
TOURISM AND ECOLOGY: RETHINKING SUSTAINABILITY AND LAW IN THE HIMALAYAN REGION

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ABSTRACT

The article thoroughly explains the concept of tourism in the Himalayas and the benefits associated with it. It also elaborates on the positive and negative environmental impacts of tourism activities. The study examines legislative frameworks intended to encourage sustainable practices in the tourist industry to address rising concerns about the industry's environmental impact. The national and state environmental laws and policies that control tourist activities are all evaluated as part of the study process. In addition to specialized frameworks like Wildlife Protection statutes, special attention is paid to the principles of sustainable resource utilization, India's Environment Protection Act of 1986, and the Forest Conservation Act of 1980. Together, these legal tools set guidelines for the growth of eco-friendly tourism. The study suggests integrated policy strategies including a comprehensive eco-tourism concept, scientifically defined carrying capacity limitations for protected areas, and environmental impact assessments. The study highlights that cooperative frameworks comprising public and private sector entities and community organizations operating under well-defined legal constraints are essential for effective, sustainable tourist governance. The conclusions stress the vital significance of strengthened procedures for monitoring and enforcement.

Keywords: Tourism, Biodiversity, Green Economy, Wildlife, Pollution, Green Logistics, Ecological Balance, Sustainability.

I. INTRODUCTION

The Himalayas' tall peaks conceal diverse flora and fauna that have captivated tourists worldwide. "The Himalayas are known as 'The Roof of the World' with their snow-capped peaks, thundering mountain streams, crystal clear waterfalls, serene lakes, and lush green forests."¹ Due to their stunning landscapes, the Himalayas look like something from a fairytale. They have a breathtaking tendency not just because of their immense size but also due to the unadulterated beauty that permeates each valley and ridge. Trekking routes allow one to feel utterly insignificant amid nature's majesty. What truly strikes the Himalayas is that there is spiritual beauty rather than merely mountains, which attract nature lovers and pilgrims. "This sense of beauty gets enhanced by the animals; catching a glimpse of a red panda up close is like being granted access to some of nature's best-kept secrets."² The breathtaking views explain what attracts people to the Himalayas.

Tourism is one of the key sectors that provides Himalayan residents with excellent income and job opportunities. Though the Himalayan region has benefited economically from tourism, it has done so at a high environmental cost. Road widening and the construction of new hotels have eroded forests, causing popular areas to lose about 15% of their tree cover.³ Fragile ecosystems are under strain as millions of tourists travel to the mountains yearly. The inflow of tourists produces large amounts of non-biodegradable waste. "Each year, an estimated 50,000 metric tons of solid waste are left behind or washed into the valleys and streams, which were once cleaned and are now contaminated by untreated sewage and hotel drains."⁴ Areas along well-traveled routes are at increased risk of landslides due to a lack of flora to stabilize the ground, putting tourists and nearby communities in peril. Deforestation, trail expansion, and illegal construction hasten soil erosion on steep slopes. "Groundwater levels have decreased by as much as 70% in certain valleys because of water extraction for tourists by hotels and camps, which causes water shortage for the farmers and the locals."⁵

These effects show how uncontrolled tourism is deteriorating the nature that attracts the

¹ Dr. Zulfiqar Ali, Abdul Manan, Shah Nawaz Khan & Said Qasim, "Tourism, Its Environmental and Legal Implications in the Himalayan Ecosystems: A Case Study of Azad Jammu and Kashmir, Pakistan," XXXIX *Journal of Law and Society* 17 (2009).

² Ainul Syed Hussain, Ruchi Badola, Pariva Dobriyal & Neeraj Mahar, "Tourism on the roof of the world: Socio-ecological impacts of tourism on the Indian Trans-Himalaya," in: *land use policy* (2024).

³ *HIMALAYAN GEOGRAPHCIC*, "Amazing Tourism in the Himalayas," available at: <https://himalayangeographic.com/amazing-tourism-in-the-himalayas/> (last visited Aug. 17, 2025).

⁴ *Ibid.*, at 2.

⁵ *Ibid.*, at 2.

tourists, endangering mountain populations' ecological balance and livelihood.

II. IMPACT OF TOURISM ON THE ENVIRONMENT

The Himalayan environment and tourism have a complex connection, with the natural beauty that attracts millions of tourists, who are harmed by their presence. Although tourism is an essential source of income to remote mountain communities, it also puts a great deal of strain on delicate ecosystems that have developed over thousands of years.

