rivers (Perineal and non perineal)carry heavy discharge during this period. In Assam on 12 July 2004 25 out of 27 districts are affected by high flood and heavy landslides. The most flood prone areas are the Brahmaputra and the Gangetic basins in the Indo- Gangetic plains, north-west region of the west

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flowing rivers like Narmada and Tapi, the Central India and the Deccan region with major east flowing rivers like Mahanadi, Krishna and Kavery.

Earth Quake

The Himalayas are considered to be the world's youngest fold mountain , therefore, geologically they are very active. The peninsular part of India comprises stable continental crust regions. Earthquake arrived at Latur in Maharashtra on September 30, 1993 of magnitude 6.4 in the Richter scale caused substantial loss of lives and damage to infrastructure. In 2001 north east Bhuj, Gujarat earthquake of 6.9 at Richer scale occurred. It has causes huge loss of life and property such that they are still in recovery mode.

Drought

Due to uneven rainfall and climatic conditions country undergone through drought as much as 73.7 per cent of the annual aggregate precipitation is received during the south-west Monsoon period, June to September. Due to erratic behavior of monsoon, both low (less than 750 mm) and medium (750 - 1125 mm) rainfall regions, which constitute 68 per cent of the total areas, are vulnerable to periodical droughts. The impact of drought varies from year to year. The 1987 drought, which was one of the worst droughts of the century, with the overall rainfall deficiency of 19 per cent, affected 58-60 per cent of cropped area and a population of 285 million.

Cyclone

India has a long coast line of more than 8,000kms. about five to six tropical cyclones form in the Bay of Bengal and Arabian Sea every year, out of which two to three may be severe. ngal. The impact of these cyclones is severe and confined to the coastal districts, the maximum destruction being within 100 Km. from the centre of the cyclones.

WARNING & FORECASTING SYSTEM:

An advanced system of forecasting ,monitoring & issuing early warning plays the most vital role in determining whether a natural hazard will assume disastrous proportions or not , the country have the following forecasting systems.

- INDIAN METROLOGICAL DEPARTMENT (IMD):

IMD provides cyclone warning from the area of cyclone warning centers. It has developed the necessary infrastructure to originate 7 disseminate the cyclone warning oat appropriate levels.

- NATIONAL REMOTE SENSING AGENCY:

Long term draught proofing programs on the natural resources of the district have been greatly helped by the use of satellite data obtained by NRSA .Satellites data can be used very effectively for mapping & monitoring the flood affected area ,the flood damage assessment, flood hazard zoning & past flood survey of river configuration & protection works.

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SEISMOLOGICAL OBSERVATIONS:

Seismological observations within the country square measure created through national network of thirty six unstable stations operated by IMD, Which is that the NODAL AGENCY. These stations have collected information over long amount of your time.

FLOOD FORECASTING:

The Central Water Commission (CWC) has a flood forecasting system covering 62 major rivers in 13 States with 157 stations for transmission of flood warnings on real time basis. These are used for alerting the public & for taking appropriate measures by concerned administrative & state engineering agencies in the flood hazard mitigation.

CYCLONE TRACKING:

The India Meteorological Department (IMD) is responsible for cyclone tracking and warning to the concerned user agencies. Cyclone tracking is done through INSAT Satellite Information on cyclone warning is furnished on real time basis to the control room set-up in the ministry of agriculture, Govt. of India. High power cyclone detection Radars that that area unit put in on the coastal belt of India have tried to be a really useful gizmo to the cyclone warning work. The warning system provides for a cyclone alert of forty eight hours, and a cyclone warning of twenty four hours. There is a special Disaster Warning System (DWS) for dissemination of cyclone warning through INSAT Satellite to designated addresses at isolated places in local languages.

Droughts: The IMD has divided the entire country into 35 meteorological sub-divisions. It issues weekly bulletins on rainfall indicating normal, excess and deficient levels and also the percentages of departure from the normal. The CWC monitors the levels of 60 major reservoirs with weekly reports of reservoir levels and corresponding capacity for the previous year and the average of the previous 10 years.

