Introduction:

Disasters cause tremendous destruction, loss of human lives and produces negative impact on national economies in different parts of the world. Therefore, prevention, mitigation and disaster preparedness become very important in disaster management.

Development of technology has helped us for better understanding of different types of disaster. Therefore, is has become possible to develop a system of better management of different disasters. The role of scientist and government has become most important while dealing with disasters.

Disaster Mitigation.

Disaster mitigation refers to measures taken well in advance of a disaster event to reduce, if not prevent the impact of disasters. In disaster mitigation efforts made to reduce human suffering and loss of property. It includes awareness programmes, scientific land use planning and infrastructure. Any investment in disaster mitigation plans saves economic losses and social recovery cost.

Goals of Disaster Mitigation :-

a) Generating Awareness :

It includes education about disasters through providing information and materials to reduce personal injury, damage to property and disruption of society.

b) Mobilization :
At the time of facing disaster support and co-ordination of different agencies like government, voluntary organisations, emergency management offices and insurance companies is very essential.

c) Mitigation Activities:

In order to face any disaster confidently it is necessary to incorporate existing disaster mitigation activities into routine planning, preparedness, planning and relief operation activities and collection of data.

**Mitigation & Management of disaster :-**

a) Earthquakes and Tsunamis

i) Measures to reduce risk:
   - Public Awareness Programmes and Training to local as well as government servants.
   - Assessment to reduce structural vulnerability
   - Insurance
   - Control of land use or zoning building codes

ii) Preparedness
   - Development of Tsunami & Earthquake warning system
   - Assessment of preparedness programmes
   - Fixing instrument like seismogram and deep ocean assessment and reporting of Tsunami

iii) Post Earthquakes and Tsunamis
   - Starting rescue operation during & after earthquake and tsunami
   - Supply of water & food
   - Distribution of emergency medical assistance
   - Survey on damage & needs
   - Reconstruction & rehabilitation of affected people

b) Floods:
i) Measures to reduce risk
   - Construction of dams, canals, dykes etc
   - Afforestation/plantation of trees in catchment area of the river to reduce surface run off.

ii) Preparedness:
   - Detection of floods and warning system
   - Training to NGO's and government officials for rescue operation
   - Development of proper plan for flood plain management

iii) Post flood Management:
   - Start rescue and search operations immediately
   - Assessment of loss of property and lives
   - Supply of drinking water & food to the affected people
   - Construction of temporary shelter
   - Arrangement of vaccination programme to control water borne diseases like jaundice, diarrhea and cholera.

c) Droughts:
   i) Measures to reduce risk
      - Development of early warning system for drought & famine

   ii) Preparedness:
      - Development of drought response plan
      - Rain water harvesting
      - Recycling of water
      - Regulating use of water in agriculture & industries
      - Cloud seeding i.e. an artificial technique to induce rainfall
      - Afforestation

   iii) Post Drought:
      - Development of proper food distribution system
      - Special programme for protecting livestock
      - Measures to maintain food security
      - Stabilisation of prices of essential commodities like food
- Rehabilitation & health programme for drought affected people

d) Cyclones:
i) Measures to reduce risk pre-disaster
   - Planting trees along the coast which will break the intensity of wind
   - Construction of embankments along the coast to control submergence of coastal area
   - Construction of storm shelter
   - Development of proper drainage system to drain excess water of heavy rain
   - Development of radio/siren system to give early warning of the cyclone
   - Proper mapping of path of cyclonic storm
   - Proper training of NGO’s and government officials

ii) Post Cyclone
   - Start rescue operations immediately
   - Provide emergency medical facility
   - Conduct a survey to measure damage and needs of the affected people
   - Arrangement of food & drinking water supply
   - Arrangement of temporary shelter

Manmade disaster
- Nuclear Accident
- Risk Reduction
- Development of plans of create awareness
- Preparedness for emergency at loud level where nuclear plant is located
- Inform people about hazardous installation and aid with the help of technical persons

iii) Preparedness
   - Identification of hazardous material
   - Inspection of storage facilities for radioactive elements
   - Monitoring radio activity around nuclear plant
   - Development of warning system in case of nuclear accident
   - Practicing evacuation plan

iv) Post disaster
Immediate shifting of people from affected area
Starting rescue operation
Making available for alternate sources of drinking water
Clean up programmes of radioactive waste
Monitoring environment impact on local & regional level

e) Industrial Accident
i) Risk reduction measures
  - Analysis of chemicals used in different chemical industries and identify their different potential hazards.
  - Work place be less crowded to avoid biological hazards
  - Provide plenty of shower facilities in case of chemical hazard.
  - Provide locker room at the place of work where workers can change clothes indoor to avoid spreading of toxic likely to take home

ii) Post Accident disaster
  - Substitute the hazardous chemical with the other chemicals and advance technology

Process involved in production must be assessed for risk in order to set controls whenever necessary.

