



RESEARCH ARTICLE

ECOTOURISM FOR SUSTAINABLE DEVELOPMENT IN NAGALAND: PROSPECTS AND CHALLENGES

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ABSTRACT

Since ecotourism combines environmental preservation with social and economic development, it has been recognized as a sustainable alternative to traditional tourism. It emphasizes ethical travel to natural areas that preserves biodiversity and cultures while giving local communities access to sources of income. Nagaland has a lot of potential for ecotourism because it is a state with some of the lushest forests, diverse flora and fauna, vibrant landscapes, tribal culture, and a welcoming local population. As a result of the state's realization of this, ecotourism has emerged as a key theme for future development in the tourism industry. Although there is hope for the future, obstacles to the industry's growth include things like inadequate infrastructure, adverse travel regulations, insurgency-related problems, a lack of visibility, and lax enforcement of policies. Furthermore, there is little empirical assessment of how ecotourism initiatives affect local culture, indigenous knowledge, and ecological stability. Based on secondary data from government publications, scholarly works, and statistics handbooks, together with a few chosen field records from locations including Dzukou Valley, Khonoma, and Mount Saramati, the research paper discusses the potential and issues of ecotourism in Nagaland. According to the report, while some communities have successfully embraced ecotourism as a means of producing income and conserving biodiversity, structural problems have limited its potential. According to the literature now available, community activities, infrastructure development, climate-proof regulations, and creative marketing are all desperately needed to turn Nagaland into a sustainable ecotourism destination. Ecotourism may be transformed into a feasible development pathway towards inclusive and self-sustainable developments in the region by improving the cooperation between governments, local inhabitants, and private sector citizens.

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INTRODUCTION

Tourism involves the movement of people to places outside their usually permanent places of residences for business or personal or professional purpose. (United Nation World Tourism Organization). A tourism industry is now perceived to be an important tool for economic betterment and employment generation. Ecotourism can be defined as responsible travel to natural areas which help in conserves the environment and develops the well being of local people. The first formal definition of ecotourism was developed by Ceballos-Lascurain in 1987. He defined ecotourism as; 'travelling to relatively undisturbed or uncontaminated natural areas with the specific objective of studying, admiring and enjoying the scenery and its wild plants and animals as well as any existing cultural manifestations (both past and present) found in these areas. In 1993 Wight suggested that ecotourism was a sub-sector of sustainable tourism, identifying it as an 'ethical overlay' of tradition nature-based tourism. Tickell (1994) simply summarised ecotourism as 'travel to enjoy the world's amazing

diversity of natural life and human culture without causing damage to either. *International Ecotourism Society* states that 'around the world, ecotourism has been hailed as a panacea: a way to fund conservation and scientific research, protect fragile and pristine ecosystems, benefit rural communities, promote development in poor countries, enhance ecological and cultural sensitivity, instil environmental awareness and a social conscience in the travel industry, satisfy and educate the discriminating tourist and some claim, build world peace. Nagaland with its inherent gift of vast green forest, beautiful landscapes, colourful traditions and pleasant climate has an enormous potential for ecotourism which can generate employment and enhance economy for sustainable development.

SCOPE OF THE STUDY

The opportunities and prospects of ecotourism in relation to sustainable development in Nagaland are the focus of this article. Its geographic coverage is split between well-known

and less-visited locations in the state (such as Dzukou Valley, Khonoma, and Mount Saramati), and it includes some of the most well-liked ecotourism spots in the state. The thematic spectrum includes policy arrangements, infrastructure development, local people's involvement, environmental sustainability, and the social, economic, and cultural benefits of ecotourism. The planned study will be supported by secondary data from government publications, academic literature, and statistics handbooks; hence, it will be augmented by qualitative data from the area surrounding the field-based documentation. Additionally, issues that are not related to ecotourism or that are outside the state's resources are ignored, ensuring a focused analysis centered on the Nagaland environment.

SIGNIFICANCE OF THE STUDY

Policymakers, tourism planners, local communities, environmental organizations, and researchers studying sustainable tourism will find value in the research that comes out of this study. By identifying the potential and limitations of ecotourism in the Nagaland context, it can help develop community-driven ecotourism strategies that integrate various aspects of livelihood creation and biodiversity conservation using evidence-based sustainable approaches. The findings contribute to the empirical assessments of the socioeconomic, environmental, and cultural effects of ecotourism in the region, thereby addressing a research need. The research agenda's effective implementation, the necessity of introducing ecotourism as a tool for sustainable regional development, the role of underutilized destinations, gaps in policy implementation, and the need for climate-resilient tourism practices all contribute to the practical suggestions regarding how to transform ecotourism into a self-sustaining model of regional development.

MEANING OF ECOTOURISM AND SUSTAINABLE DEVELOPMENT

Ecotourism is a form of tourism industry that focused on the improvement and conservation of environment through tourism. Ecotourism is a broad term which carries different meaning to different people. The term ecotourism was coined in 1987 by *Hector Ceballos Lascurain* a Mexican environmentalist which was initially used to express nature-based travel to relatively undisturbed areas with an emphasis on education. Ecotourism ensures the sustainable utilization of environmental resources while providing alternative livelihood opportunities for local communities. The concept of sustainability was used in 1987 for the first time in the report by World Commission on Environment and Development (Brundtland Commission). The commission report advances the idea of sustainable development by stating that economic growth and environmental conservation are not only friendly but they are like the two sides of the same coin. Sustainable development is very much potential for any community within socio-cultural economic and ecological limit. Brundtland Report defined 'Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.'

