

CHAPTER - 12

NATURAL DISASTERS

In this chapter, you learn about the following:

- *Natural calamities cyclones – causes, effects and preventive measures*
- *Floods – causes, affected areas, effects and control*
- *Land slides, coasted erosion and earthquakes*

Natural Disasters :

Many incidents occurring in Nature are beyond human control. Preventing these and predicting their occurrence at a certain place is beyond science too. **Naturally-occurring destructive incidents resulting in loss of human life and property are called natural disasters.** Of these natural disasters, earthquakes, floods, droughts, cyclones, landslides, coasted erosion, Avalanche are destructive.

Cyclones:

Among the natural disasters occurring on the surface of the earth, cyclonic winds are the most dangerous and destructive. These winds are called cyclones.

Causes of cyclones: Cyclone originate in the Bay of Bengal. It is surrounded by three side of land, the Bay of Bengal is subject to intense heating, giving rise to humid and unstable airmasses that causes cyclones.

- Usually, they originate in the Bay of Bengal and blow westwards reaching Tamil Nadu or Andhra coast. Sometimes, they change their direction to the northwest,

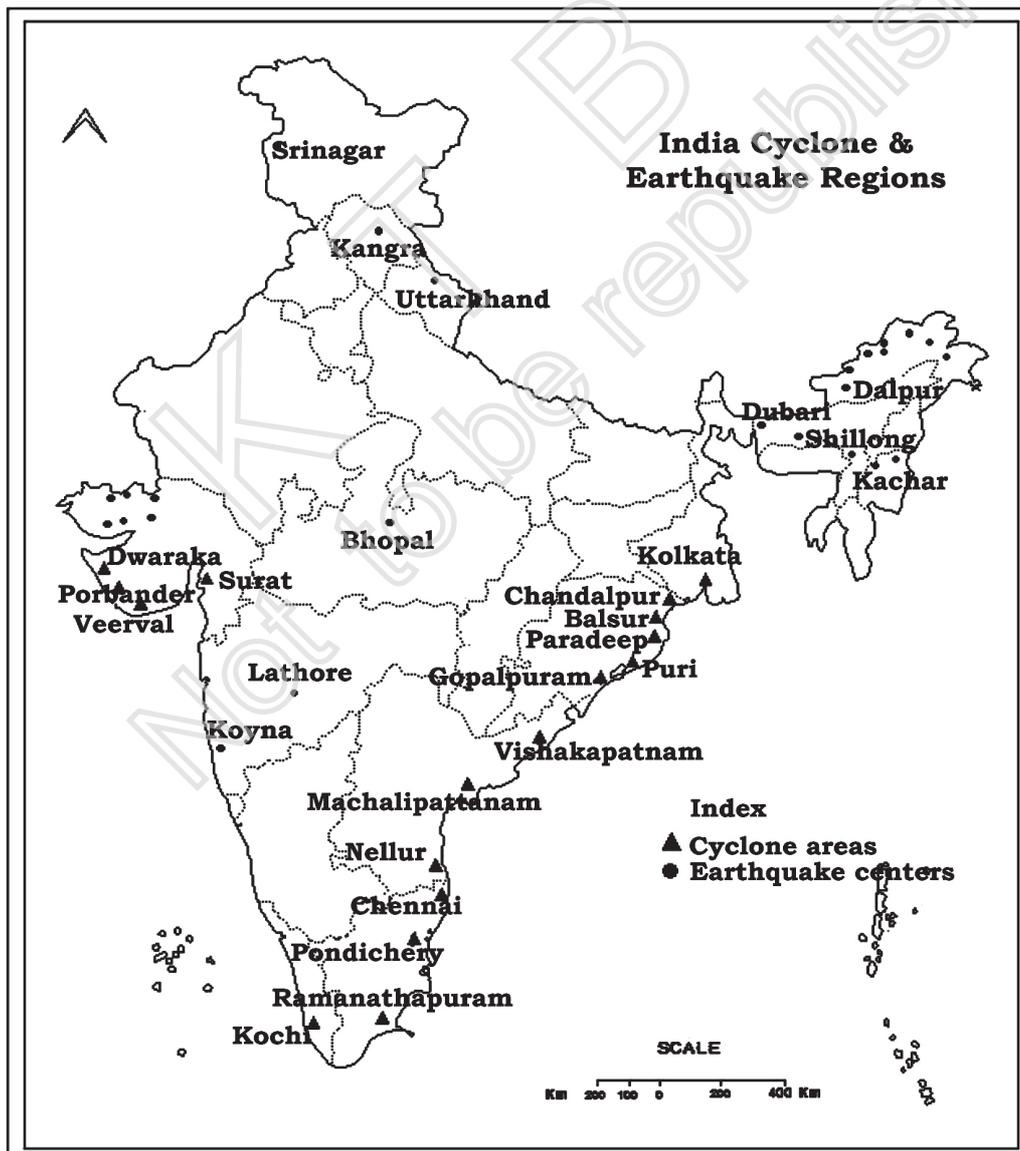
Do you know this?

