

## **ROLE OF DIFFERENT ORGANISATIONS IN DISASTER RELIEF MANAGEMENT AND OPERATION AT VARIOUS LEVELS**

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*Abstract* An effective disaster management policy and planning at all levels with proper coordinated activities of all concerned agencies can minimise the loss of lives and properties to a great extent and thus save the national resources. A detailed study of disasters with special reference to their management in proper perspective will enable us to develop a better understanding to identify the exact roles of various agencies before, during and after the disasters. The aim of this paper is to identify the desired roles of various organisations in disaster relief and management at different levels with special reference to natural calamities.

### **INTRODUCTION**

The aim of this paper is to identify the desired roles of different organisations in disaster relief and management at different levels with special reference to natural calamities. The term 'Disaster' owes its origin to diversified causes for which a multi-disciplinary approach is contemplated for proper management of any crisis situation in a well-conceived pre-planned phased manner. In fact, drawing a corollary, disaster can be described as the dreaded multiheaded Hydra with many tentacles. So, to tackle such demons, not only resources but technical skill and operational acumen are also equally important. This includes action and interaction between various governmental and non-governmental agencies including voluntary organisations and public in general, to achieve the goal.

The Yokohama Strategy and Plan of Action endorsed by the UN General Assembly in December, 1994 emphasized that disaster prevention and preparedness are of primary importance in reducing the need for disaster and planning at national, regional aspects of development policy and planning at national, bilateral, multilateral and nutritional levels. The development and strengthening of capacities to prevent, reduce and mitigate disasters, is a top priority area during International Decade for Natural Disaster Reduction (IDNDR), so as to provide a strong basis for follow up activities to the decade. In the effort, towards effective disaster management, the full continuum from relief through rehabilitation, reconstruction and development to prevention must be the concept guiding forces towards the reduction of physical losses which remains the ultimate objectives. The maintenance of continuance of productivity activity of the nation during such crisis period will be the additional benefit.

A detailed study of disasters with special reference to its management in proper perspective will enable us to develop a better understanding to identify the exact roles of various agencies before, during and after the disasters. In the subsequent paragraphs, an attempt has been made to analyse the disaster related problems after bisecting the process

and problems generally associated with disaster and then concising the same for drawing some positive conclusion to justify the theme and aim of this paper.

## **DEFINITION OF DISASTER**

The meaning of the term 'Disaster' is hidden within itself. The genesis of the word owes its origin from the French word *desastre* whose *des* has been derived from Latin root *Dis* meaning 'with evil sense' and *aster* from Latin *Strum* (Gk. *Astron*) meaning 'Star'. When both are combined, the meaning becomes 'evil of bad star'. Those were the days when all activities on the earth were explained in terms of actions and interactions of various celestial bodies and any odd happenings or misfortune to the humanity was considered due to the striking of the 'evil star'. So evolved the word in French as *desastre vis-à-vis disaster* in English.

Generally and technically, the term disaster is now commonly used to denote any odd event, be man-made or natural, which brings about sudden immense miseries to humanity with great surprise and intensity in a very large scale covering large areas, causing loss of life, damage to the properties and blockade of the national productivity efforts, either partial or complete.

## **TYPES OF DISASTERS**

Disasters are of many types, forms and dimensions when classified from different angles. For the sake of convenience of understanding from media angle, disasters are generally grouped under two main broad heads, i.e., (a) man-made and (b) natural. The details of various types of disasters with the main and sub-classes have been separately furnished in Table 1.

**Table 1** Types of Disaster

Man-Made	Natural
1. War/battles/hostile enemy actions	1. Wind based: storm, cyclone, typhoon, tornados, hurricane, storm surge, tidal waves.
2. Arson/sabotage/riots internal disturbances	2. Water based: floods or droughts, dambursts, cloudbursts, excessive rains etc.
3. Accidents of vehicles-train aircraft, ship.	3. Seismic: earthquakes, tsunamis, avalanches, land and mudslides, volcanic eruptions.
4. Industrial accidents explosion of boiler gas cylinders/chambers.	4. Geo-thermal: volcano eruptions, tsunamis.
5. Fire due to human error negligence	5. Natural heat: bush fire/ wild fire.
6. Nuclear accidents or explosions.	6. Ecological: flash floods and related land and mud slides, and earth-sinkage.
7. Ecological disturbance like deforestation etc.	

## **EFFECTS OF DISASTERS**

Amidst great diversities of causes and manifestations of various types of disasters, the effect of almost of all disasters are very much akin to each other with minor variations,

i.e. there are losses of lives (human/animal/vegetation), damages to the properties. It also blocks the national productivity efforts to great extent, i.e., either partially or completely, depending upon the magnitude/intensity of the disaster.

