

Eco-Tourism Research Landscape: A Systematic Literature Review Perspective

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Abstract

Ecotourism is gaining ground day by day, as the concept of sustainable tourism has gained recognition. This paper investigates the ecotourism research landscape and its transformative phases by analysing its related studies, their underlying objectives, theoretical underpinnings, methodological approaches, future scopes, and implications through a systematic literature review perspective. This study selected 50 relevant articles on ecotourism from 2870 articles from the year 2000 to 2025 and reported a detailed account of all the dimensions of ecotourism. Also, this research narrated the existing research gaps and the future scope of ecotourism.

Keywords: Ecotourism, sustainable ecotourism, community-based, Viability, Behavioural, Systematic literature review.

1. Introduction

There were many significant studies undertaken in sustainable tourism (Lu et al., 2009; Buckley, 2021; Liu et al., 2003; Hardy et al., 2002; Butler, 1999; Higgins et al., 2018), but when we consider studies in ecotourism, there was need for extensive research in this domain particularly for non-western countries (de la Barre, 2005). The concern for ecology in tourism in academic research was growing day by day (Gossling & Scott, 2018; Scott, 2021; Paul et al., 2024; Gossling & Peeters, 2015; Gossling & Higham, 2021; Peeters, 2017; Gascon, 2012). Therefore, the concept of eco-tourism (Orams, 1995; Das et al., 2015; Munt, 1994; Blamey, 2001; Weaver, 2001; Jaafar et al., 2015), green tourism (Jones, 1987; Font & Tribe, 2001; Furgan et al., 2010; Hong et al., 2003; McBoyle, 1996; Jarvis et al., 2010; Su, 2011), and sustainable tourism (May, 1991; Nash & Butler, 1990) evolved with time. Research suggested that ecotourism has the inherent ability to transform the rural economy (Hall & Page, 2014). There were various dimensions of ecotourism discussed in earlier studies also such as environmental conservation (Zeng & Zhong, 2020), community participations (Stranza & Godillo, 2008; Stem et al., 2003), preservation of the cultural heritage (Buckley et al., 2008), economic perspectives (Hunt et al., 2015; Campbell, 1999, Gossling, 1999, Walpole and Goodwin, 2001), protection, and development of the vulnerable tribes (Cobbinah, 2015). It was observed that ecotourism has contributed significantly to the development of the coastal economy (Godfrey and Clarke, 2000).

RQ1. What are the prominent thematic dimensions of ecotourism research?

The need for eco-tourism was felt by academicians, researchers, and the industry as well due to the rise in greenhouse effect, gradual obliteration of biodiversity, rapid global warming, protection of the Ozone layer depletion etc (Richard & Derek, 2000). Through ecotourism people can have community ownership (Jalani, 2012). Research also found that many studies indicated conservation of natural resources and community development as the major areas of research (Stranza, 2007), which will include biodiversity conservation (Scheyvens, 2007) and community development (Cobbinah, 2015). The preservation of tribal culture through conserving the social, cultural, and environmental ecosystem in those areas (Donohoe, 2010) is another aspect of ecotourism.

RQ2. What are the future research scopes that need to be addressed by the researchers to take into consideration?

