



शोधामृत

(कला, मानविकी और सामाजिक विज्ञान की अंतर्राष्ट्रीय सहकर्मी समीक्षित, मूल्यांकित, त्रैमासिक शोध पत्रिका)

ISSN : 3048-9296 (Online)

3049-2890 (Print)

IIFS Impact Factor-5.375

Vol.-3; issue-3 (July-Sept.) 2026

Page No- 208-218

©2026 Shodhaamrit

<https://shodhaamrit.gyanvividha.com>

Author's :

1. Chinmay Kumar Sharma

Department of Geography,
Banasthali Vidyapith.

2. Dr. Ashutosh

Department of Geography,
Banasthali Vidyapith.

Corresponding Author :

Chinmay Kumar Sharma

Department of Geography,
Banasthali Vidyapith.

Advancing Ecotourism in India (2015–2024) : A Systematic Literature Review of Methodological Innovations, Community Participation, Biodiversity Conservation, and Technological Integration

Abstract : Between 2015 and 2024, ecotourism in India has been researched in several studies with a focus on four key areas: conservation, technological advancements, community participation and the methods used. From 27 studies, identified by searching the Scopus database of peer-reviewed literature, the findings of relevant empirical research are integrated. A growing number of studies can be seen which employ GIS combined with multi-criteria decision-making tools to assess ecotourism destinations. Particular use has been made of AHP and of the TOPSIS tool for this purpose. The research discovered that economic and social circumstances in an area and the attitudes of the local community significantly influence the long-term success of eco tourism projects. This particularly applies to places such as mountains and wetlands. The notion that tourism involving nature preserves would increase visitors' awareness of the environmental issues is frequently a principle of ecotourism. However, there is little evidence that ecotourism helps conserve natural ecosystems. New technologies such as remote sensing and virtual reality are allowing for adaptive management and enhancing visitor engagement. Ecological decision-making systems are also coming into use. In this case, effective ecotourism relies on democratic decision-making processes which bring local experience to bear alongside the best available scientific knowledge and technology.

Keywords: Sustainable Tourism, Ecotourism, Environmental Sustainability, Biodiversity Conservation, Protected Wetlands.

Introduction: In environmentally sensitive regions over recent decades ecotourism has become an acknowledged tool for the promotion of sustainable development, for biodiversity preservation and the betterment of the living standards of local communities. Ecotourism, often understood as a form of nature tourism, is that which integrates community participation along with conservation, distinguishing itself from mass tourism. Ecotourism

seeks minimal ecological damage, promotes an understanding of the region, and provides tangible benefits to those in the area where the tourist is visiting. In regions of fragile ecology such as the Sundarbans, a mangrove forest, and the Indian Himalayas, ecotourism projects offer the inhabitants alternative income opportunities, for example in wildlife conservation and heritage tourism. This eases the pressure on these overused natural resources. In the districts of western Rajasthan, Uttara Kannada and Darjeeling, geographical information systems and AHP have been applied to identify regions that are ecologically and geographically suitable for ecotourism development. Ecotourism hotspots identified by this spatially-driven research in these areas highlight the role of geographic tools in planning ecotourism and policy development in these locations (Patel & Anuragi, 2024; Roy et al., 2024). Studies have shown that ecotourism initiatives at the local level which incorporate traditional knowledge and involve the local population in decision-making have led to improved conservation outcomes. Examples include the Chilika Lake and the Chilika Lagoon in India where a participatory approach to conservation has led to improved habitat management. While there have been advancements in sustainable consumption, environmental management in some regions is hindered by factors such as seasonal fluctuations in consumer demand and poor transportation networks. This is compounded by the rising issue of 'greenwashing', where the environmental benefits of certain products or services are exaggerated. Studies indicate that tourist behaviour and opinion are influenced by a mix of digital promotion and their personal moral principles, in addition to environmental factors. This indicates that promoting responsible tourism involves the use of strategies that consider both emotional response and environmental concerns rather than purely informational or regulatory methods. Research is ongoing in 2024 (Fatma and Bhatt, 2024; Paul and Roy, 2024).

The COVID-19 pandemic has strengthened an interest in domestic tourism and also tourism in natural areas. In consequence, regions rich in biodiversity experience elevated pressures and fresh opportunities due to growing visitor numbers (Rasul et al., 2021). 2024; Samal & Dash, 2024). Long-term ecotourism will only be maintained if there are integrated and coherent policies, which will balance local economic gain with the protection of the environment. Frameworks such as these are strengthened through the valuation of ecosystem services, the adoption of payment systems for these services and through sustained cooperation amongst diverse stakeholders (Ranjan, 2024; Sharma et al., 2024). If community empowerment and sustainability are incorporated into ecotourism and advanced geographical information systems are integrated, ecotourism could shift from a concept that is often disputed into a respected model of environmentally friendly high end tourism which meets ecological requirements and human needs (Aslam et al. 2022). This year (2023) it has been reported that (Bharwani & Mathews, 2023).

