



## Sustainable Growth Through Eco-Tourism in Sikkim

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### Abstract

Sikkim, nestled in the north-eastern corner of India, is a region of unparalleled natural beauty, boasting snow-capped mountains, lush forests, and vibrant biodiversity. The state's rich ecological heritage, including the iconic Kanchenjunga peak and a variety of flora and fauna, makes it a prime destination for eco-tourism. Tourism, particularly eco-tourism, is a growing field that not only helps preserve nature but also provides economic benefits to local communities. By attracting visitors who seek to experience pristine nature and contribute to local economies, eco-tourism creates opportunities for both environmental conservation and community empowerment. This study aims to explore the role of eco-tourism in driving sustainable economic growth in Sikkim. The focus of the study is to understand how eco-tourism can balance the preservation of Sikkim's rich natural resources while fostering economic opportunities for its local population. By examining the economic benefits, job creation, and environmental preservation associated with eco-tourism, the study seeks to provide a comprehensive assessment of the sector's potential in contributing to long-term development in the region. The importance of this research is that it shows how eco-tourism can contribute to the economic development of places like Sikkim, which are rich in biodiversity but often overlooked in mainstream development efforts. This research is conducted through secondary data sources, including government reports, academic articles, and case studies on eco-tourism in Sikkim. The findings will provide valuable insights into how eco-tourism can contribute to sustainable development in one of India's most ecologically sensitive regions.

**Keywords:** Sikkim, Eco-tourism, Sustainable Development, Economic Growth, Environmental Conservation, Tourism Impact, North-Eastern India.

### 1. Introduction

Situated in the Himalayan mountains, the state of Sikkim is characterised by mountainous terrain. Almost the entire state is hilly, with an elevation ranging from 280 metres (920 ft) in the south at the border with West Bengal to 8,586 metres (28,169 ft) in the northern peaks near Nepal and Tibet. The summit of Kangchenjunga, the world's third-highest peak, is the state's highest point, situated on the border between Sikkim and Nepal. About a third of the state is heavily forested. Sikkim is divided into four regions: North, South, East and west. Each of the four districts offer a unique travel opportunity. Ecotourism is defined as "responsible travel to natural areas that conserves the environment, sustains the well-being of the local people, and involves interpretation and education" as per The International

Ecotourism Society, 2015. Ecotourism brings together nature conservation, local communities, and responsible travel. It aims to:

- Reduce harm to nature, culture, and people's behaviour or feelings.
- Create enjoyable experiences for both tourists and locals. [1]
- Provide money to support local people and businesses.

Eco-tourism was introduced as a response to the growing negative impacts of conventional tourism on the environment, local cultures, and communities. Traditional tourism, often focused on leisure and mass entertainment, has frequently led to over-exploitation of natural resources, destruction of ecosystems, and cultural insensitivity. In contrast,



eco-tourism emphasizes sustainable travel practices, aiming to protect the environment, preserve cultural heritage, and bring economic benefits directly to local communities. The significance of eco-tourism is its ability to balance economic development with environmental sustainability. It provides an alternative for tourism that encourages responsible travel, helps fund conservation efforts, and raises awareness about environmental challenges. In the context of Sikkim, eco-tourism holds immense potential due to the state's rich biodiversity, stunning landscapes, and unique cultural heritage. Sikkim is home to the Kanchenjunga National Park, a UNESCO World Heritage Site, and numerous other ecologically sensitive areas teeming with rare flora and fauna. Eco-tourism in Sikkim provides a sustainable way to explore these natural treasures while protecting them from overuse and degradation. It helps local communities by offering employment opportunities in hospitality, guiding, and eco-friendly businesses such as organic farming and handicrafts. Moreover, eco-tourism initiatives in Sikkim promote environmental education, encouraging both locals and visitors to adopt practices that preserve the region's fragile ecosystems. The state government has also supported eco-tourism through policies that prioritize sustainable development, making Sikkim a model for eco-friendly travel in India. In this way, eco-tourism not only boosts Sikkim's economy but also safeguards its natural beauty and cultural identity for future generations. [2]

## **2. Objective of the Research**

- To analyze the Environmental impact of Ecotourism
- To identify the Challenges of Eco-Tourism in Sikkim
- To assess the role of Ecotourism in Sikkim's Economic Development

