**1) What is disaster?**

Ans:-A **disaster** is a **serious disruption**, occurring over a relatively **short time**, of the functioning of a community or a society involving **widespread human, material, economic or environmental loss,** and the impacts, which **exceeds the ability** of the affected community or society to cope using its **own resources**

. An event or act that has unfortunate consequences. Leading to Colossal Loss of Life, material, property and economy, environment of that area.

. A sudden accident or a natural catastrophe that causes great damage or loss of life. Severely disturbing the life of the society of that area

A calamitous event, especially one occurring suddenly and causing great loss of life, damage, or hardship, as a flood, airplane crash

a person or thing that is a complete failure. Is also called a disaster

The word disaster is derived from **Middle French** désastre and that from **Old Italian disastro**, which in turn comes from the Ancient **Greek**

Disaster is a French origin word DES-ASTRE. Is combination of two words? Des means. Bad and astre means star. I.e**. Bad star** or **evil star** In Ancient days the disasters were considered as the outcome or outburst of some unfavorable stars

**2) What disasters do?**

They pose serious threat to the normal life as well as the process of development. They strike with sudden violence tearing apart and destroying lives and structures and through apart the families

Not only the families, the society but also damage the national economy and cause hardship to a large section of the society

The impacts of the disasters are multidimensional affecting in many aspects as individual, families, domestic, social, economic and environmental

However the damage from a disaster depends on the impact, intensity and characteristics of the area and the vulnerability of that society

For example an earth quake becomes a disaster only when it causes the damage to the people and buildings.

|  |  |
| --- | --- |
| *synonms:* | catastrophe, calamity, cataclysm, tragedy, act of God, holocaust;  accident, mishap, misadventure, mischance; setback, reversal reverse of fortune  contretemps, stroke of ill luck, problem, difficulty, heavy blow, shock, buffet;  adversity, trouble, misfortune, ruin, ruination, tribulation, woe, distress;  *technical*casualty; |

**3) What are environmental hazards?**

Environmental hazards describes the results of problematic man-made interferences or involvement with the natural environment.

Environmental disasters are defined as man-made damages to the natural environment that result in disease and death of living beings; including, plants, animals and human beings. Environmental disasters can result from technical accidents, human, technological or mechanical failure or carelessness; they can be the consequence of long-term environmental pollution, such as, the greenhouse effect or the destruction of the ozone layer.

Different kinds of accidents can cause diverse harmful consequences on the prevailing environment

Eg. Nuclear disasters like Hiroshima, Nagasaki, and Chernobyl. Chemical disasters like Bhopal gas leak1984 Oil spills, mining disasters, Accidents in transportation.

**4) What are environmental disasters?**

All that are mentioned in the above answer, if they are affected causing there enormous loss the life, property, material environment that cannot be recovered by the affected community/society without the assistance from the external sources called environmental disasters

**5) Explain environmental stress?**

**Stress** is a kind of pressure either on the body or on mind and your body's way of responding to any kind of demand. Anything that goes beyond the limits of tolerance or bearing capacity may be of an individual or the environment in a particular area. Stress may not be felt as long as within the limit of that body or mind

Whatever the act, incident, event either man made or natural that causes the disturbance to the existing environment, climate, and surroundings causing pressure can be termed as environmental stress. The act /event that causes stress is stressor

Environmental stress can be with you all day, from the moment you are awake until your bedtime: noisy neighbors, traffic snarls, glaring neon, dirty streets and cluttered buildings.

There's always something there, to fray your nerves.

Stressors that are found in our surroundings are called **environmental stressors**. Extreme temperatures are also environmental stressors and can lead to discomfort. Other common environmental stressors include:

* Noises
* Crowding
* Air quality
* Colors
* Tornadoes and other natural disasters
* War and other manmade disasters
* Light
* Insects

Any act or incident or substance whether natural or man induced causes imbalance in the existing composition of the bio diversity in the prevailing environment can be described as environmental stress) Examples are everywhere of environmental stress factors. Here are a few:

* Overcrowding we pack into overcrowded streets, homes and workplaces, in noisy and congested neighborhoods. Often there is insufficient open and green space in which to unwind and 'renew'

