



Session : Name of the Session Environment

Presented By

R. R. Mehta

Distribution Utility Meet | 02 - 03 November 2023 | www.dumindia.in











INTRODUCTION – Climate – Environment- Disaster



- Characteristics of Climate-Environment-Disaster:
- Climate is the statistical information of the average weather condition of a specific region for a period.

• Climate controls how plants grow, how animals behave, which organisms thrive and how they interact with physical environment.

 Environment is the local topography, be it mountains or a dessert, urban or rural etc. etc.



Rig Veda has emphasized on the importance of Panch Tatva (five elements) namely Prithivi (earth), Pavan (air), Jal (water), Tej (solar energy), and Nabh (sky) and has maintained that the entire life systems on earth are based on harmonious functioning of these five elements.

Therefore, sustainable use of these natural elements has been consistently advocated in all ancient Indian Scriptures that man should use these heavenly gifts in such a way that no long-term damage is caused to them. The energies and benefits derived proportionately from these five elements will only sustain life and preserve mother earth. Any <u>DISPROPORTIONATE EXPLOITATION</u> of these energies RESULTING in an IMBALANCE will cause "DISASTER".

Consequence



A disaster is a serious problem *occurring over a period of time* that causes widespread human, material, economic or environmental <u>loss which exceeds the ability of the affected community or society to cope using its own resources.</u>

Disasters are routinely divided into either "<u>natural disasters</u>" caused by <u>natural hazards</u>or "human-instigated disasters" caused from <u>anthropogenic hazards</u>. However, in modern times, the divide between natural, human-made and human-accelerated disasters is difficult to draw.

Natural hazards

include <u>avalanches</u>, <u>flooding</u>, <u>coldwaves</u> and <u>heatwaves</u>, <u>droughts</u>, <u>earthquakes</u>, <u>cyclones</u>, <u>land</u> <u>slides</u>, <u>lightning</u>, <u>tsunamis</u>, <u>volcanicactivity</u>, <u>wildfires</u>,

Anthropogenic hazards

include <u>criminality</u>, <u>civil disorder</u>, <u>terrorism</u>, <u>war</u>, industrial hazards, engineering hazards, <u>power outages</u>, <u>fire</u>, hazards caused by <u>transportation</u>, and <u>environmental hazards</u>.

RELEVANCE



Heat/Temperature predominant element in Climate cause of Disaster.

- Electricity value chain (Generation/Transmission/Distribution /Consumption) has energy conversions that generate heat:
- Chemical Energy → Mechanical Energy → Electrical Energy → Mechanical Energy (Consumer use)
- Mitigations:
- Process "Chemical Energy to Mechanical Energy" is being substituted by Wind Mills for creating Electrical Energy
- "Process from Chemical Energy / Mechanical Energy / Electrical Energy" is being substituted by Solar Panels for creating Electrical Energy.



- Disaster is unpredictable particularly its actual impact
- Disaster Management predominantly Reactive.

- Hence Emphasis has to be / is on creating resource availability, to the extent envisaged, for restoration of disruption.
- There will generally be gap of availability and actual need.

- Consumer will have lesser impact with Efficient Planning by Discom
- Consumer has no choice for inefficiency in planning

KEY TAKEAWAYS



- Primarily origination of conditions for Disaster not contributed by Discoms
- Limited proactive action by Discom
- Resources planning / preparedness essential element for reactive response
- Need for organising cohesive support of all Discoms through:

National Discom Disaster Management Force (on principals of NDRF)

- create 4 centers (N,E,W,S) at selected Discom offices
- manning to be one senior supported by 6 juniors (for 24X7)
- -Appropriate communication reach with all Discoms to respective designated person
- -Data bank of human and equipment resources that can be available from Discoms on short notice

(Detailed SOP once prepared to be the participating commitment of Discoms)



India Smart Grid Forum



THANK YOU

Distribution Utility Meet | 02 - 03 November 2023 | www.dumindia.in