Emergency operations center

An emergency operations center (EOC) is a central command and control facility responsible for carrying out the principles of emergency preparedness and emergency management, or disaster management functions at a strategic level in an emergency situation, and ensuring the continuity of operation of a company, political subdivision or other organization.
An EOC is responsible for the strategic overview, or "big picture", of the disaster, and does not normally directly control field assets, instead making operational decisions and leaving tactical decisions to lower commands. The common functions of all EOC's is to collect, gather and analyze data; make decisions that protect life and property, maintain continuity of the organization, within the scope of applicable laws; and disseminate those decisions to all concerned agencies and individuals. In most EOC's there is one individual in charge, and that is the Emergency Manager.

HUMAN RIGHTS ISSUES IN ADDRESSING DISASTERS

Introduction

Disasters –man-made or otherwise – cause severe negative effects on those who are affected by them. There is loss to property and even life in many cases. As we have seen in earlier Chapters, Indian people can potentially face a variety of disasters, due to the vastness of the land and diverse geographical and climatic profiles. Added to the disasters caused by nature, there are several possibilities of man-made disasters, due to many reasons. Our country has witnessed several disasters, in the recent past. However, Indian government responded very late to the problem of disasters, in a concerted manner. Earlier, government's response used to be reactionary, i.e. after disaster has taken place. In the past decade or so, there is realization that disaster preparedness is essential. Accordingly, the National Disaster Management Act was enacted in 2006. The government adopted the National Policy on Disaster Management in 2009.

Government's long-term measures

a) National Disaster Management Act, 2006: The Act lays down institutional, legal, financial and coordination mechanisms at the National, State, District and Local Levels. These institutions are not parallel structures independent of each other and will work in close harmony. The new institutional framework is expected to usher in a paradigm shift in disaster management from relief-centric approach to a proactive, prevention and mitigation.
b) National Disaster Management Authority: the Act empowers the Central Government to appoint the National Disaster Management Authority with the Prime Minister of India as the Chairperson and such number of other members, not exceeding nine. The National Authority has the responsibility to lay down, approve the policies, plans and guidelines for disaster management prepared by various departments of Government of India to ensure timely and effective response to disaster.

c) National Executive Committee: To assist the National Authority an advisory committee called the National Executive Committee consisting of experts in the field of disaster management having practical experience of disaster management at the National, State and District level. The Committee is entrusted to prepare a national plan for disaster management which is to be reviewed and updated annually.

d) National Plan: The National Plan shall include the prevention of disasters, the integration of migration measures in the development plans, the preparedness and capacity building to effectively respond to any threatening disaster situations or disaster, the roles and responsibilities of different Ministries or Departments of the Government of India.

The National Authority is to recommend guidelines for the minimum standard of relief to be provided to persons affected by disaster like

i) minimum requirements to be provided in the relief camps in relation to shelter, food, drinking water,

ii) medical cover and sanitation,

iii) special provisions to be made for widows and orphans,

iv) ex gratia assistance on account of loss of life as also assistance on account of damage to houses and for restoration of means of livelihood and

v) such other relief as may be necessary. In case of disaster of severe magnitude, the National Authority may recommend relief in repayment of loans or for grant of fresh loans to the persons affected by disaster on such concessional terms as may by appropriate.
e) Other authorities: The act provides for the establishment of authorities at the State and District levels with powers and duties similar to that of national bodies assigned to them.

