



## Objectives, Disasters in India – A Background, Natural Hazards and Disasters, Flood Part 1

Humans have been coping with natural disasters since time immemorial. There are so many disasters which cannot be controlled by human intervention only. They are destined to bring their tragic consequences of human destruction. Due to human intervention in the natural processes, the destructive power and frequency of natural disasters have increased considerably. According to UN statistics, natural disasters kill 1, 00,000 persons on an average and cause property damage of Rs 20,000 crores worldwide per year. Among the top ten natural disaster-prone countries, India stands second only after China. Therefore, there is a need for creating awareness among all the sections of the society about its causes, consequences as well as preventive measures so that they can handle as an individual, and as a member of the society.

### Objectives

The major objectives of this chapter are:

- To explain the meaning of the words natural hazard and disaster
- To differentiate between hazard and disaster
- To recognize and describe some disaster-prone areas of India
- To describe some adverse effects of natural disasters
- To suggest measures to mitigate or reduce the problems and sufferings arising before, during, or after the disaster

### Disasters in India – a Background

India is struggling with disasters from many years. The day when killer waves (tsunami) struck the coastal parts of India on 26th December 2004 or the morning of 26th January 2001, when the western part of India was badly affected by earthquake. These are just few examples. Due to vulnerability of different kinds of disasters, it is said that India is a disaster-prone country. The reasons are:

- Over 55% of the land area is vulnerable to earthquakes.
- 12% of the land area is flood prone.
- 8% of the land area is vulnerable to cyclones
- 70% of the land under cultivation is drought prone.

## Natural Hazards and Disasters

The vulnerability of the environment has been increasing continuously due to human activities. Humans are also the components of the environment. Hence, they can't escape from the effects of environmental change processes. When local, regional, or global processes of environment pose danger to humans or their property, they are simply called natural events. For example, the blizzard blowing in the Antarctica is a natural event. But if this blizzard poses dangers to our lives and property, then it becomes a disaster. For instance, tsunami was caused by an earthquake that occurred in the sea near Sumatra (Indonesia) on 26 December, 2004. It turned into a disaster for India, Sri Lanka and some other countries of Southeast Asia. It caused widespread loss to human lives and property in Andaman and Nicobar Islands and on the coasts of Andhra Pradesh and Tamil Nadu.

The difference between natural hazard and disaster can be seen as:

1. A hazard is a dangerous physical condition or event. But a disaster disrupts the normal function of the society caused by a hazard.
2. Earthquakes, floods, volcanic eruption, landslides, droughts, tsunami etc. are called natural hazards before they cause loss of life and damage to property. Disaster causes damage to property and loss of life, but it also disrupts the opportunities of employment.
3. Small number of people is affected during hazards. But, a large number of people are affected by disasters.
4. Hazard may cause injury, loss of life or damage of property. Disaster causes widespread loss to life and property. It affects the society to such an extent that external aid becomes, necessary to compensate the losses.

## Flood

The inundation of an area by water is called a flood. In other words, when a river overflows its banks and water spreads in the surrounding areas, it is known as flood. In comparison to other disasters flood cause more damage to life and property. About 20 % of deaths caused by floods in the world, occur in India.

### Causes of Flood

The causes of flood in India are as follows:

**Heavy Rainfall:** Heavy rain in the catchment area of a river causes water to overflow its banks, which results in the flooding of the nearby areas.

**Sediment Deposition:** Riverbeds become shallow due to sedimentation. The water carrying capacity of such river is reduced. As a result, the heavy rain water overflows the river banks.

**Deforestation:** Vegetation hampers the flow of water and forces it to percolate in the ground. As a result of deforestation, the land becomes obstruction free and water flows with greater

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speed into the rivers and causes flood.

**Cyclone:** Cyclone generated sea waves of abnormal height spreads the water in the adjoining coastal areas. In October 1994, Orissa cyclone generated severe floods and caused unprecedented loss of life and property.

**Interference in Drainage System:** Drainage congestion caused by badly planned construction of bridges, roads, railway tracks, and canals hampers the flow of water resulting in flood.

**Change in the Course of the River:** Meanders and change in the course of the river also cause floods.

**Tsunami:** Large coastal areas are flooded by rising sea water, when a tsunami strikes the coast.

### Losses by Flood

Humans and animals both are affected by flood. People are rendered homeless. Houses are damaged or collapsed, and the Industries are crippled. Crops are submerged in flood water. Domestic as well as wild animals die. Boats and fishing nets etc. are lost or damaged in coastal areas. Outbreak of epidemics like malaria and diarrhoea are common after flood. Potable water is contaminated and sometimes becomes scarce. Food grains are lost or spoiled, their supplies from outside become difficult.

In 1953, 2.43 crores of people were affected. By 1987, the number of floods affected people rose to 4.83 crore. According to an estimate on an average property worth Rs. 210 crores are lost in floods every year. Flood affects about 6 crore people and crops of one crore hectare are damaged.

### Flood Prone Areas of India

About 4 crore hectare area of our country is flood-prone, which is one eighth of the total area. The most flood prone areas are the Brahmaputra, Ganga, and Indus basins. The states of Uttar Pradesh, Bihar, West Bengal, and Orissa are the most flood affected states followed by Haryana, Punjab, and Andhra Pradesh. Karnataka and Maharashtra are no longer immune to floods.

 Flood Hazard Map of India

*Image of Flood Hazard Map of India*