Earthquake: On the basis of past earthquakes of magnitude 5 and above and intensities ranging from V to IX superimposed on the magnitude information and also drawing upon tectonic features in the near past, Earthquake Zone maps have been prepared. IMD operates a network of 36 seismic monitoring stations.

DISASTER RESPONSE:

1. Administrative Response

The basic responsibility for endeavor rescue, relief and rehabilitation measures within the event of natural disasters is that of the State Governments involved. The role of the Central Government is substantiation, in terms of physical and money resources. Disaster management could be a segmental & continuous method. Good planning requires diagnosis resource, evaluation & Feedback towards fulfilling the goal of disaster relevance.

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A broad view of the administrative response at national, state and district levels is given below:

1. National Level Organization
2. State Level Organization
3. District Level Organization

In Pune there a separate department of disaster management has been created. The name of this institute is YASHADA. The center for disaster mgmt. at YASHADA has conducted over 55 training programs & 60 workshops on various aspects of disaster mgmt. In this training programs & workshops, more than 3000 class-1Officers of the GOVT of Maharashtra.

2. Arrangements for Financing Relief

Schemes for financing expenditure on relief and rehabilitation in the wake of natural calamities are governed by the recommendations of Finance Commissions; each State has a corpus of funds called Calamity Relief Fund (CRF), administered by a State Level Committee, headed by the Chief Secretary of the State Government. The size of the corpus is determined having regard to the vulnerability of the State to different natural calamities and the magnitude of expenditure normally incurred by the State on relief operations. The corpus is built by annual contributions of the Union Government and the State Governments concerned in the ratio of 3:1.

3. Health & Medical Care

Adequate planning is to be carried out for;

a. Medical Assistant Team.
b. Medical First Responders.
c. Hospital preparedness For Facilities.
d. Search & serve Units.
e. Epidemic Prevention.

4. Communication

Use of modern communication even at grass root level through low cost option.

5. Remote Sensing

Space technology plays crucible role in efficient mitigation of disaster & helps to;

a. Minimize the potential risk by developing early warning strategies.
b. Prepare 7 implement develop plans.
c. Mobile resources including communication & tele – medical services.
d. Help in rehabilitation & post – disaster reconstruction.

6. GIS

It makes effective tools in the field of disaster response & preparedness. It can be used for scientific mitigation, resource mgmt., disaster & developing planning.

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7. Role of Media

The role of media is most important for disaster e.g. role played in the aftermath of Bhuj earthquake in Jan. 2001.Sectors to be integrated with not only disaster response but overall disaster mgmt. strategies.

8. Fire Services

Managing fire is more technical than provided. It needs;

a) Risk evaluation
b) Preparation of risk mapping for each zone, preparedness level in them of equipment & trained personal.

9. Police & Paramilitary Forces

To maintain security & land order at disaster location.

10. Armed Forces

Indian Armed Forces & one of the dedicated & profession organizations for this disaster management.

INFORMATION TECHNOLOGY & NATURAL DISASTER MANAGEMENT IN INDIA:

It may be observed that advancement in Information technology in the form of internet; GIS, Remote Sensing, Satellite Communication, etc. can help a great deal in planning & implementation of hazards reduction.

Communication satellite has become vital for providing emergency communication & timely relief measures. Integration of space technology inputs into natural disaster monitoring & mitigation mechanisms is critical for hazard reduction.

Application of Information Technology in disaster management. Though it is not possible to completely avoid the natural disaster, but the sufferings can be minimized by creating proper awareness of the likely disasters & its impact by developing a suitable warning system, disaster preparedness & mgmt. of disaster through application of information technology tools.

CONCLUSION:

To conclude with, it is well known that disaster never comes giving early intimation, but they occurs suddenly & we should be prepared for its effects. In short disaster can never be predicted or prevented but a state of preparedness & the ability to respond quickly to calamities can reduce losses of men, poverty, suffering of people. Well done disaster analysis & good implementation of pre & post disaster mgmt. plans will helps in reducing effects of disasters. Central Government to provide resources in terms of physical & financial to state Govt. & to district level.

It has been seen that in our country most of the work has been done on paper & a proper, co-coordinated effective implementation has severely lacked. Nobody should be cursed for that because we ourselves are very much responsible for it.

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