They are:

1. State Disaster Management Authority
2. State Executive Committee
3. District Disaster Management Authority

The act also envisages the establishment of National Institute of Disaster Management and National Disaster Response Force and the creation of National Disaster Response Fund.

f) National Policy on Disaster Management, 2009: In the light of the provisions of the Act, the Central government adopted the National Policy on Disaster Management in 2009. The Objective of the National Policy on Disaster management are:

1. Promoting a culture of prevention, preparedness and resilience at all levels through knowledge, innovation and education.
2. Encouraging mitigation measures based on technology, traditional wisdom and environmental sustainability.
3. Mainstreaming disaster management into the development planning process.
4. Establishing institutional and techno-legal frameworks to create an enabling regulatory environment and compliance regime.
5. Ensuring efficient mechanism for identification, assessment and monitoring of disaster risks.
6. Developing contemporary forecasting and early warning systems backed by responsive and fail-safe communication with information technology support.
7. Ensuring efficient response and relief with a caring approach towards the needs of the vulnerable sections of the society.
8. Undertaking reconstruction as an opportunity to build disaster resilient structures and habitat for ensuring safer living.
9. Promoting a productive and partnership with the media for disaster management.
Examples of poor treatment of the victims of disaster. Following are just a few examples of how the victims of disaster were treated. They underscore the need for drastic improvement in the approach towards rescue, relief, resettlement and rehabilitation of people affected by disaster.

a) The Bhopal Gas Disaster in 1984
i) Over five lakh genuine victims had been deprived of compensation on the basis of fraudulent medical categorization of victims.

ii) There was inordinate delay in deciding and giving cash compensation.

b) Cyclone in Odisha in 1999
i) The indifferent attitude of the administration was the main problem. Of 7.5 lakh families whose houses were completely damaged, more than five lakh were below the poverty line, but only 1.5 lakh houses were to be built.

ii) The government failed to fulfill even a single promise made to the cyclone-affected. For example, the official toll in the cyclone was 10,000, but only about 500 people were paid a compensation of Rs. 10,000 within the promised hundred days.

iii) The government had announced that it would complete 50,000 houses before the monsoon in 2000. However, not one was ready. People had to face the monsoon without a roof over their heads. Coastal Odisha was hoping for better treatment from the government.

c) Tsunami in 2004

i) In a number of tsunami affected areas, the bodies of the Dalits killed by the waves had to be removed only with the help of the sanitary workers brought from far away places as the members of the fishers community were not willing to help disposing of these bodies.

ii) Tamil Nadu Government has already evicted around 1500 families from Dideer Nagar slum, which is close to Marina Beech in Chennai. The families that had own houses before tsunami were given houses in a place 20 km. away from Dideer Nagar. Those who were living in rented houses before tsunami were not given alternate houses for settlement. They continued to live
either in dilapidated houses in open air in the same slum. The place chosen for their resettlement had to drinking water, transport, electricity, toilet and school facilities.

iii Even after two months since tsunami devastated the coastal districts, the displaced people were in relief centres. They looked forward to the charity groups for food and other basic needs and like water.

**General Observations**

Following general observation can be made with regard to human rights issues in addressing disasters:

a) Recognition and quantification of loss:

After disaster takes place, it is necessary that government officials recognize the loss and quickly quantify it. This will help government to decide the quantum of compensation required to be given. This, however, does not happen. Moreover, the victims of disaster are not taken into confidence while deciding the nature and quantum of compensations.

b) Discrepancies in response to disaster: Although the National Disaster management Policy is now in place, there is no common approach adopted across the country in responding to disasters. This results in unequal treatment and compensation given to the victims.

c) Show and inadequate response: Quick and able response to disaster-affected areas and people is the key to minimize losses. However, government’s Rigid rules, procedures, lack of coordination, lack of decision making authority often affect government’s response adversely.

d) Compensation: Disasters sometimes causes huge and irreparable loss to property and human life. Although the government provides some compensation to the victims, it is usually inadequate. Moreover, it come very late, in most cases. The victims of the Bhopal Gas Leak, which happened in 1984, have not yet received full compensation.
e) Insensitivities: it is observed that a large percentage of government officials treat disaster victims in an insensitive manner. They are not ready to look at the plight of the victims sympathetically.

f) Involuntary displacement: On several occasions, victims of disasters have to leave their place of residence and occupation. Victims of disasters have to leave their place of residence and occupation, causing severer economic loss for the long term. For example, several families residing closer to the sea shore in Chennai had to be relocated after the Tsunami in 2004.

g) Unequal and insensitive rehabilitation policy: Rehabilitation of disaster victims is probably the weakest in India. Rehabilitation takes place in an haphazard manner, or does not take place at all.

h) No participation of victims: Disaster victims are not taken into confidence while deciding their rehabilitation. They are also not provided with factual information about rehabilitation plans.

i) Lack of coordination: There is lack of coordination among government departments, when it comes to providing relief and rehabilitation to disaster victims. Since several government agencies are involved in rehabilitation programme, victims have to run from pillar to post for getting their dues.