## **3. Literature review**

Susanta Das has mentioned in her article about the development of tourism in Sikkim and issues and challenges associated with it. The article analyzes the rapid growth of tourism in the region, which has seen a 77% increase in tourists, reaching over 14 lakh visitors by 2017. The research emphasizes the

importance of ecotourism as a sustainable alternative to mass tourism. She also mentioned some strategies for sustainable tourism development. Jeckme Namgyal Bhutia discussed in his thesis Sikkim tourism sector and sustainability issues such as seasonal tourism, water scarcity. He has mentioned practices that will help to preserve the Sikkim natural and cultural resources. The government report "Development and Promotion Of Eco-Tourism In Sikkim" by S.B.S. Bhaduria IFS, (Secretary Tourism, Government of Sikkim, Gangtok) presents the significance of Ecotourism in Sikkim. He further mentions about the responsibilities of the host community and ecotourist. He put a light on the importance of ecotourism projects which aims at conservation, regeneration of Forests, Environment and Wildlife in the area and in the State as well. Prodyut Bhattacharya and Smriti Kumar talks about focusing on developing criteria and indicators to evaluate sustainable ecotourism practices specific to the study area, along with guidelines to measure these indicators effectively in their paper. The study emphasizes alleviating poverty among mountain populations by creating sustainable, income-generating activities. It highlights the importance of balancing tourism growth with environmental and cultural preservation to achieve sustainable development in the region. Nisha Tamang Lama in her work "Community Based Eco-Tourism: Looking into the Government Policy Initiatives in Sikkim" highlights the state's efforts to promote CBET through policy measures, such as the Sikkim Ecotourism Policy, which aims to establish Sikkim as a unique ecotourism destination offering quality experiences while preserving natural and cultural resources.

## **4. Research Methodology**

The nature of this research is exploratory, aimed at understanding the impact of eco-tourism on sustainable growth in Sikkim. The study is primarily based on secondary data collected from various credible sources such as government reports, journal articles, online publications, and research studies. Data regarding eco-tourism, environment conservation efforts, and economic impacts are



analyzed to assess the relationship between eco-tourism and sustainability.

## 5. Contribution of Sikkim's Eco-Tourism Destinations to Sustainable Tourism

Each destination of Sikkim plays a significant role in promoting eco-tourism through conservation-focused practices, community involvement, and regulated tourism. Sikkim's eco-tourism destinations stand out for their unique natural beauty, cultural richness, and commitment to sustainability. Below are mentioned some of the destinations that contribute to Sikkim's eco-tourism landscapes.

### 5.1 North Sikkim

**Yumthang Valley-** Yumthang Valley also known as the "Valley of Flowers," is known for its vibrant alpine meadows and diverse flora. It is home to the Shingba Rhododendron Sanctuary, which has over twenty-four species of the rhododendron, the state flower. Eco-tourism practices here include:

- **Conservation of Flora and Fauna:** Restricted access to certain areas helps protect delicate ecosystem [3]
- **Regulation of Visitor Activities:** Controlled trekking routes and waste disposal facilities ensure minimal environmental damage.
- **Local Engagement:** Villagers act as guides, offering insights into the valley's biodiversity and fostering community-based tourism.

**Gurudongmar Lake-** Gurudongmar Lake is one of the highest lakes in the world and in India, at an elevation of 5,430 m (17,800 ft) according to the Government of Sikkim. It is located in the Great Himalayas in the Mangan District in Indian state of Sikkim, and considered sacred by Buddhists and Sikhs. The lake is named after the 8th-century founder of Tibetan Buddhism, Guru Padmasambhava, also known as Guru Rinpoche. Eco-tourism practices here include:

- **Preservation of Sacred Spot:** The lake holds immense spiritual importance for Buddhists, Hindus, and Sikhs, making it not only a natural marvel but also a sacred site. To respect this sanctity, strict guidelines are in place for visitors. Activities such as littering,

disturbing the natural habitat, or conducting non-religious rituals are strictly prohibited.

- **Controlled Infrastructure Development:** To minimize environmental impact, infrastructure around Gurudongmar is intentionally limited. There are no large hotels or commercial establishments near the lake, and visitors rely on small guesthouses in nearby villages like Lachen.
- **Regulated Tourism Access:** Given the high-altitude location and ecological sensitivity of the lake, access is carefully monitored. Permits are required for visitors, and entry is limited to certain times of the year when the conditions are most suitable.

