

PERSPECTIVE FOR NATURAL DISASTER REDUCTION IN INDIA

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1. Overview of disaster incidence:

1.1 A natural disaster is an event of nature, which causes sudden disruption to the normal life of a society and causes damage to property and lives, to such an extent, that normal social and economic mechanisms, available to the society, are inadequate to restore normalcy. Viewed in this manner, a host of natural phenomena constitutes disasters to a society, whether they are related to an occurrence in a micro environment or not. In macro terms, the disasters, which cause widespread damage and disruption in India, are drought, flood, cyclone and earthquakes. India faces a substantial number of disasters occurring in the Asia Pacific region, which itself accounts for nearly 60% of natural disasters occurring in the World. It would be pertinent to take a brief look at the Indian susceptibility.

1.2.1 **Drought** : The country has a geographical area of 329.3 million hectares of which, the arable area constitutes about 140 million hectares. The distribution of the sown area under various ranges of rainfall is as under:

- (a) 33% - Low Rainfall Region 750 mm
- (b) 35% - Medium Rainfall Region -1125 mm

- (c) 24% - High Rainfall Region 125-2000 mm
- (d) 8% - Very High Rainfall 2000 mm Region

Because of the erratic behaviour of the rainfall, even the medium rainfall region is vulnerable to drought conditions. Consequently, 68% of the sown area is drought-prone.

1.2.1 **Flood** : An area of 40 million hectares in the country is prone to floods. The area affected annually, on an average, is 8 million hectares, which had risen to as much as 18.6 million hectares in a single year. On an average, the area of crops affected annually is 3.7 million hectares which rises to 10 million hectares in the worst affected year. The average annual direct damage is about Rs. 6268.5 million, which had risen to over Rs 40592.6 million in a single year. In fact, the statistics of damage from 1953 to 1985 indicate that the total damage suffered by the country during this period is over Rs. 2,06,860 million. Deforestation in the catchments, inappropriate land use and degraded lands, inadequate capacity of drainage channels to carry the peak flow and extensive human occupation of the flood-prone plains aggravate the damage caused by floods.

1.2.3 Cyclones : India has a long coastline of 5700 km which is exposed to hazards of tropical cyclones arising in the Bay of Bengal and Arabian Sea. On an average, 2-3 out of 6 tropical cyclones in this region have been found to hit India. Cyclones are characterised by winds, torrential rains and associated flooding and high storm tides, which cause extensive damage in the coastal areas.

1.2.4 Earthquakes : The country has about 50-60% of its total area vulnerable to seismic activities of varying intensity. The vulnerable areas are located essentially in Himalayan regions of the country, besides the Union Territory of Andaman and Nicobar Islands.

1.2.5 Landslides : Landslides are frequent and recurrent in the various regions of the country. They are triggered off by natural causes like heavy rainfall, sudden cloud-bursts, land and soil degradation caused by human interference. The Himalayan region has a very high incidence of landslides

1.2.6 Avalanches : About 25,000 ha. of the country, mostly in the Himalayan region fall in the Alpine region. The snow avalanches of the Himalayan region are massive and have great destructive potential. An area of about 200,000 sq.mts. of the Northern India is exposed to avalanche hazards. Most of these are direct action types, occurring during periods of heavy snowfall or immediately thereafter, wet snow avalanches in spring are also very frequent.

2. Relief Management :

2.1.1 National approach : The national approach to management of natural disaster has evolved over time. Currently, the primary

responsibility of providing relief in the wake of natural disasters has been recognised to be that of the State Governments and the Centre's role has been restricted to one of providing resources to the States for this purpose and acting in a supportive manner in relation to those economic activities and infrastructural mobilisation, for which the constitutional responsibility rests with the Government of India.

2.1.2 The supportive activities of GOI extend over early warning and forecasting of meteorological parameters, events and phenomena (IMD), monitoring and forecasting of flood levels in major river systems (CWC) and supply and monitoring of food, petroleum products, energy material, medicines etc.

