UNDERSTANDING BASIC TERMS IN DISASTER MANAGEMENT

1. HAZARD:

- All disasters are related to a specific hazard or combinations of hazards whether of a natural phenomenon or a result of human actions.
- The hazard is a term used to describe any source of potential damage, harm or adverse effects on something or someone under certain conditions.
- United Nations Office for Disaster Risk Reduction (2017) defines a hazard as a process, phenomenon or human activity that may cause loss of life, injury or other health impacts, property damage, social and economic disruption or environmental degradation.
- A hazard is a dangerous situation or event that carries a threat to humans.
- A dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage (UNISDR, 2009).
- Hazards can be single, sequential or combined in their origin and effects. Each hazard is characterized by its location, intensity, probability and likely frequency.
- Typical examples of hazards can be the absence of rain (leading to drought) or the abundance thereof (leading to flooding). Chemical manufacturing plants near settlements can also be regarded as hazardous; similarly, incorrect agricultural techniques will in the long run lead to possible disasters.
- In some countries, hazard areas outline the geographic extent of floods that have a 100 year period of possible return. Any people, assets, infrastructure, and ecosystems located inside the area are all exposed to potential damage

from floods. The degree of potential damage is then characterized by the area's vulnerability.

2. DISASTER:

- A serious disruption of the functioning of a community or a society
- causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope using its own resources.
- Perez and Thompson define a disaster as: “the occurrence of widespread, severe damage, injury, or loss of life or property, with which the community cannot cope, and during which the affected society undergoes severe disruption.”

3. Hazard vs Disaster:

- A hazard is potentially damaging physical event, phenomenon or human activity. On the other hand, a disaster is an event that actually harms humans and disrupts the operations of society.
- A massive earthquake in an unpopulated area (e.g. the Sahara Desert) is a

natural phenomenon. Once the consequences (a possible hazardous situation) of this natural phenomenon come into contact with human beings it becomes a natural hazard. If this natural hazard (due to the unplanned or poorly planned activities of the human beings), affects them so that they are unable to cope, the situation becomes a disaster.

- Like disasters the hazards may be natural, anthropogenic or socio-natural in origin
- The hazards such as earthquakes, floods, viruses, bacteria, chemical weapons, toxic wastes, explosives etc. can become disasters as all may potentially cause harm to human lives, damage property and environment.

4. RISK:

- Risk generally described in terms of probability, i.e., the probability of a loss.[1]
- The word "risk" has two distinctive meanings:
  - in popular usage the emphasis is usually placed on the concept of chance or possibility, such as in "the risk of an accident";
  - whereas in technical settings the emphasis is usually placed on the consequences, in terms of "potential losses" for some particular cause, place and period.
- Risk (or more specifically, disaster risk) is the potential disaster losses (in terms of lives, health status, livelihoods, assets and services) which could occur to a particular community or a society over some specified future time period.
- For example, the probability of an earthquake occurring in the northern Europe is quite low compared to such a hazard in California or Turkey.
- Risk depends on three elements: Hazard, Vulnerability and Exposure
- Pre-disaster management is called **Risk Management.**

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[1] A risk is the chance or probability that you will be harmed or injured if exposed to a hazard (like earthquake, epidemic)

5. VULNERABILITY :

- The quality of being vulnerable (= able to be easily hurt, influenced, or attacked) (Cambridge Dictionary)
- Weaknesses, constraints or problems present in the community which hinder it from preparing for and protecting itself from incurring damage and loss.
- The inability to resist a hazard or to respond when a disaster has occurred.
- The characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard.
- The conditions determined by physical, social, economic and environmental factors or processes which increase the susceptibility of an individual, a community, assets or systems to the impacts of hazards.
- A set of prevailing conditions which adversely affect the community's ability to prevent, mitigate, prepare for or respond to a hazard.
- Absence of coping strategies is also a part of vulnerability
- Vulnerability is multi-dimensional in its nature; physical, social, economic, and environmental.

Physical Vulnerability

- Physical vulnerability refers to the susceptibility of individuals, households and communities to loss due to the physical environment in which they find themselves.
- The lack of proper planning and implementation in construction of residential and commercial buildings results in buildings that are weaker and vulnerable in earthquakes, floods, landslides and other hazards. Example: Wooden homes are less likely to collapse in an earthquake, but are more vulnerable to fire.

- Physical vulnerability also includes the difficulty in access to water resources, means of communications, hospitals, police stations, fire brigades, roads, bridges and exits of a building or/an area, in case of disasters.

Social Vulnerability:

- ✓ The level of social well-being of individuals, households and communities directly impacts on their level of vulnerability to hazards.[2]
- ✓ A socially vulnerable community has poverty and inequality, ignorance, lack of leadership for decision making and conflict resolution, unequal participation in decision making, weak or no community organizations, and the discrimination (racial, ethnic, linguistic or religious).
- ✓ Social vulnerability to disasters is greatest among the poorest people in developing countries because of lack of information, awareness and resources with which to take the appropriate measures. Within this group, children, women and the elderly are considered to be the most vulnerable.

