



Tourism and the Hindi Anthropocene: Landscapes, Vulnerability, and Ecological Crisis

Lt. Dr. Aparna Tripathi, Mr. Aditya Tripathi

Assistant Professor/ANO, Managing Director

Shri Ramswaroop Memorial College of Engineering and Management, Lucknow, Divine
Futures Infra Developers

Abstract

The Anthropocene has become an important framework for understanding the growing impact of human activity on the Earth's ecological systems. Yet the Anthropocene is not experienced uniformly across the world. In India, environmental change is encountered through landscapes, histories, languages, and cultural forms: through disappearing forests, polluted rivers, unstable mountains, water shortages, floods, landslides, and increasingly crowded tourist destinations. This paper proposes the term “**Hindi Anthropocene**” as a critical, rather than geological, framework for examining how ecological crisis is imagined through Hindi-language cultural production. It brings together Amitav Ghosh's *The Great Derangement: Climate Change and the Unthinkable* (2016) and the Netflix Hindi-language series *Kaala Paani* (2023).

Ghosh describes climate change as “a crisis of culture, and thus of the imagination” (9), arguing that contemporary forms of storytelling have struggled to represent environmental transformations whose scale exceeds ordinary human experience. *Kaala Paani* offers a productive popular-cultural text through which this problem can be examined. Set in the Andaman and Nicobar Islands, the series begins with a mysterious illness at a time when a large festival is bringing thousands of tourists to Port Blair. The narrative subsequently moves toward lockdown, institutional crisis, and the importance of local ecological knowledge.

The paper then moves from the island to the Himalayas, examining Kedarnath, Joshimath, Shimla, and the wider Himalayan tourism landscape. It argues that tourism itself should not be treated as inherently destructive. Rather, **mass tourism combined with infrastructure expansion in ecologically fragile environments can intensify vulnerability**. Road cutting, slope modification, construction, water extraction, waste generation, and urban expansion are therefore examined as interconnected processes. Recent research in the Lesser Himalayas has found that almost half of the landslides mapped after an extreme rainfall event were associated with road cuts and building buffers, providing quantitative evidence of the relationship between anthropogenic modification and landslide activity (Kaushal et al.).

The paper ultimately argues that the tourist landscape is also an Anthropocene landscape: a landscape increasingly reshaped to accommodate human movement and consumption. Mountain cutting becomes particularly significant because it represents the physical rewriting of geological space. The central challenge, therefore, is not to reject tourism but to imagine forms of tourism that respect ecological and geological limits.

Keywords: Anthropocene, Hindi Anthropocene, Amitav Ghosh, *Kaala Paani*, tourism, Himalayan ecology, mountain cutting, landslides, ecological vulnerability, overtourism, ecocriticism.

From Ecological Crisis to the Hindi Anthropocene

A mountain does not become fragile simply because tourists arrive. Nor does a landslide occur simply because a road has been built. The Himalayan environment is shaped by geology, rainfall, tectonic activity, climate, vegetation, drainage, construction, and human settlement. What has become increasingly difficult to ignore, however, is that human interventions can alter the conditions under which natural hazards occur and the degree to which people are exposed to them. This is where the idea of the Anthropocene becomes useful. The Anthropocene describes a condition in which human activity has become a significant force in the transformation of planetary systems. Climate change is perhaps its most obvious expression, but the Anthropocene is also visible in deforestation, biodiversity loss, altered rivers, expanding cities, intensive agriculture, mining, infrastructure development, and the transformation of landscapes.

Dipesh Chakrabarty argues that climate change forces us to think simultaneously about human history and geological history because human beings have become capable of influencing processes operating at planetary scales (197–222). Amitav Ghosh approaches the same problem from literature and culture. For him, the difficulty is not merely that climate change is scientifically complex. It is that modern culture has not adequately learned how to imagine it. As he puts it, “the climate crisis is also a crisis of culture, and thus of the imagination” (9). This paper takes Ghosh's argument as its starting point and asks what the Anthropocene looks like when it is viewed from Indian cultural and geographical contexts. I propose the term **Hindi Anthropocene** to describe the ways in which ecological crisis is represented, interpreted, and emotionally experienced through Hindi-language cultural production. The term is not intended to describe a separate geological epoch. Instead, it is a way of asking how global environmental processes become meaningful within Indian cultural narratives.

