



Reimagining EIA For Himalayan Region

This editorial is based on [“The Indian Himalayan Region needs its own EIA”](#) which was published in The Hindu on 17/10/2023. It talks about the need of reimagining Environmental Impact assessment to ensure sustainable development in the Indian Himalayan Region. It also talks about the ecological challenges facing the region.

For Prelims: [Rapid melting of glaciers](#), [Black Carbon](#), [Teesta dam breach in Sikkim](#), [Glacial Lake Outburst Floods](#), [Environmental Impact Assessment \(EIA\)](#)

For Mains: Significance of Himalayas, Ecological Challenges to Himalayan region due to rampant urbanisation, Issues with EIA and Measures needed.

The recent [Teesta dam breach in Sikkim](#) and the devastating floods and landslides in Himachal Pradesh serve as a stark reminder of the environmental toll that our development model is exacting on mountain regions. These incidents underscore the urgent need to reassess our approach to development, particularly in ecologically fragile areas like the Himalayas. One of the key tools in this evaluation is the [Environmental Impact Assessment \(EIA\)](#), a process designed to predict, analyze, and mitigate the environmental, social, and economic impacts of projects.

What is the Environmental Impact Assessment?

▪ About:

- The EIA, as defined by the [United Nations Environment Programme \(UNEP\)](#), is a crucial tool for assessing the environmental consequences of projects before they are executed. It involves comparing project alternatives, predicting environmental impacts, and formulating mitigation strategies.

▪ Evolution of EIA in India:

- In India, the **EIA process began in 1976-77** with a focus on river valley projects. Over the years, it has evolved, with the 2006 notification being a significant milestone. However, it has also been subject to numerous amendments and faced criticism for favoring industry interests over ecological concerns.

▪ Aim:

- To **predict environmental impacts at an early stage** in project planning and design, find ways and means **to reduce adverse impacts**, shape projects to suit the local environment and present the predictions and options to decision-makers.

▪ Process:

- **Screening:** First stage of EIA, which determines whether the proposed project, requires an EIA and if it does, then the level of assessment required.
- **Scoping:** This stage identifies the key issues and impacts that should be further investigated. This stage also defines the boundary and time limit of the study.
- **Impact analysis:** This stage of EIA identifies and predicts the likely environmental and

- social impact of the proposed project and evaluates the significance.
- **Mitigation:** This step in EIA recommends the actions to reduce and avoid the potential adverse environmental consequences of development activities.
- **Reporting:** This stage presents the result of EIA in a form of a report to the decision-making body and other interested parties.
- **Public hearing:** On completion of the EIA report, public and environmental groups living close to project site may be informed and consulted.
- **Review of EIA:** It examines the adequacy and effectiveness of the EIA report and provides the information necessary for decision-making.
- **Decision-making:** It decides whether the project is rejected, approved or needs further change.
- **Post monitoring:** This stage comes into play once the project is commissioned. It checks to ensure that the impacts of the project do not exceed the legal standards and implementation of the mitigation measures are in the manner as described in the EIA report.

What are the Ecological Challenges Facing the Himalayas?

- **Ecological Fragility:**
 - The Himalayas are young, fold mountains which means they are still rising and are **prone to tectonic activities**. This makes the region **prone to natural disasters such as [landslides](#), [avalanches](#), and [earthquakes](#)**.
 - Despite the well-established vulnerabilities and fragility of the **[Indian Himalayan Region](#)**, the EIA framework treats it on par with other regions, without considering its unique developmental and ecological requirements.
- **Extreme Weather and Climate Change:**
 - The Himalayas are prone to extreme weather conditions such as **heavy rains**, [flash floods](#), **landslides**, and **seismic activity**. Climate change exacerbates these vulnerabilities. The absence of region-specific standards fails to address these pressing issues.
- **Accumulation of Black Carbon:**
 - One of the biggest factors causing **glaciers to melt** is the **emission of [black carbon aerosols](#)** into the atmosphere.
 - Black carbon absorbs more light and emits infra-red radiation that increases the temperature, therefore, an increase in black carbon in the Himalayas contributes to the faster melting of glaciers.
- **Other Anthropogenic challenges:**
 - **[Deforestation](#), construction activities, unregulated tourism and improper land use practices increase** soil erosion and the risk of landslides.
 - The **loss of vegetative cover** destabilises Himalayan slopes, making them susceptible to erosion during heavy rainfall or seismic events.

How does the Faulty EIA affect Himalayan Region?

- **Faulty Ecological Assessment:**
 - Assessing the impacts of projects in the Indian Himalayan Region(IHR) requires a **contextual understanding of the region's fragility and vulnerability**. The current system does not provide for this critical perspective.
- **Graded Approach and its Flaws:**
 - The Indian regulatory system employs a graded approach, with **environmental conditions varying depending on the type of habitat impacted by a project**. This approach **lacks differentiation for the IHR**, leaving the region without specialized protection.
- **Exemptions under EIA:**
 - Projects belonging to certain categories such as **Strategic and Defence Projects, Biomass Based Power Plants, Ports and Harbour dealing in Fish, Toll Plazas** are exempted from EIA based on [certain criteria](#).

