DISASTER: IS IT A STUMBLING BLOCK FOR INDIA TO ACHIEVE VISION 2020?

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ABSTRACT : - India is emerging as one of the Global Leader in the 21st century. Our country is growing fast in different sectors like IT / Software industry, Manufacturing sector, Space Technology, Electronics & Communications Technology, Agriculture Sector, Infrastructure Building etc…to compete with the developed countries. But there are some obstacles like population growth, corruptions in system, political uncertainty, disasters, poverty, etc… in front of the country to become a Developed Country by 2020. In recent past our country has experienced many disasters, which affect the society as well as the economy of the country. Hence disaster is the one the serious concern for India.

This paper mainly consists of five parts. The first part covers the introduction to disaster with Indian perspective. The second part discusses the classification of disaster. The third part highlights the impact of disaster on society and economy of the country. Part four includes the country's approach and strategies to deal with the disaster and it also include suggestions for the disaster management plan. The last part includes the concluding remarks.

The prime objective of this paper is to understand the disaster; it's effects and impact on society and economy of developing country like INDIA.

Key Words: Disaster, Developing Country, Hazard, Globalisation

1. INTRODUCTION TO DISASTER: AN INDIAN CONTEXT

It is clear that disasters strike countries around the globe, causing enormous destruction and creating disruption to the society and destroying the national economies of country. Disaster poses a major threat to large parts of earth. India is one of the few countries in the world with most number of disasters. India has experienced many major disasters during the 20th century & in the beginning of 21st century. These major disasters are earthquake, floods, cyclones, landslides, drought, avalanches, tsunami, epidemic diseases, windless fires etc… after the Independence and characterized by variety, high frequency, great severity and widespread distribution. Among all, the country faces river floods are the most frequent and often devastating like the recent flood in Gujarat, Mumbai, Karnataka and Madhyapradesh. The country has faced some severe earthquakes causing widespread damage to the life and property. India has a coastline of about 8000 km, which is prone to very severe cyclonic formations in the Arabian Sea and Bay of Bengal like the super cyclone of Orissa and cyclone at Kandla port in Gujarat.

2. CLASSIFICATION OF DISASTER

2.1 Disaster:

A serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope using its own resources. A disaster is a function of the risk process. It results from the combination of hazards, conditions of vulnerability and insufficient capacity or measures to reduce the potential negative consequences of risk.

2.2 Hazard:

A potentially damaging physical event, phenomenon or human activity that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation. Hazards can include latent conditions that may represent future threats and can have different origins: natural (geological, hydrometeorological and biological) or induced by human processes (environmental degradation and technological hazards). Hazards can be single, sequential or combined in their origin and effects. Each hazard is characterized by its location, intensity, frequency and probability.

2.3 Natural Hazards:

Natural processes or phenomena occurring in the biosphere that may constitute a damaging event. Natural hazards can be classified by origin namely: geological, hydrometeorological or biological. Hazardous events can vary in magnitude or intensity, frequency, duration, area of extent, speed of onset, spatial dispersion and temporal spacing.

TABLE: 1 NATURAL HAZARD, IT'S ORIGIN & EXAMPLES

ORIGIN	PHENOMENA / EXAMPLES
HYDROMETEOROLOGICAL HAZARDS: • Natural processes or phenomena of atmospheric, hydrological or oceanographic nature.	• Floods, debris and mudflows • Tropical cyclones, storm surges, wind, rain and other severe storms, blizzards, lightning • Drought, desertification, wildland fires, Temperature extremes, sand or dust storms • Permafrost, snow avalanches
GEOLOGICAL HAZARDS: • Natural earth processes or phenomena that include processes of endogenous origin or tectonic or exogenous origin, such as mass movements.	• Earthquakes, tsunamis • Volcanic activity and emissions • Mass movements, landslides, rockslides, liquefaction, sub-marine slides • Surface collapse, geological fault activity
BIOLOGICAL HAZARDS: • Processes of organic origin or those conveyed by biological vectors, including exposure to pathogenic microorganisms, toxins and bioactive substances.	• Outbreaks of epidemic diseases, plant or animal • Contagion and extensive infestations

2.4 Technological Hazards:

Danger associated with technological or industrial accidents, infrastructure failures or certain human activities, which may cause the loss of life or injury, property, damage, social and economic disruption or environmental degradation, sometimes referred to as anthropogenic hazards. Examples include industrial pollution, nuclear release and radioactivity, toxic waste, dam failure, transport, industrial or technological accidents (explosions, fires, spills). Bhopal Gas Tragedy, Bombay High Fire, Railway Accidents etc are the technological disasters in India.