**Lachung and Lachen -** The word Lachung means "small pass". Lachung, a picturesque mountain village in North Sikkim, is one of the most significant eco-tourism destinations in Sikkim. It is a town and hill station in Mangan district in northeast Indian state of Sikkim. The Indian Army has a forward base in the town. Before the Chinese occupation of Tibet in 1950, Lachung was a trading post between Sikkim and Tibet, after which it was closed down. Lachung is also the base camp for Rhododendron Valley Trek which starts from Yumthang Valley and ends at Lachen Valley. Lachung implements several sustainable tourism practices to protect its fragile ecosystem:

- **Waste Management:** Villagers and local authorities have established systems to manage waste effectively. Plastic usage is discouraged, and visitors are required to carry back any non-biodegradable waste.
- **Eco-Friendly Transport:** Tourists are encouraged to use shared transportation or eco-friendly modes of travel to reduce carbon emissions.
- **Responsible Trekking:** Trekking routes in and around Lachung are carefully monitored to prevent overuse. Visitors are briefed on eco-tourism principles, such as sticking to designated trails, avoiding disturbance to wildlife, and minimizing litter.



Lachen- Lachen, meaning "big pass," serves as a gateway to the stunning Chopta Valley and Gurudongmar Lake, and is promoted by the Sikkim government as a tourist destination. An annual yak race, the Thangu is held there in summer. Lachen stands apart from other Indian regions with its unique self-governance system, Dzumsa. In this traditional administrative setup, every household is an active member, collectively responsible for managing and organizing village activities. Eco-tourism practices here include:

- **Sustainable Construction:** Homestays and other structures in Lachen are built using eco-friendly materials like bamboo and locally sourced wood, blending seamlessly with the natural surroundings.
- **Small Group Tours:** To prevent overcrowding, tours are limited to small groups, ensuring that the natural environment remains undisturbed.

### 5.2 South Sikkim

Ravangla-Ravangla, perched at an altitude of approximately 7,000 feet in South Sikkim, is a tranquil hill station known for its spectacular views, serene environment, and cultural significance. Surrounded by lush forests, rolling hills, and panoramic views of the Kanchenjunga range, Ravangla has emerged as a key destination for eco-tourism. This picturesque town attracts nature lovers, trekkers, and spiritual seekers, blending natural beauty with sustainable tourism practices that preserve its fragile ecosystem and cultural heritage. Ravangla is not just a destination for nature lovers; it also holds significant spiritual appeal such as Buddha Park (Tathagata Tsal) this iconic park, featuring a 130-foot statue of Buddha, exemplifies harmony between spirituality and nature. Surrounded by manicured gardens and meditation zones, the park encourages mindfulness and respect for the environment. Ralang Monastery and Bon Monastery are spiritual hubs that promote peace and encourage tourists to practice mindful travel. Eco-tourism practices here include:

- **Minimal Development Zones:** Certain forested areas around Ravangla are

designated as eco-sensitive zones where construction and human interference are restricted to preserve biodiversity.

- **Homestays and Local Guides:** Tourists are encouraged to stay in family-run homestays, which provide an authentic Sikkimese experience while directly benefiting the host families. Local guides offer personalized tours, educating visitors about the region's biodiversity and cultural heritage [4]
- **Waste Segregation:** Public areas and tourist spots have designated bins for biodegradable and non-biodegradable waste, with regular clean-up drives organized by local groups.
- **Bird Watching:** Controlled bird-watching tours ensure minimal disturbance to their habitats.

### 5.3 East Sikkim

Tsomgo Lake (Changu Lake)- Tsomgo Lake, often referred to as Changu Lake, is a stunning glacial lake located about 40 km from Gangtok, the capital of Sikkim. The lake is surrounded by rugged mountains and alpine vegetation, making it one of the most picturesque and sought-after destinations in East Sikkim. Tsomgo Lake is not only a natural wonder but also holds cultural and spiritual significance for the local communities. Its unique ecology and cultural value make it a prime site for eco-tourism, with sustainable practices aimed at preserving its fragile environment. The area around Tsomgo Lake is home to diverse wildlife, including the red panda, Himalayan monal, and brahminy ducks. Seasonal blooms like rhododendrons and primulas add to its charm. Eco-tourism practices here include:

- **Prohibition of Plastics:** Single-use plastics are banned around the lake. Tourists are advised to use reusable water bottles and bags.
- **Shared Transportation:** Tourists are encouraged to travel in shared vehicles, reducing carbon emissions and traffic congestion on the narrow mountain roads leading to the lake.
- **Yak Rides:** Yak rides, a unique attraction at Tsomgo Lake, are operated by local residents.