The Netflix series *Kaala Paani* provides an especially productive text for this purpose. Set in the Andaman and Nicobar Islands, the series follows the emergence of a mysterious illness and the struggle to survive it. Its opening episode, “Nature Wins,” explicitly places the investigation of the illness alongside a massive festival bringing thousands of tourists to Port Blair. The series is not a documentary about tourism, nor does it claim that tourism alone causes the fictional epidemic. Its significance lies elsewhere. It places human mobility, tourism, ecology, disease, governance, and survival within the same narrative environment. This paper connects that island narrative with the environmental pressures visible in the Himalayas. Kedarnath, Joshimath, Shimla, and other mountain destinations demonstrate how the expansion of tourism can generate demands for roads, hotels, parking, water, electricity, waste management, and other forms of infrastructure. In fragile environments, these demands can create new forms of exposure and vulnerability. The central argument of this paper is therefore that **tourism becomes an Anthropogenic force when the infrastructure and consumption associated with tourism begin to exceed the ecological, geological, and social capacity of a landscape.**

The Anthropocene as a Crisis of Imagination

The Anthropocene is often discussed in scientific terms: carbon emissions, temperature rise, sea-level change, biodiversity loss, and extreme weather. Ghosh asks us to consider another dimension of the crisis—the cultural one. In *The Great Derangement*, he observes that modern literature has generally preferred the ordinary, the probable, and the individual, while climate change repeatedly produces events that appear extraordinary: unprecedented storms, floods, fires, droughts, and other disruptions. This creates a problem of representation (Ghosh 20–24).

Ghosh's argument matters because environmental degradation is not only something that happens “out there.” It is increasingly part of ordinary life. A road collapse, a water shortage, a landslide, or a heat wave can become a personal experience, yet the causes may extend across decades and involve political decisions, economic systems, and global environmental change. The Anthropocene consequently demands a different kind of storytelling—one that can connect the intimate with the planetary.

Kaala Paani can be read within this context. Its ecological crisis is experienced through individual characters, families, doctors, administrators, workers, tourists, and local communities. The large-scale ecological and epidemiological crisis becomes understandable through ordinary human experiences of fear, separation, uncertainty, and survival. This is one reason popular visual narratives are important to the study of the Anthropocene. They can make environmental processes emotionally legible.

Reading *Kaala Paani*: The Island as an Ecological Space

Kaala Paani begins not with an abstract discussion of environmental degradation but with people moving through a landscape. Tourism is already present when the crisis begins. Netflix's episode description for “Nature Wins” specifically connects Dr. Soudamini Singh's investigation of the mysterious illness with the arrival of thousands of tourists in Port Blair. This detail is important because tourism is fundamentally an activity of movement. People travel into an environment temporarily, but the environment must absorb the consequences of their presence. Transport, accommodation, food, water, sanitation, energy consumption, and waste management all increase with tourist numbers.

The narrative of *Kaala Paani* subsequently reverses the meaning of mobility. In the early part of the series, movement represents leisure and economic activity. As the crisis develops, movement becomes dangerous and eventually restricted. The islands move from a destination for tourists to a space of confinement. The reversal is significant from an Anthropocene perspective. The same systems that make mobility possible can become insufficient when ecological or biological conditions change. The series therefore encourages the viewer to think about the vulnerability hidden behind the apparently simple act of tourism. The island is not merely a beautiful background against which the story occurs. It is the ecological space that makes the story possible.

Tourism and the Commodification of Landscape

Tourism changes the meaning of place.

A mountain can become a “view.”

A river can become an “adventure.”

A forest can become an “experience.”

An island can become a “destination.”

This does not necessarily make tourism unethical. People have always travelled, and tourism can support local economies and cultural exchange. The problem begins when the landscape is treated primarily as a commodity while its ecological limits are ignored. The contradiction can be expressed simply:

Tourism depends upon the beauty and distinctiveness of a place, but the infrastructure created to consume that place can gradually transform it. A tourist does not arrive alone. Tourism requires roads, hotels, restaurants, parking areas, water supply, sewage systems, electricity, telecommunications, and waste disposal. The environmental impact of tourism must therefore be understood as a system rather than as the behaviour of individual tourists. This distinction is particularly important in the Himalayas.

Why Are Mountains Cut?