Over the past twenty years, tourism which is also known as nature tourism has been seen as a way to support the conservation of natural environments and improve the living standards of rural communities in sensitive ecosystems while also promoting sustainable development. The pursuit of ecotourism is nature-based travel with the emphasis placed upon the learning of the environment, the appreciation of cultures and the minimal disruption to the ecology. It also seeks to satisfy the tourist, while preserving the natural resources and the community at large. The increasing application of Geographic Information System (GIS) technology combined with multi-criteria decision-making tools has improved the identification and prioritisation of ecotourism sites. This is achieved by planners using the Analytic Hierarchy Process to consider biophysical features, socio-economic conditions and accessibility in their spatial suitability assessments (Kansra et al., 2024; Oinam et al., 2024). in 2024 (Patel and Anuragi, 2024) The success of ecotourism projects is also heavily reliant on the community, since the support of local people is crucial to the long-term viability of these initiatives. This local backing can be the difference between a project's success or failure. Research in a variety of Indian environments including mangrove forests in Chilika

and in areas surrounding the Himalayas indicates that adaptive management strategies need to incorporate local knowledge, deal with the pressures which tourism puts on the environment and ensure that the advantages from tourism are shared fairly among local people (Wibowo et al., 2018; Samal and Dash, 2024). As destinations world-wide strive to align with the United Nations Sustainable Development Goals, Balakrishnan et al. (2023) point out. Goals of ecotourism can be achieved through careful development of the natural environment by integrating conservation, tourism, and community development. Effective planning, participation, monitoring and management of the site are necessary in order to avoid the negative impacts that ecotourism may have on the local community and the environment (Cater, 2007; Weaver, 2001). 2024).

Literature Overview: As highlighted in the integrated learning review, ecotourism has emerged as a fast-expanding domain that closely connects biodiversity protection with the socio-economic advancement of host communities, particularly within developing country contexts. Rather than functioning as a single-dimensional tourism model, ecotourism operates as a layered framework that seeks to reconcile environmental stewardship with livelihood security. This is commonly achieved through strong community involvement and participatory governance mechanisms that enhance the durability of both tourism initiatives and conservation outcomes. Several studies within the reviewed dataset, notably (Barman et al., 2024), emphasize the application of advanced spatial decision-support tools—such as the integration of TOPSIS with GIS—to evaluate land suitability for ecotourism development, thereby linking rigorous scientific analysis with applied planning to identify zones of high potential. Beyond spatial assessment, a growing segment of the literature examines the social and cultural foundations of ecotourism. Research in this project also takes into account the work of other researchers on women's empowerment and the inclusion of marginalised groups (Chaudhary et al. 2017). The assessment of ecotourism's impact on biodiversity (Singh, 2021; Singh et al., 2022), the role of stakeholder participation in the sustainable development process (Samal & Dash, 2024), and valuing ecosystem services in ecotourism (Mehrotra et al., These studies stress the importance of preserving the natural and cultural heritage of islands, community-led tourism and sustainable livelihoods, as well as the importance of protecting local cultural identities (Rasheed & Balakrishnan, 2024). There is evidence of a growing interest in methodology in this field, illustrated by the use of mixed-methods approaches, the analysis of behavioural intentions and the development of low-impact transport methods which reduce ecological footprints resulting from tourism. As these trends show, there is a movement towards an ecotourism that considers all aspects of its impact on the environment.

Research Questions:

1. What changes have taken place in the ways that multi-criteria evaluation, SWOT analysis, and bibliometrics are used to assess the suitability for ecotourism of different geographical regions and diverse ecological settings?
2. The socio-economic conditions and attitudes within a local community can have a considerable impact on the prospects and effectiveness of ecotourism. Community attitudes towards ecotourism will influence ecotourism development and its effectiveness.
3. The relationship between ecotourism and biodiversity conservation is explored in the existing literature. Which locations and taxa do ecotourism efforts most frequently protect?
4. The development of cutting-edge technologies, such as virtual reality, remote sensing and ecological decision-making tools, have affected ecotourism development processes, enhanced visitor experience and promoted ecologically sustainable management?

Methodology: In order to answer the research questions in a balanced and scientific way, a systematic literature review methodology with a clear framework was adopted by the author. In accordance with PRISMA guidelines, we identified studies through a systematic search, screened them, documented the reasons for excluding studies and then selected studies for

inclusion. This study will follow a rigorous protocol (based on that of Lloyd, 2019; Lloyd, 2024), which aids in the clarity of the review and helps prevent bias by ensuring that all relevant studies are considered.

Search Strategy: Studies relevant to the topic were located using the Scopus database with a search strategy involving a selection of keywords combined with various criteria for narrowing down the search to empirical and review type papers. Between 2015 and 2024 research published in English by Indian academics fell into four categories: the arts, environmental sciences, earth sciences and the social sciences. A database query was performed using a range of keywords related to ecotourism such as ecotourism, eco-tourism, ecological tourism, nature based tourism, sustainable ecotourism, community based ecotourism, wildlife tourism, green tourism, responsible tourism and environmental tourism. Further refinement was then achieved by imposing document type limitations, and this was done so that the search results would be restricted to academic and peer reviewed articles plus reviews. In order to refine the search results the search was limited to the years 2015-2024, to English and to the categories of socio-economics, ecology and the environment, geology and art. After data screening for institutional affiliation, only those records remained that were associated with Indian institutions. A multi-stage search method led to the identification of a focused and pertinent body of literature which could be scrutinised in detail concerning ecotourism in India.

