Disaster Management · GS - III

Assess the vulnerability of the Hindu Kush Himalayan region to climate-related disasters. How can improved regional cooperation and ecosystem-based disaster risk reduction strengthen resilience in South Asia?

EXAM YEAR	PAPER	SUBJECT
DAILY PRACTICE 23/11/2026	GS - III	Disaster Management

MARKS	WORD LIMIT
15	~250 words

Answer Hint

Hindu Kush Himalaya, cryosphere, glacial lake outburst floods, landslides, avalanches, extreme precipitation, transboundary river systems, ecosystem-based adaptation, regional cooperation

Model Answer

Introduction

The Hindu Kush Himalayan (HKH) region, often called the Third Pole, supports major river systems and millions of people across South Asia. Climate variability, rising temperatures and extreme weather events are increasing its vulnerability to natural hazards.

Major Sources of Vulnerability

1. **Cryospheric changes:** Glacier retreat and changing snow patterns can destabilise mountain environments and increase glacial lake outburst flood risks.
2. **Extreme precipitation:** Intense rainfall and unusual snowfall can trigger flash floods, landslides and avalanches.

3. **Ecosystem degradation:** Deforestation, unplanned construction and land-use changes weaken natural slope stability.
4. **Transboundary exposure:** Rivers originating in the Himalayas connect upstream hazards with downstream communities across national boundaries.
5. **Climate variability:** ENSO and other ocean-atmosphere phenomena can influence regional weather patterns, although their local impacts are not uniform.

Measures to Strengthen Resilience

- Develop regional early-warning systems and real-time hydrometeorological data sharing.
- Map landslide-prone slopes, glacial lakes and avalanche-sensitive zones.
- Promote afforestation, watershed restoration and sustainable mountain agriculture.
- Enforce risk-sensitive infrastructure planning and resilient construction.
- Strengthen cooperation through regional scientific research and disaster-response mechanisms.

Conclusion

The HKH region requires a shift from reactive relief to anticipatory risk reduction. Scientific monitoring, ecosystem restoration and cross-border cooperation are essential for building climate resilience in South Asia.

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