2.1 Negative Impact

2.1.1. Land Degradation

One of the major urgent problems is forest degradation, as evidenced by the significant 15-20% decline in forest density observed in popular tourist locations.⁶ According to some research, the forest composition of highly visited places has changed significantly, with invasive plants like *Lantana camara* and *Ageratina Adenophora* replacing native tree species.⁷

Environmental issues have spread throughout the region because of tourism-related activities. Steep terrains are becoming more vulnerable to erosion due to soil compaction caused by extensive foot traffic along hiking routes, which has decreased soil porosity and water retention capacity. Large-scale deforestation has been necessary for building infrastructure, including resorts, further fragmenting habitats and upsetting existing ecosystems.

“Important land resources include minerals, fossil fuels, fertile soil, forests, wetlands, and wildlife. Due to increased tourism and its allied activities at the tourist destinations, the recreational facilities have increased the pressure on these resources and scenic landscapes.”⁸

2.1.2. Loss of Biodiversity

An ecosystem is a geographic area including all the living organisms (people, plants, animals,

⁶ K. Chandra Sekar, Neha Thapliyal, Aseesh Pandey, Bhaskar Joshi, Sandipan Mukherjee, Puja Bhojak, Monica Bisht, Deepika Bhatt, Sourab Singh & Amit Bahukhandi, “Plant species diversity and density patterns along altitude gradient covering high-altitude alpine regions of west Himalaya, India,” VIII *Geology, Ecology, and Landscapes*, 559 (2023).

⁷ *Ibid.*, at 3.

⁸ Pratima Saikhom, “Impact of tourism on environment a case for Manipur state: North East India,” VII *IJS DR* 818 (2022).

and micro-organisms), their physical surroundings (such as soil, water, and air), and the natural cycles that sustain them.⁹ Because of the tourism leisure activities, more and more habitats have been degraded. For example, wildlife viewing can stress the animals and alter their natural behaviour when tourists come too close. Safaris and wildlife watching activities have a degrading effect on habitat, as they often are accompanied by the noise and commotion created by tourists.¹⁰

Due to the disintegration of mountain ecosystems because of tourist development in the Himalayas, there are significant repercussions for plant and animal populations. The natural habitats are divided by infrastructure projects cutting across formerly linked forest regions and making it difficult for wildlife to migrate between feeding and nesting places.

In well-known tourist locations, the composition of native forests is drastically altering with the growth of invasive plants, leading to a decrease in their natural forest density. These invasive plants quickly grow through disturbed regions and form thick colonies that displace native flora.

The forests' normal cycle of regeneration is disrupted. In high-traffic hiking regions, seedling populations have decreased by 25-30% indicating a significant loss in young tree development. The studies from the Sal forests of the Kumaon Himalayas show how patterns of forest rejuvenation are impacted by tourism demand.¹¹

2.1.3. Waste Management

“Disposal is a problematic issue in regions with high concentrations of visitor activities and engaging natural attractions, and improper disposal can significantly contribute to the degradation of the natural habitat - waterways, picturesque zones, and roadsides.”¹² Disposable food wrappers and drink containers account for 80% of the yearly 50,000 metric tons of waste.¹³ Even worse, around 71% of collected plastic cannot be recycled and is worthless to

⁹ Janardan Upadhyay, “Study of Tourism in India: Positive Impact of Tourism and Its Negative Impact on Environment,” I *Eureka Journals* 17 (2017).

¹⁰ Mrs. Neeta Rath & Dr. Rashi Gupta, “Environmental Impact of Tourism,” II *ijariie* 50 (2017).

¹¹ Chandra Shekhar, supra note 6, at 3.

¹² Chandra Shekhar, supra note 6, at 3.

¹³ *Break free from plastic*, “80% of Himalayan Plastic Waste is Single Use Food And Beverage Packing: Regional Alliance Formed To Combat Crisis,” available at: <https://www.breakfreefromplastic.org/2025/05/08/80-of-himalayan-plastic-waste-is-single-use-food-and-beverage-packaging-regional-alliance-formed-to-combat-crisis/> (last visited Aug. 08, 2025).

scrap traders.¹⁴ Environmentalists and communities alike are searching for solutions due to the large amount of garbage and the fact that a large portion cannot be recycled.

In Uttarakhand, people gather for “the festivals such as Makar Sankranti, Basant Panchami, Maha Shivaratri, Guru Poornima, Ganga Dussehra, Kanwar Mela, Maha Kumbh, and Ardh Kumbh are the main occasions occurring around the year when solid waste generation gets increased manifold.”¹⁵

2.1.4. Loss of Resources

“Tourism can pressure local resources like energy, food, and transport, exacerbating the physical impacts of their exploitation. Because of the seasonal character of the industry, many destinations have ten times more inhabitants in the high season. A high demand is placed upon these resources to meet the high expectations of tourists often have for proper heating, hot water, etc.”¹⁶

About 70% of mountain towns and villages suffer from severe water shortages because of the surge in tourism, which raises demand for essential utilities like power and water. The situation has worsened in locations like Nainital, where the well-known lake loses an inch of water daily.¹⁷ About 16 million litres of water are used daily by hotels and tourism establishments, leaving little for locals and endangering the area's long-term viability.¹⁸

2.1.5. Pollution

a) Water Pollution

Untreated sewage and wastewater are among the most harmful types of pollution affecting Himalayan streams. Due to the insufficient or non-existent sewage treatment facilities, much

¹⁴ *Ibid.*, at 4.