Retrieval of Articles: A comprehensive search of the academic literature involved a structured search query being run against the Scopus database. This search was limited to the title, abstract and keywords of papers to guarantee that all relevant research on ecotourism was included. Ecotourism and related terms such as eco tourism, ecological tourism, nature tourism, sustainable tourism, wildlife tourism, environmentally tourism, green tourism and responsible tourism were combined using the boolean or operator. In order to ensure the academic integrity of the results, the search results were restricted to articles in refereed journals which were classified as either 'article' or 'review'.

A more limited search was therefore applied to the results to only include publications from 2015 to 2024 and to narrow the language down to English. Studies were narrowed down using the subject area filter, to those classified under arts and humanities, social sciences, environmental sciences or earth sciences. Publications written by Indian researchers were isolated in the last stage by author affiliation screening, with inclusion limited to papers of Indian academic institutes. This dataset, having been curated and obtained through a rigorous methodology, was found to be suitable for a systematic review of ecotourism.

Table 2: The criteria for the retrieval of Articles

Data base	Article parts Search	Field Searched	Search String	Time Space
Scopus	TITLE-ABS-KEY (Title, Abstract, Keywords)	Social Science, Environmental Science, Earth and Planetary Sciences, Arts & Humanities	Ecotourism, Environmental Tourism, Ecological Development, Sustainable Ecotourism, Green Tourism Community Based Tourism, Wildlife Tourism, Responsible Tourism,	2015-2024

Selection of Relevant Articles: The selection of studies proceeded in a step-by-step manner - firstly to identify any studies, secondly to assess the relevance of these studies, thirdly to assess their validity and finally to decide which studies to include. At the outset all data retrieved from Scopus was exported in the CSV format. Articles were thoroughly checked to ensure that their titles and contents met the specified requirements for inclusion. This involved a thorough review of the titles and abstracts of retrieved literature and the full text of the studies themselves.

Inclusion Criteria: For studies to be included, they needed to satisfy specific conditions which acted as the criteria for selection. Articles in scholarly journals and reviews published in the years 2015-2024, written in English, were considered eligible for inclusion. They were required to be listed in the database Scopus. The publications' authors had to be from an Indian educational establishment. The criteria for inclusion required studies that made reference to at least one of the following ecotourism terms in their title, the study summary or as keywords: "ecotourism", "eco-tourism", "ecological tourism", "nature tourism", "sustainable tourism", "community tourism", "wildlife tourism", "green tourism", "responsible tourism" or "environmental tourism". The studies included in the review matched the keywords specified but also had to satisfy one or more of the objectives which the review was set to achieve

Exclusion Criteria: The studies which did not meet the exclusion criteria were excluded from this review. Excluding publications from the years 2015 to 2024, documents which are not in the form of a peer reviewed journal article or review, such as books or conference papers, and literature published in languages other than English were not taken into account. Research that did not relate ecotourism with consumer behaviour and purely concentrated on tourist promotion was excluded from the analysis. Studies not dealing with the environmental and economic consequences of ecotourism were also excluded. Studies concerned with educational outcomes of students or academic assessment unrelated to ecotourism were also excluded from consideration.

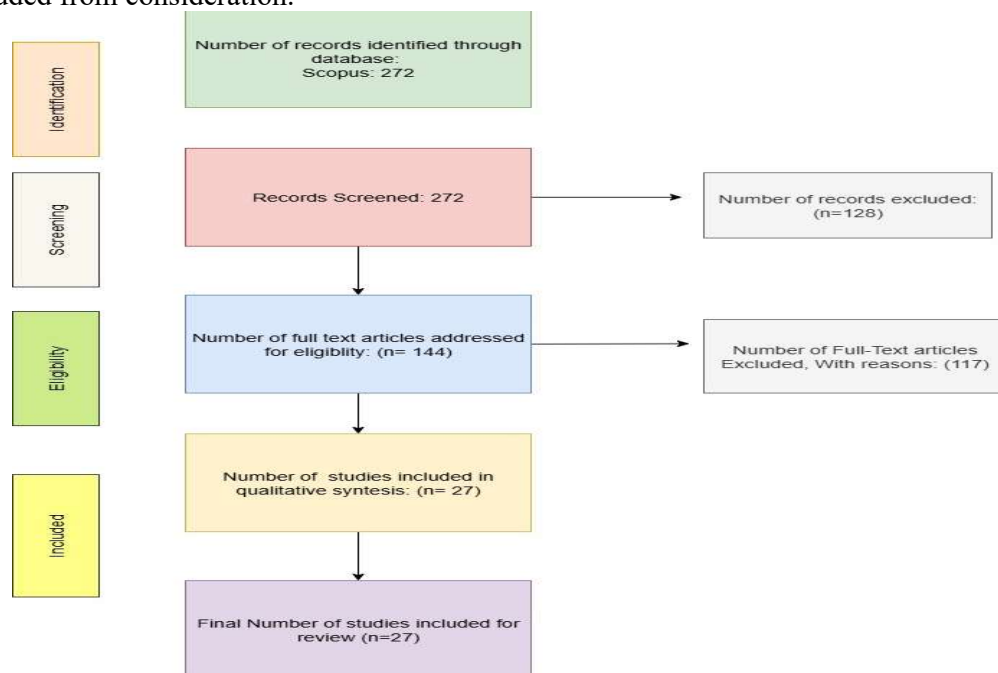


Figure 1: Prisma Framework

Source: Author's Creation

Results:

Research Question 1: Shifts in Methodological Frameworks for Evaluating Ecotourism

Site Suitability : Research into 27 studies revealed that spatially ecotourism potential is most frequently assessed by the use of Geographic Information System (GIS) supported multi-criteria decision-making techniques. In this study, Barman et al were cited. A TOPSIS-GIS model integrated with fuzzy logic was used to assess the suitability of an area in Mizoram, India, for ecotourism development. Twelve different criteria were employed for this assessment, which were weighted with both objective and subjective values. In a similar study, Oinam and his associated researchers (2014) found out that among the students of the two colleges there were different level of awareness about environmental pollution. An

investigation into potential ecotourism sites in the Imphal Valley in Manipur used. In the future, researchers are planning to improve factor prioritization using hybrid weighting methods and the 1983 U.S. Consumer Assessment (Berkowitz et al.). SWOT analysis in combination with multi-criteria decision making techniques has been used to assess the strategic opportunities, limitations and risks of prospective ecotourism sites. This strategy has been used in several studies in assessing ecotourism. In contrast, bibliometrics are used less often for direct site evaluations but instead for general research trends. Spatial analysis techniques are used to assess the suitability of a site rather than these. There are observable differences in methodology employed in different regions. Research into mountain ecosystems generally concentrates on geographical factors such as elevation and terrain (Raha & Gayen, 2023). In contrast, wetland assessments consider aspects like water movement and biodiversity. The ecotourism suitability analysis methodology has followed a specific path over the years. Initially it started with basic overlay mapping which was later replaced by complex GIS - MCDA models. These models integrated stakeholders' views, fuzzy logic, and robust validation procedures including AUC-ROC analysis (Roy et al., 2023; Patel & Anuragi, 2024).

Research Question 2: Influence of Community Perceptions and Socio-Economic Conditions in Wetland and Mountain Contexts : Ecotourism projects are heavily reliant on social and economic conditions within the local population, with the impact of these projects varying depending on their environment. The livelihoods of local people who live in places such as the Chilika Lagoon rely heavily on the ecotourism business but a couple of issues need to be addressed; these issues include inequitable distribution of the income generated by this tourism and also the stress on the environment, caused mainly by the overuse of the waterways in these wetland sites through poorly managed boat use. Research using 'willingness to pay' methodology has shown that whether people support conservation charges or not depends significantly on their household income, educational level and how much they believe the wetland is worth conserving (Samal and Dash, 2024; Sethi and Senapati, 2023). In the Himalayan region of Darjeeling, the residents think of eco-tourism as a means of improving the infrastructure and getting more employment. However, these individuals have concerns that there will be a loss of their culture and extra pressure on the environment as more and more tourists visit the area. In both of these environments human demographics such as age, sex, ownership of land, and the ratio of dependents to workers influence the participation of local communities in ecotourism as well as their willingness to accept conservation regulations (Gautam & Bhalla, 2024; Das and Chatterjee, 2024; Wani et al., 2024). In wetland and mountainous regions governance issues assume a pivotal position. In various locations across the world strong community endorsement of conservation programs, which in turn result in co-operative conservation behaviour, have been observed where community based ecotourism programs were developed that include the traditional knowledge of local ecosystems and equitable income distribution (Chakraborty et al. 2000). In 2024, Samal and Dash will be available.

Research Question 3: Evidence Linking Ecotourism Practices to Quantifiable Biodiversity Conservation Outcomes : Studies are few which have quantitatively measured the outcomes from conservation efforts in the case of biodiversity. For example, (Mariyam, et al. Species such as large mammals and seabirds that have prominent visual appeal have a significant part to play in attracting tourists to the area; this implies that revenue from ecotourism could be strategically invested in conservation programmes for these species. The impact of carbon-dioxide-induced ocean acidification on marine life in the coast of Sabah, Borneo. Communicating success in conservation, where species had recovered, rather than species decline, encouraged environmentally responsible tourist behaviour in 2024.

The Karangadu mangrove region's value as a habitat for waterbirds was highlighted by the presence of 147 migratory bird species according to the results of a waterbird census. This included several waterbird species that are threatened and near threatened, indicating the

site's importance as a habitat for migratory birds. While there have been numerous studies on the subject, most have either looked at inferred relationships between the two or failed to provide direct evidence of the impact on conservation. Both Fatma and Bhatt (2024) and D. N. Das et al. (2024) found possible links between ecotourism site suitability evaluations and conservation of natural habitats. However, both studies recommended the need for consistent and long term observation of animal populations to validate the effectiveness of conservation efforts.

