



B. Tech (Environmental Studies and disaster Management)

Introduction to Disaster Management

Definition

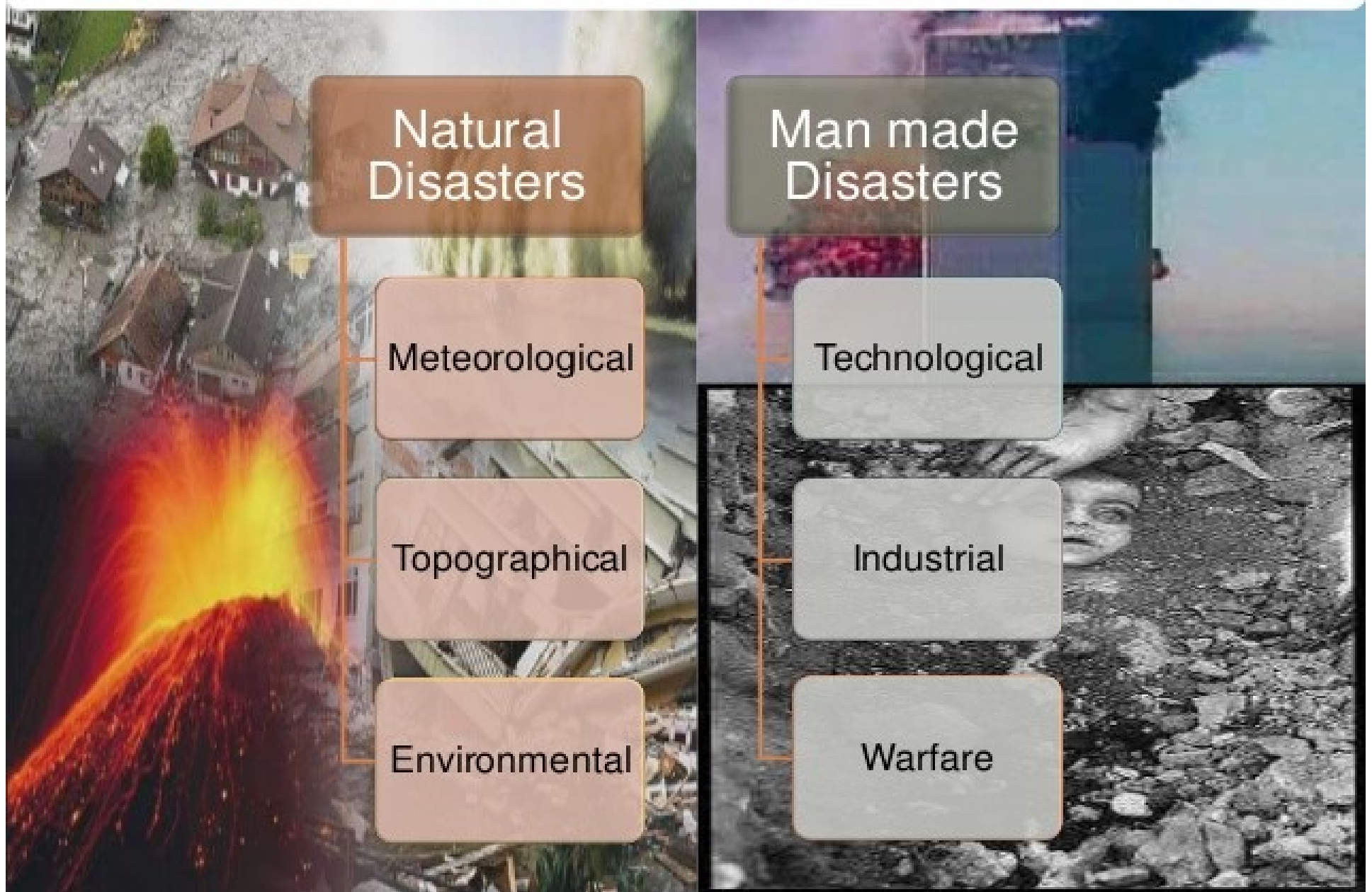
Disaster -

Any occurrence that causes
damage, ecological disruption,
loss of human life,
deterioration of health and health services
on a scale, sufficient to warrant an extraordinary
response from outside the affected community or
area.(WHO)

A disaster can be defined as an occurrence
either nature or man made that causes human
suffering and creates human needs that victim
cannot alleviate without assistance.

(American Red Cross)

Classification of Disasters



Natural Disasters

A **limnic eruption**, in which dissolved CO_2 suddenly erupts from deep lake waters, forming a gas cloud capable of suffocating wildlife, livestock, & humans

Meteorological Disasters

- Floods
- Tsunami
- Cyclone
- Hurricane
- Typhoon
- Snow storm
- Blizzard
- Hail storm

Topographical Disasters

- Earthquake
- Volcanic Eruptions
- Landslides and Avalanches
- Asteroids
- Limnic eruptions

Environmental Disasters

- Global warming
- El Niño-Southern Oscillation
- Ozone depletion-UVB Radiation
- Solar flare

A blizzard is a severe snowstorm characterized by strong sustained winds of at least 56 km/h (35

Avalanches
Is snowslide

Man made Disasters

Technological

- Transport failure
- Public place failure
- Fire

Industrial

- Chemical spills
- Radioactive spills

Warfare

- War
- Terrorism
- Internal conflicts
- Civil unrest

Accident Ship carrying oil refinery in ocean

Disaster management structure

E.g.: Indian Meteorological department (IMD) plays a key role in forewarning the disaster of cyclone-storms by detection tracing. It has 5 centres in Kolkata, Bhubaneswar, Vishakhapatnam, Chennai & Mumbai. In addition there are 31 special observation posts setup along the east coast of India.