¹⁵ Khushi Kimothi & Surabhi Singh, “An Analysis of the Impact of Tourism on the Environment of Uttarakhand,” IV *ijllr* 1 (2022).

¹⁶ Chandra Shekhar, *supra* note 6, at 3.

¹⁷ *International Mountain Conference*, “Adapting to the Climate Change and Water Crisis in the Himalayan Region: Sectoral Implications and Anticipatory Actions,” available at: <https://imc2025.info/imc25/sessions-n-workshops/focus-session/fs-3-155-adapting-to-the-climate-change-and-water-crisis-in-the-himalayan-region-sectoral-implications-and-anticipatory-actions-climate-change-water-crisis-and-anticipatory-action-in-the-himalaya/> (last visited Aug. 08, 2025).

¹⁸ *Mongabay*, “The Himalayas are Staring at a Grim Water Future, Says Study,” available at: <https://india.mongabay.com/2019/03/the-himalayas-are-staring-at-a-grim-water-future-says-study/> (last visited Aug. 08, 2025).

wastewater is discharged untreated into the environment. Dal Lake in Kashmir is a striking illustration of this issue; years of uncontrolled rubbish dumping have caused the once pure, sparkling water to become dark and contaminated.

“Many people visit Uttarakhand for the religious tours to Haridwar, Rishikesh, etc. People who go on these tours frequently drown idols in rivers like the Ganga and Yamuna because of their fervent religious beliefs. These statues, which are built of cement, plaster of Paris, and thermal coal, don't dissolve in rivers and frequently pollute the water. The paints used to decorate the gods usually include dangerous substances like cadmium, lead, cobalt, mercury, and many others, making aquatic life vulnerable and causing the rivers to deteriorate.”¹⁹

According to the Times of India's 2022 news article, "the fortnight-long Kanwar Yatra has left behind approximately 30,000 metric tonnes (MT) of garbage in Haridwar".²⁰ People hiking or trekking use water-conserving dry pit toilets in the hills that naturally decompose the human excreta. However, few dry pit toilets constructed in the subsurface zones of the Ganga typically overflow during heavy rain, and human waste runs along the moving river water, polluting the river's beginning.

b) Land Pollution

The solid waste accumulates as heaps on the peripheries of the cities, but this is not the same for hilly areas. Due to the lack of area for garbage mounds, the waste carelessly tossed into the mountains remains there until the local waste management system takes care of it. This process gets complicated during snowfall because the garbage trucks cannot drive to such areas in inclement weather. Hence, the garbage accumulates in one place and becomes one of the significant causes of air and water pollution. When garbage builds up at a location for an extended period, it releases leachate, a condensed combination of organic debris and water. It is incredibly harmful to the soil and groundwater.²¹

An enormous 370 tons of waste are produced daily in Himachal Pradesh, and managing that

¹⁹ Ibid., at 5.

²⁰ Shivani Azad, “Kanwar Yatra leaves behind 30,000 MT garbage in Haridwar,” *times of india* (July 28, 2022), available at: <https://timesofindia.indiatimes.com/city/dehradun/kanwar-yatra-leaves-behind-30000-mt-garbage-inharidwar/articleshow/93174120.cms> (last visited Aug. 17, 2025).

²¹ Singh, *supra* note 15, at 5.

waste is even more challenging due to the inflow of hikers.²²

“When there has been a lot of rain, this leachate flows into rivers and lakes and pollutes them. It even pollutes the groundwater, which is a useful necessity for people. The garbage piles eventually deplete the soil's fertility and obliterate the rare Himalayan plants. Several prominent herbs have gone extinct here, including Jatamasi, Atish, Barmala, Kakoli, and others.”²³

c) Air Pollution

Vehicles are responsible for over 40% of the air pollution at popular tourist destinations in the Himalayas, which has caused visibility to decrease. For example, the number of cloudy days recorded at Pokhara airport increased significantly from 23 in 2021 to 168 in 2024.