2. Review of Prior SLRs on Ecotourism

The dimensions of ecotourism research have entered into many new spheres such as promotion of local livelihood (Das & Chatterjee, 2015), green tourism (Furqan et al., 2010; Jarvis et al., 2010; Hong et al., 2003; Font et al., 2003), nexus between technology and ecotourism (Zhang & Deng, 2024), travel motivations (Meric & Hunt, 1998), education and ecotourism (Hsu, 2015), ecotourism market segmentations (Ballantine & Eagles, 1994), environmental conservation (Zeng & Zhong, 2020), Adventure and ecotourism (Bentley et al., 2010), social transformation (Kunjuraman et al., 2022) etc. Most of the earlier research focused on ecotourism and sustainability (Wall, 1997; Kiper, 2013), concepts and principles (Diamantis, 1999; Blamey, 2001; Buckley, 2013; Donohoe & Needham, 2006; Fennell, 2012), empowerment of local communities (Scheyvens, 1999) etc. The concepts of ecotourism and biodiversity were also intensely studied in earlier studies (Gössling, 1999; Broadbent et al., 2012; Oosterzee, 2000). Study suggested that eco tourists liked to travel remote wilderness, and wildlife more (Wight, 2001; Eagles, 1992; Newsome et al., 2013). Eco-tourism can be viewed as a common phenomenon of nature-based tourism, environmentally concerned tourism, and sustainability concerned tourism (Buckley, 1994). Nature-based tourism was observed as the most widely preferred tourism across tourists (Cater, 2006; Fennell, 2008). The basic intention of these types of tourism is recreation by experiencing nature (Moore & Driver, 2005)

Table 1. Previous Studies on Ecotourism

Sl. No.	Authors	Year	Articles timeframe	No. of papers	Protocol	Focus Area	Framework	Study Findings
1	Romero-Brito et al., (2016)	2016	2012-2015	214	PRISMA	NGO Partnership & ecotourism for conservation	Meta-analysis of Case studies	It was observed that there is no correlation between success of a project and private party's involvement at global stage.
2	Sana et al. (2023)	2023	1998–2023	---	PRISMA	Three consumption stages of ecotourism	TCCM	Shows that ecotourists' inertia toward site visits can be overcome by improving the stages of consumptions.
3	Sahahiri et al., (2023)	2023	2000–2023	67	PRISMA	Ecotourism opportunity measurement	CAS	Identifies five themes that impact ecotourism nature, environmental education, sustainability, socio-cultural benefits, and

								tourist satisfaction.
4	Zhang & Deng (2024)	2024	2018–2023	29	PRISMA	Smart technologies and sustainable ecotourism	AHP	Explains how smart ecotourism technologies helps in promoting sustainable ecotourism.
5	Brandt & Buckley, (2018)	2018	2000–2017	17	Case Analysis	Ecotourism impacts on forests in biodiversity hotspots	Thematic Analysis	Explains how ecotourism protects forests and biodiversity but not conclusive due to insufficient evidence.
6	Khanra et al. (2021)	2021	1990–2019	878	Bibliometric Analysis	Ecotourism and sustainable development	Thematic Analysis	It explained four thematic areas need for ecological preservation, protecting residents’ interests in ecological areas, carbon footprint rise, tourists’ attitude on sustainability
7	Forje et al. (2022)	2022	2002-2021	54	PRISMA	Ecotourism governance	PROFOR	Identifies that there is no significant variation in the study of ecotourism governance principles various sub-Saharan regions of SSA.
8	Xu et al. (2023)	2023	2003-2021	2991	Scientometrics	Ecotourism and sustainable development	Thematic Analysis	The study depicts the phases of ecotourism evolution.
9	Blanton et al.,(2024)	2024	2010-2022		PRISMA	Ecotourism and Mangrove	Thematic Analysis	Proposes gap in communities

						conservation		quality of life across different countries
10	Das & Chatterjee(2015)	2015	2000-2013	–	Descriptive Analysis	Ecotourism	Content Analysis	Conceptualizes that ecotourism has proven to be an effective environmental conservation tool
12	This study	--	2000–2025	50	PRISMA	Ecotourism	Thematic Analysis	–

3. Methodology

We have adopted a systematic literature review through the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines (Moher, 2009). It provides a systematic review through a robust mechanism (Shamseer et al., 2015; Moher, 2009).

3.1 Data Collection

The data were collected and analysed in a systematic process by following the PRISMA guidelines in a step-wise manner. The roles of each investigator were divided from the beginning. The search has been done from the broader to narrower approach, where it was conceived that the least is the best.