2.2 Contingency Action Plan

The nodal agency in the Government of India for natural calamities relief, is the Department of Agriculture & Cooperation, (DAC), where an Additional Secretary is designated as the Central Relief Commissioner. A National Contingency Action Plan (CAP), has been notified by DAC; it facilitates the launching of relief operations without delay. This is updated every year. CAP identifies the initiatives required to be taken by various Central Ministries/Departments in the wake of natural calamities, sets down the procedure and determines the focal points in the administrative machinery

2.3 Set-up at the States

In exercise of their autonomous jurisdiction, the States have evolved their relief machinery. A State level nodal point, viz. the Relief Commissioner or Revenue Secretary provides the fulcrum for direction of relief effort. In most of the States, a State level

Committee, chaired by the Chief Minister, acts as a policy formulating forum and a monitoring body. At the district level, the District Collector or the Dy. Commissioner is the kingpin of all relief effort. The existence of a body of non-official personnel, comprising people's representative in Legislatures and Panchayats and NGOs, to advise on, and monitor, relief operations is not uniform in all the States but such a body functions effectively in many States during the period immediately following the occurrence of disasters. The relief functions relating to different aspects are discharged by the personnel of various functional departments under the control of the Collector.

2.4 Resource for Disaster Management

2.4.1 Response to natural disaster has evolved over time the world over. From a purely humanitarian urge to offer succour to the victims, the response to the challenge of natural disasters has come to address itself to preparedness to mitigate their impact and reduce their occurrence to sustain developmental effort. India is not an exception to this changing scenario. The philanthropy and the munificence, of the rich is still evident in offering humanitarian assistance. But this is a small part of the total relief effort. The dynamics of voluntary action does contribute to the building up of the resilience of disaster-prone societies but these efforts are isolated and still, the major part of this task rests on governmental interventions.

2.4.2 Apart from the resource available to the State from its own mobilisation, a resource transfer from the Centre to the State for specific or unspecified activities takes place on the basis of recommendations of the Finance

Commissions, which are set up quinquennially. The system of resource transfer is, thus, in force for a period of 5 years, till it is modified by the succeeding Finance Commission. In view of the fact that natural disasters precipitates a severe strain on an individual State's resources, a system of additional Central assistance to the State for meeting the relief requirements arising out of a natural disaster. Currently, on the recommendations of the IX Finance Commission, a new scheme, providing for ready resource for a State for meeting natural disasters, has come into existence from the financial year 1990-1991. Under this scheme, each State has a corpus of funds called Calamity Relief Fund (CRF), administered by a 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. At present, the aggregate annual accretion in the State's CRF amounts to Rs 840.00 crores, the State Government are free to draw upon this corpus for providing relief in the event of any natural calamity. In the event of a major disaster warranting intervention at the national level, a provision exists for the Union Government to supplement the financial resources for relief operations.

2.5 Ingredients of management strategy

2.5.1 Disaster Management in the country has essentially rested, inter alia, on four major pillars, viz.,

- a) application of scientific inputs to forecasting and relief programmes,

- b) timeliness and dynamism of management of relief delivery, integral component of development programme.
- c) people's participation in relief delivery and monitoring, and
- d) contribution to resilience of societies and areas and quality of life.

2.5.2 Despite the recognition of the need to build up a society's capabilities to meet the challenges of disasters, the thrust of relief effort has, for a variety of reasons, concentrated on the alleviation and restoration aspects. On the occurrence of disasters, the need for continued vigil, preparedness and conscious effort to reduce the occurrence, and impact, of disasters is greatly articulated only to be buried subsequently in the subconscious of the nation.

3. IDNDR:

3.1 The UN General Assembly recognised the need for global action to reduce the occurrence of natural disasters and their impact and has proclaimed the current decade of 1990's as the International Decade for Natural Disasters Reduction (IDNDR). The Resolution No. 44/236 of the UN General Assembly has drawn attention to the implications of natural disasters for the economic development of the countries and has laid accent on:

- a) scientific technical input in the management of natural disasters;
- b) community involvement;
- c) awareness programme; and
- d) building disaster mitigation as an

In realising the objective of disaster reduction, the General Assembly has reckoned with the potential of scientific and technological communities and institutions, the non-governmental bodies and local communities to contribute to this effort. The national governments would lead, guide and act as catalysts for such all round action.

3.2 In furtherance of this objective, the scientific and Technical Committee (STC) on IDNDR, constituted by the UN, has come out with specific targets and a framework programme for the decade.

4. India and IDNDR

4.1 India has taken certain initiatives in the furtherance of the UN Resolution.

4.2 A Cabinet Committee on Natural Calamities (CCNC) has been constituted to:

- (a) examine, direct and control programmes for reducing the adverse impact of natural calamities,
- (b) direct and monitor implementation of relief measures in the wake of a natural calamity, and
- (c) direct implementation of programmes to give effect to the objectives of IDNDR.