The International Agencies which provides humanitarian assistance to the disaster strike areas are United Nation agencies.

- Office for the co-ordination of Humanitarian Affair (OCHA)
- World Health Organization (WHO)
- UNICEF
- World Food Programme (WFP)
- Food & Agricultural Organisation (FAD)

E.g.: Non Governmental Organizations

- Co-Operative for assistance and Relief Every where (CARE)
- International committee of Red cross

Disaster Management Structure

NDMA Apex Body with Prime Minister as Chairperson.
National Executive Committee - Secretaries of 14 Ministries and Chief of Integrated Defence Staff.

- Armed Forces
- Central Para Military Forces
- State Police Forces and Fire Services
- Civil Defence and Home Guards
- State Disaster Response Force (SDRF)
- National Cadet Corps (NCC)
- National Service Scheme (NSS)
- Nehru Yuva Kendra Sangathan (NYKS)

Integrated Disaster Management



Phases of Disaster Management

Disaster Preparedness

Disaster Impact

Disaster Response

Disaster Recovery

Disaster Mitigation

Disaster Preparedness

Co-ordination of a variety of sectors to carry out-

- Evaluation of the risk.
- Adopt standards and regulations.
- Organize communication and response mechanism.
- Ensure all resources- ready and easily mobilized.
- Develop public education programmes.
- Coordinate information with news media.
- Disaster simulation exercises.
- Location of disaster prone area
- Preparedness in terms of Money, Manpower, food , drug, other essential commodities
- Evaluation from past experience about the risk
- Ensuring coordination and response mechanism

Medical preparedness

- Developing and capacity building of medical team for Trauma & psycho-social care, Mass casualty management and Triage.
- Determine casualty handling capacity of all hospitals.
- Formulate appropriate treatment procedures.
- Involvement of private hospitals.
- Mark would be care centers that can function as a medical units.
- Identify structural integrity and approach routes.

Pre existing Diseases in the Population :

dysentery, cholera, measles, tuberculosis, malaria, intestinal parasites, scabies, skin infections.

Ecological Changes :

- Altered ecology- vector borne and water borne diseases
- Living conditions - plague, louse borne typhus and relapsing fever.
- Stray animals and wild animal displacement- rabies.

Damage to public Utilities :

Water supplies & sewage disposal disrupted.

Triage Protocol/System

Red: High priority for treatment & transfer

Yellow: Medium Priority

Green: Ambulatory patients

Black: Dead or Moribund patients

Major disasters in India

S. N	Event	Year	State & Area	Effects
1	Drought	1972	Large part of country	200 million affected
2	Cyclone	1977	Andhra Pradesh	10,000 people & 40,000 cattle died
3	Drought	1987	15 states	300 million affected
4	Cyclone	1990	Andhra Pradesh	967 died. 435,000 acres land affected
5	Earthquake	1993	Latur, Maharashtra	7,928 people died.30,000 injured
6	Cyclone	1996	Andhra Pradesh	1000 people died.5,80,000 houses destroyed
7	Super cyclone	1999	Orissa	Over 10,000 deaths

Major disasters in India

S. N	Event	Year	State & Area	Effects
9	Tsunami	2004	Coastline TN, Kerala, AP, A&N islands & Puducherry	10,749 deaths.5,640 missing,2.79 Millions
10	Floods	July 2005	Maharashtra	1094 deaths 167 injured, 54 missing
11	2 Cyclone	1977	Andhra Pradesh	10,000 people & 40,000 cattle died
12	Kosi floods	2008	North Bihar	527 deaths, 19,323 cattle died
13	Cyclone	2008	Tamilnadu	204 deaths
14	Krishna floods	2009	Andhrapradesh & Karnataka	300 died
15	Flash flood	June 2013	Uttarakhand	5,700 deaths, 70,000 affected
16	Phailin Cyclone	Oct 2013	Coastline of Orissa, Jharkhand	27 died, 10,00,000 evacuations

Disaster mitigation

It is the effort to reduce loss of life and property by lessening the impact of disasters.

Mitigation is taking action *now* —before the next disaster.

To reduce human and financial consequences later (analyzing risk, reducing risk, ensuring against risk).

Eg. improving structural qualities of schools, houses and such other buildings so that medical casualties can be minimized.

Similarly ensuring the safety of health facilities and public health services including water supply and sewerage system to reduce the cost of rehabilitation and reconstruction.

I thank
you!