2.5 Environmental Degradation:

Processes induced by human behavior and activities (sometimes combined with natural hazards) that damage the natural resource base or adversely alter natural processes or ecosystems. Potential effects are varied and may contribute to an increase in vulnerability and the frequency and intensity of natural hazards. Examples include land degradation, deforestation, desertification, wildland fires, and loss of biodiversity, land, water and air pollution, climate change, and sea level rise and ozone depletion.

3. IMPACT OF DISASTERS ON SOCIETY, ECONOMY & ENVIRONMENT

The disasters affect every aspect of country like social, economical, environmental etc... These snatch the basic needs of human race like *"Roti, Kapada aurMakan"*. It also destroys the economy, environment system of country so badly that it's mearly impossible to remove the impression of disaster. The consequences of different types of disasters on society, economic and environment are indicated in TABLE: 2.

TABLE: 2 SOCIAL, ECONOMIC AND ENVIRONMENT CONSEQUENCES OF DISASTERS

SR. NO.	CONSEQUENCES	DISASTERS				
		Earthquake	**Cyclone**	**Flood**	**Fire**	**Drought**
1	Loss of Life	√	√	√	√	
2	Injury	√	√	√	√	√
3	Epidemiological Threat		√	√		
4	Loss of Housing	√	√	√	√	
5	Loss of Crops		√	√		√
6	Loss of Industrial Production	√	√	√	√	
7	Loss of Business	√	√	√	√	
8	Damage to Infrastructure	√	√	√	√	
9	Panic	√	√	√	√	
10	Looting	√	√	√	√	
11	Breakdown of Social Order	√	√	√		
12	Disruption of Transport	√	√	√	√	
13	Disruption of Communications	√	√	√	√	

TABLE: 3 DAMAGES DUE TO DISASTERS IN INDIA (YEARS 1985 – 2001)

Year	People affected (Lakh)	Houses & Building partially or totally damaged	Amount of property damage / loss (Rs. Crore)
1985	595.≥	24,49,878	40.06
1986	550	20,49,277	30.74
1987	483.4	29,19,380	20.57
1988	101.5	2,42,533	40.63
1989	30.1	7,82,340	20.41
1990	31.7	10,19,930	10.71
1991	342.7	11,90,109	10.90
1992	190.9	5,70,969	20.05
1993	262.4	15,29,916	50.80
1994	235.3	10,51,223	10.83
1995	543.5	20,88,355	40.73
1996	549.9	23,76,693	50.43
1997	443.8	11,03,549	n.a.
1998	521.7	15,63,406	0.72
1999	501.7	31,04,064	**1020.97**
2000	594.34	27,36,355	800.00
2001	788.19	8,46,878	**12000**

Source: Annual Reports, NDM Division, Ministry of Agriculture, India

4. SUGGESTIONS / CHANGES

The Government of India has to bring a paradigm shift in the approach to disaster management looking to the different disasters and its impact in recent past. Still there are many gray areas where lot more work required to be done in effective manner. The authors are strongly suggesting few changes at different stages as under.

4.1 Pre – Disaster Stage:

1) Prepare a team of trained personnel with all necessary equipments at central and state level.
2) More use of the innovations in IT industry and Space Technology as Early warning System.
3) Plan the Coordination Program with NGOs, Private Sector and People for the emergency situation.
4) Arranging the programs like Seminar, Work shop, Training, etc… at School and college level for creating awareness in children, students and people in general.
5) Distribution of information on safety measures among the people in the event of different disasters.
6) Information, Education and Communication (IEC) must be use as effective tool as disaster preparedness.

4.2 Disaster Stage:

1) Immediate relief to the disaster for search and rescuing the people & animals.
2) Provide the Immediate medical services to those injured.
3) Restoring / proving the essential service / needs for the society.

4.3 Post – Disaster Phase:

1) Ensure the speedy return of normalcy by planning the reconstruction & rehabilitation activity.
2) Provide the financial help to immediately.

5. CONCLUSION

It is a fact that few disasters cannot be predictable where few can be but it is not possible at all to prevent the natural disasters. It is in our hand to take measures to reduce the impact of disasters on society and economy of country by implementing strategies properly. Disaster – Predication, Prevention & Management is not only an approach and strategy of Central Government or State Government but also efforts from all. The authors strongly believe that more and more participation is necessary from private sector, NGOs and community in general to prepare the Disaster Management Policy.

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