

Nepal Disaster - Lessons for Bordering Countries

Mains: *GS III - Disaster Management*

Why in News?

Recent Nepal's disaster underscores the need for India, China, and Nepal to re-imagine Himalayan borderland governance for resilience and sustainability.

What does the Nepal flood reveal?



What are the key challenges?

- **Transboundary Challenges of Natural Hazards** - Political boundaries are ineffective in containing floods, avalanches, glacial lake outburst floods (GLOFs), **or** **glacial collapse**.
- Hazards originating in one country frequently generate **cascading impacts downstream** in neighboring countries.

- Therefore, conventional approaches centered on national sovereignty are inadequate for effective disaster management in the Himalayan region.
- **Weak Cross-Border Information Sharing** - There is a lack of real-time sharing of the following critical data:
 - Glacier and snow conditions
 - River discharge
 - Weather data
 - Landslide risks
 - Early-warning information
- Reliance on bilateral diplomatic channels often results in delays in the dissemination of critical information.
- **Fragile Himalayan Infrastructure** - Roads, hydropower projects, and settlements are increasingly situated in **hazard-prone river valleys and mountain corridors**.
- Damage to infrastructure can generate **secondary economic and environmental risks** that extend across national borders.
- Linear development along highways further increases exposure to natural hazards.
- **Local-National Disconnect** - Local communities are typically the first affected and often serve as initial responders; however, disaster management resources remain concentrated at the national or capital level.
- Local governments frequently lack the following:
 - Training
 - Equipment
 - Technical expertise

- Early-warning systems
- Disaster-response capacity
- **Fragmented Climate Governance** - Himalayan countries do not possess a unified regional climate policy or institutional framework.
- Climate risks are frequently managed in isolation by various ministries, states, and countries.
- This approach results in institutional silos, despite the interconnectedness of the Himalayan ecosystem.
- **Energy and Economic Interdependence** - Hydropower projects, electricity grids, and trade routes are highly interconnected across the region.
- Destruction of infrastructure in one country can disrupt **regional electricity supply and compromise energy security**.
- Cascading impacts may propagate sequentially from China to Nepal, India, and **Bangladesh**.
- **Changing Nature of Security** - Traditional border security has primarily focused on **military threats**.
- However, security in the Himalayan region increasingly encompasses the following dimensions:
 - Climate disasters
 - Water insecurity
 - Food insecurity
 - Energy insecurity
 - Infrastructure vulnerability

- Human displacement

What steps should be taken?

- **Establish a Himalayan Early-Warning Network** - Develop a real-time disaster-warning mechanism involving India, Nepal, and China.
- Facilitate the sharing of the following data:
 - Glacier monitoring data
 - River levels
 - Weather forecasts
 - Avalanche/GLOF alerts
 - Satellite observations
- Ensure that disaster warnings are communicated directly to local communities, rather than being limited to national capitals.
- **Reconceptualize the Himalayan Borderland** - Recognize the Himalayan border as a shared ecological and disaster-risk zone, rather than solely as a security boundary.
- Promote cross-border cooperation grounded in principles of human **and ecological security**.
- **Enhance Local Disaster Response Capacity** - Allocate increased **training, equipment, and financial resources** to municipalities, panchayats, and border communities.
- Provide training for local residents to serve as **first responders**.
- Develop community-level evacuation plans and emergency shelters.
- **Develop Climate-Resilient Infrastructure** - Conduct **hazard and carrying-capacity assessments** prior to the construction of the following infrastructure:

- Hydropower projects
- Roads
- Bridges
- Townships
- Tourism infrastructure
- Limit construction activities in **river corridors and other high-risk zones**.
- Upgrade existing infrastructure to enhance resilience to climate-related hazards.
- **Promote Joint Scientific Research** - Encourage collaborative Himalayan research initiatives among India, Nepal, and China involving the following disciplines:
 - Glaciologists
 - Hydrologists
 - Climate scientists
 - Disaster-management experts
 - Geologists
- Integrate **satellite data, remote sensing technologies, and indigenous knowledge** in research efforts.
- **Establish a Common Regional Climate Framework** - Strengthen existing regional mechanisms and consolidate fragmented initiatives within a unified **Himalayan climate platform**.
- Institutions such as **ICIMOD** should facilitate scientific cooperation and knowledge sharing.
- Existing arrangements, including the **SAARC environmental framework, should be**

further strengthened.

- **Integrate Traditional and Indigenous Knowledge** - Himalayan communities possess valuable knowledge about:
 - Local weather patterns
 - River behaviour
 - Safe settlement locations
 - Mountain hazards
 - Combine this knowledge with **modern scientific forecasting**.
- **Rethink Border Security** - Border forces should receive training to address both conventional security threats and climate-induced disasters, as well as **humanitarian emergencies**.
- Disaster response must be established as a core component of border management strategies.

What lies ahead?

- The recent disaster in Nepal illustrates that the Himalayas function as an interconnected ecological system rather than as separate national territories.
- Consequently, India, Nepal, and China should transition from a focus on border security to fostering borderland resilience by implementing shared data systems, collaborative scientific research, early-warning mechanisms, climate-resilient infrastructure, and empowering local communities.

Reference

[Indian Express | Nepal's Disaster Lessons for Bordering Countries](#)