



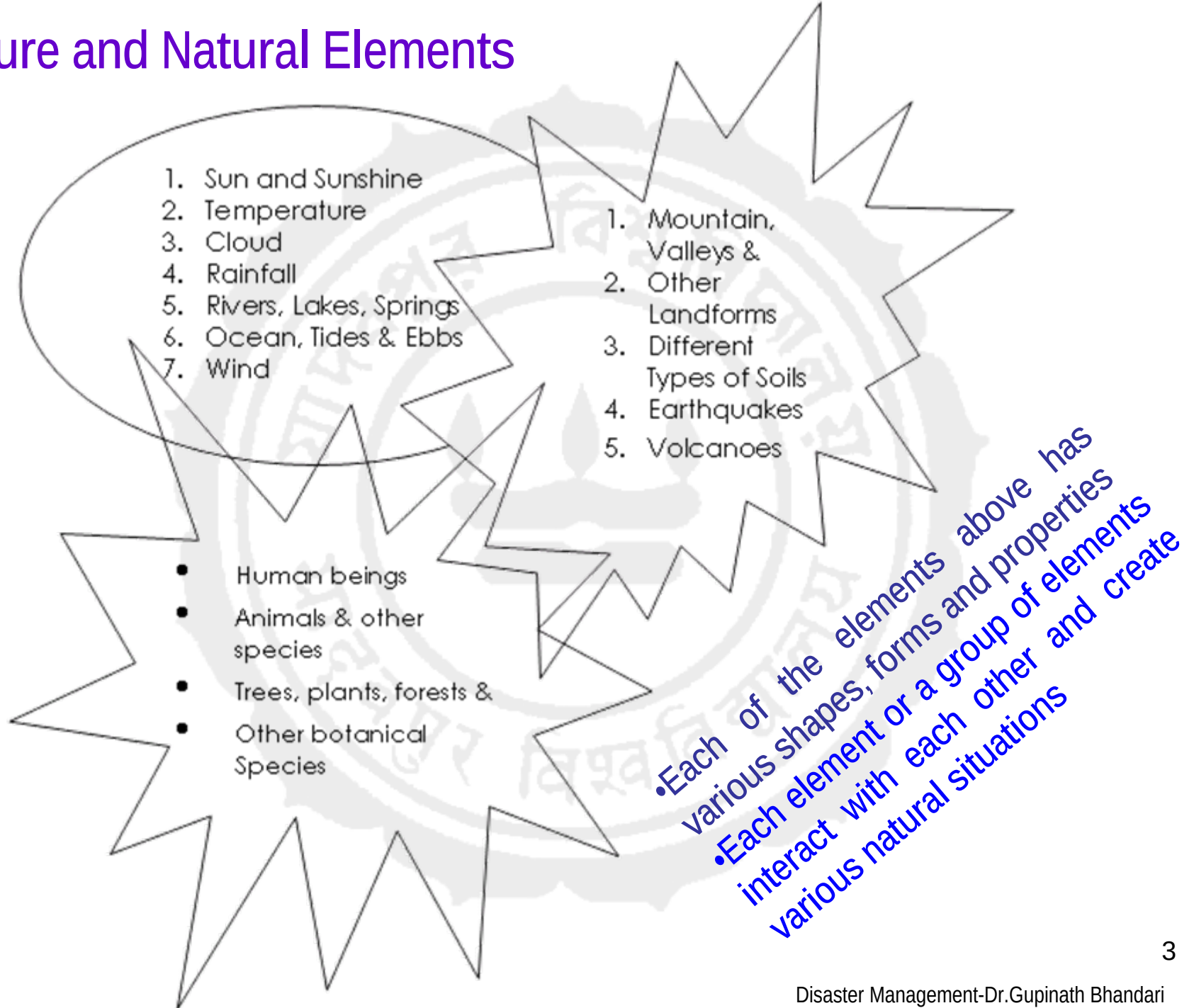
# Disaster Management

# Why Disaster Occurs??

The disaster may occur in the nature due to predictable or unpredictable natural disturbances and even due to human interferences to the nature, consciously or due to lack of understanding (unconsciously).

