



Model Answer

QUESTION

Effective disaster management requires environmental governance, institutional accountability, and community participation. Discuss with reference to recurrent floods in Assam.

DISCUSS

15 MARKS

250 WORDS

◆ Introduction

Assam's recurring floods are not merely natural disasters but a **governance and ecological challenge**. The Brahmaputra and its tributaries, intense monsoonal rainfall, erosion, siltation and the encroachment of wetlands combine with vulnerabilities created by human activity. Effective flood management therefore requires a shift from **relief-centric to risk-informed, ecosystem-based and community-driven** disaster management.

◆ Assam's Flood Vulnerability

- **Hydrological factors:** high monsoonal rainfall, the Brahmaputra's braided channels and tributary flooding.
- **Ecological degradation:** wetland destruction, deforestation and loss of natural drainage reduce flood-buffering capacity.
- **Siltation and riverbank erosion:** sediment deposition alters river channels and increases inundation and erosion.
- **Anthropogenic pressures:** encroachment of floodplains and wetlands, unplanned settlements and infrastructure.
- **Climate change:** increasing rainfall variability and extreme precipitation intensify flood risk.

◆ Why the Three Pillars Matter

01 Environmental Governance — work with nature, not against it

- Protect **wetlands such as beels** as natural flood reservoirs.
- Enforce floodplain zoning and prevent encroachment.
- Restore riparian vegetation and degraded catchments.

- Adopt **Integrated River Basin Management** rather than isolated embankment construction.
- Combine structural measures with **Nature-based Solutions (NbS)** and climate-resilient infrastructure.

02 Institutional Accountability — from response to resilience

- Strengthen coordination among **NDMA, the Assam State Disaster Management Authority, district administrations, irrigation and water-resource agencies and local bodies.**
- Ensure scientific assessment before constructing and maintaining embankments.
- Establish clear responsibility for **embankment inspection, maintenance and breach management.**
- Improve real-time flood forecasting, early-warning dissemination and risk mapping.
- Implement the **Sendai Framework's priority of understanding disaster risk** through granular vulnerability assessments.

03 Community Participation — last-mile resilience

- Local communities hold traditional knowledge of river behaviour, safe locations and evacuation routes.
- Strengthen **Village Disaster Management Committees**, local volunteers and community-based early-warning systems.
- Conduct regular evacuation and mock drills, especially for vulnerable groups.
- Promote raised houses, community shelters, elevated sanitation and flood-resilient livelihoods.
- Involve communities in wetland restoration, embankment monitoring and post-disaster recovery.

◆ Way Forward

Assam needs a **whole-of-society, whole-of-basin** approach combining ecological restoration, accountable institutions, empowered communities and technology.

A shift from merely “controlling floods” to “living safely with floods” — supported by basin-level planning, anticipatory financing and resilient infrastructure — can reduce recurring losses while protecting Assam’s fragile riverine ecology.

◆ Conclusion

The recurrent floods of Assam demonstrate that disasters emerge from the interaction of **hazard, ecological vulnerability and governance deficits**. As envisaged under India’s **Disaster Management Act framework**, effective disaster governance must integrate environmental sustainability with institutional accountability and community resilience. Prepared communities, healthy ecosystems and accountable institutions together offer Assam the most sustainable pathway from recurring relief to long-term resilience.



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