



Regional Geography of Hazards and Disasters in India

Objectives of The Course:

India has been traditionally vulnerable to natural disasters on account of its unique geo-climatic conditions. Floods, droughts, cyclones, earthquakes and landslides have been a recurrent phenomenon. About 60% of the landmass is prone to earthquakes of various intensities; over 40 million hectares is prone to floods; about 8% of the total area is prone to cyclones and 68% of the area is susceptible to drought. In the decade 1990-2000, an average of about 4344 people lost their lives and about 30 million people were affected by disasters every year. The loss in terms of private, community and public assets has been astronomical. The objective of the course curriculum is to provide in-depth knowledge about the hazard risk zones and regions and disaster risk vulnerability in India.

Learning's / Outcome of the Course

- Understanding and knowledge about the Identification of natural hazard zones of India.
- Understanding of regional pattern of disaster vulnerability in India.
- Understanding of the role of federal, state, and local governments in disaster planning and policies.

SEP

Course Outline

UNIT-I

Geographical Setup of India and Regional Hazard Risks

- Regional Physiography, Geology, Soils, Drainage, Climate, Land Use and Land Cover of India and Natural Hazards Risk Prone Areas.
- Hazard Risk, Vulnerability and Disaster: Concepts and Relationships • Measuring Hazard Risks, Vulnerability and Disasters.

UNIT-II

Disaster Extremes in India, their impact

- Regional extreme events in India: Earthquakes, Floods, Droughts, Cyclones, Tsunami, Landslides, Avalanches, Snow, Rain and Wind storms.
- Disaster Magnitude and impact: Case Study / Examples from recent disasters.

UNIT-II

Regional Patterns of Disaster Vulnerability in India

- Earthquake Disaster Vulnerability Assessment (Case Study of Metropolitan and other Major Cities)
- Flood Disaster Zonation and Vulnerability Assessment (Case Study of Brahmaputra and Ganga river systems)
- Landslide and Avalanche Disaster Zonation and Mapping (Case Study of Himalayas and North-East Region)
- Drought Disasters Zonation and Mapping
- Multi-Hazard Risk Assessment

UNIT-IV

- Understanding Man-Made Disasters [L] [SEP]
- Fires and Forest Fires [L] [SEP]
- Nuclear, Biological and Chemical disaster [L] [SEP]
- Road Accidents and Building collapses [L] [SEP]

UNIT-V

Disaster Management and Response Systems

- Regional Capacity, Preparedness and Response Scenario
- Disaster Risk Governance and Institutional coordination for Disaster Management
- Level of Awareness among common Masses
- Institutional Initiatives for capacity building and Preparedness
- Availability/Execution of Machinery and Action Force
- State Disaster Management Plan

READING LIST

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- United Nations Development Programme (UNDP), Disaster Management- Preparedness Methodology in Assam. <http://data.undp.org.in/dmweb/Article>
- Vulnerability Atlas of India, Building Materials & Technology Promotion Council, Ministry of Housing & Urban Poverty Alleviation, Government of India, New Delhi