## How Disaster Occurs??

# Nature and Natural Elements



# NATURAL EVENTS IN COMBINATIONS OF VARIOUS NATURAL ELEMENTS

- Cloud & Heavy Rain --- FLOOD
- Cloud, Heavy Rain & Mountains ---- FLASH FLOOD
- Cloud, Heavy Rain, High Wind --- FLOOD & CYCLONE, TYPHOONS, HURICANES
- Movement of Tectonic Plates --- EARTH SHAKES / EARTHQUAKE
- Earth shakes and Volcanic eruptions below the ocean --- TSUNAMI
- Less Cloud, Less Rain, High Sunshine --- DROUGHT, HEAT WAVE, WATER SCARCITY
- Volcanic Eruptions

Please note except in **earthquake** and **volcanic eruptions**, **rainfall** (excess or shortages) and **wind velocities** play very crucial roles all other types of Natural Disasters

# ❑ Natural Events, Calamities and Disasters

- Natural Events like Flood, Cyclone, Tsunami, Avalanches, Landslides, Volcanic Eruptions, Earthquakes, Droughts, Desertification etc are normally referred as NATURAL CALAMITIES or NATURAL HAZARDS. In fact they are all Natural Events
- Human beings have hardly any hand or role in creating these natural hazards or calamities. However, some of our actions, may accelerate, trigger or advance some of these natural events to a certain extent.
- The impact of these natural events on the human beings are largely functions of our alertness to respond, preparedness to face and precautions to safeguard.

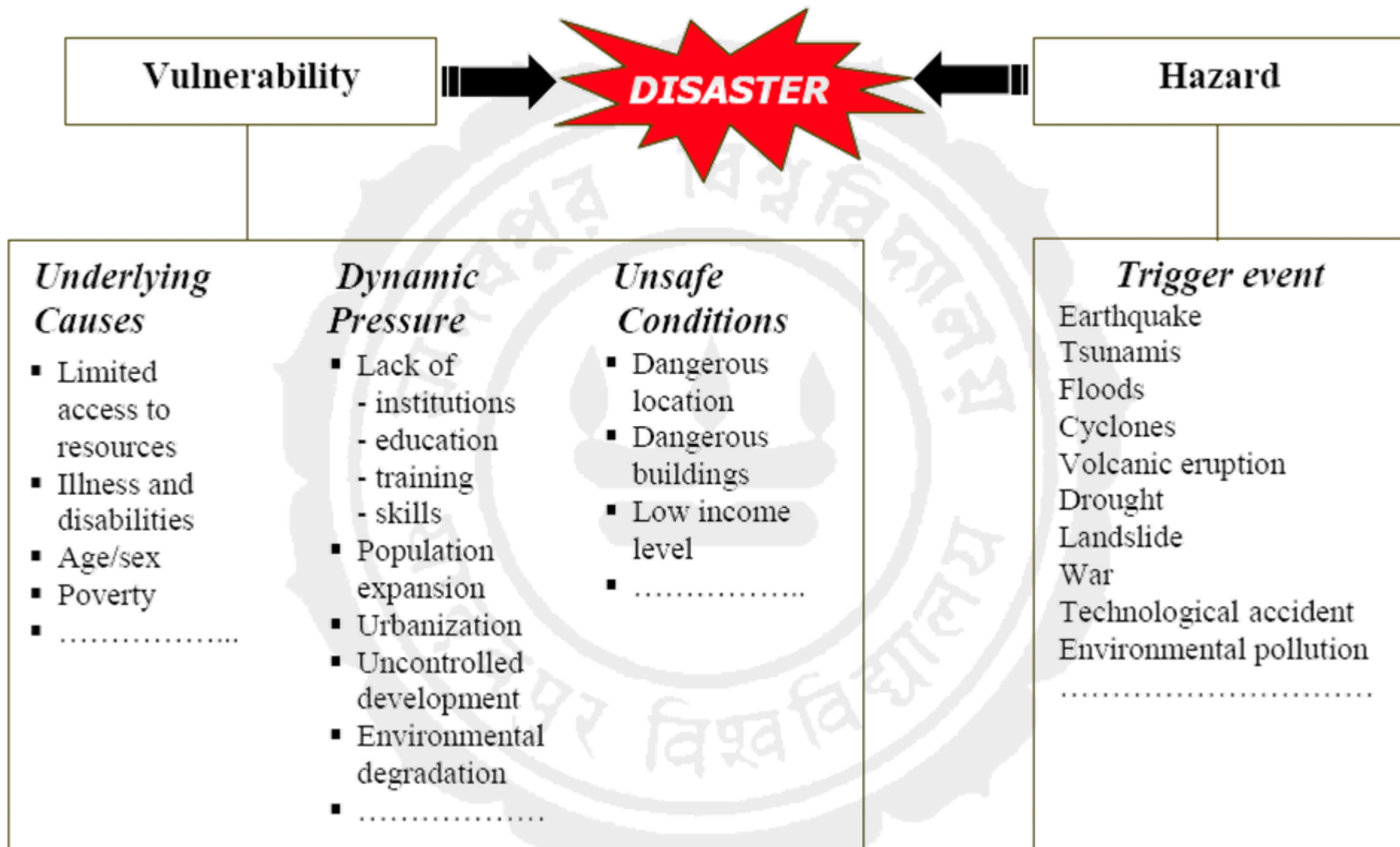
Natural Events or Natural Hazards or Natural Calamities often becomes NATURAL DISASTERS in the absence of preparedness