Research Question 4: Effects of emerging technologies on ecotourism planning, visitor interaction and sustainable management in protected areas. :

Technological developments have significantly affected the processes involved in ecotourism management and planning. Researchers in Nepal have incorporated GIS and remote sensing techniques into land use planning. This has enhanced decision making by using the technology to look at land cover changes over a period of time. 2023; Patel & Anuragi, 2024). Among the planning tools available, virtual and augmented reality technologies offer new possibilities to engage with destinations before visiting them. Those using virtual reality have a greater connection to what they are experiencing, this is known as being immersed in what is happening, and as such they are more likely to go and to also preserve the environment (Fatma and Bhatt, 2024). The use of interactive virtual tours can encourage prospective visitors to engage more with mangrove World Heritage sites. Studies have found that such interactive tours boost visitor engagement with these ecosystems. From a management viewpoint, incorporating fuzzy logic into MCDA frameworks of ecological decision-making processes have enabled the decision-making process to be more adaptive and inclusive. This is due to their ability to accommodate uncertainty and the diverse preferences of various stakeholders (Kang et al., 2009). New monitoring techniques are also being used to track visitor impacts on biodiversity in near real time. These include bio-logging technologies, eDNA sampling and the analysis of public opinions expressed on social media. (Blaney, 2024; Chandel et al., 2023).

Discussion: This study shows how the organisational structure of a school impacts on the way it develops an innovative culture and how this is linked to environmental awareness, indicating the usefulness of ecological perspectives in educational research. Research into ecotourism has drawn parallels with such innovative educational cultures. At its core, both the social constructivist theory and the PPCT model suggest innovation to be a result of interaction between an individual and their environment. This interaction is continuous and occurs over time. Teachers who are open to innovation will create a culture in their schools that is receptive to the process of experimenting with new teaching methods. A teacher who accepts a level of risk will try new methods and be willing to assess the outcomes of the new method and be willing to make adjustments as needed. Teachers who are committed to ongoing learning are committed to doing this type of assessment on an ongoing basis. Studies of ecotourism have found that tourism which is sustainably managed has a high probability of success if the community is involved in its planning and implementation. When we consider the various levels of factors involved in the PPCT framework - ranging from an individual's mindset through to the broader institutional structures which exist to offer support - it's easier to understand why teachers working within supportive professional environments are likely to embrace innovative teaching methods. Over time, research into ecotourism has similarly shown methodological evolution; GIS-MCDA approaches have increasingly integrated stakeholder opinions and fuzzy logic into site suitability assessments. For the year 2024 (Oinam et al., 2024).

Results : Over the last decade ecotourism research in India has shown considerable advances in four interconnected thematic areas: first methodological improvements, second the role of local involvement, third ecotourism outcomes in biodiversity, and fourth the integration of new technologies.

Methodological innovation : Ecotourism potential is currently assessed and prioritised using spatially explicit analytical tools, GIS-based multi-criteria decision-making being amongst

them. Studies utilising site selection methods to identify potential locations for reservoirs have in the past typically involved a basic overlay mapping approach. More sophisticated methods have been adopted in recent years. TOPSIS–GIS and AHP–GIS are examples of these more complex models. These integrate several different criteria when making a selection. Factors considered include the accessibility of the site, the characteristics of the terrain, the hydrological features and the availability of infrastructure. The use in recent years of fuzzy logic and hybrid weighting strategies has contributed to a reduction in the uncertainty in the choice of parameters. The credibility and robustness of suitability studies have been improved by the use of validation techniques such as the ROC/AUC curve (Oinam et al., 2024; Patel & Anuragi, 2024). A growing precision and analytical thoroughness is indicated by these recent developments in site suitability studies.

Community participation : Local people's viewpoints have turned out to influence the ecological value and public acceptability of ecotourism schemes. People living around Chilika Lake see the opportunities for extra income which ecotourism brings but at the same time they worry about the negative impact of poorly regulated tourism activities such as the degradation of the environment and the unfair sharing of the benefits. In mountain regions such as the Darjeeling Himalayan region, local communities have a strong desire to increase infrastructure and to generate employment, yet at the same time they are worried about the ecological strain and a cultural loss that results from the increasing number of tourists. Human populations are also heavily influenced by the socio-economic and demographic factors including age, education and the gender of the people within the population. Education, age and gender have been shown to have a major impact on how much participation in conservation projects is encouraged (Manhas et al., 2009; Wani et al., 2024). 2021).

Biodiversity outcomes : Only a small number of studies demonstrate that conservation is a key goal of ecotourism, however there is little direct evidence that it has a positive effect on the biodiversity of a region. Research suggests that increased public awareness of charismatic animals such as elephants, lions and migratory birds can improve funding and conservation efforts. Research has found that ecotourism, in which there is interaction between tourists and the environment, can have positive outcomes on conservation. Tourists can help preserve the natural environment by funding conservation efforts (Balmford et al., 2009; high levels of biodiversity and ecosystem function are maintained at ecotourism sites (Grimard et al., 2012). Ecotourism can also educate the tourists on the value of conservation (Simpson, 1992). Although much of the extant literature is still predictive in nature, the majority of these studies do not report on outcomes. As a result, long-term ecological monitoring is necessary to back up conservation claims (Fatma & Bhatt, 2024; Das & Chatterjee 2024).