"During the Char Dham pilgrimage, a person on average generates a minimum of 7-9 kg of waste, assuming she takes nine days to complete the journey to all four shrines."²⁴. Occasionally, workers burn raw waste in public since there is no proper disposal technique. Although Uttarakhand banned the use of plastic in 2015, there was no significant movement to enforce the restriction; therefore, people continue to use plastic. Burning waste like plastic, water bottles, clothes, etc, leads to air pollution and releases numerous dangerous greenhouse gases, making it detrimental to the environment. Tourist activities and development projects in the state lead to an increase in black carbon, too. Black carbon is a dangerous air contaminant that contributes to climate change. Black carbon raises the atmosphere's temperature, which alters cloud and precipitation dynamics.²⁵ According to a news article published in the Hindustan Times, "in the non-summer months, the concentration of black carbon comes down to about two micrograms per cubic metre of air, indicating that forest fires and tourism activities in Uttarakhand contribute to higher concentration of black carbon on glaciers."²⁶

²² *The new Indian express*, "Tourism: A Wasted Chance to Protect Himalayan Ecology," available at: <https://www.newindianexpress.com/nation/2022/Jul/03/tourism-a-wasted-chance-to-protect-himalayan-ecology-2472679.html> (last visited Aug. 09, 2025).

²³ Singh, supra note 15, at 5.

²⁴ Ajay Ramola, "Amid pilgrim rush, Uttarakhand faces littering concerns," *Hindustan Times* (May 16, 2022), available at: <https://www.hindustantimes.com/india-news/amid-pilgrim-rush-uttarakhand-faces-littering-concerns-101652639609904.html> (last visited Aug. 09, 2025).

²⁵ Singh, supra note 15, at 5.

²⁶ *Hindustan times*, "Forest Fire, Tourism Cause of High Black Carbon Concentration on Gangotri: Study," available at: <https://www.hindustantimes.com/india-news/forest-fire-tourism-cause-of-high-black-carbon-concentration-ongangotri-%20study/%20story-ct8hG6TQxTqVYC6rLQl0sL.html>. (last visited Aug. 09, 2025).

2.1.6. Impact on Climate

Due to increased carbon emissions and environmental stress, tourism is accelerating the melting of glaciers in the Himalayas. According to recent studies, glaciers in the Hindu Kush region decreased 65% more quickly between 2011 and 2020 than in the previous decade. Experts warned that the area may lose up to half of its glacier ice by the end of this century if global temperature increases by an additional 1.5 to 2 degrees Celsius.

2.2 Positive Impact

2.2.1. Economic benefits

Tourism plays a vital role in the economic development of Himalayan towns by creating significant revenue and job possibilities. In some Himalayan states and nations, the industry makes up 8–15% of GDP; in states like Uttarakhand, West Bengal, Tripura, Assam, and Meghalaya, where tourism makes up over 10% of GDP, the sector is especially significant. Over 50,000 people are employed seasonally by 65,000 trekkers in the Nepalese Himalayas alone during the busiest time of year. Tourism boosts the economy of the local people directly and indirectly. In Assam, every day, several tourists have been coming, so local people have an ample scope for selling local products, particularly Karbi traditional bags, scarves, shawls, jackets, local crafts, vegetables, and earn a source of livelihood.²⁷

2.2.2. Cultural Exchange

By generating demand for traditional goods, historic structures, and long-standing traditions that may otherwise be lost, tourism can contribute to the preservation of local culture. In addition to saving endangered species and their habitats, conservation initiatives linked to tourism initiatives also inform tourists about the value of preserving these natural wonders. “Tourism plays a vital role in earning a livelihood for sustaining as well as promoting locally available things to the outside world.”²⁸ This helps promote the culture of that place.

²⁷ Sailajananda Saikia & Rasing Hanse, “Development of Tourism Infrastructures and its Impact on Economy and Environment- A Case of Kaipholangso Tourist Spot in Karbi Anglong District of Assam, India,” 30 *Eco. Env. & Cons.* S180 (2024).

²⁸ *Ibid.*, at 9.

2.2.3. Source of Foreign Exchange

Tourism is a significant source of foreign exchange revenues in the Himalayas, significantly boosting the national and regional economy. Foreign visitor spending is key to many mountain states' economic objectives since it stimulates new development, improves local infrastructure, and generates jobs. Every year, millions of visitors from different nations visit states like Uttarakhand, Sikkim, and Himachal Pradesh, boosting their economies and foreign exchange reserves. Tourism is one of the primary sources of foreign cash in these regions since it benefits companies associated with it, such as hotels, transportation, hiking guides, and traditional craftspeople. In context, prominent Himalayan sites have contributed significantly to India's recent success in earning 7–10% of its GDP in foreign exchange from travel and tourism.