Mountain cutting is often presented as an unavoidable technical requirement of development. Roads need to be widened; new routes need to be opened; hotels need level ground; parking spaces need to be created. But cutting into a mountain change more than its appearance. A slope has its own geological structure, drainage patterns, vegetation, and stability. Excavation can alter the geometry of the slope, remove vegetation, expose soil and rock, and redirect water. When these changes occur in an already fragile geological environment, the consequences can become serious.

Recent research by Kaushal et al. provides unusually strong quantitative evidence. Following an extreme rainfall event in 2023, the researchers mapped 3,535 landslides across approximately 1,200 square kilometres of the Lesser Himalayas. Nearly half were associated with road cuts and building buffers. Along an 83-kilometre section of NH-5, the average landslide density was 3.16 per kilometre, reaching more than 15 per kilometre at some locations. The authors conclude that road cutting and infrastructure activities appear to have approximately doubled landslide activity during the extreme event.

This does not mean that roads “cause” every landslide. The Himalayas are naturally prone to landslides because of steep slopes, active tectonics, rainfall, weak geological formations, and seismic activity. What the research demonstrates is more precise: **human modification of slopes can amplify the effects of extreme natural events**. This distinction is crucial to an academically responsible discussion of tourism and environmental degradation.

Tourism, Disaster, and Vulnerability

The 2013 Kedarnath disaster is particularly important because it demonstrates why the relationship between tourism and environmental disaster should be understood through the concept of **vulnerability**. In June 2013, intense rainfall triggered a series of floods, landslides, and a glacial lake outburst in the Uttarakhand Himalayas. Thousands of people died, and tourism infrastructure around Kedarnath was severely damaged. Lorenz and Dittmer examine the disaster not simply as a natural event but through the relationship between tourism and social vulnerability.

Their research is especially valuable because it avoids a simple causal story. The disaster was not “caused by tourism.” At the same time, tourism had shaped patterns of settlement, livelihoods, infrastructure, mobility, and human exposure. This distinction changes the argument considerably.

Instead of saying:

Tourism caused the Kedarnath disaster.

we should say:

Tourism helped shape the social and infrastructural conditions through which the disaster was experienced.

Lorenz and Dittmer demonstrate that the consequences continued long after the immediate event because local livelihoods were heavily dependent on tourism. The destruction of tourism infrastructure consequently became an economic disaster as well as a physical one. This is an important insight for the Anthropocene: vulnerability is produced socially.

Kedarnath and the Problem of Development

The Kedarnath disaster also revealed a deeper contradiction. Mountain communities need roads, communication, employment, healthcare, education, and economic opportunities. Tourism can provide some of these benefits. The answer, therefore, cannot simply be to stop development. The more difficult question is:

What kind of development is appropriate for a fragile mountain environment?

This question is particularly important in the post-disaster reconstruction of Kedarnath and the wider Char Dham region. Research on tourism in the Indian Himalayas shows that pilgrimage tourism has become deeply embedded in local livelihoods and regional development. At the same time, tourism-related infrastructure can create new forms of exposure and vulnerability (Lorenz and Dittmer). The problem is therefore not development itself, but development that assumes that a mountain can absorb unlimited intervention.

Joshimath: When the Landscape Says No

Joshimath offers perhaps the most powerful contemporary example of the limits of mountain development. The town is situated in a highly complex geological environment. A 2024 study using satellite-based remote sensing documented substantial land deformation in Joshimath during 2022–23. The researchers recorded cracks in roads and more than 868 civil structures and identified geological, hydrological, and anthropogenic factors in the town's instability.

The study also draws attention to the expansion of tourism, hotels, guest houses, large infrastructure projects, and inadequate drainage. It notes that Joshimath is built partly on old landslide material, making the question of construction particularly sensitive. Joshimath should not, however, be reduced to a story in which “tourism sank the town.” Such a claim would ignore the area's geological history. A more accurate interpretation is that **geological vulnerability and human development interacted**. The lesson is significant. Infrastructure cannot erase geology. A mountain does not become stable merely because humans need a road through it.

Shimla: Tourism and the Politics of Water

Environmental degradation does not always look like a collapsing mountain. Sometimes it looks like an empty tap. Shimla provides an important example. The city experienced severe water crises in 2016 and 2018. Research by Sarkar demonstrates that the crisis cannot be explained simply through climate change or lack of rainfall. Instead, it emerged through the interaction of tourism, urban growth, infrastructure, distribution, and unequal access to water. This is an important correction to simplistic narratives about environmental scarcity. Nature matters, but infrastructure and politics matter too.

