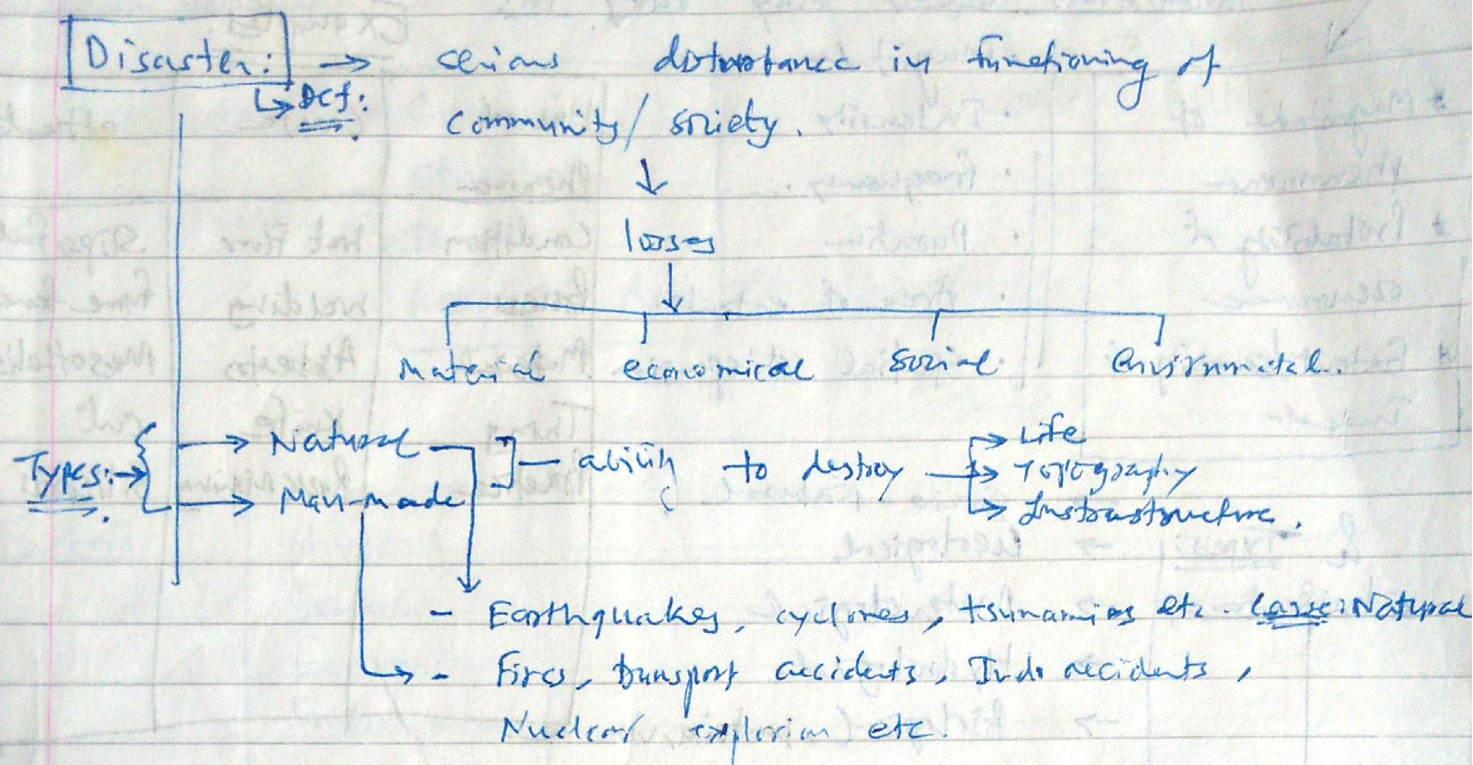


Understanding Disasters:N.H. Panchdi
APME, LOCECauses:

- Poverty.
- population growth.
- Rapid urbanization.
- Agriculture to industry.
- Environ. degradation.
- Impact on Environment.

Reason/scope of disaster:

1. Hazard
2. Vulnerability:

1. Hazard:**Def:**

phenomenon/situation → substance/Activity/condition.

↓

Disturbance/damage

⇒ life loss/injury/health impacts/
Environ. damage.

↓

people & their properties/services/environments.
(social/economic disruption).

→ Hazardous events may vary in:

Examples:

- * Magnitude of phenomenon
- * Probability of occurrence
- * Extent/severity of impact

- Magnitude
- Intensity
- Frequency
- Duration
- Area of extent
- Spatial dispersion

Hazard Phenomenon	Cause	Effect
Condition	Wet floor	Slips, falls
Process	Welding	Fume fever
Material	Asbestos	Mesothelioma
Thing	Knife	Cut
Practice	Rock mining	Silicosis

& Types:
Classification →

- Socio-Natural
- Geological
- Meteorological
- Hydrological
- Biological, bacteria, virus etc.
- Technological
- Combination of any above.