Poor air quality we breathe air contaminated with hidden pollutants at home, at work and in the traffic. Our respiratory, immune and other body systems labor at eliminating these foreign objects, which harm our health and reduce our resistance to stress

lack of privacy At home in cramped apartments and at work in our 'open plan' offices, we suffer from lack of privacy due to insufficient 'personal space'

Commuting stress we lose time, patience and good humor commuting between home and work in crowded and noisy trains and buses, or bumper-to-bumper in the car

Poor ergonomics many of us are constantly irritated with backaches and other 'structural' problems from badly designed chairs and beds

Distractions we get frustrated and annoyed when thoughtless gossiping colleagues waste our time while we are trying to get something done

Noise Noisy TVs, radios, kids or lawnmowers can be distressing when you feel in need of some quiet time

Poor lighting Inadequate lights for reading or or working strain our eyes and drain our energy; poorly lit streets worry us walking home after dark

Clutter it is hard to concentrate, work or relax in cluttered and disorganized living and working spaces. Your mind, like a mirror, reflects on the inside that which is on the outside; a cluttered environment clutters the mind - objects distract us with their subconscious reminders of unfinished tasks or unpleasant associations security

**5) Mention different approaches?**

**Land scape approach: -** methods and processes that are to be followed to achieve food and climate change mitigation and adaptation goals without compromising environment. Combining the agriculture, forestry, tourism and other land uses in a synergic ways. Human wellbeing and their needs are placed at the center of the land use decision making process Combines natural resource management with environmental and livelihood considerations

**Ecosystem approach:-** The **ecosystem approach** is a conceptual framework for resolving ecosystem issues. The idea is to protect and manage the environment through the use of scientific reasoning. Another point of the ecosystem approach is preserving the Earth and its inhabitants from potential harm or permanent damage to the planet itself

An eco system comprises of all the non-living elements and living species in a specified local environment. Components of sunlight, soil, plants, Micro organism, insects and animals.

Eco system approach is a “proposed means” to DRR (Disaster Risk Reduction).It is intended to provide an over view to DRR. It is a natural Resource management.

Eco system approach for Disaster Risk Reduction incorporates various phases of Disaster recovery. It is a Conceptual frame work for resolving Eco system issues

The idea is to protect and manage the environment through the use of scientific reasoning

Eco system approach also is to preserve the earth and its inhabitants from potential harm or permanent damage to the eco system and the planet as well

As the eco system approach involves humans, economy and the ecology. Also to find solution *to any* given problem onDisaster Management. The ESA has been aimed at in managing water .land and all living organism, and prevailing natural phenomena on the earth.

This is possible as the ecosystem approach incorporates humans, the economy, and ecology to the solution of any given problem. The ecosystem approach as using various methodologies for solving complex issues. The Convention on Biological Diversity has seen ecosystem-based management as a supporting topic/concept for the ecosystem approach for sustainable development.

Wherever ecosystems have been undermined, the ability to adapt and regenerate has been severely eroded. ). In many locations, environmental degradation such as land clearing, coastal erosion, overfishing, and coral mining has reduced the potential for economic recovery from the tsunami because of the loss of traditional income sources related to coastal ecosystems rich in biodiversity and ecological functions

**6) Differentiate Magma and lava** Magma erupting from a volcano is called “lava” and is the material which builds up the cone surrounding the vent. ("Lava" when it comes onto the surface, molten rock and other materials with in the earth is called "magma" when it's underground. When the pressure builds up inside due to geographical processes it erupts and causes volcano eruption

**7) What is a volcano?** A volcano is an opening on the surface of a planet or moon that allows material warmer/hotter than its surroundings to escape from its interior.

. **Volcano** is a rupture in the crust of a planetary-mass object, such as Earth, that allows hot lava.... reach the surface, a **volcano** is formed. Typical **examples** of this kind of **volcano** are Mount Etna and the **volcanoes** in the Pacific Ring of Fire

## A volcano is a vent or chimney which transfers molten rock known as magma from depth to the Earth's surface The word 'volcano' comes from the little island of Vulcano in the Mediterranean Sea off Sicily. Centuries ago, the people living in this area believed that Vulcano was the chimney of the forge of Vulcan - the blacksmith of the Roman gods. tymology. The word volcano is derived from the name of Vulcano, a volcanic island in the Aeolian Islands of Italy whose name in turn comes from Vulcan, the god of fire in Roman mythology. The study of volcanoes is called volcanology, sometimes spelled vulcanology.