Shimla's tourist economy increases water demand precisely during the summer, when the city already experiences seasonal pressure. Sarkar shows that tourism is a major stakeholder in the city's water system, while the consequences of scarcity are not distributed equally across the population. Research has also connected Shimla's water and sanitation problems with public-health concerns, including the city's history of water-related disease outbreaks (Rathour et al.). The Shimla case therefore expands our definition of environmental degradation. Ecological pressure can manifest through water insecurity, unequal infrastructure, sewage, and public health—not only through visible landscape destruction.

Manali and the Everyday Transformation of the Mountains

Manali represents another stage of the tourism transformation. Unlike a sudden disaster, its environmental change is gradual.

Hotels appear.

Roads become wider.

Traffic increases.

Agricultural land is converted.

Construction spreads up slopes.

Water demand increases.

Waste becomes harder to manage.

No single act necessarily produces a catastrophe. The problem lies in accumulation. This is one of the central characteristics of the Anthropocene: environmental change often results from millions of ordinary actions rather than one spectacular event. The mountain is not destroyed in a single moment. It is slowly reorganised around human requirements. This gradual transformation is perhaps more difficult to recognise because it resembles development.

The Andaman Islands Beyond *Kaala Paani*

The environmental setting of *Kaala Paani* also deserves attention beyond the fictional narrative. Government assessments of tourism in the Andaman and Nicobar Islands have identified ecological pressures associated with tourism development, including resort construction, forest clearance, sewage, solid waste, sedimentation, and pressures on sensitive coastal ecosystems. This makes the series especially interesting. Its ecological concerns are fictionalised, but the underlying tension between tourism and environmental vulnerability is not entirely fictional. The island therefore becomes a useful counterpart to the Himalayan mountain. The geographical environments are different, but the underlying question is similar:

How much human activity can a fragile ecosystem absorb?

From the Island to the Mountain

At first glance, the Andaman Islands and the Himalayas appear to have little in common. One is an archipelago surrounded by the sea; the other is one of the world's great mountain systems. Yet both reveal a central Anthropocene problem: humans increasingly reorganise environments according to economic, technological, and social needs. In *Kaala Paani*, tourism brings large numbers of people into an island environment, and the crisis reveals the fragility of systems that appear secure during ordinary circumstances. In the Himalayas, tourism brings roads, buildings, vehicles, hotels, pilgrims, and economic opportunities into environments shaped by geological instability and climatic extremes.

The Hindi Anthropocene

The concept of the **Hindi Anthropocene** proposed here is an attempt to bring the Anthropocene into conversation with Indian cultural experience. The Anthropocene is often discussed through scientific terminology that can make environmental crisis appear distant and abstract. Hindi-language cultural production can make these processes more intimate.

A pandemic is experienced through a family.

A flood is experienced through a village.

A water crisis is experienced through an empty tap.

A landslide is experienced through a blocked road.

A mountain road is experienced through the sound of excavation.

These experiences provide the emotional vocabulary through which environmental change becomes meaningful.

Kaala Paani contributes to this vocabulary by presenting ecological crisis through a Hindi-language popular narrative. It does not provide a scientific explanation of the Anthropocene, nor should it be expected to. Its value lies in its ability to make relationships among mobility, environment, disease, governance, and survival imaginable. This is where Ghosh's argument becomes particularly relevant. If the climate crisis is a crisis of imagination, then cultural texts can help create the imaginative conditions necessary for environmental awareness.

Tourism as “Geological Violence”

The central concept proposed by this paper is “**tourism as geological violence.**” The term does not suggest that every tourist or every tourism project is violent. Rather, it describes the physical transformation of geological landscapes when tourism infrastructure is constructed without sufficient attention to ecological and geological limits. A mountain road is therefore not merely a road. Before the road existed, there was a slope. The road requires the slope to be cut, stabilised, drained, widened, and maintained. The landscape is consequently reorganised around human mobility.

This is why mountain cutting is such a powerful image for the Anthropocene. Humans are not merely living on the Earth. They are physically rewriting it. The research by Kaushal et al. makes this argument materially visible: road cuts and infrastructure were associated with a substantial proportion of landslides following extreme rainfall in the Lesser Himalayas. The Anthropocene is therefore not only about carbon in the atmosphere. It is also about **rock removed from a mountain to create a road.**

Tourism and the Failure of Imagination

Ghosh's concept of the “crisis of imagination” can be extended to tourism.