While designating 1990's as the 'International Decade for Natural Disaster Reductions', United Nations General Assembly in their Resolution No. 3345 (XXIV) taken on December 17, 1974, made a conservative estimate of loss of 3 million lives worldwide in the preceding two decades, adversely affecting the lives of 800 million people and resulting immediate damage to properties exceeding \$ 23 billion (US\$). The UNDRO in their survey carried out between 1961 and 1974, observed that the total cumulative damages caused by monsoons, tropical cyclones and flood in ESCAP (Economic and Social Commission for Asia and the Pacific) region was to the tune of US \$2,190 million. Altogether, 2,80,000 lives were lost, 485 million people were affected, 139 million hectares of land was inundated and 15 million dwelling units/buildings were damaged during the period under survey.

Sharma et al. (1989) in their Report of the Group on Human Resource and Technique Development for Disaster Management submitted to the Ministry of Home Affairs quoted the statistical dates published by OFDA during 1987 for their survey during the period 1964-86 for 22 years in 13 Asian countries viz, Bangladesh, Burma (Myanmar), China, India, Indonesia, Japan, Korea, Nepal, Pakistan, Phillipines, Sri Lanka, Thailand and Vietnam in respect of various types of disasters, which reveals some striking facts and figures. It is reported that during the survey period of 1964-86, approximately 12.30 lakh people were killed and 100.70 crore of people were adversely affected by various types of disasters. Some details of these data have been furnished in Tables 2 and 3.

**Table 2** Details of occurrence of disasters during survey period 1964-86 (country-wise detail).

Name of Country	Total number of Disasters	Name of Country	Total number of Disasters
Bangladesh	82	Nepal	18
Burma	30	Pakistan	28
China	58	Philippines	102
India	144	Sri Lanka	28
Indonesia	98	Thailand	16
Japan	64	Vietnam	30
Korea	32		

**Table 3** Details of fractional damages/casualties in various types of disasters/natural calamities.

Type of Disasters	Total Population Affected	Killed
Drought	534,000,000	8,000
Flood	360,000,000	70,000
Tropical Cyclone	74,000,000	400,000
Others	36,000,000	60,000
Earthquake, landslide		
Volcanic eruption etc.	3,000,000	700,000
Combined		
<b>Total</b>	<b>1007,000,000</b>	<b>1,238,000</b>

Some of the facts which can be gauged from the report are as follows:

- (i) During the period of survey, a total number of 730 disasters took place. India topped the list with 144 occurrences.
- (ii) During the period of survey in the selected countries, the frequency of tropical cyclone was maximum (32%) and that of drought was minimum (4%).
- (iii) Flood caused maximum damage to the properties during the survey period in selected countries (53%) with minimum damage by drought (3%).
- (iv) Drought affected maximum numbers of people (53%) with others as minimum (4%).
- (v) Toll of lives due to earthquake, land slides and volcanic eruptions put together was maximum (55%); for drought it was minimum (1%) during the survey period in selected countries.

## **DISASTER MANAGEMENT**

### **Aims**

The aim of effective disaster management during crisis period is to achieve the following objectives:

- (i) To save life.
- (ii) To save properties / minimise damage to the properties.
- (iii) To maintain the continuity of national productivity activities.

### **Concept**

There was no organised thinking in the past for effective disaster management. All actions were taken on ad hoc basis without any long term projections. United Nations in one of its recent papers observed that about 3% of the GNP of the under developed or developing countries are annually lost due to disaster alone. Much of such losses can be effectively minimised with well researched and well rehearsed policy and planning. This will not only mitigate the suffering of the victims, but will also save much valuable national properties/resources. So, the investment in the disaster relief and management plans may be converted into the gain of the nation in the long run.

In today's societies interests in disaster management preceeds and outlasts the response/intervention phase and emphasis is attributed to the preventive side. So, in the modern days, the formula of P<sub>4</sub>M is gradually gaining momentum which means Prevention, Precaution, Protection, Preparedness and Mitigation.

## **CRITERIA FOR DISASTER MANAGEMENT PLANNING**

With the advent of the P<sub>4</sub>M concept in disaster management discussed above, the entire process of disaster management has been divided into three distinct phases:

- (i) Phase-I: Normal/Peace Time: planning, preventive, precautionary and preparatory stage, generally long term measures.

- (ii) Phase-II: During Crisis Period: Response/Intervention phase-generally short-term measures.
- (iii) Phase-III: Post-disaster Period: Restorative, Recovery and Reconstructive stage-may be short or long term.