2.2.4. Infrastructure Growth

Infrastructure such as improved roads, airports, and public amenities that benefit both tourists and locals is frequently developed because of tourism. These upgrades contribute to the local population's increased access to healthcare, education, and other essential services. Infrastructure growth has, in turn, induced the development of other directly productive activities.²⁹

2.2.5. Protection of the Environment

“Tourism can play a significant role in protecting the environment, conserving and restoring biological diversity, and sustainable use of natural resources.”³⁰ The tourists themselves end up serving as conservation advocates. Visitors may learn about delicate ecosystems and the risks of pollution, habitat loss, and climate change through guided nature walks, animal safaris, and educational programs. Equipped with this understanding, visitors frequently fight for environmental problems long after they return home and take on more responsible practices. “Tourism helps to protect numerous places of historical importance by declaring them as heritage sites.”³¹ In like manner, tourism also helps save the natural habitats of many endangered species.³²

²⁹ Upadhyay, *supra* note 9, at 4.

³⁰ Saikhom, *supra* note 8, at 3.

³¹ Upadhyay, *supra* note 9, at 4.

³² Saikhom, *supra* note 8, at 3.

III. VARIOUS LAWS AND POLICIES IMPACTING TOURISM AND THE ENVIRONMENT

The Himalayan states of India are governed by a combination of central laws and state-level regulations that aim to strike a balance between the growth of tourism and environmental preservation. Important legislative and policy initiatives consist of:

3.1 Central Legislations

1. “The Environment (Protection) Act”³³

The legislation grants the national government the power to set environmental standards, regulate pollutant emissions, and designate specific areas as environmentally sensitive. These sensitive-area regulations, which impose severe limitations on any new building connected to tourism, have been applied to watersheds around significant glaciers and wildlife routes in the Himalayas.

2. “Forest (Conservation) Act”³⁴

The Forest (Conservation) Act of 1980 states that without permission from the National Environment Ministry, forest property cannot be used for parking lots, trail networks, or hotels. To compensate for any trees cut down, the developers must plant an equal or greater number of saplings elsewhere. They risk heavy fines and possibly extra "environmental compensation" costs to pay for conservation and restoration if they cut more forest than is permitted.

3. “Water (Prevention and Control of Pollution) Act”³⁵

“Before releasing wastewater, every hotel, lodge, or tourist complex is required by the Water (Prevention & Control of Pollution) Act of 1974 to get both a 'Consent to Establish' and a 'Consent to Operate' from the local State Pollution Control Board. To guarantee effluent satisfies the necessary quality requirements, isolated Himalayan communities sometimes have to establish sewage-treatment plants or connect to small-scale, decentralized treatment networks.”

³³ The Environment (Protection) Act, 1986

³⁴ Forest (Conservation) Act, 1980

³⁵ Water (Prevention and Control of Pollution) Act, 1974

4. “Wildlife (Protection) Act”³⁶

State governments can regulate the number of visitors to their protected areas and the kind of tourism services permitted under the Wildlife (Protection) Act of 1972. The regulations governing the Great Himalayan National Park in Himachal Pradesh and the Valley of Flowers in Uttarakhand are two examples of how states must implement this law. It also restricts the daily number of visitors, establishes boundaries between strictly protected "core" zones and less restrictive "buffer" zones, and requires comprehensive management plans for those buffer areas.

5. National Strategy for Sustainable Tourism 2019

Three pillars serve as the foundation for the Ministry of Tourism's 2019 Sustainable Tourism Strategy, which directs policymaking: protecting natural ecosystems, conserving cultural customs, and ensuring the financial stability of communities and destinations. To implement these concepts, the framework requires: Establishing Visitor Boundaries in Vulnerable Areas, Demanding Extensive Environmental Research, and Promoting Eco-Friendly Business Practices.

6. National Action Plan on Climate Change 2008

The Indian government released the Action Plan on Climate Change, which included recommendations for mitigating climate change in India. They also released a disaster management strategy and strategies to raise awareness. Reducing climate-related disorder was the aim. Numerous projects were carried out under this program. 'National Mission for Sustaining the Himalayan Ecosystem' was one of NAPCC's projects to protect the Himalayas and encourage collaboration between the government and non-profit organizations. Due to this endeavor, the Himalayan ecosystem has recognized and organized institutions and civil society organizations. Increasing India's forest cover was the primary objective of the National Mission for a Green India, another NAPCC objective.

7. Eco-Tourism Guidelines 2002³⁷

The Ministry of Tourism's 2002 Eco-Tourism Guidelines provide designated areas, frequently

³⁶ Wildlife (Protection) Act, 1972

³⁷ National Strategy for Sustainable Tourism, 2022

next to national parks and animal sanctuaries, where local people welcome and oversee tourists. By these guidelines:

Buildings have to fit in with the surroundings. To retain the natural landscape as the main attraction, builders employ locally sourced materials like stone, bamboo, and thatch, and make their structures low and inconspicuous.