**What is an earthquake?**

An earth quake is shaking of earth surface causing disturbance to anything that is attached to the surface of the earth. Also called quakes or tremors

[**Earthquake**](http://en.wikipedia.org/wiki/Earthquake)is a perceptible vibration of the surface of the earth. The crust of the earth, the lithosphere, is a patchwork of continental plates that slowly and constantly move in diverse directions, shoving against one another.

When the tensions in the plates, deriving from the movement and shoving, exceed the strength of the crust, an earthquake occurs. These “tectonic” earthquakes are the most frequent and strongest, but they can also derive from volcanic eruptions or mining activities.

Earthquakes and volcanic eruptions can also trigger other disasters such as, tsunamis,

Earth quakes are caused by sudden release of strain/energy accumulated during long processes in the interior of the earth due to relative motion of Tectonic plate of the earth crust

Earth quakes is considered to be one of the most destructive and disasters natural hazards. About 50 to 60 percent of India is vulnerable to seismic activity of varying intensities .Most of the vulnerable areas are located in the Himalayan and Sub Himalayan regions

India has witnessed some of the most devastating earthquakes during the last century like

the one in Kangra (1905), Bihar-Nepal (1934) and in Assam (1950). In the recent past,

Earthquakes have caused havoc in Uttarkashi (1991), Latur (1993), Jabalpur (1997),

Chamoli (1999) and in Bhuj (2001).

The Medvedev–Sponheuer–Karnik scale is somewhat similar to the Modified Mercalli (MM) scale used in the United States. The MSK scale has 12 intensity degrees expressed in Roman numerals (to prevent the use of decimals):

I**. Not perceptible**      Not felt, registered only by seismographs. No effect on objects. No damage to buildings.

**II. Hardly perceptible**            Felt only by individuals at rest. No effect on objects. No damage to buildings.

**III. Weak**   Felt indoors by a few. Hanging objects swing slightly. No damage to buildings.

**IV. Largely observed**            Felt indoors by many and felt outdoors only by very few. A few people are awakened. Moderate vibration. Observers feel a slight trembling or swaying of the building, room, bed, chair etc. China, glasses, windows and doors rattle. Hanging objects swing. Light furniture shakes visibly in a few cases. No damage to buildings.

**V. Fairly strong**         Felt indoors by most, outdoors by few. A few people are frightened and run outdoors. Many sleeping people awake. Observers feel a strong shaking or rocking of the whole building, room or furniture. Hanging objects swing considerably. China and glasses clatter together. Doors and windows swing open or shut. In a few cases window panes break. Liquids oscillate and may spill from fully filled containers. Animals indoors may become uneasy. Slight damage to a few poorly constructed buildings.

**VI. Strong**      Felt by most indoors and by many outdoors. A few persons lose their balance. Many people are frightened and run outdoors. Small objects may fall and furniture may be shifted. Dishes and glassware may break. Farm animals may be frightened. Visible damage to masonry structures, cracks in plaster. Isolated cracks on the ground.

Serious damage to older buildings, masonry chimneys collapse. Small landslides.

**VII. Very strong**         Most people are frightened and try to run outdoors. Furniture is shifted and may be overturned. Objects fall from shelves. Water splashes from containers

**VIII. Damaging**         Many people find it difficult to stand, even outdoors. Furniture may be overturned. Waves may be seen on very soft ground. Older structures partially collapse o r sustain considerable damage. Large cracks and fissures opening up, rockfalls.

**IX. Destructive**          General panic. People may be forcibly thrown to the ground. Waves are seen on soft ground. Substandard structures collapse. Substantial damage to well-constructed structures. Underground pipelines ruptured. Ground fracturing, widespread landslides.

X. **Devastating**  Masonry buildings destroyed, infrastructure crippled. Massive landslides. Water bodies may be overtopped, causing flooding of the surrounding areas and formation of new water bodies.

**XI. Catastrophic**        Most buildings and structures collapse. Widespread ground disturbances, tsunamis. buildings, masonry chimneys collapse. Small landslides.

