Introduction to DISASTER

"A disaster is a natural or man-made event that negatively affects life, property, livelihood or industry often resulting in permanent changes to human societies, ecosystems and environment."

As the definition suggests, disasters are highly disruptive events that cause suffering, deprivation, hardship, injury and even death, as a result of direct injury, disease, the interruption of commerce and business, and the partial or total destruction of critical infrastructure such as homes, hospitals, and other building, roads, bridges, power lines, etc. Disasters can be caused by naturally occurring events, such as earthquakes, hurricanes, flooding, or tornadoes, or they can be due to man-made events, either accidental (such as an accidental toxic spill or nuclear power plant event), or deliberately caused (such as various terrorist bombings and poisonings.)

Certain types of natural disaster are more likely to occur in particular parts of the world. For instance, area near coastline, lakes or rivers are more likely to experience flooding problems than are land-locked areas. However, most every place you could live is prone to one type of natural disaster or another. No place is absolutely safe from natural disaster. And, of course it goes without

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saying, that no place is safe from the threat of terrorism and other man-made disaster events.

It may be impossible to avoid disasters, but it isn't impossible to plan ahead of time so as to minimize the impact that any given disaster might have on you or your family's health, safety and property. These are steps you can take ahead of time, including, purchasing the proper types of insurance, preparing a disaster kit and supplies, making a disaster plan and rehearsing it with your family, and staying informed so that you can do your best to get out of the way of predictable dangerous occurrences, than can help you, your family, and your property stay as safe as possible

DISASTERS MANAGEMENT

The body of policy and administrative decisions and operational activities that pertain to various stages of a disaster at all levels.

An applied science which seeks, by systemic observation and analysis, to improve measures relating to prevention, emergency response, recovery and mitigation.

Encompasses all aspects of planning for, and responding to disasters, including both pre and post disaster activities. A continuous and integrated process of planning organizing, coordinating and implementing measures which are necessary or expedient for -

- Prevention of danger or threat of any disaster.
- Reduction of risk of any disaster of its severity or consequences.
- Capacity-building.
- Preparedness to deal with any disaster.
- Prompt response to any threatening disaster situation or disaster.
- Assessing the severity or magnitude of effects of any disaster.
- Evacuation, rescue and relief, Rehabilitation and reconstruction.

Topic

NATURAL DISASTER

A natural disaster is a major adverse event resulting from natural processes of the Earth; examples include floods, hurricanes, tornadoes, volcanic eruptions, earthquakes, tsunamis, storms, and other geologic processes. A natural disaster can cause loss of life or damage property, and typically leaves some economic damage in its wake the severity of which depends on the affected population's resilience and on the infrastructure available. An adverse event will not rise to the level of a disaster if it occurs in an area without vulnerable population. In a vulnerable area, however, such as Nepal during the 2015 earthquake, an adverse event can have disastrous consequences and leave lasting damage, which can take years to repair.

GEOLOGICAL DISASTERS

AVALANCHES AND LANDSLIDES

A landslide is described as an outward and downward slope movement of an abundance of slope movement of

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an abundance of slope-forming materials including rock, soil, artificial materials, or a combination of these. During World War I, an estimated 40,000 to 80,000 soldiers died as a result of avalanches during the mountain campaign in the Alps at the Austrian-Italian. Many of the avalanches wer caused by artillery fire.

EARTHQUAKES

An earthquake is the result of a sudden release of energy in the Earth's crust that creates seismic waves. At the Earth's surface, earthquakes manifest themselves by vibration, shaking, and sometimes displacement of the ground. Earthquakes are caused by slippage within geological faults. The underground point of origin of the earthquake is called the seismic focus. The point directly above the focus on the surface is called the epicenter. Earthquakes by themselves rarely kill people or wildlife - it is usually the secondary events that they trigger, such as building collapse, fires, tsunamis and volcanic eruptions, that caused deaths. Many of these can possibly be avoided by better construction, safety systems, early warning and planning.

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SINKHOLES

When natural erosion, human mining or underground excavation makes the ground too weak to support the structures built on it, the ground can collapse and produce a sinkhole. For example, the 2010 Guatemala City sinkhole, which killed fifteen people, was caused when heavy rain from Tropical Storm Agatha, diverted by leaking pipes into a pumice bedrock, led to the sudden collapse of the ground beneath a factory building.

VOLCANIC ERUPTIONS

Volcanoes can cause widespread destruction and consequent disaster in several ways. One hazards is the volcanic eruption itself, with the force of the explosion and falling rocks able to cause harm. Lava may also be released during the eruption of a volcano; as it leaves the volcano, it can destroy buildings, plants and animals due to its extreme heat. In addition, volcanic ash may form a cloud (generally after cooling) and settle thickly in nearby locations. When mixed with water, this forms a concrete-like material. In sufficient quantities, ash may cause roofs to collapse under its weight. Even small quantities will harm humans if inhaled - it has the consistency of ground glass and therefore causes laceration to the throat and

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lungs. Volcanic ash can also cause abrasion damage to moving machinery such as engines. The main killer of humans in the immediate surrounding of volcanic eruption is pyroclastic flows, consisting of a cloud of hot ash which builds up in the air above the volcano and rushes down the slopes when the eruption no longer supports the lifting of the gases. It is believed that Pompeii was destroyed by a pyroclastic flow. A lahar is a volcanic mudflow or landslide. The 1953 Tangjiwai disaster was caused by a lahar, as was the 1985 Armero tragedy in which the town of Armero was buried and an estimated 23,000 people were killed.