Technological integration: Research and practice in ecotourism have seen a significant expansion in the adoption of recent technologies. Improved assessment of the degree and destination of land use changes has been obtained through the use of remote sensing and geographic information system (GIS) techniques (Chandel et al. 1988). Technology, in the form of artificial intelligence, interactive displays and social media, has also elevated visitor experiences at national parks. Simultaneously, immersive tools such as augmented and virtual reality have been successful in enhancing visitor engagement and assisting in boosting environmental awareness. The use of innovative technologies, such as real-time acoustic sensors, is becoming more prevalent for biodiversity monitoring and visitor impact assessments. Technologies including eDNA analysis, bio-logging and social media sentiment analysis are increasingly used in real time biodiversity monitoring and visitor impact assessment. These technologies provide valuable information to park managers for adaptive management. 2024).

References:

1. Aslam, A., Ahmad, T., & Ranjan, R. K. (2023). Differential responses of hydrochemical factors and LULC changes on the spatial and temporal hydrogeochemistry of the eco-

- sensitive Baraila wetland, Bihar, India. In *Environmental Science and Pollution Research* (Vol. 30, Issue 13, pp. 39223–39245). Springer Science and Business Media Deutschland GmbH. <https://doi.org/10.1007/s11356-022-25005-1>
2. Barman, J., Halder, S., Das, J., Ali, S. S., Hasher, F. F. B., Rukhsana, null, & Zhran, M. (2024). Sustainable Ecotourism Suitability Assessment Using the Intergrated TOPSIS Model in the State of Mizoram, India. In *Sustainability (Switzerland)* (Vol. 16, Issue 24). Multidisciplinary Digital Publishing Institute (MDPI). <https://doi.org/10.3390/su162411066>
 3. Bharwani, S., & Mathews, D. (2023). Sustainable luxury: From an oxymoron to a tautology – the case of the Indian luxury hospitality industry. In *Worldwide Hospitality and Tourism Themes* (Vol. 15, Issue 3, pp. 231–248). Emerald Publishing. <https://doi.org/10.1108/WHATT-01-2023-0013>
 4. Bhatt, H., Pant Jugran, H., & Pandey, R. (2024). Cultural ecosystem services nexus with Socio-Cultural attributes and traditional ecological knowledge for managing community forests of indian western Himalaya. In *Ecological Indicators* (Vol. 166). Elsevier B.V. <https://doi.org/10.1016/j.ecolind.2024.112379>
 5. Blaney, A. (2024). Going Wild on Instagram: Tiger Safaris and India's Protected Areas in the Age of Social Media. In *South Asia: Journal of South Asia Studies* (Vol. 47, Issue 2, pp. 217–233). Routledge. <https://doi.org/10.1080/00856401.2023.2266934>
 6. Byju, H., Maitreyi, H., Ravichandran, S., & Raveendran, N. (2024). Avifaunal diversity and conservation significance of coastal ecosystems on Rameswaram Island, Tamil Nadu, India. In *Journal of Threatened Taxa* (Vol. 16, Issue 12, pp. 26198–26212). Zoo Outreach Organisation. <https://doi.org/10.11609/JOTT.9248.16.12.26198-26212>
 7. Chakraborty, D., Polisetty, A., Nunkoo, R., & Rana, N. P. (2024). What drives tourists towards sustainable behaviour? A longitudinal study. In *Asia Pacific Journal of Tourism Research* (Vol. 29, Issue 3, pp. 352–374). Routledge. <https://doi.org/10.1080/10941665.2024.2324178>
 8. Chandel, R. S., Kanga, S., Singh, S. K., Đurin, B., Oršulić, O. B., Dogančić, D., & Hunt, J. D. (2023). Assessing Sustainable Ecotourism Opportunities in Western Rajasthan, India, through Advanced Geospatial Technologies. In *Sustainability (Switzerland)* (Vol. 15, Issue 14). Multidisciplinary Digital Publishing Institute (MDPI). <https://doi.org/10.3390/su151411473>
 9. Chaudhary, S., Kumar, A., Pramanik, M. K., & Negi, M. S. (2022). Land evaluation and sustainable development of ecotourism in the Garhwal Himalayan region using geospatial technology and analytical hierarchy process. In *Environment, Development and Sustainability* (Vol. 24, Issue 2, pp. 2225–2266). Springer Science and Business Media B.V. <https://doi.org/10.1007/s10668-021-01528-4>
 10. Das, D. N., Tamang, L., & Sarkar, U. K. (2024). Ichthyofaunistic assemblages and diversity in Pakke Wild Life Sanctuary of Pakke-Kessang District, Arunachal Pradesh. In *Asian Journal of Conservation Biology* (Vol. 13, Issue 1, pp. 22–33). Turtle Conservation and Research Programme. <https://doi.org/10.53562/ajcb.83357>
 11. Das, M., & Chatterjee, B. (2024). Ecotourism in Bhitarkanika Wildlife Sanctuary, India: Assessment of participation, economic benefits and conservation goals. In *Journal of Ecotourism* (Vol. 23, Issue 4, pp. 589–608). Routledge. <https://doi.org/10.1080/14724049.2023.2282955>
 12. Fatma, A., & Bhatt, V. K. (2024). 'Reality' influencing 'Actuality': The role of augmented and virtual reality on ecotourism travel intention. In *Journal of Ecotourism* (Vol. 23, Issue 3, pp. 436–453). Routledge. <https://doi.org/10.1080/14724049.2023.2273751>
 13. Gautam, V., & Bhalla, S. (2024). How Tourism Development Leads to Residents' Subjective Happiness Through Their Quality of Life: A Social Exchange Theory Perspective. In *International Journal of Tourism Research* (Vol. 26, Issue 5). John Wiley and Sons Ltd. <https://doi.org/10.1002/jtr.2771>