According to an inter national treaty, cyclones are given certain names. As per this agreement, countries having the northern Indian oceanic coast like Bangladesh, India, Maldives, Myanmar, Oman, Pakistan, Sri Lanka and Thailand communicate the names to a committee working under IMD from which the names are selected one after the other at Delhi. The cyclone that occurred recently was named Laila by Pakistan. Later names of cyclones were, respectively: Sri Lanka's Bando, Thailand's Phet, Bangladesh's Giri, India's Jal, Maldives' Kaila, Myanmar's Thane, Oman's Mujan.etc.,

hitting Orissa or west Bengal coast. The occurrence of cyclone in India two periods in India. They are more frequently in October-November and also occur in May-June.

Effects of cyclones:

- Cyclones are very destructive. Sometimes, the life of the people of cyclone-hit areas gets totally changed.
- They cause large scale deaths.
- Ocean tides inundate the inland water-bodies and make them salty.
- Crops get totally destroyed.
- Transport links, electricity supply and the daily life of the people get affected badly.
- Cyclone-hit areas suffer from infectious diseases, leading to huge casualties.



Preventive measures:

- Evacuation of people from low-lying areas.
- Ready to keeping generators, boats, helicopters and other transport facilities.
- Re-routing trains and buses from the cyclone-prone areas.
- Keeping people constantly informed about the movement of the cyclone.
- Ready to Keeping the army battalions ready.
- Ready to Keeping food, potable water and clothes ready.
- Ready to Keeping medicines and medical facilities ready.

Floods:

Among the natural calamities faced by India every year, floods are the most dangerous. When there is heavy rainfall and excessive melting of ice, the volume of water increases in the river leading to it overflow. This is called “floods”. The river water, not being able to flow in the river course, overflows and occupies low-lying areas on either side. Sometimes, due to more rainfall in a particular area, the rivers swell.

Do you know this?

The recent floods of Mandakini river in Uttarkhand state at Kedarnath on July 17, 2013, were the most destructive.

Causes of floods:

- The uncertainty of monsoon rainfall sometimes gets heavy rainfall causes floods.
- Accumulation of silt in the rivers lead to overflowing of water on either side of the river, causing floods.
- Breach of dams or retention walls leads to sudden release of large quantity of water resulting in floods.
- Rivers changing their course can also cause floods.
- Heavy rainfall during cyclones can also lead to floods.
- Earthquakes in the sea are also causes floods.

- Apart from the natural causes mentioned above, man-made causes like deforestation, improperly built dams, weak retention walls, illegal encroachment of land are also important causes.

Flood-prone regions:

Flood-prone regions are found all over the country.

- The Ganges and its tributaries Yamuna, Gandak, Kosi and Ghagra rivers cause floods in Uttar Pradesh and Bihar.
- Damodar and Suvarnarekha rivers cause floods in Chattisgarh and West Bengal states.
- Brahmaputra and its tributaries Dibang, Dihang, Subansiri and Lohit rivers cause floods in Assam.
- Cloudburst often causes abrupt floods in the Himalayas.
- Narmada, Tapti, Sabaramathi and Mahi rivers cause floods for some days in a year in the state of Gujarat.
- Krishna, Tungabhadra, Ghataprabha, Malaprabha, Dhoni, Bennehalla etc. cause floods during rainy season in Karnataka.