HYDROLOGICAL DISASTERS

A hydrological disaster is a violent, sudden and destructive change either in the quality of Earth's water or in the distribution or movement of water on land below the surface or in the atmosphere.

FLOODS

A flood is an overflow of water that 'submerges' land. The EU Floods Directive defines a flood as a temporary

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covering of land that is usually dry with water. In the sense of 'flowing water', the word may also be applied to the inflow of the tides. Flooding may result from the volume of a body of water, such as a river or lake, becoming higher than usual ~~boundaries~~ boundaries. While the size of a lake or other body of water will vary with seasonal changes in precipitation and snow melt, a flood is not considered significant unless the water covers land used by humans, such as a village, city or other inhabited area, roads or expanses of farmland.

TSUNAMI

A tsunamic (plural: tsunamis or tsunami; "harbour wave"), also know as a seismic sea wave or tidal wave, is a series of waves in a water body caused by the displacement of a larger volume of water, generally in an ocean or a large lake. Tsunami can be caused by undersea earthquakes such as the 2004 Boxing Day tsunami, or by landslides such as the one in 1958 at Lituya Bay, Alaska, or by volcanic eruption such as the ancient eruption of Santorini. On March 11, 2011, a tsunami occurred near Fukushima, Japan and spread through the Pacific Ocean.

Meteorological DISASTERS

TROPICAL CYCLONE

Typhoon, cyclone, cyclonic storm and hurricane are different names for the same phenomenon: a tropical storm that forms over an ocean. It is characterized by strong winds, heavy rainfall and thunderstorms. The determining factors on which term is used is based on where the storm originates. In the Atlantic and Northeast Pacific, the term "hurricane" is used; in the Northwest Pacific, it is referred to as a "typhoon"; a "cyclone" occurs in the South Pacific and Indian Ocean.

DROUGHTS

Drought is the unusual dryness of soil caused by levels of rainfall significantly below average over a prolonged period. Hot and dry winds, shortage of water, high temperatures and consequent evaporation of moisture from the ground can also contributed to conditions of drought. Droughts result in crop failure and shortages of water.

Well-known historical droughts include the 1997-2009 Millennium Drought in Australia which led to a

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water supply crisis across much of the country. As a result, many desalination plants were built for the first time (Kwinana plant in Perth, Kurnell Desalination Plant in Sydney, etc.). In 2011, the state of Texas lived under a drought emergency declaration for the entire calendar year and suffered severe economic losses. The drought caused the Bastrop fires.

THUNDERSTORMS

Severe storms, dust clouds and volcanic eruptions can generate lightning. Apart from the damage typically associated with storms, such as winds, hail and flooding, the lightning itself can damage buildings, ignite fires and kill by direct contact. Especially deadly lightning incidents include a 2007 strike in Ushari Dara, a remote mountain village in north-western Pakistan, that killed 30 people; the crash of LANSA flight 508 which killed 91 people; and a fuel explosion in 1994 which killed 469 people. Most deaths from lightning occur in the poorer countries of the Americas and Asia, where lightning is common and adobe mud brick housing provides little protection.

TORNADOES

A tornado is a violent and dangerous rotating column of air that is in contact with both the surface of the Earth and a cumulonimbus cloud, or, in rare cases, the base of

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a cumulus cloud. It is also referred to as a twister or a cyclone, although the world cyclone is used in meteorology in a wider sense to refer to any closed low pressure circulation. Tornadoes come in many shapes and sizes but typically take the form of a visible condensation funnel, the narrow end of which touches the Earth and is often encircled by a cloud of debris and dust. Most tornadoes have wind speeds of less than 110 miles per hour (177 Km/h), are approximately 250 feet (80m) across, and travel a few miles (several kilometers) before dissipating. The most extreme tornadoes can attain wind speeds of more than 300 mph (480 km/h), stretch more than two miles (3km) across, and stay on the ground for dozens of miles (perhaps more than 100 km).

WILDLIFIRES

Wildfires are large fire which often start in wildland areas. Common causes include lightning and drought but wildfires may also be started by human negligence or arson. They can spread to populated areas and thus the be a threate to humans and property, as well as wildlife. Notable ~~wildlifire~~ wildfires include the 1871 Peshtigo fire in the United States, which killed at least 1700 people, and the 2009 Victorian bushfires in Australia.

There were more natural disasters like "Space disasters such as airburst, Solar flare etc.