Profits are distributed to local rights organizations and villages. To guarantee that those who work to preserve forests and wildlife also profit materially, a percentage of tourism-related income is donated directly to panchayats or Forest Rights Committee funding.

Guides get conservation interpretation training. Every walk is transformed into an enjoyable, instructive experience that increases tourists' appreciation for the area's biodiversity as locals are trained to lead treks and explain ecological processes, wildlife behavior, and traditional land-use practices.

8. Solid Waste Management Rules³⁸

All waste must be classified at the point of generation by the 2016 Solid Waste Management Rules, and only authorized waste collectors are permitted to handle it. Plans for composting organic waste and establishing recycling facilities must be created by local authorities in mountain towns and hill stations, considering the rugged slopes and limited landfill area.

9. Nagar Van Scheme³⁹

The Ministry of Environment, Forests, and Climate Change (MoEFCC) launched the Nagar Van Scheme on June 5, 2020, to revive the nation's forests by planting trees in 200 towns. The initiative, which Union Environment Minister Prakash Javadekar oversees, aims to highlight the contributions of individuals, the Forest Department, local government agencies, non-profit organizations, and corporations.

3.2 State Legislations

1. Himachal Pradesh

³⁸ Solid Waste Management Rules, 2016

³⁹ Nagar Van Yojana, 2020

The **2019 Himachal Pradesh Tourism Policy** requires all new hotels and guesthouses to obtain "Green Himachal" designation through energy efficiency tests, water conservation systems, and appropriate trash sorting. It also places stringent restrictions on construction in environmentally vulnerable areas and along ridge tops.

House-to-house garbage pickup, local organic waste composting, and fines for anybody found dumping trash along hiking trails are all mandated under the **state's waste management regulations**.

2. Uttarakhand

The 2018 Uttarakhand Ecotourism Policy establishes Eco-Development Committees at the village level, which can approve or disapprove homestays, new hiking routes, and adventure tourism projects.

Meanwhile, the State Pollution Control Board frequently tests the water at well-known tourist destinations like Nainital and Bhimtal Lakes. It closes hotels or eateries that don't adhere to pollution regulations.

The Swachh Bharat Swachh Garhwal campaign was launched simultaneously in all seven districts of Garhwal, namely Dehradun, Haridwar, Chamoli, Pauri, Tehri, Rudraprayag, and Uttarkashi, on June 5, 2019, on Environment Day under the guidance of the tourism minister of Uttarakhand, Satpal Maharaj. Along with making Uttarakhand litter-free, this campaign aimed at planting more trees for ecological development and constructing toilets for hygiene. They also attempted to educate the public of Uttarakhand and visitors from other parts of India who came to Char Dham Yatra about the environment through recurring rallies. The movement has carried out additional cleaning efforts and persuaded shop owners to place trash cans in front of their shops.

3. Sikkim

The state is separated into three categories—Ecological, Buffer, and General zones—each subject to its own set of development guidelines, as per the Sikkim Tourism Master Plan 2025. Operators of adventure tours must get a refundable "Adventure Permit," which is only reimbursed if they keep a perfect environmental record.

The "Green Homestay" program provides homeowners who install solar water heaters, install rainwater collection systems, and build with natural materials with financial grants and marketing support.

4. Jammu and Kashmir (Union Territory)

Any hotel with more than ten rooms is required by the Tourism Promotion Policy 2023 to have solar water heaters and sewage-treatment facilities to receive the "Green J&K" designation. Meanwhile, Amarnath Yatra regulations limit the daily pilgrimage and the dates of the pilgrimage season to save delicate high-altitude springs and glacier-fed streams.

IV. SOLUTIONS TO MAKE TOURISM SUSTAINABLE

Utilizing the natural environment and cultural resources, preserving them, and maintaining local populations' cultures are all components of sustainable tourist development. "For the benefit of all parties involved, including the government, tourism entrepreneurs, local communities, and non-governmental organizations, it is a comprehensive idea and strategy for all tourism practices and activities in both urban and rural remote areas, as well as for large and small-scale tourism businesses organized by the public and private sectors."⁴⁰ The concept of sustainability in tourist development is crucial for both the current and future generations.