REVIEW OF LITERATURE

Kumar and Shobana (2025) In their paper Eco-Tourism and Sustainable Rural Development in Nagaland: A Pathway to

Community Empowerment and Biodiversity Conservation, state that the core of eco-tourism is the preservation of cultural heritage, biodiversity, and rural livelihoods in ecologically sensitive areas. Their study highlights the value of community-based initiatives that preserve indigenous knowledge while simultaneously actively involving local populations in tourism-related activities. Their noted drawbacks, however, are inadequate policy, inadequate infrastructure, and a lack of environmental support as a result of uncontrolled tourism. In order to ensure the potential sustainability and equitable distribution of the advantages of ecotourism, the authors advocate for multi-stakeholder solutions that involve communities, governmental organizations, and non-governmental organizations.

Barua (2023) examines the possibility of ecotourism as a workable strategy for conservation and development in rural regions in her article, The Opportunities and Challenges of Ecotourism Development with Special Reference to Assam. She highlights Assam's abundant biodiversity, national parks, wildlife sanctuaries, wetlands, and distinctive biological areas like Molai Forest as top attractions with the aid of secondary data found in government publications, tourism records, and academic works. Together with environmental preservation, ecotourism offers the local inhabitants income, training, and cultural legacy. However, Barua has significant obstacles, including a lack of a comprehensive ecotourism policy, poor transportation and communication infrastructure, an insurgent problem, frequent floods, a lack of qualified guides, and a lack of cooperation between the public and private sectors. She highlights that in order to preserve the balance between the growth of the tourism sector and the preservation of the environment and the well-being of the local population, sustainable ecotourism in Assam requires the collaboration of the public and private sectors.

Chakraborty (2022) discusses the state of Nagaland's potential as a growing travel destination in the chapter, Tourism Industry and Its Prospects in Nagaland. This is due to the state's diverse ethnic cultures, rich cultural legacy, and stunning terrain. Using secondary data from official tourist reports, policy documents, and journals, he also highlights noteworthy attractions such as the Hornbill Festival, tribal crafts, animal sanctuaries, and the potential for adventure tourism. The author claims that Nagaland's tourist industry can boost the region's economy, provide employment, and improve cultural preservation. However, issues are linked to insufficient connectivity, limited infrastructure, a shortage of skilled labour, and subpar promotions. According to Chakraborty, the goals should be smart marketing, talent development, improved facilities, and sustainable tourism planning. He concludes by saying that Nagaland could position itself as a prosperous, long-term tourist destination that is preferred by everyone if the government, commercial sector, and local people worked together.

Sarkar and Chaudhury (2024) highlight the enormous tourist potential of the state in their paper Economic Prospects and Constraints of tourist Industry in Nagaland. This potential is based on the state's ethnic tribal culture, handicrafts, festivals, folk arts, and natural beauty. Wildlife sanctuaries, hill stations, heritage sites, and cultural experiences are a few examples of attractions; Kohima and Dimapur are two of the main tourist destinations. The authors of the book note that while tourism revenue and visitor numbers have generally increased, they

declined in 2020 due to the epidemic. Opportunities for ecotourism, cultural tourism, and rural tourism are given special consideration. However, there are still significant limitations, including topography, tribal conflicts, inadequate transportation, and the requirement for the Inner Line Permit. In order to realize the full potential of Nagaland's tourism-related economic growth, the report highlights the necessity of addressing these challenges. Because of their abundance of natural and cultural resources, the Northeastern states of Assam, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Tripura, and Sikkim have a high potential for tourism, according to *Bhutia's (2020)* article Sustainable Tourism for Regional Development in North-East States of India:

Trends, Problems, and Prospects. Despite their scenic splendor, these states have not been explored to the same extent as other parts of India. The study explores tourism as a focal point for regional development and looks at its growth, trends, and difficulties. Sustainable tourism policies must be put in place, according to Bhutia, in order to support economic growth while preserving the region's natural and cultural sustainability. The report also highlights the importance of community involvement and local entrepreneurship in promoting sustainability, which benefits both regional socioeconomic growth and the equitable distribution of tourism benefits.

Research Gap: According to every source on ecotourism in Nagaland and the Northeast, there are advantages to this type of travel, such as the region's distinctive cultural and ecological diversity, as well as disadvantages, such as a lack of infrastructure, a lack of regulatory frameworks, and a lack of promotion efforts. Despite the fact that these studies can provide useful descriptive results, field-based empirical research that does not assess the true impacts of ecotourism in Nagaland falls somewhat short. Specifically, there is a dearth of information regarding how the ongoing projects affect the preservation of indigenous knowledge, local livelihoods, ecological diversity, and climate resilience. Additionally, the strategic development has not established destinations that have not been utilized because of inadequate knowledge or destinations that have not been documented in the cultural literature. The development of climate-adaptive, community-based, and targeted ecotourism-based programs is also hampered by the absence of evidence-based, integrated socioeconomic, environmental, and cultural indicators-based assessments and evaluation.

