Understanding and Managing Natural Disaster

Natural disaster definition: an act of nature that is so strong that it creates a dangerous situation in which the day to day lives of people are disturbed. It leads to suffering. People need food, clothing, shelter, medical and nursing care as well as protection from environmental factors.

Examples: earthquakes, tsunamis, volcanic eruptions, landslides, hurricanes, floods, wildfire, heat wave and droughts.

Natural disasters kill around 100,000 people every year.

Disaster Management at National, State and District Level

Central Ministry for disaster management - Ministry of Home

Affairs Nodal (Branch) Ministries work with the Ministry of Home

Affairs

Air Accident Ministry of Civil Aviation Biological disaster Ministry of
Health
Chemical disaster Ministry of Environment Drought Ministry of Agriculture
Nuclear Accident Department of Atomic Energy

Central Relief Commissioner (CWC)

- Responsible to coordinate relief operations for natural disasters
- Supported with information about weather (storms, heavy rain etc) from **Indian Meteorological Department (IMD) + Central Water Commission (CWC)** - Central Relief Commissioner ---> Cabinet Secretary at Ministry of Home Affairs ---> National Crises Management Committee + state and central ministers
- Early warning can be given so people can be removed from dangerous areas - Damage can be reduced
- Relief activities: **Emergency Medical Relief Division (EMRD)** + State Agencies –

medical camps

- Data collected about number of victims, health profile of victims

State Level

- Immediate relief operations

- Being prepared beforehand + recovery after the disaster

State Crisis Management Group (SCMG)

- **Chief Secretary of state or Relief Commissioner is the leader**

- Works according to instructions of Ministry of Home Affairs

- Coordinates state and district agencies

- Emergency Operation Centre (or control centre) established – gives information about
  weather conditions

- Coordinates all other efforts of disaster management

- Quick relief to areas where disaster happened

District Level Disaster Management Committee

- **Head: District Collector**

- Works with other departments like Police, Health, Public Relations, Fire, Forest,
  Public Work

- Action plan made according to instructions from SCMG

- Setting up relief camps, coordinating day to day affairs

- Coordination of medical care, preventing epidemics, interacting with media to give
  correct updates

Managing Natural Disasters: Flood

Flood – when a large volume of water is not able to drain off quickly. This water can be from
excessive rainfall or from river water overflowing.

Types of Flood

1. **Precipitation Flood:** precipitation means condensation of atmospheric water vapour
   falling to the ground as rain, snow, sleet, hail. Precipitation floods are caused by

heavy rainfall, flash floods due to cloudburst, melting of snow

2. **Non – Precipitation Flood:** Estuarine flood, coastal flood, tsunami flood, breach flood, or dam burst

3. **Man-made Flood:** Due to lack of proper planning in making roads and buildings. Lack of proper drainage system blocks the water flow.

Flood cannot be prevented but the damage that they cause can be reduced:

- Forecasting
- Monitoring
- Warning

Forecasting – weather forecast to see if there is a chance for flood so people can be moved away from areas where flood can occur. Started in India in 1958, first flood forecast was in July 1959 in Delhi Railway Bridge on Yamuna River. Done by the Central Water Commission by checking if the water level in rivers is above the *warning level.*

6000 flood forecasts are issued every year

Mitigation – reducing damage

Methods to reduce the impact

1. **Modify flow of water** – prevents water from collecting in a single area. Water collects usually because of badly designed land or plastic waste dumps 2. **Modifying the flood damage** – lands where floods have a chance to happen should be marked and people should be prevented from living there. Government should purchase such lands so people can't stay there.

3. **Modifying loss caused by flood** – early warning will reduce the amount of loss from floods. Less loss of livestock, farm goods, domestic utensils. Early movement of people from flood prone areas can prevent loss.

Structural Measures – building storage reservoirs, river embankments.