**XII. Very catastrophic**          All surface and underground structures completely destroyed. Landscape generally changed, rivers change paths, tsunamis.

**What are endogenous hazards? give examples**

Processes that are caused by forces from within the Earth are called endogenous hazards or endogenous processes.

Endo is a prefix meaning "in, genus means generating, producing or yielding

There are three main endogenous processes: folding, faulting and volcanism “while Exo is a prefix meaning "out".

The earth is shaped by many different geological processes

The forces that cause these processes come from both above and beneath the earth surface

Processes that are caused by forces by from within the earth are endogenous

In other way exogenous forces come from on or above the earth‘s surface.

There are three main endogenous processes. Folding, faulting and volcanism

They take place mainly along the plate boundaries .These zones lay on the edges of the plates

Endogen is a geologic term describing internal processes of the earth, such as, the operation of plate tectonics. Tectonic disasters therefore, relate to the psame phenomena, referring to disasters that occur due to the tectonic activities of the continental plates, which (result) manifest themselves in earth quakes and volcanic eruptions

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Earthquakes and volcanic eruptions can also trigger other disasters such as, tsunamis,

**What are exogenous hazards mention them**

Exo means is a prefix to the meaning of out or external

 Exogenous processes come from forces on or above the Earth's surface.exo genous also include the extra terrestrial hazards

Exo genus forces are the results of actions of other bodies in the space

Eg; Moon causes tides in the earth’s oceans ant other large water bodies

Impacts from the comets and meteors can cause the change the surface o0f the earth .They create crates i.e., holes which can be as big as one KM radius

Radiation fropm the sun can cause “AURAE” which are actually lights that can be seen at nights

There are o0ther exogenou8s hazards that are not the result actions other bodies

They are Soil Erosion that is caused by the action of wind, water, human activities animals, digging torrential rainfall causing floods heavy, snow fall , hail storm avalanches winds cyclones

Drought

Climate changes resulting in sea level raising and oceans becoming warmer.

Longer and more inmtense drought resulting threat to crops and vegetation, wild life fresh water supplies

in all our planet is at risk from the change of climate change.it is posing a threat to the places. Species and people their livelihood and all th4e living stock on the planet

Remedial measures /preventive measures

To address this crisis adequately we must immediately reduce the carbon pollution which is cause for Global worming Human activities are the main reason for the Global warming

**DIFFERENCE BETWEEN NATURAL DISASTERS AND NATURAL HAZARDS;**

**NATURAL HAZARDS;**

Natural Hazards are geographical events or incidents that occur naturally. There are three routes/ways from these natural events occur. First from within the earth, such as Earth quakes, volcanoes and Tsunamis .The second is from the surface such as floods. Forest fires the third from the above the earth i.e. heavy rains leading to floods cyclones and tropical cyclones, snow storms, avalanches, droughts leading to famine; these are all called Natural hazards.

**NATURAL DISASTERS**

All these natural hazards, or any one of them if occurs and that leads to significant loss of human life, property or the environment can be termed as disasters, provided that the loss cannot be overcome or cop up by the affected community with in its own sources.

India is one of the most vulnerable countries to the natural disasters in the world, because of the geographical location and the origin of the sub continent. The past records of such events prove this fact.

**Some facts**

**1)** 85% of population of India is vulnerable to Natural hazard

2)68% of p[population is vulnerable to Draught

3) 57% is vulnerable to Earth quakes and

4) 12% is vulnerable to floods every year

**2) mention Manmade Disasters?**

**Disasters are as old as human history but the dramatic increase and the damage caused** by them in the recent past have become a cause of national and international concern. Over the past decade, the number of natural and manmade disasters has climbed inexorably. From 1994 to 1998, reported disasters average was 428 per year but from 1999 to 2003, this figure went up to an average of 707 disaster events per year showing an increase of about 60 per cent over the previous years. The biggest rise was in countries of low human development, which suffered an increase of 142 per cent`

The main cause for the increase of disasters is the human activities. Ignorance, illiteracy selfishness and not conscious about nature, environment and the ecosystem manmade disasters also called anthropogenic hazards and disasters’

Any actions or inactions by human that is likely to cause huge loss of life, enormous loss of material/property economy and damage to the environment called anthropogenic Hazards. Or man made

Human interacting, interfering or interfacing with the natural processes that may affect adversely the humans, other living organisms ,biomes and ecosystem and resulting in disasters is called Anthropogenic hazards.