OBJECTIVE OF THE STUDY

- To investigate the socioeconomic, environmental, and cultural impacts of ecotourism in Nagaland, specifically with regard to the preservation of biodiversity, indigenous heritages, and community livelihoods.
- To identify the potential and limitations that impact the state's sustainable tourism development, such as regulatory issues, infrastructure deficiencies, the need for climate resilience, and undiscovered eco-destinations.
- To make recommendations for actions that will help Nagaland achieve inclusive, community-led, and successful ecotourism.

RESEARCH QUESTION

- What effects has ecotourism had on Nagaland's indigenous cultural preservation, wildlife conservation, and community livelihood?

- Which are the primary drivers of the sustainable growth of ecotourism in the state, including infrastructure, legislation, climatic resilience, and underutilized tourist destinations?
- How many local community involvements improve ecotourism's efficacy, inclusivity, and sustainability?

RESEARCH METHODOLOGY

Examining the potential and risks of ecotourism in Nagaland within the framework of sustainable development is the aim of this descriptive and exploratory study. In addition to some selective field-based reporting on some of the ecotourism destinations like Dzukou Valley, Khonoma, and Mount Saramati, it primarily relies on qualitative research that was augmented by secondary sources of information about government publications, statistical handbooks, scholarly articles, and policy reports. In order to do so, a deliberate focus was placed on addressing locations that were thought to have a strong potential for ecotourism and community involvement. Along with supplementary statistical data on tourist flows and the utilization of forest resources, the analytical data were discussed in terms of habitats, sociocultural issues, and economic considerations. The selected methodology will enable the provision of an evidence-based assessment of ecotourism's contribution to Nagaland's sustainable development.

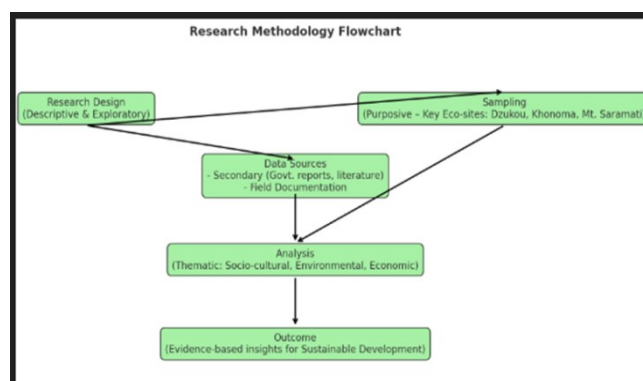


Fig. Methodology Flow Chart

STATEMENT OF THE PROBLEM

Because of its unique tourism, rich ecological diversity, and local cultures, Nagaland has emerged as one of Northeast India's most promising ecotourism destinations. However, the state's many problems, including inadequate infrastructure development, restrictive travel laws, a lack of marketing, and stakeholder integration, have not been sufficiently addressed by policy interest or community involvement.

The absence of empirical data about whether present ecotourism interventions are benefiting communities physically, preserving wildlife, and guaranteeing the preservation of indigenous culture is the more important factor. Policymakers and practitioners lack the necessary expertise to create successful, locally owned, and climate-smart ecotourism policies in the absence of comprehensive, evidence-based assessments that take into account socioeconomic, environmental, and cultural factors. The discrepancy raises ecological strain and socioeconomic inequality while threatening to minimize Nagaland's tourism potential.

ECOTOURISM SCENARIO IN INDIA

With globalization, the growing importance of the tourism sector as a source of economic development is unquestionable. Ecotourism not only promotes economic growth but also enhances the quality of life by generating employment opportunities and conserving the environment. Domestic and inbound tourism have emerged as significant contributors to economic growth. In 2022, India recorded 6.19 million Foreign Tourist Arrivals, showing a growth of 305.4%. In addition, as per data furnished by State/UT Governments and the Ministry of Tourism, there were 677.63 million domestic tourist visits across the country during 2021. At present, the tourism industry is one of the fastest-growing economic sectors, providing large-scale employment opportunities and accelerating development with considerable impact on related industries. Tourism also generates resources for the conservation of natural and cultural heritage while contributing to sustainable development. According to the 3rd Tourism Satellite Account study conducted by the Ministry of Tourism, the estimated share of tourism jobs in India during 2020–2021 was 12.91%. The Ministry of Tourism has launched several initiatives to boost this sector. The Swadesh Darshan Scheme was introduced in 2014–15 to promote the integrated development of thematic tourist circuits and has since been rebranded under the slogan “Vocal for Local.” A total of 76 projects under 13 themes have been sanctioned with a revised cost of ₹5315.59 crore, out of which ₹4734.11 crore was released by 31 December 2022. Similarly, the PRASHAD Scheme (Pilgrimage Rejuvenation and Spiritual Heritage Augmentation Drive), launched in 2014–15, focuses on holistic development of pilgrimage destinations. Seventy-three destinations have been identified in 28 States/UTs, with ₹1586.10 crore sanctioned for 45 projects, and ₹844.34 crore released by December 2022. Of these, 19 projects have been completed, while 34 destinations in 10 States/UTs are under development for basic amenities. In January 2020, the Dekho Apna Desh initiative was launched to encourage citizens to travel within the country, promoted through social media, webinars, quizzes, pledges, and discussions. To support stakeholders affected by the pandemic, the Ministry introduced a Loan Guarantee Scheme for the COVID-affected tourism sector, offering collateral-free loans of up to ₹10.00 lakh to approved operators through 18 Scheduled Commercial Banks, valid until 31 March 2023. For smoother travel in restricted/protected areas, the Ministry of Tourism works closely with the Ministry of Home Affairs. As a result, the PAP/RAP (Protected Area Permit/Restricted Area Permit) relaxation in the Union Territory of Andaman & Nicobar Islands has been extended until 31 December 2027, while similar extensions for Manipur, Mizoram, and Nagaland are under consideration. To improve accessibility of information for tourists, the Ministry launched the Incredible India mobile application on 27 September 2018. The app provides details about destinations, attractions, experiences, and events across India, with features such as map integration, emergency contacts, and state-wise tourism information.

