

Types of Disaster

NEC - DOH

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Disaster

An event that occur when significant number of people are exposed to hazards to which they are vulnerable, with resulting injury and loss of life often combined with damage to property.

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Types of Disaster

❖ Natural Phenomenon

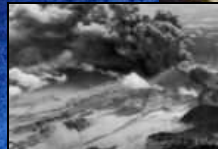
❖ Major accidents and civil unrest



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Activity II



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Earthquake



Characteristics

- ❖ Occurs with no warning
- ❖ Sudden onset
- ❖ Major effects arise mainly from land movement, fracture or slippage;



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Earthquake



Problem Areas for Management

- ❖ Severe and extensive damage
- ❖ Difficulty of access and movement
- ❖ Widespread loss or damage to infrastructure, essential services and life support systems
- ❖ Recovery requirements (e.g. restoration, rebuilding) may be very extensive and costly



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Volcanic Eruption



Characteristics

- ❖ Usually major eruptions can be predicted
- ❖ Destroy structures and environment and
- ❖ Land surface cracking, resulting from volcanic explosion, may affect buildings and other structures
- ❖ Lava flow bury buildings and crops. It may cause fires and render land unusable

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Volcanic Eruption



Characteristics

- ❖ Ash, in its airborne form, can affect aircraft by ingestion into engines
- ❖ Ground deposit of ash may destroy crops and affect land use and water supplies
- ❖ Ash may also cause respiratory problems
- ❖ Mud flows may arise from associated heavy rain

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Volcanic Eruption



Counter-measures

- ❖ Land-use regulations
- ❖ Lava control systems
- ❖ Development of monitoring and warning system
- ❖ Evacuation plans and arrangements
- ❖ Relocation of population
- ❖ Public awareness and education programs

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Volcanic Eruption



Problem Areas for Management

- ❖ Access problems during eruption
- ❖ Timely and a accurate evacuation decision(s)
- ❖ Public apathy,
- ❖ Control of incoming sightseers during implementation of evacuation plans

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Tsunami

Characteristics

- ❖ Velocity of the wave depends on the depth of water where the seismic disturbance occurs; may be as high as 900 kph
- ❖ Warning time depends on distance from point of wave origin
- ❖ Speed of onset varies
- ❖ Impact on shoreline is preceded by marked recession of normal water level



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Tsunami

Characteristics

- ❖ Wave heights can be as high as 30 meters
- ❖ Impact can cause:
 - flooding, salt-water contamination of crops, soil and water supplies; destruction or damage to buildings, structures and shoreline vegetation



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Tsunami



General Counter-measures

- ❖ Optimum arrangements for receipt and dissemination of warning
- ❖ Evacuation of threatened communities from sea level; low level areas to high ground,
- ❖ Land-use regulations
- ❖ Public awareness and education programs

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Tsunami



Problem Areas for Management

- ❖ Effective evacuation time-scale
- ❖ Search and rescue
- ❖ Recovery problem may be extensive and costly due to severe destruction and damage
- ❖ Timely dissemination of warning,

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Typhoon

Characteristic

- ❖ Usually long warning, derived from systematic international meteorological observation
- ❖ Speed of onset gradual
- ❖ Tends to conform to seasonal pattern



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Typhoon

Characteristic

- ❖ Major effects: came from destructive forceful winds, storm surge (producing inundation) and flooding from intense rainfall.
- ❖ Destruction and/or severe damage to buildings and other structures, roads, essential services, crops and the environment
- ❖ Major loss of life and livestock may occur



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Typhoon

General Counter-measures

- ❖ Effective warning arrangements
- ❖ Precautionary measures during warning period (e.g. boarding-up buildings, closing public facilities)
- ❖ Moving of people to safe shelters



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Typhoon

General Counter-measures

- ❖ General readiness and clean-up measures prior to expected cyclone season (especially to reduce risk of flying objects)
- ❖ Building regulations
- ❖ Public education and awareness



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Typhoon

Problem Areas for Management

- ❖ Assessment of effects and needs may be difficult,
- ❖ Widespread destruction or loss of counter-disaster resources
- ❖ Difficulty of access and movement for relief operations and medical assistance programs



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Typhoon

Problem Areas for Management

- ❖ Search and rescue
- ❖ Evacuation
- ❖ Widespread destruction/disruption of essential services
- ❖ Rehabilitation of agriculture (especially the crops)



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Landslide

Characteristics

- ❖ Warning period may vary.
- ❖ Speed of onset is mostly rapid
- ❖ Damage to structures and systems can be severe (buildings may be buried or villages swept away)
- ❖ Rivers may be blocked, causing flooding



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Landslide

Characteristics

- ❖ Crops may be affected.
- ❖ Landslides combined with very heavy rain and flooding may cause high levels of damage and destruction.



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Landslide

General Counter-measures

- ❖ Land-use and buildings regulations
- ❖ Monitoring systems
- ❖ Evacuation and/or relocation of communities. Relocation has proved successful where crop-growing land areas have been lost
- ❖ Public awareness programs



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Landslide

Problem Areas for Management

- ❖ Difficulties of access and movement in affected areas
- ❖ Search and rescue
- ❖ Risk of follow-up landslides may hamper response operations



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Landslide

Problem Areas for Management

- ❖ Relocation may be resisted by indigenous communities
- ❖ Rehabilitation and recovery may be complex and costly
- ❖ In severe cases, it may not be possible and/or cost-effective to rehabilitate the area for organized human settlement



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Floods

Characteristics

- ❖ Long, short or no warning, depending on type of flood
- ❖ Speed of onset may be gradual or sudden
- ❖ There may be seasonal patterns to flooding
- ❖ Major effects arise mainly from inundation and erosion.



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Floods

General Counter-measures

- ❖ Flood control (e.g. by walls, gates, dams, dykes, levees)
- ❖ Land-use regulations
- ❖ Building regulations
- ❖ Forecasting, monitoring and warning system(s)

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Floods

General Counter-measures

- ❖ Relocation of population
- ❖ Evacuation plans and arrangements
- ❖ Emergency equipment, facilities and materials, such as special floodboats, sandbags, supplies of sand
- ❖ Public awareness and education programs

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Floods

Problem Areas for Management

- ❖ Difficulties of access and movement
- ❖ Rescue
- ❖ Medical and health difficulties arising from sanitation problem
- ❖ Large-scale relief may be required until next crop harvest

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Floods

Problem Areas for Management

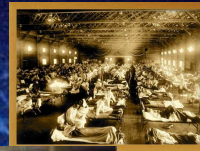
- ❖ Evacuation
- ❖ Loss of relief supplies

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Epidemic



Characteristic



- ❖ Disaster-related epidemic arises from the disrupted living conditions following disasters
- ❖ Epidemic may arise from:
 - food sources
 - malnutrition
 - water sources
 - vector-borne sources
 - inadequate medical and health facilities/standards

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Epidemic



General Counter - measures



- ❖ An effective medical and health sub-plan,
- ❖ Close post-disaster monitoring of medical and health aspects
- ❖ Reinforcement of medical resources and supplies
- ❖ Public awareness and education,

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Epidemic

Problem Areas for Management

- ❖ Loss of medical and health resources
- ❖ In-country shortage of special equipment
- ❖ Integration of outside (international) medical and health assistance with local systems
- ❖ Containment and control of common diseases