Following are the examples of anthropogenic hazards

!) Societal Hazards:-.

a) Criminality b) Civil Disorder c) Terrorism d) Wars e) Industrial hazards f) Engineering hazards g) Waste disposal h) fire.

2) Hazardous materials:-

a)Toxic materials b) Chemicals c) radioactive materials d)Oregano halogens.

3) Transportation:-

Aviation accidents, Road accidents, Railway accidents Space activities and sea travels,

4) Environmental:-

Deforestation, Petroleum and gas leakage, air pollution, sound pollution and water pollution and indiscriminate usage of natural resources

**What is environment?**

The entire surroundings that encompasses all the Non- living matters, living species occurring naturally and existing (that is here meaning is not artificial). The environment comprises the interaction of all living species, climate, weather and natural resources that affect human survival and economic activity. The concept of the natural environment can be distinguished as components

Complete ecological units that function as natural system without massive civilized human intervention including all the vegetation, microorganiosm, soil, rocks, atrmosphere and natural phenomena that occur within their boundaries and within their nature

Environment also include universal natural resources and physical phenomena that lack cut boundaries such as air, water, and climate as well as energy ,radiation ,electric charge ,and magnetism that are not originating from civilized human activity. **1).**

Define natural hazards and disasters?

Any natural event or incident that is caused by natural processes of the earth can be catastrophic and likely to cause or pose threat to the life, property economy and the environment of that area is called the natural hazards. For example volcanic eruptions earth quakes, floods, cyclones, Tsunamis, etc.

All the disasters that are resulting from any one or all of the natural hazards causing enormous loss of life, material property ,economy and damage to environment of that area is called the natural disasters.

The loss due to the disasters is so much that it will be beyond the capacity of that affected community or society to cope up or recover without the assistance from external sources. The natural disasters include floods, cyclones, Tsunamies and other geographical processes like cold winds, hot waves storms, Tornadoes, Hurricanes Typhoons droughts etc.

“All the natural hazards If exposed and cause loss to life, property/material ,economy and the environment of the area will result in to natural disasters.

**Q:** “**Which regions are prone to Tsunamis and how to prevent its impact?**

**Ans:** Every coastal area and river estuary is potentially threatened by tsunamis, but they are most likely to happen on shores facing directly a mega thrust. Scientists estimate that almost three quarter of the world tsunamis occur in the Pacific Ocean, where the mega thrusts ([**sub duct ion zones**](http://www.earthobservatory.sg/faq-on-earth-sciences/why-do-tectonic-plates-move)) are so common (Aleutian Islands, Alaska, Chile, Philippines, Japan etc).

A tsunami, which means “harbor wave” in Japanese, occurs when the aggressive movement of two tectonic plates under the ocean results in a dramatic displacement of water, causing huge waves. And while this water displacement can also occur from a landslide, meteor impact, volcanic eruption, or even a glacial carving, those causes are much less likely. Another sign to look out for that might signify an impending tsunami is the rapid withdrawal of coastal water. “If you see any unusual wave activity or water going far out, that is an immediate sign that a tsunami is on the way,

**A physical event, phenomenon or activity that has the potentially to cause the loss of life or injury, property damage, social and economic disruption or environmental degradation e.g. earthquake, flood, drought, tsunami, cyclone etc.**

**. Volcanoes can evolve at the collision lines of the continental plates, oceanic trenches, on mid-ocean ridges and at so called hot spots – irregular formations in the crust underneath the continental plates. Volcanic eruption material can be solid, liquid or gaseous.**

**Volcanoes that erupt extremely hot, pure, liquid lava. As it flows with great speed (60 km/h), it leaves a large area covered with a huge flat shield**

**.**

**A Lehar is a gigantic mudflow caused by a volcanic outburst, consisting of mixture of erupted material, loose soil and water, that can be extremely dangerous, covering large areas with a height of some meters and a possible breadth of more than a hundred meters, running with a speed of up to 100 km/h.**