The details of each phase/stage are provided below.

### **Preventive and Precautionary Stage**

1. Mapping of various disaster prone zones.
2. Collection of data/information regarding disasters and formation of data bank for the analysis of risk factors in various disaster prone zones.
3. Long term of the control of disasters like afforestations, constructions of dams & barrages.
4. Assessment of indigenous capabilities and availability of local resources for effective disaster relief/management.
5. Preparation of disaster contingency plan for various types of calamities for different areas/zones.
6. Planning and establishment of early detection and warning system by suitable means.
7. Mass awareness programmes for various types of disasters.
8. Human Resource Development at all levels of disaster relief and management with all required equipments/appliances/vehicles in disaster prone zones, i.e., formations of disaster relief & management organisations.
9. Conduct of regular drills/exercises in simulated conditions or dry drills for keeping the local populace and members of the disaster relief and management organisations ever ready for combating the anticipated disasters.
10. The members of the disaster relief & management organisations should stand by for active duties on receipt of the precautionary warning from the competent authority or before the anticipated dates/periods.

### **Control Stage**

When the danger signal is received from competent authority, the members of disaster relief & management organisations should spring into action, as per pre-determined disaster contingency plan prepared by competent authority. This includes rescuing trapped/marooned persons, sponsored or unsupported evacuation of the people from the danger zone to a predetermined place of safety, their medicare, food, lodging & clothing, hospitalisation of the sick and injured etc.

### **Restorative or Recovery Stage**

Physical and some times economical rehabilitation of the victims of disaster from their original site of living/work or to an alternate site.

## **CONSTITUTIONAL PROVISIONS AND LEGISLATION FOR DISASTER MANAGEMENT**

Disaster relief and management are included in the State List of the 7<sup>th</sup> Schedule of Indian Constitution. It is the primary responsibility of the state governments to do the supportive in this regard. The role of central government is supportive in terms of physical and financial resources and complementary measures in sectors like, transport, warning, interstate movement of food-grains/essential commodities etc. the states organise their own relief measures out of their own command and control with Relief Commissioner as the head of the organisation.

### **DISASTER RELIEF AND MANAGEMENT AT DISTRICT LEVEL**

District Magistrate (DM) is the chief of administration and chief co-ordinator of all administrative activities including relief within the jurisdiction of the district. It is DM who is responsible for long term disaster relief programme and also to take such short term measures for the mitigation of the suffering of the victims.

All disaster relief measures are the extension of the existing government departments. During crisis period, proper coordination of the activities are essential. To cope up with the additional work load of the emergent period, for which normal government departments are not designed, the help of the local voluntary organisations/NGOs are mobilised. All of them both governmental and NGOs work in unison during crisis period under the supervision of DM.

### **DISASTER RELIEF AND MANAGEMENT AT STATE LEVEL**

Functions in respect of disaster relief at state HQ level is almost similar to that of DM at district level with much broader scale with emphasis on policy and plan and arranging for resources in terms of materials and finances. All state governments have their own Relief Manuals which lay down the procedures and powers for crisis management.

### **DISASTER RELIEF AND MANAGEMENT AT THE CENTRE**

As stated earlier, the role of Central Government in Disaster Relief and Management is passive and supportive in nature in terms of physical and financial resources and complimentary measures in sectors like transport and interstate movements of food-grains and essential commodities. In absence of any organised response/intervention services in most of the state governments for the purpose by deploying trained personnel from defence forces and central police organisations.

Flood and Drought being the two main natural calamities in Indian context, Ministry of Agriculture (Deptt. of Agriculture & Cooperation) is the nodal Ministry for coordinating all natural calamities (except earthquake and environmental disasters) through a Crisis Management Group (CMG) comprised of all the Relief Commissioners of States/UTs and concerned departments of Government of India.

For earthquakes, the Committee on R&D of Resources for forecasting and Management of Natural Calamities under Ministry of Science and Technology is the nodal

department. In the environmental disaster sector, the Central Crisis Group (CCG), under the Ministry of Environment and Forest, is responsible, for coordinating all activities.

In addition, the Emergency Medical Relief Scheme (EMRS) under the Ministry of Health and Family Welfare and National Emergency Response Committee under the Deptt. of Atomic Energy are also operating in the country. While the former is responsible for health and medicare planning and medical intervention during crisis period, the NERC under the Deptt. of Atomic Energy is responsible for the Planning and intervention of all nuclear and radiation related hazards and calamities.