What can be the Way Ahead for EIA in the Himalayas?

- **Need for a National Regulator:**
 - The absence of a national-level regulator, as **suggested by the [Supreme Court in 2011](#)**, hinders objective and transparent project appraisal and monitoring. An independent regulator could help ensure a more equitable balance between development and environmental preservation.
- **Cumulative Impact Assessment:**
 - The EIA process, as it stands, does not adequately consider cumulative impacts. It **focuses on individual projects rather than assessing the combined effects of multiple projects in a specific area**. For the IHR, a more holistic view is required.
- **Strategic Impact Assessment:**
 - Strategic environmental assessment (SEA), is the **assessment of the wider environmental, social and economic impacts of alternative proposals** at the beginning of a project. That is, at the decision stage - the policy, planning or program (PPP) level.
- **Proactive Role of EIA Authorities:**
 - It is crucial that EIA authorities anticipate developmental activities rather than reacting to it.
 - It is critical that the preparation of an EIA is completely **independent of the project proponent**.
- Complete ban on construction activities in disaster prone areas such as [Joshimath](#) as suggested by [Mishra Committee, 1976](#).

What can be the Other Ways for Protection of Himalayan Region?

- **NDMA Guidelines for GLOFs:**
 - To control the problem of unregulated tourism, the [National Disaster Management Authority \(NDMA\)](#) recommended a series of regulations that would create a buffer zone and **restrict tourism in Glacial Lake Outburst Floods (GLOFs)-prone areas** and nearby regions in order to reduce the scale of pollution in those areas.
- **Trans-Boundary Collaboration:**
 - Himalayan countries need to build an international network that will monitor risks such as those from glacial lakes, and give early warning of hazards — similar to the tsunami warning systems installed around the Indian Ocean over the past decade.
 - The countries should **share and disseminate knowledge about the mountains** and preservation of the ecology there.
- **Education and Awareness:**
 - India and other affected countries should **include in their school curricula basic knowledge of the geology and ecology of the Himalayas**. If students are taught about their environment, they will feel more connected to the land and be more aware of its pulse.
 - If the people of the Himalayas were more aware of the geological vulnerability and ecological fragility of their mountain home, they would surely force more compliance of laws and regulations to protect it.
- **Role of Local Governments:**
 - The municipalities in the Himalayan states need to play a more proactive role while granting approval to buildings; **building bye laws need to be updated** to overcome the emerging challenges of climate change.
 - **Disaster management departments** need to reorient their approach and **focus on flood prevention & preparedness**.

Conclusion

The current Environment Impact Assessment (EIA) framework in India falls short in recognizing the special requirements of the Indian Himalayan Region (IHR), which is characterized by its fragility and vulnerability. To ensure sustainable development in this ecologically vital region, there is an urgent need to reevaluate the EIA process. Only by adopting a region-specific and holistic approach can we safeguard the fragile ecosystems of the IHR while pursuing responsible development.

It is imperative that India takes the lead in reimagining the EIA for the Himalayas, setting a precedent for

environmentally conscious and sustainable development in mountainous regions around the world.

Drishti Mains Question

Discuss the role of the Environment Impact Assessment (EIA) in addressing the environmental challenges faced by the Himalayan region. Suggest measures for improving the EIA process to ensure sustainable development in the Himalayan region and protect its fragile ecosystems.

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Prelims:

Q. Consider the following pairs: (2020)

	Peak	Mountains
1.	Namcha Barwa	Garhwal Himalaya
2.	Nanda Devi	Kumaon Himalaya
3.	Nokrek	Sikkim Himalaya

Which of the pairs given above is/are correctly matched?

- (a) 1 and 2
- (b) 2 only
- (c) 1 and 3
- (d) 3 only

Ans: (b)

Q. If you travel through the Himalayas, you are likely to see which of the following plants naturally growing there? (2014)

- 1. Oak
- 2. Rhododendron
- 3. Sandalwood

Select the correct answer using the code given below:

- (a) 1 and 2 only
- (b) 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Ans: (a)

Q. When you travel in Himalayas, you will see the following: (2012)

- 1. Deep gorges
- 2. U-turn river courses
- 3. Parallel mountain ranges
- 4. Steep gradients causing landsliding

Which of the above can be said to be the evidence for Himalayas being young fold mountains?

- (a) 1 and 2 only
- (b) 1, 2 and 4 only
- (c) 3 and 4 only

(d) 1, 2, 3 and 4

Ans: (d)

Mains:

Q1. Differentiate the causes of landslides in the Himalayan region and Western Ghats. **(2021)**

Q2. How will the melting of Himalayan glaciers have a far-reaching impact on the water resources of India? **(2020)**

Q3. "The Himalayas are highly prone to landslides." Discuss the causes and suggest suitable measures of mitigation. **(2016)**

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