These rides offer an eco-friendly way to explore the area without causing pollution.

Nathula Pass- Nathu La Pass, located at an altitude of approximately 14,140 feet above sea level, is a historic mountain pass in East Sikkim that connects India with the Tibet Autonomous Region of China. Once an integral part of the ancient Silk Route, Nathu La is a place of immense historical, cultural, and geopolitical significance. Nathu La has become a focal point for eco-tourism, blending its natural splendor with sustainable tourism practices. Nathu La Pass is surrounded by snow-clad peaks, alpine meadows, and glacial streams. Its rugged terrain offers breathtaking views of the Eastern Himalayan range, making it a paradise for nature enthusiasts. The area is home to a variety of rare and endangered species such as snow leopards, red pandas, Tibetan wolves, and a diverse array of alpine vegetation. Seasonal flowers like rhododendrons and edelweiss adorn the landscape during summer. The Baba Harbhajan Singh Memorial, located nearby, is a revered site honoring an Indian soldier believed to protect the region even after his demise. Eco-tourism practices here include:

- **Controlled Access and Tourism Management:** To visit Nathu La, tourists must obtain special permits, which regulate the number of visitors and ensure that the fragile environment is not overwhelmed by human activity. The pass is accessible only during certain months, typically from May to November, to avoid disruptions caused by harsh weather and to protect the environment from over-tourism during peak seasons. [5]
- **No Large-Scale Development:** Infrastructure around the pass is minimal, with no large hotels or resorts. Visitors typically stay in Gangtok or nearby areas, reducing the ecological strain on the pass.
- **Cultural and Historical Tourism:** Efforts are made to preserve and narrate the historical significance of the Silk Route to tourists, creating awareness about its rich cultural legacy. Baba Harbhajan Singh Memorial is maintained by the Indian Army, is a highlight

of the Nathu La experience. It provides insight into the area's history while promoting respectful tourism practices.

Zuluk - Zuluk a small hamlet nestled at an altitude of about 10,000 feet in East Sikkim, is a part of the ancient Silk Route that connected Tibet to India. Known for its breathtaking views of the Eastern Himalayas and its famous hairpin bends, Zuluk is surrounded by lush forests, alpine meadows, and snow-clad mountains. Its remote location and pristine environment make it a unique eco-tourism destination. Over the years, Zuluk has emerged as an ideal spot for travelers seeking solace in nature while engaging in sustainable and responsible tourism. There is also an Indian Army base at Zuluk, which has been used as a transit camp for the army movement to the Chinese border, a few kilometres away. It is the very first village within this whole Silk Route circuit to offer home-stay facilities for tourists. The region is part of the Pangolakha Wildlife Sanctuary and is home to a variety of wildlife, including red pandas, Himalayan pheasants, and deer. During clear mornings, Zuluk offers mesmerizing views of Mount Kanchenjunga, making it a favorite spot for photographers and nature enthusiasts. Eco-tourism practices here include:

- **Homestays:** Instead of commercial hotels, Zuluk promotes homestays managed by local families. These homestays provide tourists with authentic Sikkimese hospitality, homemade meals, and cultural experiences.
- **Wildlife Safaris and Bird Watching:** Controlled safaris and bird-watching tours are organized to showcase the area's biodiversity without disturbing the habitat.
- **Cultural Preservation:** Tourists are invited to participate in local festivals such as Losar (Tibetan New Year) and other cultural events, promoting an understanding of the community's traditions.

#### 5.4 West Sikkim

Yuksom- Yuksom was established as the first capital of Sikkim in 1642 AD by Phuntsog Namgyal, the first Chogyal (king) of Sikkim. It is often referred to as the "Gateway to Kanchenjunga." As the first capital of



Sikkim, it is home to some of the oldest and most sacred Buddhist sites in the region, making it a key destination for cultural and spiritual tourism. Coupled with its lush green landscapes, forests, and biodiversity, Yuksom is also a hub for eco-tourism, attracting nature lovers, trekkers, and peace seekers from around the world. Eco-tourism practices here include:

- **Forest Preservation:** Local NGOs and community groups actively work to protect the forests from illegal logging and over-tourism.
- **Eco-Friendly Treks:** Trekking routes are managed with minimal environmental impact, including designated camping areas, waste disposal systems, and limits on the number of trekkers. [6]
- **Local Guides:** Certified guides, often locals trained in sustainable tourism, lead treks and tours, ensuring safe and responsible exploration of the area.