Economic Vulnerability:

- ✓ The level of vulnerability is highly dependent upon the economic status of individuals, communities and nations. The poor are usually more vulnerable to disasters because they lack the resources to live in safer (more expensive) areas and hence forced to live on hills that are prone to landslides, or they may settle near rivers and become more vulnerable to floods.[3]

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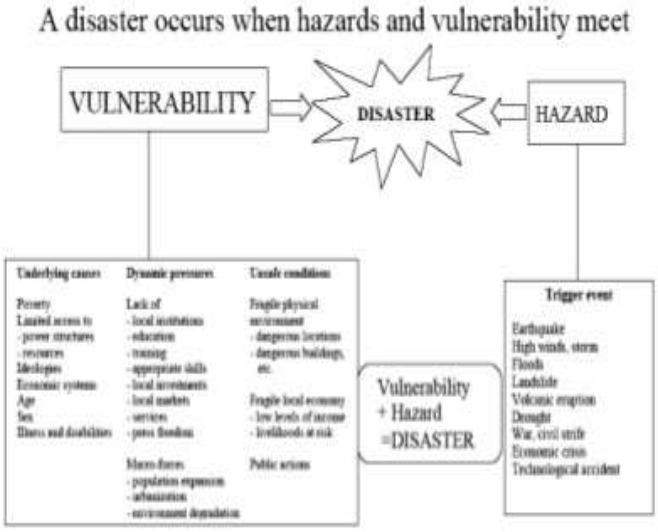
[2] Levels of education, literacy and training, safety and security, strong cultural beliefs and traditional values, morality, good governance and a well-organized cohesive civil society, all contribute to social wellbeing.

[3] The economic status of the population relates not only to the degree of losses in terms of lives, property and infrastructure but also to the capacity to cope with and recover from adverse effects. Those who are economically strong either survive the impact of a disaster without suffering any adverse effects or are able to recover quickly.

Environmental Vulnerability. Natural resource depletion and resource degradation are key aspects of environmental vulnerability. Deforestation leads to rapid rain run-off, which contributes to flooding.



Relationship of vulnerability, hazard and disaster
Source: WHO/EHA, 2002

6. CAPACITY: [4]

- A combination of all the strengths and resources available within a community, society or organization that can reduce the level of risk, or the effects of a disaster.
- Capacity can be defined as "resources, means and strengths which exist in households and communities and which enable them to cope with, withstand, prepare for, prevent, mitigate or quickly recover from a disaster".

7. COPING CAPACITY:

- Coping is a capacity, a capacity to RESPOND and to RECOVER from
    - something stressful: e.g. a disaster.
- The ability of people, organizations and systems, using available skills and resources, to manage adverse conditions; hazards or disasters.
- The means by which people or organizations use available resources and abilities to face adverse consequences that could lead to a disaster.
- The level of resources and the manner in which people or organizations use these resources and abilities to face adverse consequences of a disaster. (ECHO 2004)
- The higher the coping capacity, the lower the vulnerability of a system, region, community, or individual.[5]
- In most of the disasters, people suffer their greatest losses. Rich people have the capacity to recover soon because of their wealth. They are seldom hit by disasters because they live in safe areas and their houses are built with stronger materials. However, even when everything is destroyed, they have the capacity to cope up with it.

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[4] This term refers to the existing strengths of individuals and social groups.

[5] Vulnerability and Capacity to Cope are the two facets of the same coin. *The more one is vulnerable, the less one has the capacity to cope*

8 .RESILIENCE:

- The ideas of 'bounce back', 'build back better' or 'spring back' from a shock are often used in the context of resilience.
- The ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions[6] (UNISDR, 2009)
- Disaster resilience is the ability of individuals, communities, organizations and states to adapt to and recover from hazards, shocks or stresses without compromising long-term prospects for development.
- In conceptual terms, vulnerability and disaster resilience are closely related. Some authors see vulnerability as the opposite of disaster resilience, while others view vulnerability as a risk factor and disaster resilience as the capacity to respond (Manyena, 2006).

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[6] In the natural environment, resilience means that an area or eco-system under threat is restored to its original pristine state. In the construction and engineering industry, resilience would be the ability of metal or a structure to return to an original state – being able to withstand shock, weight or pressure. However, human systems cannot be untouched by life events – they do not necessarily return to an original or former state and the challenge is to continuously develop, improve and refine existing structures, systems and environments in order to progress. Returning to an original or previous state therefore corresponds with the tendency of certain communities to return to vulnerable locations and rebuild their houses, without improving conditions and increasing chances to progress. Resilience, however, implicitly requires improvement

9. DISASTER RISK:

- Likelihood of a hazard striking a vulnerable community, causing injury, damage and loss.
- The bigger the vulnerability, the bigger the disaster risk(DR);
- The bigger the capacity, the smaller the disaster risk(dr)
- Disaster Risk= Hazard x Vulnerability / Capacity
- Disaster occurs when a hazard impacts on or strikes a vulnerable community with low capacity resulting in damages, loss and serious disruption of community functioning.

10. DISASTER RISK REDUCTION:

- Strategies aimed at preventing new and reducing existing disaster risk and managing residual risk[7], all of which contribute to strengthening resilience and therefore to the achievement of sustainable development.

11. EARLY WARNING:

- A warning is a statement that a high probability of a hazardous event will occur, based on a prediction or forecast. If a warning is issued, it should be taken as a statement that "normal routines of life should be altered to deal with the danger imposed by the imminent event".
- The effectiveness of a warning depends on:1) the timeliness of the warning

  2) effective communications and public information systems to inform the public of the imminent danger and 3) the credibility of the sources from which the warning came.

[7] The risk remaining after risk treatment.it is a risk that is still present after all efforts have been made to eliminate the risks.

If warnings are issued too late, or if there is no means of disseminating the information, then there will not be time enough or responsiveness to the warning. If warnings are issued irresponsibly without credible data or sources, then they will likely be ignored.

12. COMMUNITY BASED DISASTER RISK REDUCTION (CBDRR):

- Focuses more on pre-disaster activities for risk reduction by communities.
- This approach brings community together to address common problems which affects everyone.
- Reduce vulnerabilities and increase capacities through people's participation.