ECOTOURISM FOR SUSTAINABLE DEVELOPMENT

Ecotourism offers ecological experiences to the tourist and at the same time provide helps to the local community to develop in a more sustainable way by conserving the natural resources and earn their livelihood. According to John Swarbrooke (1991), ‘Ecotourism can be a way to facilitate the sustainable development of economies and societies in developing

countries.’ Ecotourism is a panacea for many social, economic and environmental problems. It includes a spectrum of nature-based activities such as staying in Eco lodge, trekking, ziplingbird watching, mountain climbing, staying in natural cave, caving, camping in wilderness, hiking, backpacking, kayaking, sight-seeing, visiting historical place, nature walk, photography, studying the flora and fauna. Ecotourism helps the host community in conserving and appreciating their natural environment and at the same time provide alternate sources of livelihood. Therefore, ecotourism is lauded as the alternative type of sustainable development for rural communities. According to Wall 1997 and Alexander and Whitehouse 2004 the three system of sustainability in ecotourism development is ecologically benign, socially acceptable and economically feasible (Kiper, 2013).

Table 1. Three system of sustainability in ecotourism development

Environmental sustainability goal of ecotourism	<ul style="list-style-type: none"> • Promote environment protection • Provides environmental education • Increases public environmental consciousness • Fosters healthy attitudes and behaviours towards nature
Socio-cultural sustainability goals of ecotourism	<ul style="list-style-type: none"> • Promote local active participation • Promote local ownership • Empowers local people (confidence, self esteem) • Encourage intercultural appreciation and communication between host communities and tourist.
Economic sustainability goals of ecotourism	<ul style="list-style-type: none"> • Contributes to lasting economic development • Creates permanent jobs for local people • Uses natural resource efficiently

Source: Three system of sustainability in ecotourism development (According to wall 1997; Alexander and Whitehouse 2004 (Jiang, 2008))

Table 2. Tourist destination Project in Nagaland under North East Council, Shillong (2021-2022)

Ecotourism destination and development of Trekking Route	Phusachodu village, Phek District
Enopen Tourist Resort	Khonoma village, Kohima District
Development of Tourist Trekking and base camp, Mt. Saramati	Thanamir, Kiphire District
Eco-tourism destination	Sendenyu, Tsimenyu

Source: Annual Administrative Report 2021-2022, Department of Tourism, Nagaland

The participants at the World Ecotourism Summit, held in Quebec in May 2002, have acknowledged that ecotourism respects the principles of sustainable tourism referring to the social environmental and economic impact. (sambotinet, al, 2011);

- Eco tourism involves complete and interesting explanations for visitors, regarding the natural and cultural resources
- Ecotourism actively contribute to the conservation of natural and cultural heritage
- Ecotourism include local communities in the activities of planning, development and operation and it contributes to their welfare

STATUS OF TOURISM IN NAGALAND

Eco-tourism is a new concept in the North East India and the native people have lately started to take an interest in preserving their villages and sacred forests. Nagaland has come up with a few Eco-villages which showcase their culture, crafts, people, and food and house types. Nagaland has an eco-complex such as Kisama Village, Tuophema Tourist Village, Khonoma Green Village, Dzulekie etc. there is a need for more research and impact assessment analysis to make this activity into a more sustainable one. Nagaland is a hilly state located in North East India bounded by Assam in the West, Manipur in the South, Arunachal Pradesh and part of Assam in the North and Myanmar in the East. It is a home to 17 major tribes with diverse cultural tradition. Department of Tourism in Nagaland came into fully-fledged Directorate of tourism in 1981. Since then, the department is playing a crucial role in implementing programs such as infrastructural development, formulating policy and planning, generating tourism awareness and training tour guides. To promote tourist destination, the department has completed several infrastructural and development projects under North East Council, Shillong (2021-2022).

For promotion of tourism in the state, the Department of Tourism, Government of Nagaland has identified some tourist spot. Table 3 shows the tourist spot identify by the department in the state.