The term "national sustainable development" describes a deliberate government endeavor to improve the welfare of the populace by balancing and harmonizing the three basic components of development—economic, sociocultural, and ecological—in the execution of tourism development as the sole means of safeguarding the main interests of current and future generations. Therefore, environmental, economic, and sociocultural aspects of tourist development are considered sustainability principles. A suitable balance between the three components and dimensions should be established to ensure tourism's long-term sustainability. "This will ensure that the government's legal policy and the local community's legal culture in the destination work together harmoniously".⁴¹ Furthermore, all parties involved gain socioeconomic benefits from the long-term strategy of sustainable tourism development and practices, which includes business possibilities, steady employment and income, social

⁴⁰ Nyoman Nurjaya, "Legal Policy of Sustainable Tourism Development: Towards Community-Based Tourism in Indonesia," *IJtep* 123 (2022).

⁴¹ "Ibid., at 14.

services for the host communities, and poverty reduction. “A balanced approach that integrates cultural, environmental, and economic considerations is necessary to ensure the long-term success and sustainability of tourism.”⁴²

4.1 Ways that can be adopted for a sustainable approach:

4.1.1. The idea of the Green Economy

“The goal of the green economy is to promote economic growth while protecting natural ecosystems. Today, a green economy is necessary because everyone deals with serious environmental issues, including floods, landslides, abrasion, air pollution, dwindling biodiversity, forest degradation, and river pollution.”⁴³

By incorporating green-economy strategies into Himalayan tourism, tourists' passion for unspoiled landscapes becomes a tangible contribution to environmental preservation and the betterment of local people. Eco-friendly travel is crucial for maintaining the fragile alpine environment and promoting long-term prosperity because it embraces renewable energy, uses resources responsibly, protects animal habitats, and ensures that everyone benefits economically.

To reduce carbon emissions, lodges, cars, and tour companies should be outfitted with renewable energy sources. For example, guesthouses should have solar panels, electric jeeps, and small hydropower units. Additionally, buildings in remote communities should be retrofitted with improved insulation, LED lighting, and waste heat recovery systems to reduce fuel and electricity consumption.

Making the most of resources entails turning hiking trash and food leftovers into compost or biogas through community composting programs and nearby waste-to-energy plants, which reduce waste streams and safeguard the few landfill sites on steep hills. Similarly, collecting rainfall and installing low-flow faucets in mountain hotels protects delicate springs and streams, ensuring that humans and wildlife can access water.

⁴² Stanzin Padma & Dr. Tawheed Nabi, “Quantitative Analysis of Tourism Dynamics in the Himalayas: Dual Perspective Study,” 32 *Communications on Applied Nonlinear Analysis* 439 (2025).

⁴³ L. D. Nugroho, S. R. Melati, I. Wahyuliana, A. Pawestri & L. F. Kurniawan, “Legal Policy of Implementation Green Economy In the Tourism Sector To Realize Sustainable Tourism and Environment,” *IOP Conference Series: Earth Environmental Science* 1181 (2023).

Controlling visitor movements is key to protecting biodiversity: eco-tour permits and buffer zones are carefully managed to keep tourists out of core wildlife areas, and the money collected from visitors supports anti-poaching patrols and tree-planting campaigns that restore habitats for animals like musk deer and snow leopards. Conservation becomes viable when local revenues are closely linked to the health of ecosystems through community-run nature excursions, whether for bird watching or animal spotting.

4.1.2. Green Logistic Solutions

i) Bicycling Tourism

Cycling may be a good substitute for private vehicles for short distances and, because of its higher intensity, can be a more effective way to improve one's health than walking. It is also environmentally, socially, and economically sustainable. Cycling is a reasonably priced form of transportation that allows individuals to mingle and recuperate. Cycling may be included in the tourism destination and is seen as a genuine local experience. A bicycle is an inventive way to satisfy people's future requirements for mobility in urban settings and an excellent example of eco-friendly transportation.⁴⁴ "A slower approach to tourism, cycling provides a lively experience of (tourism) mobility as an object for analysis and assumes the role of non-motorized travel."⁴⁵

ii) Sustainable Solution through walkability

"There is growing interest in making places greener by improving their walkability."⁴⁶ Walking is a significant component of sustainable mobility and an essential aspect of the tourist experience. Assessing their alternatives for hiking and transportation is necessary to encourage tourists to adopt active transportation in specific sites. "UNWTO noted that walking tourism was one of the most popular ways to experience a destination in 2019."⁴⁷

⁴⁴ Dalia Perkumiene, Rasa Pranske, Milita Vienažindiene & Jurgita Grigiene, "The Right to a Clean Environment: Considering Green Logistics and Sustainable Tourism," 17 *INTERNATIONAL JOURNAL OF ENVIRONMENTAL RESEARCH PUBLIC HEALTH* 3254 (2020).

⁴⁵ L. Wang & C. Wen, "The Relationship between the neighbourhoods built environment and active transportation among adults: A systematic literature review," 1 *Urban Science* 29 (2017).