Effects of floods:

- Floods are causes, loss of shelter, property, land and crops of the people.
- Telecommunication, electricity supply and transport facilities get affected.
- Besides washing away the fertile upper layers of soil, a lot of trees are destroyed.
- Stagnant water in the low lands leads to dangerous diseases.

Flood control measures:

- To control floods, bunds should be constructed on either side of rivers.
- Constructing dams across rivers, collecting water in reservoirs and directing the water to other places.
- Establishing centers to issue flood warnings.

- Afforestation in the river basins will prevent soil erosion, and also reduce accumulation of silt in the rivers thereby reducing the chances of floods.

3. Landslide:

Land mass sliding down the slopes from mountains or hills are called land slide. Among the things that come down along with the sliding land mass, stones, mud and debris are important. Landslides occurring in the steep mountainous regions are more destructive.

Causes for Landslides:

- In the mountainous areas and coasts, constantly flowing water and tides remove soil creating slopes leading to landslides.
- When railways, roads and canals are constructed in the steep mountainous areas, the slopes become steeper leading to landslides.
- Collection of loose soil on clay soil layer can enhance steep slope formation leading to landslide.
- Landslides are common in the mining areas. Excavation of earth to reach the ore deposits deep down can cause landslides.
- Deforestation and deep tilling of the slopes can cause landslides.

Effects of Landslides:

- Flowing small rivers are checked by landslides.
- Transportation is affected.
- Streams and many plants get submerged.
- Landslides can cause loss of life and damage to property.

4. Coastal Erosion:

Sea waves continuously hit the coast. Because of this, the coastal land is eroded. The erosion of land by the waves in the coastal areas is called coastal erosion.

Coastal erosion is more during south-west monsoon season because of high tides. During this period, very high waves bash the coast engulfing a huge land mass. Because of this, the coastal

erosion is more severe along the west coast of Kerala, Karnataka and Goa. In addition, Kanyakumari region of Tamil Nadu, Maharashtra and Gujarat also affected from coastal erosion. Coastal erosion is very less on the east coast.

Effects:

- Large amount of land mass submerg into the sea due to coastal erosion by waves.
- Many houses and also property get loss and damaged.

Prevention:

- Prohibiting sand mining in coastal areas.
- Constructing retention walls along the length of coast wherever waves are strong.
- Stocking of large rocky boulders along the coast to reduce the impact.
- The most effective method of preventing coastal erosion is by growing mangrove forests along the coast.

Earthquakes:

Earthquakes are one of the most important natural calamities occurring on the land surface. Vibration or movement of the upper layers of the earth due to the pressure created inside is called Earthquake.

Reasons of the Earthquakes:

1. Pressure increases in the interior of the earth more earthquake are causes.
2. Earthquakes causes from the deforestation, construction of Dams, Mining activities etc.,

Distribution in India :

The occurrence of earthquakes is fairly widespread. The northern Himalayas, East Assam, Gujarat in the West have witnessed most of the earthquakes. In South India, Koyna, Latur and other places have experienced some earthquakes.

Effects of Earthquakes:

The severity of the earthquakes is dependent on the loss of life and destruction of property. It also leads to obstruction to transport spread of infections diseases, increased tidal activity, change in river's direction etc.

Precautionary measures to be taken:

- Restricting construction of multi-storied building in earthquake-prone areas.
- Using very light material for construction of houses in these areas.
- Constructing houses to ensure stability.
- Providing basic amenities to the quake-affected areas.
- Disconnecting power supply in the event of an earthquake.

EXERCISES

I Answer the following after discussing them in groups:

1. What are natural disasters?
2. What are the effects of cyclones?
3. What are floods?
4. What is Landslide?
5. What is Earthquakes.
6. What are the causes of floods? Describe flood-prone areas.
7. What is Coastal Erosion? Mention its management.
8. Write about the effects of earthquake and precautions to be taken.

III Activities:

1. Mark the earthquake-prone and flood-affected regions on the Indian map.

IV Project Work:

1. With the help of your teachers, make a list the flood affected places in India.