14. Gupta, V., Anand, S., Wei, D., Wang, G., & Tripathi, S. C. (2024). Exploring applied sustainable strategies through geoheritage and geotourism: A systematic literature review. In *International Journal of Geoheritage and Parks* (Vol. 12, Issue 4, pp. 660–677). KeAi Communications Co. <https://doi.org/10.1016/j.ijgeop.2024.11.009>
15. Harish, P., & Rao, Y. V. (2024). Research on sustainable tourism and biodiversity: A bibliometric analysis. In *Anatolia* (Vol. 35, Issue 4, pp. 702–722). Routledge. <https://doi.org/10.1080/13032917.2023.2300120>
16. Kang, D., Manirathinam, T., Sandra, M., Pragathi, S., Narayanamoorthy, S., Yazid Bajuri, M., Ciano, T., & Ahmadian, A. (2024). Measuring priorities of sustainable post-pandemic tourism policy factors using novel fuzzy multi-criteria decision making approach. In *Journal of Sustainable Tourism* (Vol. 32, Issue 11, pp. 2286–2303). Routledge. <https://doi.org/10.1080/09669582.2023.2283374>
17. Kansra, P., Obero, S., Singh, N. K., & Choi, H. (Hailey). (2024). Role of Innovation, Policy, Social Media, and Environmental Munificence for Sustainable Ecotourism Development in Punjab, India. In *Sustainability (Switzerland)* (Vol. 16, Issue 21). Multidisciplinary Digital Publishing Institute (MDPI). <https://doi.org/10.3390/su16219359>
18. Manhas, P. S., Singh, R., Fodor, G., Berghauer, S., Mir, M. A., & Dávid, L. D. (2021). Examination of impact of responsible tourism practices on quality of life of destination communities. In *Geojournal of Tourism and Geosites* (Vol. 36, pp. 688–697). Editura Universitatii din Oradea. <https://doi.org/10.30892/GTG.362SPL17-699>
19. Mariyam, D., Vijayakrishnan, S., & Karanth, K. K. (2024). Influence of charismatic species and conservation engagement on the nature-viewing preferences of wildlife tourists. In *Tourism Recreation Research* (Vol. 49, Issue 5, pp. 982–991). Taylor and Francis Ltd. <https://doi.org/10.1080/02508281.2022.2114746>
20. Oinam, R., Chanu, N. B., Singh, L. B., & Singh, M. B. (2024). Assessing site suitability for ecotourism in Imphal Valley, Manipur using GIS and AHP. In *Letters in Spatial and Resource Sciences* (Vol. 17, Issue 1). Springer Science and Business Media Deutschland GmbH. <https://doi.org/10.1007/s12076-024-00394-8>
21. Patel, J. K., & Anuragi, R. B. (2024). Identifying the Ecotourism Potential Locations using AHP and Weighted Overlay Analysis: A case of Bundelkhand region in Central India. In *Papers in Applied Geography* (Vol. 10, Issue 1, pp. 17–33). Routledge. <https://doi.org/10.1080/23754931.2023.2254786>
22. Paul, I., & Roy, G. (2024). How do personal values drive tourist engagement in ecotourism: Analysis with SEM-ANN approach. In *Journal of Ecotourism* (Vol. 23, Issue 3, pp. 454–479). Routledge. <https://doi.org/10.1080/14724049.2023.2276658>
23. Raha, S., & Gayen, S. K. (2023). Application of Analytic Hierarchy Process and weighted sum techniques for green tourism potential mapping in the Gangetic West Bengal, India. In *GeoJournal* (Vol. 88, pp. 197–240). Springer Science and Business Media Deutschland GmbH. <https://doi.org/10.1007/s10708-022-10619-2>
24. Rana, J. C., Bisht, I., Mathur, P. N., Fadda, C., Mitra, S., Ahlawat, S. P., Vishwakarma, H., & Yadav, R. P. (2024). Involving Rural Youth in Agroecological Nature-Positive Farming and Culinary Agri-Ecotourism for Sustainable Development: The Indian Scenario. In *Sustainability (Switzerland)* (Vol. 16, Issue 21). Multidisciplinary Digital Publishing Institute (MDPI). <https://doi.org/10.3390/su16219417>
25. Ranjan, R. (2024). Incentivizing endemic biodiversity conservation under a warming climate through market-based instruments. In *Journal of Environmental Economics and Policy* (Vol. 13, Issue 3, pp. 322–345). Taylor and Francis Ltd. <https://doi.org/10.1080/21606544.2023.2252784>
26. Rasal, V., Everard, M., Khandal, D., Chandrawal, K., & Sahu, Y. K. (2021). Evaluation of the ecosystem services provided by the kailadevi wildlife sanctuary, rajasthan, india. In