4.3 The National Advisory Council (NAC) on IDNDR has been established, as suggested in the UN General Assembly Resolution, under the Chairmanship of Union Agriculture Minister. The constitution provides for the participation of State Governments (SG), Scientific and Technical Organisation (STO) and Non-Government

Organisation (NGO) in the deliberations of NAC on the initiatives to be taken for the reduction of natural disaster in the country. The specific tasks, entrusted to NAC, are :

- a) To identify and recommend programmes for natural disaster mitigation during IDNDR and give specific thrust to the disaster reduction components in the sectoral development programme of the Five Years Plans;
- b) To review existing arrangements for preparedness and mitigation of natural calamities and recommend measures for strengthening organisational management of natural disasters,
- c) To examine the impact of public policies on the prevention of natural disaster and suggest coordinated action ; and
- d) To formulate and recommend programmes for public awareness for building up society's resilience to natural disasters.

4.3.1 The National Advisory Council (NAC) met on the 9th October, 1991 to consider the various issues relating to natural disaster reduction and provide guidelines for specific action by different agencies. The need for a national consensus on the priorities, policies and programmes to form an integral part of the national approach to natural disaster reduction, has also been felt.

4.4 As the nodal authority in GOI, DAC, essentially formulates broad guidelines of relief policies, deals with the issue of Central assistance to States, interacts with Central Ministries/Departments for rendering assistance to SGs in the relief effort and in the furtherance of the Central Government's

primary responsibilities in relation to the supply of petroleum products transport etc for purposes of relief operations of the States. DAG has set up a Core Group consisting of the representatives of Central Ministries/Departments and organisations and the States with objective of studying the issues relating to natural disaster management, from time to time, and identifying specific areas for intervention and making programmes and impinging natural disaster management.

4.5 As State Governments have been requested to investigate the occurrence of natural disasters in their States, identify risks and vulnerabilities and then evolve policies for the mitigation of natural disaster in the long term including the formulation of basic parameters for the choice of programme in the Eighth Five Year Plan and a determination of priorities for ensuring the development programmes invariably contribute to mitigation of natural disasters affecting various parts of the country and building up capacity of communities to meet, without undue suffering, the adversity of natural disasters.

5. Development and disaster reduction

5.1 An analysis of the relief expenditure, incurred in the past decade, show that as much as 50% of the expenditure has gone for employment generation in the case of drought and in the case of floods, cyclone etc., over 90% of the relief expenditure has gone for repairs and restoration of public assets.

5.2 The primary focus of relief programme in the Indian context has been on the restoration of income to the affected population, the rehabilitation of the productive assets of the vulnerable groups

and the rehabilitation of agriculture activities in an affected area. Over a period of time the country has launched various programmes for reducing the incidence of natural disasters and improve the resilience of areas, 'Desert Development Programmes (DDP), Drought Prone Areas Programmes (DPAP), and Watershed Development programmes are focussed on the need for improving the potential of the eco-system to sustain agricultural activities in specific vulnerable areas. Integrated development of rainfed areas on a watershed basis is sought to be achieved by a Farming Systems approach. The Centrally Sponsored Schemes of River Valley Projects and Flood Prone Rivers and flood protection schemes like construction of barrages and embankments have been designed to reduce the vulnerability of flood plains. However, in the absence of harmonising components and objectives some of these programmes have failed to realise the goals for which they were originally designed. That distortions in implementation, over a period of time, have taken DPAP and DDP away from their original objectives, has been brought out clearly in the Report of the National Committee on DPAP and DDP.

5.3 The need, therefore, is for a clear identification of programmes having a very high symbiotic relationship between disaster reduction and development contribution and ensuring mechanisms for translating such

programmes into positive action. Such economic development of a society will have a very vital bearing on the impact of natural disasters on a community. The global picture shows that the proportion of loss in the public sector varies inversely with the level of development; positive correlation exists between the loss of property due to disasters and the level of development and inverse correlation between development of loss of human lives.

This is not to suggest that the task of restoration and rehabilitation is not immense in the case of developing countries. The scarcity of resources, physical and finance, and the competing claims of different development aspirations make the task of restoration and rehabilitation much more arduous than it would be for developed countries with access to abundant resources.

6. Gaps and priorities - Core Group identification

The Core Group, set up by the DAC for studying issues relating to Natural Disaster Reduction programme and identifying specific areas for intervention and making recommendations on policies and programmes, has highlighted certain issues for immediate consideration and action to ensure natural disaster reduction priorities to be given to disaster reduction in exercise of formulation of the Eighth Five Year Plan