① Natural: (Meteorological / Geological / Biological)

→ Exp: cyclones, tsunamis, earthquakes, volcanos.

Socio-Natural: Floods, fires etc.

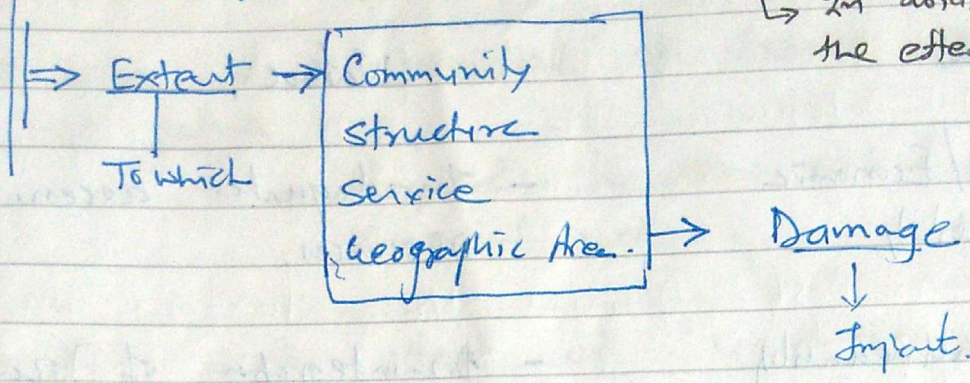
② Man-Made:

→ Exp: Accidents, explosions, leakage, pollution, wars etc.

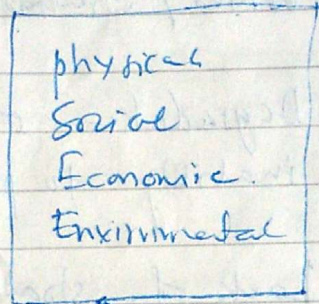
- Questions:
1. What is Disaster? Discuss types of disaster with its causes.
 2. Define 'Hazard'. Explain diff. types of Hazards with suitable examples in brief.

2. Vulnerability: (Scale of damage)

↳ In ability to withstand the effect of hostile envn.



Factors:



Poor Design/ construction
of building

Inadequate protection
of Asset

Lack of
public info/
Awareness

Limited
Knowledge of
Risk/Measures

More the vulnerability ⇒ More intense impact of disaster.

Reasons For High level of Vulnerability:

- Rapid population growth.
- Environmental degradation.
 - deforestation
 - over cultivation
 - over grazing
- High rate of industrialization / urbanization.
- Impoverished conditions.
- Lack of public awareness / information, preparedness measures.

Type of Vulnerability: & their Nature:

Types:

Nature:

- | | |
|------------------------------------|---|
| 1. Material/Economic Vulnerability | - Inadequate access to resources. |
| 2. Social Vulnerability | - Dis-integration of local bodies / structures. |
| 3. Ecological | - Degradation of Environment / inability to protect it. |
| 4. Organisation | - Lack of strong central / state / local structures. |
| 5. Educational | - Insufficient access to info / knowledge. |
| 6. Attitudinal / Motivational | - Low level of public awareness. |
| 7. Political | - Limited access to political power / representation. |
| 8. Physical | - Weak infrastructure. |

- Questions:
1. Define Vulnerability. Describe diff. types of it in brief.
 2. Mention the reasons of increasing vulnerability -

* Measure of Disaster $\Rightarrow$ RISK:

$\rightarrow$ Risk is a potential of losing something; of value.

$\rightarrow$ physical, health, social status, emotion financial wealth.

$\rightarrow$ Risk is a effect of 'uncertainty on objectives'.

$\uparrow \uparrow$
[+ve/-ve impact on]

$\downarrow$
events of, damage/loss.

$\rightarrow$ The level of Risk depends on;

- (i) Nature of Hazard
- (ii) Vulnerability of elements. $\rightarrow$ [people, buildings, crops etc.]
- (iii) Economic value of elements.

$\rightarrow$ Mathematically;

$$\text{Risk} = \frac{\text{Hazard} \times \text{Vulnerability}}{\text{Capacity}}$$

$\rightarrow$ controlling ability of hazard.

$\rightarrow$ By this eqn., it is said that Hazard & vulnerability increases the level of Risk but Capacity can manage the same.

$\rightarrow$ Risk: It is define as the probability of harm/experience of adverse effect due to hazard/vulnerability.

Exp: Risk of developing lung cancer due to smoking with diff. probabilities.

6.

- Risk Assessment: It is the process of;
- (i) Identify hazards.
 - (ii) Analyse/Evaluate the risk.
 - (iii) Determine the appropriate ways to eliminate/control it.

Ques:

1. What is risk? Discuss the factors on which it depends.
2. Describe risk assessment with suitable example in brief.