The above clearly shows the multiplicity of nodal points for disaster management prevailing in India in contrast to Japan who had designed for centralised emergency relief organisation. This is perhaps because of lack of any strong national policy on disaster relief covering all aspects to ensure proper disaster management. For proper disaster management, proper disaster relief and management legislation is essential in which the level of coordination between the governments, i.e., central and state and within the government's various departments, NGOs and allied other agencies, need to be taken proper care of.

## **DISASTER MANAGEMENT AT INTERNATIONAL LEVEL**

Department of Humanitarian Affairs and United Nations Disaster Relief Organisation (UNDRO), both UN Agencies with Headquarters at Geneva, Switzerland, are the two nodal agencies for coordinating all natural calamities at the International level. It has already been discussed that a multi disciplinary approach is needed for proper disaster management, specially during intervention/response stage. For that various committees are generally framed at various levels for proper coordination of disaster management related activities.

At Town/Sub-Division/District Headquarters levels, committees for coordination generally organised under the Chairmanship of different level administrators like, the Town Administrator/SDO/District magistrate with the following Department's representatives at appropriate levels:

(i) Police, (ii) Commerce & Industry, (iii) Public Works, (iv) Medical & Health, (vii) Transport, (v) Welfare, (vi) Local Self Government/Municipalities, (vii) Transport, (viii) Agriculture, food & forest, (ix) Education, (x) Relief and Rehabilitation (xi) Electric Supply Agencies, (xii) Telephones (xiii) Supply etc.

At State Level, Disaster Relief/Management Coordination Committee are organised under the Chairmanship of Relief Commissioners with the representatives of the following department:

(i) Home Department (with Police, Home Guards & Civil Defence), (ii) Commerce & Industry, (iii) Local Self-Government, (iv) Medical & Health Deptt. (v) Public Works Department, (vi) Agriculture, food and forest, (vii) Welfare Deptt. (viii) Relief and Rehabilitation Department (ix) Transport Department, (x) Education Deptt. (xi) Power & Energy Deptt. (xii) Telephone Department (xiii) Civil Supply Deptt.

At the national level, various nodal departments organised different co-ordination committee mainly by inducting members from the following Ministries/Depts. of Government of India with slight variations:

(i) Home Affairs, (ii) Defence, (iii) Labour, (iv) Urban Development (v) Education (vi) Health & Family Welfare (vii) Agriculture (viii) Transport (Road/Shipping) (ix) Civil Aviation (x) Railways (xi) Communication (xii) Information & Broadcasting (xiii) Industry (xiv) Irrigation (xvii) Power & Energy (xviii) Chemicals and Petrochemicals (xix) Department of Atomic Energy (xx) External Affairs (xxi) Science and Technology, (xxii) Environmental & Forests etc.

## **SUMMARY**

In the preceding paragraphs, the role of different organisations at various levels of administrations, i.e., town, sub-division, district, state and national level and also at international level, have been highlighted. To make the disaster relief and management cost effective, especially in India where no organised force/organisation is in vogue on permanent basis, the role of NGOs/voluntary organisations needs no emphasis. Locally available volunteers with proper training like, Home Guards, Civil Defence, NCC, NSS, Boy Scouts/Girl Guides, etc. are required to be involved at all stages of disaster management starting from Stage/Phase-I to Stage/Phase-III.

## **CONCLUSIONS**

It has been rightly pointed out by Jan Eliasson (Under-Secretary General for the Department of Humanitarian Affairs, United Nations, Geneva) that 'Natural disasters are part of the environment in which we live. We cannot eliminate them, but if we work together, both locally and internationally, we will be able to limit the loss of life and the destruction they cause.'

A proper disaster management policy and planning at all levels with proper coordinated activities of all concerned agencies can minimise the loss of lives and properties to a great extent and thus save the national resources.

Though all functions related to the disaster relief are related to various existing government agencies, attempt should be made to involve the NGOs and Voluntary Organisations at all level, to make the scheme/plans cost effective and realistic. Mass awareness of the public about the disaster management is essential.

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## INCOH Publications

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India is actively participating in the IHP-VI activities and has chalked out a detailed program in accordance with IHP-VI themes towards preparation of reports, taking up research studies, organisation of seminars/symposia at national and regional level, promotion of hydrological education in the country, establishing nodal point for implementation of G-WADI program of IHP, UNESCO, for arid and semi-arid regions of South and Central Asia, and HELP basin program for India. It is envisaged to participate in all the relevant and feasible programs identified under the various focal areas of IHP-VI as given below.

### India's participation in IHP-VI programs

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Focal Area	Integrated assessment of water resources in the context of global land based activities and climate change
Focal Area	Extreme events in land and water resources
Focal Area	Dry lands
Focal Area	Public awareness raising on water interactions
Focal Area	Continuing education and training for selected target groups

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