

9. Disaster Management

- **Earthquake**

- It is the sudden shaking or trembling of the earth's surface because of disturbance deep inside the earth's crust.
- It cannot be predicted.

- **Causes**

- The uppermost layer of the earth is called crust. Crust is fragmented and each fragment is called plate. Movements of earth's plates (there may be collision or a brushing pass between two plates along their boundary). Plate boundaries are called seismic zones or fault zones.
- Earthquake may occur because of volcanic eruption.
- Kashmir, Western and central Himalayas, North-East India, Rann of Kutch, Gangetic plains, and some parts of South India are earthquake prone.

- Power of earthquake is measured on Richter scale.
- The Richter scale is not a linear scale.
- The Richter scale is a logarithmic scale i.e. earthquake with magnitude 5 is ten times more destructive than an earthquake of magnitude 4.
- Earthquakes of intensities more than 7 on the Richter scale are very destructive.

- Seismograph is an instrument used to record the vibrations produced by an earthquake.
- The seismograph consists of a vibrating rod or pendulum, which starts to vibrate as soon as an earthquake occurs.
- The focus of an earthquake is the point in the Earth's crust from where the shock waves of the earthquake originate.
- Epicenter is the point on the surface of the Earth directly above the focus.

- Precautions to minimize the destruction caused by an earthquake:

- Buildings constructed in seismic zones should be strong enough to withstand earthquakes of high magnitudes.
- Specialist engineers and architects should be consulted to make quality buildings in these areas.
- Roofs of houses must be made as light as possible, so that if they fall the damages incurred are not huge.
- Heavy objects such as wall clocks, photo frames, decoration pieces etc. must be hanged in such a way that they do not fall on anyone during an earthquake.
- Fire fighting equipment must be installed properly in the buildings.
- Inside house → One should take shelter under a table. The head should be protected.
- Outside house → One should stay away from tall structures. One of the safe places is inside a car.

- **Flood:** It is the overflowing of the river due to excessive rains onto a normally dry land.
- **Cloudburst:** It is a sudden heavy rainfall over a short period of time on a limited area and leads to huge destruction.
- **Storms:** It is a strong disturbance in the environment resulting in strong winds or storms.
- **Forest fire:** An unmanageable fire in the forest either due to man-made or natural causes.
- **Tsunami** is a series of high waves set off by an underwater earthquake or volcano and causes huge damage to the coastal areas.
- A **volcano** is a natural phenomenon. This causes due to movement of hot substances from the interior of the Earth towards the surface of the earth.
- **Lightning** is a sudden flow of a huge amount of electric charges within a cloud, between two clouds or between cloud and ground this happens during thunderstorms.