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MAN-MADE DISASTERS

- A man-made disasters is a disaster resulting from human intent, negligence, or error.

- Man Made disasters can be both intentional and unintentional. It results in huge loss of life and property. It further affects a person's mental, physical and social well-being.

There are multiple factor that may relate to manmade disasters

- Ignorance
- Unawarness
- Illiteracy
- Carelessly handling danger
- Chemical
- Weapons

TYPES OF MAN-MADE DISASTERS

NUCLEAR DISASTER

Nuclear disaster are the types of disaster that falls in this category is nuclear bomb. When this occurs, it is often as a result of intent and the end results are even more catastrophic

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with a large percentage of those involved losing their lives. Some serious nuclear accidents have been few and far between - but their stories will prevent future catastrophes.

- Fukushima Daiichi.
- Chernobly.
- Three Mile Island.
- Enrico fermi Unit 1.
- SL-1.
- Sodium Reactor Experiment
- Windscale.

CHEMICAL DISASTERS/INDUSTRIAL DISASTERS

By their nature, the manufacture, storage, and transport of chemicals are accidents waiting to happen. Chemicals can be toxic, and they may react, often explosively. The impacts of chemical accidents can be deadly, for both human being - environment. OPPAU, Germany, Texas city, Jilin city are one of the major chemical disasters worldwide.

FIRE DISASTERS

Bush fire, forest fires, and mine fires are generally started by lightning, but also by human negligence or arson. They can burn thousands of square kilometers.

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DEFORESTATION

Forest is an important source for satisfying people's demands and needs. Thus, undoubtedly people would try to exploit forest resources. This process of exploiting forest is called deforestation.

ROAD ACCIDENTS

Accidents are the most common cause of death. Accidents happen, even to people who are careful, but may accidents were avoidable?. Yes, It is possible to avoid if simple precautions are taken. The number of cars on the road is continually increasing. Roads are generally safer than they were, with the exception of occasional poor design, poor maintenance and speed bumps, which may damage tyres / steering / suspension and may contribute to accidents, particularly for motor cyclists. Cars are much safer for occupants with seat belts, air bags, advanced breaking systems, electronic stability control and published crash rating. However, safety for ~~for~~ pedestrians still lags behind.

Man-made disasters are also :-

- Budding and Bridge Collaps
- Terrorist attack, etc.

DISASTER MANAGEMENT CYCLE

Disaster management aims to reduce, or avoid, the potential losses from hazards, assure prompt and appropriate assistance to victims of disaster, and achieve rapid and effective recovery. The Disaster management cycle illustrates the ongoing process by which governments, business, and civil society plan for and reduce the impact of disasters, react during and immediately following a disaster, and take steps to recover after a disaster has occurred. Appropriate actions at all points in the cycle lead to greater preparedness, better warnings, reduced vulnerability or the prevention of disasters during the next iteration of the cycle. The complete disaster management cycle includes the shaping of public policies and plans that either modify the causes of disasters or mitigate their effects on people, property, and infrastructure.

The mitigation and preparedness phases occur as disaster management improvements are made in anticipation of a disaster event. Developmental considerations play a key role in contributing to the mitigation and preparation of a community to effectively confront a disaster. As a disaster occurs, disaster management actors, in particular humanitarian organizations, become involved in the immediate response and long-term recovery phases. The four disaster management phases of the cycle overlap and the length of each

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phase greatly depends on the severity of the disaster.

- Mitigation - Minimizing the effects of disaster. examples: building codes and zoning; vulnerability analyses; public education.

- Preparedness - Planning how to respond. Examples: preparedness plans; emergency exercises / training; warning systems.

- Response - Efforts to minimize the hazards created by a disaster. Examples: search and rescue; emergency relief.

- Recovery - Returning the community to normal. Examples: temparary housing; grants; medical care.

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MITIGATION STRATEGIES

The development of mitigation strategies should flow from the risk management process with clear links to functional lead agencies, as identified in the SDMP, to ensure each risk and strategy is coordinated and managed by the responsible agency.

Prevention and mitigation strategies should be based on the risk assessment and can be considered in relation to :

Land use planning and building codes, essential infrastructure, structural works, landscape and environment.

Examples of mitigation straties include :

- hazard specific control activities such as flood levees or bushfire mitigation strategies.
- design improvements to infrastructure or services.
- land use planning and design decisions that avoid developments and community infrastructure in areas prone to hazards
- community awareness campaigns to increase knowledge of how to prepare for disaster events.
- community education programs to build knowledge of the appropriate actions to prepare for and respond to a disaster event.

- Capital works such as levees bank construction to reduce the impacts of flooding.

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CONCLUSION

I like to conclude that disaster management project for common human indused disaster is that :- here in project we have learned that we are also responsible for protection of our environment and please don't threaten the government by misusing environment properties it will lead to human made disaster and we are only responsible for that.

From this project, I was able to understand more about disaster management or the red cross they tell us what to do before, during, and after the disaster.