The conventional tourism imagination asks:

How can we make this place accessible?

An ecological imagination asks:

Should this place be made more accessible, and under what conditions?

The first question assumes that accessibility is always desirable.

The second recognises limits.

This difference is crucial.

If every beautiful mountain destination is connected by wider roads, hotels, parking spaces, tunnels, and commercial infrastructure, the destination may eventually lose the qualities that made it attractive. Tourism can therefore destroy its own foundation.

The irony is profound:

We travel to see the mountain, and then we cut the mountain to make it easier to reach. This contradiction captures the ecological paradox at the heart of contemporary tourism.

Rethinking Sustainable Tourism

The answer is not to reject tourism completely. Tourism provides livelihoods and can support local economies. Pilgrimage is also deeply embedded in the religious and cultural life of places such as Kedarnath. Any environmental policy that ignores these social realities is unlikely to succeed. What is needed is a more careful model of tourism.

Such a model would include:

- scientifically determined carrying capacities;
- restrictions on construction in high-risk zones;
- careful slope and drainage management;
- limits on mountain cutting;
- stronger regulation of hotel construction;
- adequate sewage and waste systems;
- protection of forests and watersheds;
- public transport rather than unrestricted private vehicles;
- local participation in tourism planning;
- protection of Indigenous and local ecological knowledge;
- and continuous environmental monitoring.

Most importantly, tourism policy should recognise that **carrying capacity is not merely a number of tourists.**

It includes the capacity of:

- water systems,
- roads,
- slopes,
- forests,
- waste systems,
- local communities,
- and geological formations.

Conclusion

The Anthropocene is often described as a period in which humans have become a geological force. In the Indian context, this transformation can be seen not only through global climate change but through everyday changes to mountains, rivers, forests, islands, and cities. Amitav Ghosh's *The Great Derangement* helps us understand why these changes require a new cultural imagination. His argument that the climate crisis

is also a crisis of culture and imagination provides a useful theoretical foundation for reading contemporary Hindi-language ecological narratives.

Kaala Paani is particularly valuable because it places ecological vulnerability at the centre of a popular Hindi-language survival narrative. Its opening episode connects a mysterious illness with the arrival of thousands of tourists in Port Blair, turning tourism and mobility into important elements of the narrative's ecological context. The Himalayan case studies make the argument more concrete. Kedarnath shows how tourism can shape social and infrastructural vulnerability during disasters. Joshimath demonstrates the dangers of intensive construction in a geologically sensitive landscape. Shimla reveals how tourism and urban growth can place pressure on water systems. Research on the Lesser Himalayas provides quantitative evidence that road cuts and infrastructure can amplify landslide activity during extreme rainfall.

The argument, therefore, is not that tourism is inherently destructive. Such a claim would be too simple. Tourism becomes environmentally dangerous when economic ambitions, infrastructure expansion, and visitor numbers exceed the capacity of the landscapes that sustain them. This is why mountain cutting matters. It is more than an engineering operation. It represents a particular way of imagining nature—as something that can be reshaped to meet human requirements. The Hindi Anthropocene asks us to imagine something different.

It asks us to see the mountain not merely as a destination but as a living geological system; the river not merely as a resource but as an ecological process; the island not merely as a tourist destination but as a fragile habitat; and the local community not merely as a service provider but as a participant in the landscape. The most important question for the future of tourism is therefore not how many people a destination can attract. It is **how much human pressure a landscape can bear without losing the ecological qualities that make it worth visiting in the first place**. In this sense, the future of sustainable tourism depends upon precisely the kind of imaginative transformation that Ghosh calls for: learning to see environmental limits not as obstacles to development, but as conditions for survival.

