Disaster Management · GS - III

Vulnerability is an essential element for defining disaster impacts and its threat to people. How and in what ways can vulnerability to disasters be characterized? Discuss different types of vulnerability with reference to disasters.

EXAM YEAR	PAPER	SUBJECT
2019	GS - III	Disaster Management

MARKS	WORD LIMIT
10	~150 words

Answer Hint

Exposure and susceptibility; coping capacity; physical vulnerability; social vulnerability; economic vulnerability; environmental vulnerability; institutional vulnerability; disaster-risk reduction

Model Answer

Introduction

Disaster vulnerability refers to the conditions that make people, infrastructure or ecosystems more susceptible to harm from a hazard. Disaster risk depends on the interaction of hazards, exposure, vulnerability and coping capacity.

Types of Vulnerability

- **Physical:** Weak buildings, unsafe settlements and inadequate infrastructure increase damage from earthquakes, floods and cyclones.
- **Social:** Age, disability, gender inequalities, poor health and social exclusion can limit evacuation and recovery.
- **Economic:** Poverty, insecure livelihoods, lack of insurance and limited savings reduce coping capacity.
- **Environmental:** Deforestation, wetland loss and unplanned construction intensify floods, landslides and coastal hazards.

- **Institutional:** Weak early-warning systems, poor land-use planning and inadequate emergency services increase losses.
- **Technological:** Industrial accidents, infrastructure failures and hazardous-material leaks can create additional disaster risks.

Characterisation

Vulnerability is assessed through indicators such as building quality, population density, poverty, ecosystem condition, access to services and preparedness. Geographic information systems and vulnerability mapping help identify high-risk communities.

Conclusion

Reducing vulnerability requires inclusive planning, resilient infrastructure, ecosystem protection, early warning and community preparedness—not merely controlling the hazard itself.

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