

Disaster Management Lecture Note

November 2, 2022

Disaster

It is derived from Old Italian word *disastro*, which in turn comes from Ancient Greek word *dis* which means *bad* and *aster* means *star*. A disaster is an event that completely disrupts the normal ways of community.

Hazard

A potentially damaging physical events, phenomena or human activity that may cause loss of life or injury, property damage, social and economic disruption or environmental degradation.

Types of hazards :

- Natural : Earthquakes, Floods, Tsunami, wildfire, landslides, volcanic eruption.
- Man-made : Industrial, engineering failures, biological hazards, wars and terrorism.

Classification of hazards:

- Sudden onset hazards: Earthquakes, Floods, Tsunami, wildfire, landslides, volcanic eruption.
- Slow onset hazards: Drought, desertification, famine
- Industrial / technological hazards
- Wars and civil strife
- Epidemic and pandemic

Difference between Disaster and Hazards

Disaster	Hazard
Disaster is an event which completely disrupts everything	Hazard is a situation for which there is a threat of life, health, environment etc.
Disaster is the cumulative results of hazard	Hazard is the outcome of disaster
Disaster is a sudden effect of natural or man-made cause	Hazard is potentially damaging the physical activity.

Definition 1 (Volcano) The sudden release of magma (hot materials) from the mountain peak through the vent opening from interior parts of earth's surface is called *volcano*.

Definition 2 (Earthquake) The violent shaking of earth's crust in irregular way in vertical or horizontal or in an angular ways is called an earthquake. Naturally, it happened due to the tectonics forces caused by the endogenics thermal conditions.

Definition 3 (Cyclone) The word *Cyclone* is derived from the Greek word *Cyclos* meaning the coils of a snake. Cyclones are caused by atmospheric disturbances around a low-pressure area distinguished by swift and often destructive air circulation. Cyclones are usually accompanied by violent storms and bad weather. The air circulates inward in an anticlockwise direction in the Northern hemisphere and clockwise in the Southern hemisphere.

Classification of cyclone:

- **Tropical Cyclone** Cyclones that developed the regions between the Tropics of Capricorn and Cancer are called tropical cyclones. Tropical cyclones are large-scale weather systems developing over tropical or subtropical waters, where they get organized into surface wind circulation.
- **Extra Tropical Cyclone or Temperate Cyclones** occur in temperate zones and high latitude regions, though they are known to originate in the Polar Regions.

Definition 4 (Early Warning System) An early warning system can be defined as a set of capacities needed to generate and disseminate in time for meaningful warning information of possible disaster.

Multi Hazard Early Warning System

It is the warning system that manages and deliver alerting message to the hazard effected areas where community is in risk to mitigate the impacts of hazards.

It is noted that in 2022, United Nations(UN) announced the declaration to ensure every person on earth has to be protected by the **Early Warning System** within 5 years.

The four components of early warning system :

- Risk knowledge and assessment of risk factors of any comin disaster
- Detecting the hazard or disaster, technical monitoring for evacuation
- Early warning communication in community and dissemination of warning system
- Notification and activities in general disaster preparedness and community response capabilities.

General preparedness for various type of disaster:

Flood

Part-I

If needed to evacuate:

1. Raise all the necessary furniture on bed of a room
2. Cover all drain holes to prevent backflow of water
3. Turn off power and gas connections
4. People should move to higher ground
5. Carry the emergency kit
6. People should not enter in deep flooded water

Part-II

When flood likely to hit:

1. Keep mobile phone charged
2. Always be alert
3. Don't ignore the animals to save their lives if possible
4. Perepare an emergency kit containing emergency medicines, dry food, drinking water, torch with batteries, candle, match box and first aid items etc.

5. Save your valuable items as possible

Part-III

During the flood:

1. Don't take risk in flood water
2. Watch your footstep while moving from one place to other place.
3. Stay away from electric poles
4. Take hygienic food and dry fruits and save drinking water
5. Ensure cleanliness in your surrounding area.

Part-IV

After the flood:

1. Protect children from harmful dampness(wetness) and inhygenic environment.
2. Consume hygienic food
3. Consume safe drinking water
4. Use mosquitoes net while sleeping
5. Use only clean water for domestic works and in wash rooms.

Earthquake

Before the earthquake:

1. Repair the plaster cracks and other deep cracks in building.
2. Follow BIS Code of practice for building structure.
3. Heavy objective in house should be kept in lower platform.
4. Repair defective electric wiring and connection
5. Identify the safe place in indoor and outdoor.
6. Know the emergency contact no. of local authority

Preparation of emergency kit:

1. Torch with working batteries
2. Small radio, battery operated
3. First aid kit which contain emergency medicines, band aid, cotton etc.
4. Storage of dry food and safe drinking water
5. Match box and candle
6. Water purifier tablets.

Epidemic

What to do:

1. Store dry food and adequate safe drinking water
2. Periodical health checkup and medicines needed.
3. Surrounding area should be clean and don't keep water stagnant
4. Keep social distancing as required
5. Cover mouth and nose by mask
6. Avoid touching your eyes and nose
7. Use hand sanitisers frequently and wash your hand by medicated soap as and when-required.
8. Prepared group of volunteer to assist people in emergency.

Cold Wave

What to do:

1. Stay indoor and minimised your travel.
2. Keep emergency kit ready with medicines, warm clothes, snow shovel etc.
3. Listen always to local radio for alerting message
4. Change the wet clothing frequently
5. Watch the symptoms of frostbite like numbness white or pale appearance in body etc and to consult with the doctor.
6. Maintain ventilation while using heater in room.