### 5.5 Economic Growth of Sikkim Through Eco-Tourism

Tourism and Civil Aviation Department statistics reveal that Sikkim welcomed a record-breaking 290,401 tourists—256,537 domestic guests and 30,864 overseas visitors—up to March 31, 2024. Over the past decade, Sikkim has seen a steady increase in tourist numbers, with figures rising from 576,749 in 2013 to 1,625,573 in 2023 and it is projected that the destination might receive 1.2 million tourists by the end of 2024. With the increased footfall of tourists, Sikkim has witnessed significant growth in employment opportunities and overall economic development while maintaining a strong emphasis on sustainable growth. Ecotourism has significantly enhanced employment opportunities in Sikkim by integrating conservation efforts with economic development. The state's emphasis on community-based ecotourism has led to the establishment of traditional village homestays, directly benefiting rural communities. Between 2011 and 2017, the annual influx of domestic tourists in Sikkim more than doubled, from 550,000 to 1,375,000. This surge contributed to the tourism

sector accounting for 7.68% of Sikkim's Gross State Domestic Product (GSDP) in 2016-17. The sector also provided direct employment to approximately 40,000 people, representing about 6.5% of the state's total population. A study examining the impact of ecotourism in four Sikkim villages—Aritar, Kewzing, Darap, and Yuksom—revealed a substantial increase in household incomes post-ecotourism engagement. Prior to ecotourism, the majority of households earned less than ₹20,000 annually. After participating in ecotourism activities, many households reported annual incomes exceeding ₹50,000, with some earning between ₹200,000 and ₹400,000. This income growth is attributed to various ecotourism-related ventures, including homestays, guided tours, cultural performances, and the sale of local handicrafts. Tourists' demand for authentic experiences and souvenirs has increased the consumption of local products, thereby supporting secondary employment and stimulating the local economy.

### 5.6 Sustainable Growth of Sikkim Through Eco-Tourism

Sikkim's ecotourism initiatives emphasize the conservation of its rich cultural heritage. The state's Ecotourism Policy aims to conserve existing biodiversity, ecosystems, and religious monuments, as well as the culture and traditions of Sikkim's people. This approach ensures that local communities have a role in determining the appropriate presentation of their cultural values. For instance, Yuksom, a village in Sikkim, exemplifies successful ecotourism practices that harmonize environmental conservation with cultural preservation. As the gateway to Khangchendzonga National Park and a base for treks to Mount Khangchendzonga, Yuksom attracts numerous visitors. The local community has embraced ecotourism to safeguard their natural and cultural heritage. Yuksom's residents have adopted ecotourism strategies that minimize environmental impact while maximizing cultural engagement. This includes organizing biodiversity festivals to raise awareness about the importance of preserving the area's unique biodiversity and cultural heritage. Such events feature exhibitions, traditional music, dance



performances, and educational activities that highlight local customs and environmental conservation efforts.

### 5.7 Suggestions and Conclusion

To enhance its ecotourism practices and improve living standards, Sikkim can draw inspiration from global leaders like Costa Rica by adopting innovative and sustainable measures.

- **Payment for Ecosystem Services (PES):** Implementing a PES program could provide direct financial incentives to landowners for forest conservation, enhancing environmental preservation efforts.
- **Certified Sustainable Tourism Program:** Establishing a comprehensive certification system for eco-friendly accommodations could ensure adherence to sustainability standards, attracting environmentally conscious travelers.
- **International Eco-Certification Programs:** Sikkim is advancing in sustainable tourism, but obtaining internationally recognized certifications (such as the Green Globe certification seen in Costa Rica) is not widely emphasized. More local businesses and eco-tourism providers could be encouraged to pursue eco-certifications to boost the global appeal of Sikkim's tourism offerings.

By adopting these practices, Sikkim can further solidify its reputation as a sustainable tourism destination. These measures will not only boost ecotourism but also ensure the preservation of the state's natural and cultural heritage, while improving the socio-economic conditions of its people.

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