DISASTER MANAGEMENT

Disaster is a sudden calamity which brings misfortune and miseries to humanity.

Types: 1. Natural disaster 2. Man made disaster.

1. Natural disaster: Floods, Cyclones, earth quakes, landslides. etc
2. Man made disaster: Accidents, pollutions, fire accidents, bomb blasts.

FLOODS

Defined as a situation when the river over flows is banks and the water spreads in the surrounding areas and submerging them. It usually occurs in rainy season.

Causes:

1. Heavy intense rain fall 2. Melting of accumulated snow. 3. Melting of snow combine with rains. 4. over saturated soil when the ground cannot hold any more water. 5. Urbanization

Control:

1. Forecast, warning and advice should be provided through media to educate aware people about steps to be taken on the event of mishap.
2. Valuable house hold items, animals and materials like food, clothes, medicines etc. should be shifted to safe places.
3. Elderly people and children should be evacuated to safer place on emergency.
4. By the construction of protective works.

Case study: Bangladesh – 1974

Every year large areas are submerged during monsoon season. In 1974 when flooding extended over nearly one half of the country and stagnated for more than a month. Nearly 1200dead in the floods and 2, 75,000 died from subsequent diseases and starvation. About 4, 25,000houses were damaged. A total of 36 million people suffered hardship and losses due disaster.

CYCLONE

An atmospheric closed circulation, rotating anti- clock wise in the northern hemi sphere and clock wise in southern hemisphere .

Cyclone is an area of low pressure in the centre and high pressure outside. Powerful swirling storm that measures from 300- 500 km in diameter. The wind in the centre of cyclone blows in the speed of 120km/hr.

In India cyclone originates from Bay of Bengal are more in number and intensity. Relatively less south-west Indian Ocean and Arabian Sea. In India cyclones occur during October-December or April-May.

EFFECTS:

Damage to human life, crops, roads, transport, and communication could be heavy.

Cyclone slows down developmental activities of the area.

Management:

Meteorological Departments forecast by satellite images the weather conditions which reveal the strength and intensity of the storm.

Radar systems is used to detect cyclone and cyclone warning.

The effect of cyclone is minimized by planting more trees on the coastal belts, constructional dams, wind breaks etc.

Case study:

Cyclone in Orissa 1999- Two cyclone in Orissa occurred in 18^{th} and 29^{th} of October 1999.In the central area in Orissa a powerful cyclone storm hit with the wind velocity of 260km/hr.Nearly 14 of 30 districts of Orissa went in severe damage.

15 million people were affected and 90-95% of crop yield was also affected.11, 500 local schools have been damaged.

EARTHQUAKE

Sudden vibration caused on the earth surface due to sudden release of tremendous amount of energy stored in the rocks under the earth crust is called earthquake.

A focus of an earthquake is the point of initial movement. Epicenter is the point on the surface directly above the focus.

Measure of Earth quake-Richter scale:

Magnitude of earthquake is a measure of amount of energy released in the earthquake. Earthquake is recorded by seismograph.

Less than 4-insignificant.

4-4.9-minor,

5-5.9-damaging,

6-6.9-destructive,

7-7.9-major,

Above 8- great

Primary effect of earth quake: Shaking

Some times a permanent vertical or horizontal displacement of the ground .This affects people bridges, dams, pipe lines.

Secondary effects:

Rocks slides, flood caused by the subsidence of land, coastal areas are severely damaged .Earth quake generated water wave called Tsunami and also called tidal waves that travel as fast as 950km/hr.

Precautionary measures:

1. People should come out of their homes and stay in the open till the tremors subside.
2. People already out of home should stay away from the building electric poles, trees and any tall objects that have chances of falling down.
3. After the earth quake relief camp by the Government or other social groups should be conducted for the affected people.

Land slides:

A landslide is a sudden collapse of large mass of hill side.

Types:

Shallow disrupted land slide and decoherent landslide.

Factors causing landslides:

Caused by rain forces increasing top material weight, lubricating the material layer or making slope top steep.

Gravity-gravity works more effectively on steeper slopes

Weather:

Most slides occur during or after heavy rains.

Effects:

Flow deposit blocks the road and diverts the passage.

Causes of erosion of the soil.

Prevention:

Revegitate the area to prevent the surface erosion .Inspect and repair all drainage system. Collect runoff from roofs and improved areas and convey water from the steep slopes in a well designed pipe system.

Case Study:

Landslide In UP 20th August 1998.

Malpa Village Pithoragrah district of UP on 18th August 1998 had a land slide. At least 180 people including 60 kailash Manasorovar pilgrims and 8 Indo-Tibet border Police personnel were killed. The state government has announced a grant of 237,905 dollars for relief and rescue operation.

Tsunami

It is a Japanese word which means harbour wave."Tsu" means harbour and ~~–n~~ami" stands for wave. Tsunami is large waves of water generated when the sea flow is deformed by seismic activity, vertically displacing the overlying water in the ocean.

Phenomenon:

Tsunami is not a singular wave but a series of waves like a ordinary waves one can see on a beach. Ordinary eaves have the wavelength of 100 mts. Tsunami have a wavelength of 500 kms and there could be as much as a hairs gap between eaves. The speed of Tsunami waves across deep sea is 1000 km/hr.The energy lost by tsunami waves is inversely proportional to the wavelength. Tsunami was extremely fast moving and high volume of water. The waves are several hundreds of kms of waves and traveling 1000 km/hr.

Effects:

Tsunami attacks mostly the coastal lines damaging property and life. Kills lot of human being and livestock also spread lot of waterborne disease.

Management:

Earthquake under the sea are monitored by sensors on the floor of sea. The sensors send information of floating buoys on the surface whenever they detect the change in the pressure of the sea. The information is relied to satellite which passes it to the earth station. All member nations waning system are warned of the approaching danger .Finally the country make the people alert to make all necessary precautions.

Case study:

Tsunami in India:

Tsunami was formed on 26th December 2004 in Bay of Bengal and in the Indian Ocean. The tidal waves occurred due to massive earthquake under the ocean floor of Indonesian coast. The magnitude of earthquake is 8.9 on Richter scale and striked northern Sumithra and Indonesia at 6.25a.m.Tsunami travels at a speed of jet engine (700-800 km/hr) and hit Tamilnadu and Srilanka coast about 2-3 hrs after the earthquake.Nagapatinam was worst hitted by Tsunami in India. About 6000 people were dead and huge property loss.

Source : http://nprcet.org/e%20content/eee/EVS.pdf