- Parks* (Vol. 27, Issue 1, pp. 13–24). IUCN - International Union for the Conservation of Nature. <https://doi.org/10.2305/IUCN.CH.2021.PARKS-27-1VRMH.en>
27. Rasheed, A. K. F., & Balakrishnan, J. (2024). Shaping sustainable tourism: How minimalism and citizenship behavior influence tourists' proenvironmental behavior. In *Consumer Behavior in Tourism and Hospitality* (Vol. 19, Issue 4, pp. 590–603). Emerald Publishing. <https://doi.org/10.1108/CBTH-08-2023-0134>
 28. Rasul, T. F., Lim, W. M., O'Connor, P., Ahmad, A., Farhat, K., Santini, F. O., & Ladeira, W. J. J. (2024). Immersive virtual reality experiences: Boosting potential visitor engagement and attractiveness of natural world heritage sites. In *Asia Pacific Journal of Tourism Research* (Vol. 29, Issue 5, pp. 515–526). Routledge. <https://doi.org/10.1080/10941665.2024.2332993>
 29. Roy, D., Kundu, P., Paul, S., & Sarkar, B. C. (2024). Potential suitability mapping evaluation for ecotourism development in Darjeeling Himalayan region of India. In *Journal of Ecotourism* (Vol. 23, Issue 3, pp. 414–435). Routledge. <https://doi.org/10.1080/14724049.2023.2272059>
 30. Roy, D., Pramanik, A., Banerjee, S., Ghosh, A., Chattopadhyay, D., & Bhattacharyya, M. (2018). Spatio-temporal variability and source identification for metal contamination in the river sediment of Indian Sundarbans, a world heritage site. In *Environmental Science and Pollution Research* (Vol. 25, Issue 31, pp. 31326–31345). Springer Verlag service@springer.de. <https://doi.org/10.1007/s11356-018-3092-x>
 31. Sajid, M., Zakkariya, K. A., Surira, M. D., & Peethambaran, M. (2024). Flipping the script: How awareness of positive consequences outweigh negative in encouraging tourists' environmentally responsible behavior? In *Journal of Sustainable Tourism* (Vol. 32, Issue 7, pp. 1350–1369). Routledge. <https://doi.org/10.1080/09669582.2023.2227776>
 32. Samal, R., & Dash, M. (2023). Ecotourism, biodiversity conservation and livelihoods: Understanding the convergence and divergence. In *International Journal of Geoheritage and Parks* (Vol. 11, Issue 1, pp. 1–20). KeAi Communications Co. <https://doi.org/10.1016/j.ijgeop.2022.11.001>
 33. Samal, R., & Dash, M. (2024). Stakeholder engagement in advancing sustainable ecotourism: An exploratory case study of Chilika Wetland. In *Discover Sustainability* (Vol. 5, Issue 1). Springer Nature. <https://doi.org/10.1007/s43621-024-00233-2>
 34. Sethy, M. K., & Senapati, A. K. (2023). Perceptions towards ecotourism practice and the willingness to pay: Evidence from Chilika coastal wetland ecosystem, Odisha. In *International Journal of Geoheritage and Parks* (Vol. 11, Issue 3, pp. 497–513). KeAi Communications Co. <https://doi.org/10.1016/j.ijgeop.2023.08.001>
 35. Sharma, V. R., Kumar Sanu, S., Verma, K., & Rajput, S. (2022). DIMENSIONS OF SUSTAINABLE TOURISM MANAGEMENT: A CASE STUDY OF ALWAR CITY, RAJASTHAN, INDIA. In *Geojournal of Tourism and Geosites* (Vol. 41, Issue 2, pp. 335–342). Editura Universitatii din Oradea. <https://doi.org/10.30892/gtg.41201-835>
 36. Singh, S. (2021). 'Quixotic' tourism? Safety, ease, and heritage in post-COVID world tourism. In *Journal of Heritage Tourism* (Vol. 16, Issue 6, pp. 716–721). Taylor and Francis Ltd. <https://doi.org/10.1080/1743873X.2020.1835924>
 37. Wani, M. D., Ahmad Dada, Z. A., & Shah, S. A. (2024). Can consumption of local food contribute to sustainable tourism? Evidence from the perception of domestic tourists. In *International Journal of Sustainable Development and World Ecology* (Vol. 31, Issue 2, pp. 163–178). Taylor and Francis Ltd. <https://doi.org/10.1080/13504509.2023.2262950>
 38. Wibowo, A., Muhammad, D. R. A., Lestari, E., Karsidi, R., & Giri, A. K. (2023). Assessing Citizenship Participation and Religious Ethics in Ecotourism Development near an Islamic Boarding School in Indonesia. In *International Journal of Sustainable Development and Planning* (Vol. 18, Issue 10, pp. 3265–3276). International Information and Engineering Technology Association. <https://doi.org/10.18280/ijstdp.181026>