**CC 14: DISASTER MANAGEMENT**

**UNIT 1:**

**I HAZARD**:

A hazard is any event, situation or behavior that has the **potential** to cause injury, ill health, or damage to property or the environment. Hazard can also be defined as a **potentially** damaging physical event, social and economic disruption or environmental degradation.

The severity of hazard is measured by:

* **Duration**: the longer the hazard is experienced the greater the danger. For example an earthquake lasting for a minute is more severe than one that lasts 2 seconds.
* **Magnitude**: the strength of the hazard which is measured on the Richter scale or the VEI, Volcanic Explosivity Index.
* **Predictability**: some hazards give warning signs prior to their arrival. Volcanoes can show signs of smoke prior to eruptions and tropical storms can be predicted with weather stations and forecasts.
* **Regularity**: Some hazards are regular occurrences and this makes people aware of their arrival and prepared to face the risk of damages.
* **Speed** of onset: a hazard that arrives with very little warning becomes a disaster as no one is prepared for the devastation.
* **Areal extent**: a widespread hazard will easily turn into a disaster if the area is not contained and assistance offered.

**II DISASTER**

Disaster is a serious disruption of the normal functioning of the society, cause lot of damages which exceed the ability of that community to cope with their own resources and often necessitating a request to a national or international level for external assistance.

The real disaster is evident when a hazard is part of a vulnerability situation. **When hazard and vulnerability meet the outcome is usually a disaster,**

There are some parameters in a society which make the communities and environment vulnerable. These are as follows:

* Poverty
* Population explosion
* Lack of skills and social services
* A fragile community
* Weak economy

When these vulnerable aspects of society meet any extreme events like floods, drought, volcanic eruption, earthquake, war, and economic crisis the combination leads to disaster.

According to **WHO** it is the **people** that matter the most and without the people there is no disaster.

**III CLASSIFICATION OF HAZARD AND DISASTER**

Hazard can broadly be classified into three groups. Such as:

I. **Natural hazards:**  This hazard arises from purely natural processes in the environment, e.g. such as earthquakes or floods.

II. **Quasi-natural hazards:** This hazard is the outcome of the interaction of natural processes and human activities, e.g. such as smog or desertification

III. **Technological (or man-made) hazards:** These arise directly as a result of human activities, such as the toxicity of pesticides to fauna accidental release of chemicals or radiation from a nuclear plant.

Natural hazard can again be classified into different groups based on the natural agent responsible for the occurrence of hazard. These agents are:

**Geophysical**: Events originating from solid earth

**Meteorological**: Events caused by short-lived/small to meso-scale atmospheric processes (in thespectrum from minutes to days)

**Hydrological**: Events caused by deviations in the normal water cycle and/or overflow of bodiesof water caused by wind set-up

**Climatological**: Events caused by long-lived/meso- to macro-scale processes (in the spectrumfrom intraseasonal to multi-decadal climate variability)

**Biological**: Disaster caused by the exposure of living organisms to germs and toxic substances

**Natural Disaster categories, Types, and Subtypes**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Biological | Geophysical | Hydrological | Meteorological | Climatological |
| Epidemic  -Viral infectious disease (e.g. COVID-19)  - Bacterial infectious disease(e.g. Cholera)  -Parasitic infectious disease (e.g., Malaria)  -Fungal infectious disease(e.g., Aspergillosis)  -Prion infectious disease (e.g., Chronic wasting disease) | Earthquake | Flood  -General flood  -Storm surge/coastal flood | Storm  -Tropical cyclone  -Extra-tropical cyclone  - Local storm | Extreme temperature  -Heat wave  -Cold wave- Extreme winter condition |
| Insect infestation | Volcano | Mass movement (wet)  -Rockfall  -Landslide  -Avalanche  **-**Subsidence |  | Drought/wildfire  - Forest fire  -Land fire |
| Animal stampede | Mass movement (dry)  -Rockfall  -Landslide  -Avalanche  -Subsidence |  |  |  |

*Source:* UCL, “EM-DAT: The OFDA/CRED International Disaster Database,” UCL, http://www.emdat.be.**L**p

**IV DIFFERENCE BETWEEN HAZARD AND DISASTER**

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| --- | --- |
| **HAZARD** | **DISASTER** |
| 1.A hazard is a dangerous situation or event that carries threat to human | 1.A disaster is an event that actually harms and disrupt the operation of a society |
| 2.take its full shape after a series of events, which might have led it to happen | 2.Often happens in a short time, causing more severe effect |
| 3.Hazard is an independent event, it may be or may not be associated with disaster | 3. A disaster can never be take place without the prior occurrence of hazards. |
| 4. When an extreme event does not meet with vulnerability, it remains only as hazard. | 4. When an extreme event meets with vulnerability the outcome is disaster. |
| 5. Example: If an underwater volcano explodes and human are not affected, it remains as hazard. | 5. Example: If the explosion of an underwater volcano affects nearby population by destroying food sources and property on a large scale it will become a disaster. |

**Probable Questions:**

1. What is hazard? 2
2. What is disaster? 2
3. What is quasi-natural hazard? 2
4. Classify hazard and disaster. 4
5. Differentiate between hazard and disaster. 4