Table 3. Tourist Spots in Nagaland 2022

Sl.no	Name of Tourist Spot	District
1	Dzuku Valley	Kohima
2	Mt. Japfu	Kohima
3	Naga Heritage Village, Kisama	Kohima
4	Pulie Badze	Kohima
5	Dzulekie	Kohima
6	Cathedral	Kohima
7	2 nd world war cemetery	Kohima
8	Mt. Tiya	Wokha
9	Liphayam Governors Camp	Wokha
10	Mt. Totsu	Wokha
11	Shalom Resort	Peren
12	Intangki Forest	Peren
13	Community Conservation area Sukhai, Kevikhu and Ghukhuyi	Zunheboto
14	Ghoshu Bird Sanctuary	Zunheboto
15	Suteplenden waterfalls	Mokokchung
16	Latuleba Lakhuni	Mokokchung
17	Longkhum	Mokokchung
18	Zanibu Peak	Phek
19	Glory Peak	Phek
20	Shiloi Lake	Phek
21	Dzudu Lake Thuvopisu	Phek
22	Wazeho	Phek
23	Fakim Wild life Sanctuary	Kiphire
24	Mt. Saramati	Kiphire
25	Naithu Resort	Dimapur
26	Noune Resort	Dimapur
27	Kachari Ruins	Dimapur
28	Shangnyu	Mon
29	Veda Peak	Mon
30	Tiru	Mon
31	Vinngoi Resort	Mon
32	Doyang birding Sanctuary	Wokha
33	Sosu Rochu waterfall	Wokha

Sources: Nagaland Statistical Handbook 2022, Directorate of Economics & Statistics Govt. Of Nagaland

The Department of tourism organized various training and workshops to impart knowledge and awareness to enhance local participation for income generation and sustainable development. To create more avenues for the youths, the department has collaborated with HANIFL centre: Woodstock

School, Dehradun for 16 days Outdoor Leadership Training Course and has successfully sent two batches of Tourist Guides for the training: First batch in 2019 with 12 Tour Guides and Second batch in 2021 with 14 Tour Guide. In 2022, the Department in collaboration with Noklak District Administration and Nagaland Tourism Association conducted 2 days training on Tour Guide and Homestay. The Department of Tourism observed United Nations World Tourism Day 2022 at Noklak in collaboration with Noklak district Administration, Nagaland Association of Tour Operators (NATO), Nagaland Tourism Association and Nagaland Adventure (NTA) and Mountaineering Education (NAAME) with the theme 'Rethinking Tourism'. For promotion and publicity of Nagaland tourism the Department maintains a user friendly website www.tourism.nagaland.gov.in which is updated with the trending news in the travel world and email: nagalandtourism2014@gmail.com. Nagalandtourism is now present in the social media platforms such as Instagram, Facebook and Twitter.

Instagram: **nagaland tourism**

Facebook: **nagalandt**

Twitter: **@tourismdeptgon**

Table 4. Tourist inflow from 2017-2021

Year	Domestic	Foreign
2017	63362	4765
2018	101588	5010
2019	125949	5568
2020	5285	68
2021	23968	325

Source: Nagaland Statistical Handbook 2016, 2022

ROLE AND POLICY OF GOVERNMENT ON ECOTOURISM IN NAGALAND

The Government of Nagaland, primarily through its Department of Tourism, plays a central part in developing, regulating, and promoting ecotourism within the state. Its actions and policies focus on balancing environmental conservation with socioeconomic benefits for local communities.

ROLE OF GOVERNMENT

Nodal Agency: The Department of Tourism acts as the key body for ecotourism, formulating policies, coordinating programs with various government departments, and facilitating public-private partnerships. **Infrastructure Development:** The government funds and implements eco-friendly infrastructure such as lodges, trails, and visitor facilities in key locations like Khonoma, Dzuku Valley, Dzulekie, and biodiversity conservation areas. **Community Engagement:**

Active measures are in place to involve local communities in planning, managing, and benefiting from ecotourism. **Village Tourism Development Boards (VTDBs)** are established to guide community-based tourism. **Promotion and Quality Assurance:** The government regulates tour operators, homestays, and guides, ensuring service quality, sustainability, and hygiene standards across ecotourism products. **Education and Capacity Building:** Regular training is provided for stakeholders, including community members, guides, and industry professionals, fostering sustainable practices and responsible tourism awareness. **Marketing:** Promotion of Nagaland's ecotourism assets takes place at national and international levels, branding the state as a "Green Destination".

Table 5. Classifications of Forest Areas statistics (In Sq.km) 2020-21

Sl.No	Particulars	Forest Area (Sq.Kms)	% of Total Forest Areas
1	2	3	4
	Legal Status		
a)	Government owned Forest		
1	Reserved Forest and wildlife Sanctuaries	264.28	3.06%
2	Protected Forest	34.69	0.40%
3	Purchased Forest	192.47	2.20%
b)	Government Controlled (Private owned) Forest		
4	Protected Forest	516.79	5.98%
c)	Village owned Forest		
5	Virgin Forest	4778.27	55.40%
6	Degraded Forest	2824.80	32.90%
Total (a+b+c)		8629.30	100.00%
d)	Ownership		
i	State Government	1008.23	11.70%
ii	Private Control	7621.07	88.30%
	Total	8629.30	100.00%

Sources: Principal Chief Conservator of Forest, Nagaland Statistical Handbook 2022.