NATURAL DISASTERS =

Natural Events or Natural Calamity (bigger events are known as Calamities)

+

Absence of our Preparedness



## ❑ What disasters do to the human beings and environment?

### ➤ Affect all the primary resources e.g.

- ✓ Life and gender
- ✓ Water
- ✓ Land
- ✓ Biomass

### ➤ Cause damage to

- ✓ Forest and greeneries
- ✓ Livestock and wildlife
- ✓ Population
- ✓ Property

### ➤ Negatively Impact

- ✓ Economy
- ✓ Education
- ✓ Infrastructure
- ✓ Health & Sanitation
- ✓ Employment



# ❑ What is Disaster Management?

- The focal point of disaster management is to support and strengthen the capacities related to disaster mitigation, prevention, preparedness to **reduce the risk\*** of an area and subsequent development, at local, state and national level.
- Disaster management focuses on the sustainable environmental development.
- Disaster management also focuses on the public awareness generation
- The disaster mitigation may be aimed at ensuring a sustainable recovery in the aftermath of a disaster, as well as, reducing people's vulnerability to natural disaster.

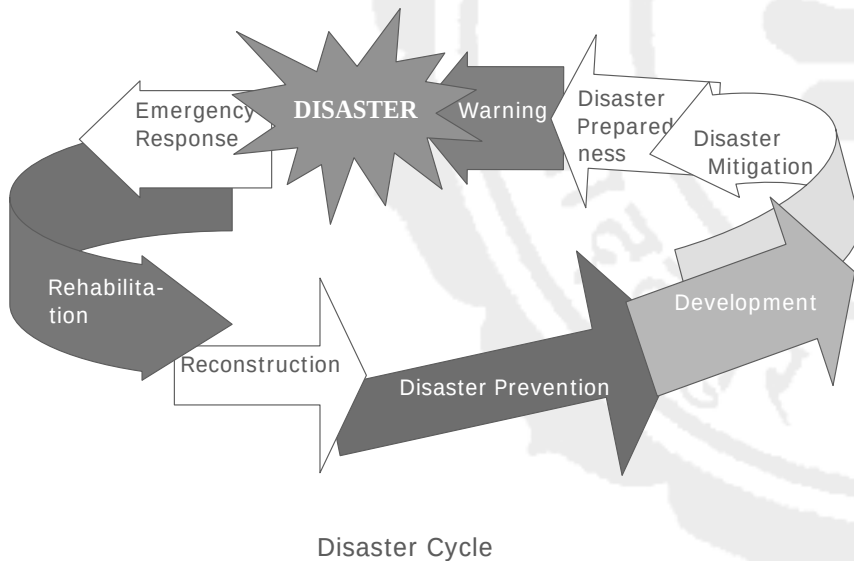
**Reduction of Risk = Preparedness + Mitigation**

## ❑ Major factors, which contribute to the disastrous consequences of a Natural Hazards, are

- Human vulnerability resulting from poverty and social inequality
- Environmental degradation resulting from improper land & water use
- Rapid population growth, especially among the poor
- Lack of preparedness

## ❑ How do we should manage disaster?

- The chronological events or phases are
- Disaster Strikes
- Emergency Response
- Rehabilitation
- Reconstruction
- Development
- Disaster Mitigation Measures while developing
- Disaster Preparedness runs concurrently and
- Warning



Disaster strikes again and we go back to the step 2 and follow the cycle again

# LIFELINE NETWORKS are to be protected from disasters-

## ❑ What are those Life Line Networks?

- Road network, with roads, bridges, road cuts and retaining walls, elevated roads, drainage works.
- Water system, with surface intakes, wells, pipelines, treatment plants, pumping stations, storage tanks or reservoirs, water mains, and distribution network.
- Electricity system, with generating plant, transmission lines, substations, transformers, and distribution network.
- Telecommunication, with ground station, exchanges, microwave transmission towers, aerial and underground cables, and open line distribution network.
- Sanitation system, with collector network, treatment plant and sewage fallout; public washrooms and toilet facilities; solid waste collection and disposal.

# What to do while doing the preparedness??

Collection of historical data on past disasters: Maps, Charts, Archeological Evidences, Data on Losses (human, environmental, infrastructural) etc.