Works Cited

- Awasthi, Shubham, et al. "Analyzing Joshimath's Sinking: Causes, Consequences, and Future Prospects with Remote Sensing Techniques." *Scientific Reports*, vol. 14, 2024, article 10876.
- Buell, Lawrence. *The Environmental Imagination: Thoreau, Nature Writing, and the Formation of American Culture*. Harvard UP, 1995.
- Chakrabarty, Dipesh. "The Climate of History: Four Theses." *Critical Inquiry*, vol. 35, no. 2, 2009, pp. 197–222.
- Chouhan, Shivani, et al. "Role of Tourism on Disaster Recovery: A Case Study of Uttarakhand, India." *International Journal of Disaster Risk Reduction*, vol. 95, 2023, article 103878.
- Clark, Timothy. *The Value of Ecocriticism*. Cambridge UP, 2019.
- Crutzen, Paul J., and Eugene F. Stoermer. "The 'Anthropocene.'" *Global Change Newsletter*, no. 41, 2000, pp. 17–18.
- Dolma, Nadhen, Tiyaasha Tiyaasha, and Ashuvendra Singh. "A Case Study on Land Subsidence Occurrence in Joshimath, Uttarakhand." *Discover Geoscience*, vol. 3, 2025, article 92.

Gadgil, Madhav, and Ramachandra Guha. *Ecology and Equity: The Use and Abuse of Nature in Contemporary India*. Routledge, 1995.

---. *This Fissured Land: An Ecological History of India*. U of California P, 1992.

Geneletti, Davide, and Dorje Dawa. "Environmental Impact Assessment of Mountain Tourism in Developing Regions: A Study in Ladakh, Indian Himalaya." *Environmental Impact Assessment Review*, vol. 29, no. 4, 2009, pp. 229–42.

Ghosh, Amitav. *The Great Derangement: Climate Change and the Unthinkable*. U of Chicago P, 2016.

---. *The Hungry Tide*. Houghton Mifflin, 2004.

---. *Gun Island*. John Murray, 2019.

---. *The Living Mountain: A Fable for Our Times*. John Murray, 2022.

---. *The Nutmeg's Curse: Parables for a Planet in Crisis*. John Murray, 2021.

---. *The Shadow Lines*. Ravi Dayal, 1988.

Government of India. *Integrated Development Plan for the Andaman and Nicobar Islands*. Government of India.

Guha, Ramachandra. *Environmentalism: A Global History*. Longman, 2000.

---. *The Unquiet Woods: Ecological Change and Peasant Resistance in the Himalaya*. U of California P, 1989.

Heise, Ursula K. *Sense of Place and Sense of Planet: The Environmental Imagination of the Global*. Oxford UP, 2008.

Hothi, Navjot, and Gagandeep Hothi. "Water Crisis of Shimla Town: Past and Present Scenario." *Materials Today: Proceedings*, vol. 64, 2022, pp. 1250–54.

Huggan, Graham, and Helen Tiffin. *Postcolonial Ecocriticism: Literature, Animals, Environment*. 2nd ed., Routledge, 2015.

Intergovernmental Panel on Climate Change. *Climate Change 2022: Impacts, Adaptation and Vulnerability*. Cambridge UP, 2022.

---. *Climate Change 2023: Synthesis Report*. IPCC, 2023.

Kaushal, Sahil, et al. "Unveiling the Amplifying Impact: Anthropogenic Activities and the Two-Fold Surge in Landslides in the Lesser Himalayas." *Catena*, vol. 250, 2025, article 108771.

Kumar, Navin, et al. "The Kedarnath Tragedy of 2013: Intersections of Natural Fury and Human Negligence in the Himalayan Region." *International Journal of Disaster Resilience in the Built Environment*, 2026.

Kumar, Satish, et al. "Bearing of Morphometry and Morphotectonics on the Demarcation of Landslide Susceptible Zones in Lesser Himalaya along National Highway 58 between Rudraprayag and