Table 6. Alignment of Findings with Objectives and Research Questions

Major Findings	Related Objective	Related Research Question
Rich cultural heritage and natural resources indicate high potential for sustainable ecotourism in Nagaland.	Obj. 1: Assess socio-economic, environmental, and cultural impacts of ecotourism.	RQ1: How has ecotourism in Nagaland affected community livelihoods, biodiversity, and indigenous culture?
Low tourist inflow due to poor connectivity, fear of insurgency, and low publicity.	Obj. 2: Identify opportunities and constraints influencing sustainable tourism growth.	RQ2: What key opportunities and constraints—including infrastructure, policies, climate resilience, and underutilized sites—shape ecotourism growth?
Communities generate income via shops, lodges, hotels, campsites, and homestays.	Obj. 1	RQ1
Awareness of ecotourism benefits leading to active participation in conservation and promotion.	Obj. 1 & Obj. 3: Recommend strategies for community-led ecotourism.	RQ1 & RQ3: What strategies can enhance effectiveness, inclusiveness, and sustainability through community participation?
Policy focus on formulation over implementation.	Obj. 2 & Obj. 3	RQ2 & RQ3
Dependence on central support; need for self-sustaining industry approach.	Obj. 2 & Obj. 3	RQ2 & RQ3
Biodiversity conservation success in villages like Jotsoma and Khonoma; challenges in others due to land ownership attitudes.	Obj. 1 & Obj. 3	RQ1 & RQ3

POLICY ON ECOTOURISM

Vision: Nagaland's tourism policy envisions creating a sustainable, community-centered tourism sector that prioritizes preservation of the state's unique biodiversity and rich tribal culture. **Sustainability Principles:** The government's guiding principles stress minimizing environmental impact and safeguarding local culture. All tourism activities are encouraged to use vernacular architecture and local resources with a focus on traditional knowledge for sustainability. **Integration and Coordination:** The ecotourism policy is government-led but seeks active involvement from private enterprises and local communities for innovation and sustainable growth. **Product Development:** Special attention is given to developing ecotourism products related to wildlife, rural experiences, adventure, and conservation activities—including agro- and rural tourism diversified for tourist interests. **Regulatory Framework:** Ecotourism entrepreneurs must comply with operational norms, and their activities are regulated for environmental and social impact. **Incentives:** Recognized ecotourism units and stakeholders are eligible for government incentives, skill development subsidies, and financial assistance for innovation in sustainable tourism. **Ecotourism as a Priority:** The ecological integrity and sustainable use of Nagaland's forests, rivers, and natural heritage are prioritized, drawing on international best practices and responsible tourism models, such as the "High Value, Low

ecotourism, ensuring positive experiences for visitors while empowering local communities and preserving the environment for future generations.

POTENTIAL IMPACTS OF CLIMATE CHANGE ON NAGALAND'S ECOTOURISM INDUSTRY AND BIODIVERSITY

Biodiversity Impacts: Loss of Forest Cover: Nagaland has experienced a significant decline in forest cover—about 17% over the past two decades. This rapid reduction, the highest since 2001 among Northeast Indian states, highlights accelerating habitat loss and pressure on unique species of the Indo-Burma biodiversity hotspot. **Species and Habitat Threats:** The state's rich biodiversity, including many endemic plants and animals, faces stress from changing rainfall, increased temperatures, and extreme weather events. Rare species, such as the Blyth's Tragopan and the Great Indian Hornbill, are threatened by both climate shifts and human-driven activities like deforestation, illegal logging, and urbanization. **Altered Ecosystems:** Changes in temperature and rainfall directly impact the composition and structure of forests, with cascading effects on insects, birds, and mammals. Shifting cultivation cycles and introduction of monoculture (agroforestry) reduce the diversity found in traditional "Jhum" cultivation, which once supported up to 60 crop species in a single plot. **Agro-Biodiversity Risks:** Climate change has already resulted in

unknown diseases affecting indigenous crops, unpredictable harvests, and the spread of pests like locusts, which directly impact food security and livelihoods dependent on agriculture.

Ecotourism Industry Impacts: Vulnerability of Ecotourism Attractions: Nagaland's ecotourism thrives on its forests, wildlife sanctuaries, and the vibrant cultural practices of indigenous communities. Climate-induced habitat loss, species extinction, and environmental degradation threaten these attractions, making them less appealing to environmentally-conscious travellers. Extreme Weather & Infrastructure: Increased frequency and intensity of floods, landslides, droughts, and storms damage tourist infrastructure, disrupt travel plans, and can deter visitors, especially during high-risk seasons. Loss of Cultural Heritage: Changing climate patterns, erosion of traditional resource management practices, and socioeconomic shifts are altering the cultural landscape—undermining part of what draws Ecotourists interested in indigenous knowledge and traditional lifestyles. Need for Adaptation & Responsible Tourism: The tourism sector acknowledges the need for adaptive strategies—such as community-based conservation, eco-friendly facilities, region-specific water and land management, and broader awareness campaigns—to sustain both the local economy and the ecological base over the long term.