Preparation of time series maps/ charts on different aspect on disasters

Preparation of hazard maps from time series analysis and identification of disaster prone areas

Critical Assessment of Environmental Resources, Population Density, Commercial Investments and other Infrastructures

Vulnerability Assessment

Identification of safe area for distressed people during evacuation

Conservation Policy of Critical Environmental Resources and Policy for critical use of Environmental Resources

Provision of Livelihood Security for the Poor/ Distressed People

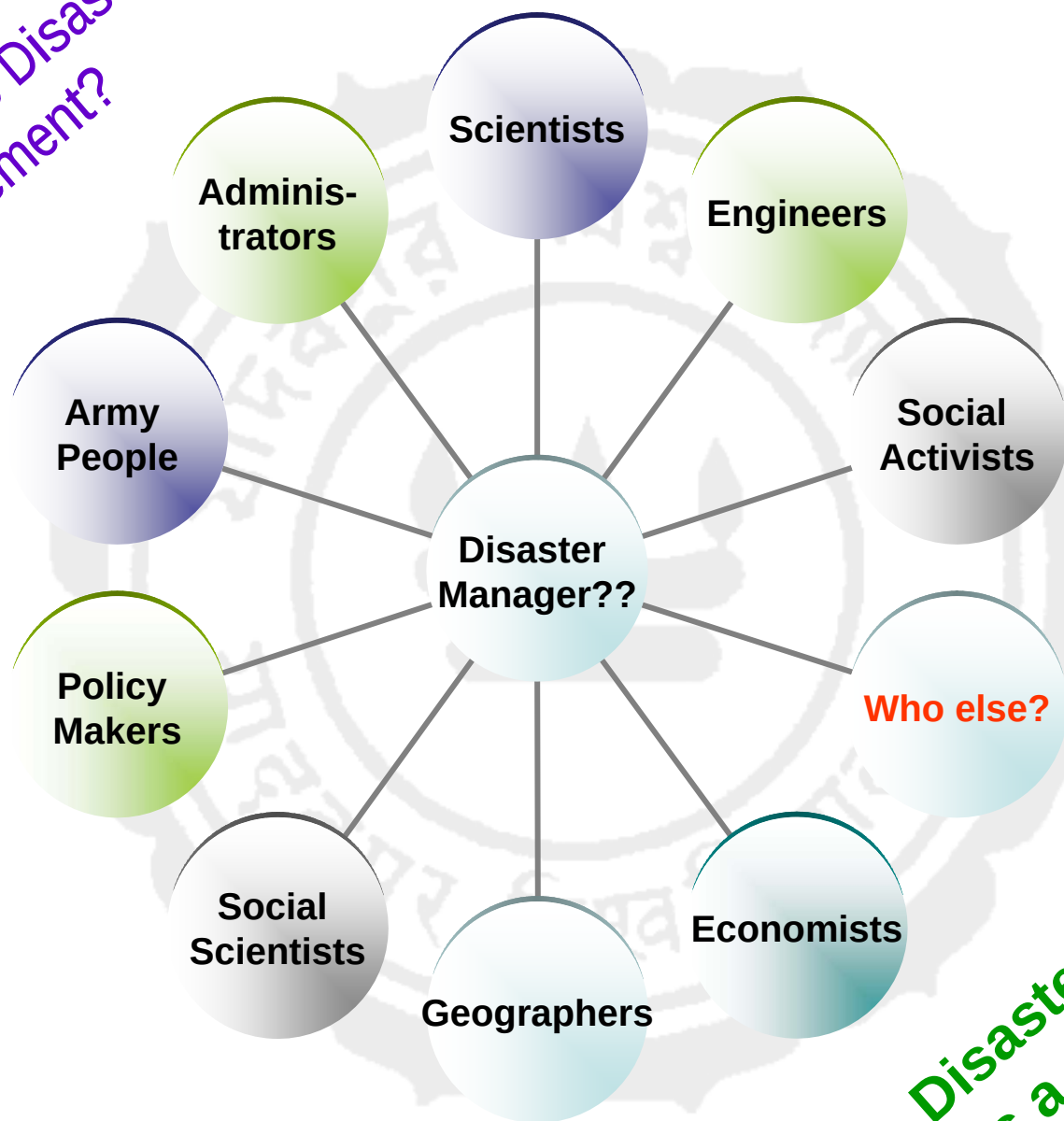
Economic, Social and Infrastructural Development

Ecology Management

Public Awareness on Disaster and Its Management

Training and Skill Enhancement on Emergency Responses

*Who will do the Disaster Management?*



*Disaster Management is a Collective Effort*