- Devprayag Localities, Uttarakhand, India.” *Journal of the Geological Society of India*, vol. 102, no. 5, 2026, pp. 609–20.
- Kuniyal, Jagdish Chandra, et al. “Carrying Capacity and Strategic Planning for Sustainable Tourism Practices in the Char Dham from the Western Himalaya, India.” *Scientific Reports*, vol. 15, 2025, article 36340.
- Lorenz, Daniel F., and Cordula Dittmer. “Disasters in the ‘Abode of Gods’: Vulnerabilities and Tourism in the Indian Himalaya.” *International Journal of Disaster Risk Reduction*, vol. 55, 2021, article 102054.
- Ministry of Environment, Forest and Climate Change, Government of India. *India: Third National Communication to the United Nations Framework Convention on Climate Change*. Government of India, 2023.
- Mukherjee, Upamanyu Pablo. *Climate Change and the Art of Devotion: Geoaesthetics in the Indian Anthropocene*. Cambridge UP, 2020.
- . *Postcolonial Environments: Nature, Culture and the Contemporary Indian Novel in English*. Palgrave Macmillan, 2010.
- Nayar, Pramod K. *Ecocriticism*. Routledge, 2010.
- Netflix. “*Kaala Paani*.” Netflix, 2023.
- Netflix. “Netflix and Posham Pa Pictures Announce *Kaala Paani*—A Gripping Survival Drama.” *About Netflix*, 14 July 2023.
- NITI Aayog. *Sustainable Development Goals: India Index and Dashboard*. Government of India.
- Nixon, Rob. *Slow Violence and the Environmentalism of the Poor*. Harvard UP, 2011.
- Parham, John. *The Cambridge Companion to Literature and the Anthropocene*. Cambridge UP, 2021.
- Rathour, Ranju Kumari, et al. “Municipal Wastewater Connection for Water Crisis and Jaundice Outbreaks in Shimla City: Present Findings and Future Solutions.” *International Journal of Environmental Research and Public Health*, vol. 19, no. 18, 2022, article 11266.
- Sarkar, Soma. “Urban Water Crisis and the Promise of Infrastructure: A Case Study of Shimla, India.” *Frontiers in Water*, vol. 5, 2023, article 1051336.
- Sati, Vishwambhar Prasad. *Sustainable Tourism in the Himalaya: Resource Constraints, Climate Change and Livelihoods*. Springer, 2021.
- Sati, S. P., and V. K. Gahalaut. “The Fury of the Floods in the North-West Himalayan Region: The Kedarnath Tragedy.” *Geomatics, Natural Hazards and Risk*, vol. 4, no. 3, 2013, pp. 193–201.
- Shiva, Vandana. *Ecology and the Politics of Survival: Conflicts over Natural Resources in India*. United Nations UP, 1991.
- . *Staying Alive: Women, Ecology and Development*. Zed Books, 1988.

Singh, Divya, et al. "Recent Events of Land Subsidence in Alaknanda Valley: A Case Study of Sinking Holy Town Joshimath, Uttarakhand, India." *Environment, Development and Sustainability*, vol. 27, no. 4, 2025, pp. 9539–67.

Singh, Rashmi, et al. "Conservation Policies, Eco-Tourism, and End of Pastoralism in Indian Himalaya?" *Frontiers in Sustainable Food Systems*, vol. 5, 2021, article 613998.

Trexler, Adam. *Anthropocene Fictions: The Novel in a Time of Climate Change*. U of Virginia P, 2015.

United Nations. *Sustainable Development Goals Report 2023*. United Nations, 2023.

United Nations Environment Programme and World Tourism Organization. *Making Tourism More Sustainable: A Guide for Policy Makers*. UNEP and UNWTO, 2005.

World Bank. *South Asia's Hotspots: The Impact of Temperature and Precipitation Changes on Living Standards*. World Bank, 2018.

World Tourism Organization. *Sustainable Tourism for Development Guidebook*. UNWTO, 2013.

Kaala Paani. Created by Sameer Saxena and Amit Golani, Netflix, 2023.

"A Geotechnical Investigation on a Recent Gigantic Rock Avalanche at the Patalganga-Langsi Site on the Badrinath Highway of Chamoli, Uttarakhand." *Discover Geoscience*, 2025.

"Assessment of Risk along Rock Slopes in Himachal Himalaya Using Rockfall Hazard Rating System and Landslide Possibility Index." *Journal of the Geological Society of India*, vol. 102, no. 2, 2026, pp. 184–94.

"Preliminary Investigation of Rainfall-Induced Landslides and Related Damages by the 2025 Extreme Monsoon in the Northwestern Himalayan Region." *Landslides*, 2026.

"Slope Stability Assessment and Landslide Susceptibility Mapping in the Lesser Himalaya, Mussoorie, Uttarakhand." *Discover Geoscience*, 2024.

"Socio-Ecological Vulnerability: Assessment and Coping Strategy to Environmental Disaster in Kedarnath Valley, Uttarakhand, Indian Himalayan Region." *International Journal of Disaster Risk Reduction*, vol. 25, 2017, pp. 111–24.

"Sinking and Sleeping of Himalayan City Joshimath." *Quaternary Science Advances*, vol. 12, 2023, article 100100.

"Tourism on the Roof of the World: Socio-Ecological Impacts of Tourism on the Indian Trans-Himalaya." *Land Use Policy*, vol. 138, 2024, article 107031.