KEY OBSERVATIONS AND ADAPTATION MEASURES

The convergence of biodiversity loss and tourism vulnerability underscores the need to integrate conservation with community development and ecotourism planning. Strengthening traditional practices and supporting community-based resource management are central strategies for building resilience. The establishment and maintenance of protected areas, enforcement of wildlife laws, promotion of sustainable agriculture, and adoption of nature-focused visitor guidelines are critical measures in this direction. Awareness campaigns at the grassroots level—using local dialects and audiovisual tools—play a vital role in sensitizing rural and indigenous communities about climate risks and the benefits of sustainable tourism. Overall, climate change poses complex and interconnected threats to Nagaland's biodiversity and ecotourism industry by altering ecosystems, accelerating species loss, and increasing the frequency of extreme weather events. These impacts affect the livelihoods of local communities and challenge the sustainability of ecotourism unless addressed through informed, collaborative, and adaptive policies.

PROSPECTS AND CHALLENGES OF ECOTOURISM IN NAGALAND:

Nagaland a state with natural beautiful landscape is sometimes referred as the '*Switzerland of the East*'. The lush green forest, cliffs, cave, hills, picturesque landscapes, mountains, rivers, valleys, rich flora and fauna, lakes, terrace field and biodiversity reserved forest are the major prospect for adventure tourism and ecotourism. The current status of the forest area in Nagaland is shown in Table 5. In the recent times with the growing importance of ecotourism for sustainable development the Department of Tourism has identified some ecotourist spots they are Dzukou valley, Japfu Peak, Pulie Badze, Dzulekie (Kohima District), Mt. Tiye, Sosu Rochu Waterfall, Doyang birding destination, Mt. Totsu (Wokha district), Intangki Forest (Peren district), Community Reserved Area Sukhai, Keviku and

Ghukhuyi, Ghoshu Bird Sanctuary (Zunheboto district), Suteplenden waterfalls, Longkhum (Mokokchung), Zanibu Peak, Glory Peak, Shiloi Lake, Dzudu Lake (Phek), Fakim Wildlife Sanctuary, Mt. Saramati (Kiphire) and Veda peak (Mon) (Directorate Of Tourism 2022). However, there are many unexplored and unidentified ecotourist destinations other than the place shown in tourist map of the state. Some of the eco tourist destinations are discussed below. Mount Saramati: The highest mountain peak in Nagaland known as the Crown of Nagaland standing at the height of 3826 metres is an ideal place for adventure lovers. It is located on the Nagaland–Myanmar border in Kiphire district of Nagaland. It is endowed with beautiful landscapes and rich biodiversity. On reaching the top one would be mesmerized to see the scenic view of Chindwin River.

- Mount Khelia: Khelia which means a 'cold mountain' is standing at the elevation of 3462 meter in Choklangan under Noklak district, Nagaland (Nagaland Page, 2020). It is an unexplored paradise with the beautiful landscape, cliff and rich biodiversity for the adventure enthusiasts to go for hiking and trekking.
- Thanamir village: A simple beautiful village located on the foothills of Mount Saramati, in Kiphire district is near the India- Myanmar border and is endowed with eye-catching landscape, enormous diversity of flora and fauna and pristine river water. Thanamir village also known as the 'Apple Village of Nagaland' organised an Apple festival annually in the month of September to promote their produce and also encourage the people to develop interest in Apple farming for sustainable development. (Subramanian, Shasha)
- Kapamodzu Peak: A magnificent peak in Zavame village under Phek district. This peak offers a view of the scenic beauty of Saramati range in the east, Japfu peak in the south, part of Kohima and many more villages of both Nagaland and Manipur. It is a perfect place for adventure lover for hiking, trekking and to enjoy the beauty of nature. (Nagaland tourism, 2022)
- Dzukou valley: A splendid valley located on the border of Nagaland and Manipur in northeast India. It is famed for its multicoloured flowers that bloom in summer and the carpet of dwarf bamboo. It is an ideal offbeat adventure destination. One can experience sleeping in the natural cave, enjoy the cool breeze, see the scenic beauty of the valley, pristine perennial rivers that runs in the middle of the valley. Experience snow fall in the winter. It is a peaceful place far from the hustle and bustle of the town. The rural community along with the environmental conscious people has planned to keep the valley immaculate and have made it a plastic free zone.
- Mount Japfu: The majestic mountain in Kigwema village standing at the high of 3084 drawing trekkers and adventure lovers for its scenic beauty, cliff and thrilling trails. On the foothill one would see the beautiful organic potato farm. On climbing the top one can enjoy the vibrant colourful sunrise early in the morning and view of the famous Dzukou valley and the panoramic view of Kigwema villages and its neighbouring area. It is a home to the tallest and largest Rhododendron tree in the world with 108 feet high at the time of discovery.
- Mount Pauna: A beautiful mountain in Peren district which attracts tourist for its magnificent view of the valley below and the lush green forest cover. The trekking trail is exciting as the mountain is a home to a variety of plant

species including rhododendrons, orchid and also witness different birds and animal such as Mithun in their natural habitat.

- Veda Peak: A lush green and beautifully peak located in Mon district, Nagaland, is a popular destination for trekkers. It is the highest peak in the land of KonyakNaga. It is a home to a few dazzling waterfall. The trekking route is moderate and can be accomplish in few hours. It provides a panoramic view of the valleys, hills, plain and on a clear day one can even view the scenic beauty of Chindwin River in Myanmar and Bramhmaputra of Assam.
- Beside the above mentioned tourist spots, there are also many other unexplored destinations which can be developed as tourist hotspot.