⁴⁶ L. Laker, "Where is the World's Most Walkable City?" *The Guardian* (2017).

⁴⁷ World Tourism Organization, *Walking Tourism—Promoting Regional Development* (Madrid, Spain, 2019).

4.1.3. Slow Tourism

It encourages people to engage with the location leisurely, strengthening their links to the local community, environment, and cultural heritage. To provide meaningful experiences and lessen the negative consequences of mass tourism, slow tourism emphasizes authenticity, sustainability, and the well-being of both visitors and the destination.

“Slow tourism aims for sustainable practices to protect these fragile ecosystems long-term. Preserving natural landscapes is a primary goal, and advocating responsible travel behaviours to minimize the carbon footprint. Slow tourists are encouraged to use eco-friendly transport like walking and cycling to reduce vehicular pollution and maintain ecological balance.”⁴⁸

“The primary objective of trekking in Kumaon is to provide sustainable experiences prioritizing low environmental damage and cultural immersion. It involves staying in eco lodges or camping, allowing visitors to connect with nature and local communities.”⁴⁹

4.1.4. Geo Tourism

“Geotourism fosters the communities' environmental and cultural understanding, appreciation, conservation, and economic development. The idea is to encourage community participation to make them more responsible and develop their organization and other skills.”⁵⁰

In addition to supporting conservation efforts for these environments and the people who inhabit them, geotourism focuses on trips that immerse visitors in the earth's natural architecture, including its rocks, soils, terrain formations, and the forces that shaped it. Instead of emphasizing landmarks or entertainment, geotourism provides an educational journey that inspires travelers to see the country from a scientific angle and develop a deeper comprehension of the dynamic history of our planet.

By emphasizing Earth's distinctive geology, geotourism reduces environmental harm and

⁴⁸ A. Pentecost, “Continental Carbonates - Preservation of Natural and Historic Heritage Sites,” 62 *DEVELOPMENTS IN SEDIMENTOLOGY* 297 (2010).

⁴⁹ Jitender Bhandari, Vinay Rana & Shalini Singh, “A Systematic Literature Review on Slow Tourism and Its Implications to the Uttarakhand State of India,” XV *Journal of Environmental Management and Tourism* 385 (2024).

⁵⁰ Vidhi Saluja, Subhash Anand, Jian Peng & Harish Kumar, “The Perceived Impact of Tourism Development and Sustainable Strategies for Residents of Varkala, South India,” X *International Journal of Geoheritage and Parks* 184 (2022).

increases sustainability in travel. Local materials keep structures modest, and well-designed, low-impact paths and tourist amenities avoid sensitive soils and rock formations. Visitors learn about the forces affecting landscapes through panels, hands-on activities, and guides, and grow more conscious of their impact. To minimize overcrowding and erosion, visitor numbers are limited by permission or timed-entry procedures specific to each site's fragility. The money raised from fees supports community initiatives, research, and maintenance, giving residents financial incentives to preserve their culture. Additionally, geotourism creates green livelihoods that displace more damaging sectors by teaching locals how to interpret the terrain and providing chances for eco-friendly crafts.

V. CONCLUSION

While creating a tourist destination offers several opportunities for revenue streams for a living, poor in-situ management and upkeep would harm the tourist destination's physical surroundings. "The bottles of cold drinks and other intoxicating drinks are lying in the stream, which would affect the water's natural beauty and ecological balance. A heap of non-degradable materials was thrown beneath the skywalk bridge. The broken bottles of intoxicated drink are lying along the bridge and the staircase. In conclusion, the tourist spot is deteriorating the physical natural environment to some extent due to the use of non-degradable particles by the picnickers."⁵¹ Though the current legislation and policies deal with the problems occurring through tourism, they are insufficient and require modification so that the purpose of tourism is fulfilled without harming the environmental surroundings.

Through the state's rich artistic and cultural heritage, gastronomic diversity, and scenic attractiveness, the state government should aim to promote ecotourism policy and development. To stop littering, tourists must be educated, their behavior must be thoroughly observed, and more garbage cans must be placed on the streets and slopes. Applying penalties according to the different quantities of waste guests leave behind is essential in addition to these measures. Stopping climate change also requires regulations, such as restricting the number of tourists to specific environmentally fragile locations. Excessive urbanization can have detrimental impacts in environmentally susceptible places since it can lead to soil erosion and avalanches. To prevent such a catastrophe, we must take decisive action to avert catastrophic climate change. When managed well, tourism may significantly contribute to the

⁵¹ Saikia, *supra* note 27, at 9.

preservation of the environment, the restoration of animal habitat, and the economic use of natural resources.