CHALLENGES

With the enormous potential and prospect of ecotourism for sustainable development there are also challenges faced both by the tourist and the host community. These are:

- Poor road connectivity is a big obstacle for the tourist.
- The presence of insurgency in the state instils fear in tourists, deterring many from visiting.
- Entry formality for domestic tourist Inner Line Permit and international tourist Restricted Area Permit is a hindrance for tourist inflow.
- Poor publicity of tourist destination.
- Difficulties of availing accommodation during the peak season (hornbill festival in December).
- As observed many tourists face the problem of high charged for transportation and non availability of public transportation to visit the interior part of Nagaland as the public transportation do not operate on regular basis.

MAJOR FINDINGS

- With the rich cultural heritage and natural resources there is an enormous prospect of ecotourism in Nagaland for sustainable development.
- The tourist inflow is still very meager in Nagaland because of poor connectivity, fear of insurgency, low publicity, etc.
- Despite the low tourist inflow, some communities are generating income through various tourism-related activities, such as operating shops, lodges, hotels, campsites, and home stays
- Presently people are aware of the benefits of ecotourism and actively participate in conserving and promoting ecotourism for sustainable development.
- It has been observed that the department has given much importance in formulating policy for sustainable tourism strategies rather than implementation.
- In the present scenario the state government's outlook towards development of tourism is total dependence on central support. So there is a need for proper plan and approach to make tourism in the state a self sustaining industry.
- With regard to the conservation of biodiversity some villages such as Jotsoma and Khonoma are doing exceptionally well whereas some villages are still struggling as the people have an attitude of 'My land, my wish'.

SUGGESTION AND RECOMMENDATIONS

- There is a need for improved road connectivity and accurate roadmaps to various tourist destinations.
- Inclusion of tourism in school and college curriculum would really encourage the youngster to develop interest in tourism industry.
- Security of the tourist should be the top priority
- Promotion of tourism can be done through hoardings, pamphlets, use of different social networking sites, etc.
- More research on ecotourism so as to highlights the different tourism destination in the state.
- The Department of Tourism should efficiently collaborate with the rural communities for the promotion of tourism.
- Setting up and mobilizing of ecotourism club in villages to encourage the community to appreciate nature.
- Imparting proper training to the local community to deal with different tourist.
- Encourage more of homestays, backpacking and camping for sustainable development.

DISCUSSION AND CONCLUSION

According to the study, Nagaland is ideally situated to implement ecotourism as a way of sustainable development because of its rich cultural legacy, biodiversity, and feeling of community. Villages like Khonoma and Jotsoma provide one example of how a community-based enterprise has succeeded in protecting biodiversity while simultaneously generating income through tourism. These instances lend credence to the idea that ecotourism can simultaneously advance economic growth, cultural preservation, and environmental preservation. Nonetheless, it is clear from the conversation that systemic problems also exist, which limit Nagaland's ability to realize its full ecotourism potential. Poor road connectivity, a lack of accessible transportation, problems associated to insurgency, the availability of travel permits, and a lack of destination promotion are the main causes of the low visitor flow. The administration has created plans and programs, but because it depends so largely on central assistance, its execution is lacking. Such a disconnect between policy design and practical reality highlights the need for an ecotourism development model that can sustain itself. The findings are definitive because, in certain communities, the benefits of tourism-related land use, such as homestays, lodges, and handicrafts, are outweighed by the drawbacks of ownership attitudes (my land, my wish), the incapacity to develop skills, and the lack of institutional support. In the meantime, local populations' growing awareness of the benefits of ecotourism is encouraging since it indicates that they welcome visitors and are receptive to conservation-friendly activities.

In conclusion, ecotourism in Nagaland has a lot of potential, but in order to reap the rewards, integrated effort is required. Infrastructure must be strengthened, safety must be ensured, travel permits must be made easier, and a climate resilient policy must be adopted. Active collaborations between the government, residents, and business owners can help diversify tourism offerings, lessen the deterioration of well-known tourist locations, and more fairly distribute the advantages. Nagaland will be able to develop into a true model of sustainable development that does not prioritize one over the other as long as ecological integrity, cultural heritage, and community welfare are all equally preserved. This is possible

as long as the region can concentrate on ecotourism and its engagement in this path through an inclusive and evidence-based approach.

IMPLICATIONS

The study's practical value to policymakers, tourism planners, and Nagaland local communities is demonstrated by the coherence of its conclusions, objectives, and research questions. This is demonstrated by the fact that, despite the state's enormous potential for ecotourism, there are structural barriers to its full realization because of the region's inadequate infrastructure, lax enforcement of laws, and tendency toward excessive reliance on outside aid. The successful protection of biodiversity areas sends a strong message about community involvement, which signals the need for a policy that includes climate resilience in development planning and empowers local stakeholders. Additionally, in order to diversify the tourism offering, alleviate strain on the current sites, and more fairly distribute the economic prosperity, it is necessary to develop eco-destinations that have not yet been investigated. These ramifications suggest that evidence-based, community-based, and sustainable interventions are essential to transforming Nagaland's ecotourism industry into a robust and self-sustaining instrument of regional development.

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