3.2 Literature Search and Selection Procedure

The commencement of this investigation was anchored in a systematic and methodologically rigorous review of existing scholarly literature. This stage was deliberately designed to ensure both breadth and depth of coverage while maintaining a strict adherence to established quality benchmarks in academic research. Total Records Identified from Scopus Articles on ‘Eco Tourism’ and ‘Green Tourism’ Keyword Search resulted in 4475 Articles (Ecotourism: 2870; Green Tourism: 1605).

3.3 Database Selection and Initial Query

The first step entailed the identification of relevant literature through a targeted search of the Scopus database, which was selected due to its extensive indexing of peer-reviewed academic publications across diverse disciplines. The search strategy employed a carefully curated set of keywords and Boolean operators to capture studies pertinent to the research objectives. Only full-length, peer-reviewed empirical and conceptual studies published in the English language were considered at this stage. This linguistic restriction was implemented to ensure interpretive consistency and to facilitate the accurate appraisal of theoretical and methodological contributions. Articles Removed before Screening: Deducting 1605 articles of green tourism remaining were ecotourism.

3.4 Inclusion and Exclusion Criteria

To refine the corpus of retrieved publications, a series of inclusion and exclusion criteria was systematically applied. Excluded materials comprised conference proceedings, working papers, editorials, and publications issued in languages other than English. This decision was motivated by the need to maintain a focus on scholarly contributions subjected to rigorous peer-review processes and disseminated through recognized academic channels. Records Screened (2870) selecting only articles in English, only full articles, excluding all conference articles 1076 articles were selected (Removed: Conference: 1073; Book Chapter: 415; Conference Review: 216; Others: 90).

3.5 Quality and Relevance Filtering

Following this preliminary screening, the dataset underwent an additional quality filtration process. Specifically, retained articles were limited to those published in journals listed within the Australian Business Deans Council (ABDC) journal ranking framework (A & A* category) and those classified in the first quartile (Q1) of the

Scimago Journal Rank (SJR) index. This measure ensured that the selected works were drawn from high-impact scholarly outlets known for their stringent editorial standards. Out of the above 1076 were selected articles by deducting 869 non-SJR Q1 tourism journals articles, and the remaining 207 articles were to be screened. Out of these 207 articles, only 72 articles were from ABDC (A & A* category) from 2000 onwards, which were the articles we considered for thematic alignment and quality check.

3.6 Thematic Alignment Assessment

Following the initial identification of relevant literature, the selected corpus underwent a systematic thematic relevance evaluation to ensure alignment with the overarching objectives and scope of the present investigation. Each publication was critically examined for its conceptual congruence with the central research constructs and thematic dimensions under consideration. Studies that did not substantively engage with these focal areas were excluded from subsequent analyses. A rigorous quality appraisal was then undertaken, encompassing three evaluative dimensions. First, Rigour, which assessed the methodological comprehensiveness of each study, including the clarity of stated aims and outcomes, the coherence between research design and stated objectives, and the adequacy of contextual specifications. Second, Credibility, which examined the explicitness of findings, the depth of discussion, both supportive and critical regarding the subject matter, the consistency of results with the original research questions, and the extent to which study limitations were articulated. Third, Relevance, which evaluated the contribution of each study to the existing body of knowledge, including the articulation of implications and the provision of future research directions. The complete process resulted in the choices of 42 articles out of the 72 articles selected in the previous step.

3.7 Recursive Snowball Sampling

To further augment the comprehensiveness of the literature base, a recursive snowball sampling strategy was implemented. In the first iteration (Snowball-1), reference lists of the shortlisted articles were systematically examined to identify additional pertinent works. This process was repeated in successive iterations (Snowball-2), wherein the bibliographies of newly identified articles were similarly scrutinized. This iterative expansion continued until thematic saturation was reached, that is, the point at which no substantively novel literature emerged from further searches. Another 4 articles were chosen through each first and second snowballing process, making the total final selected articles 50.

4. Findings

4.1. Theoretical and Methodological Framework in Ecotourism Studies

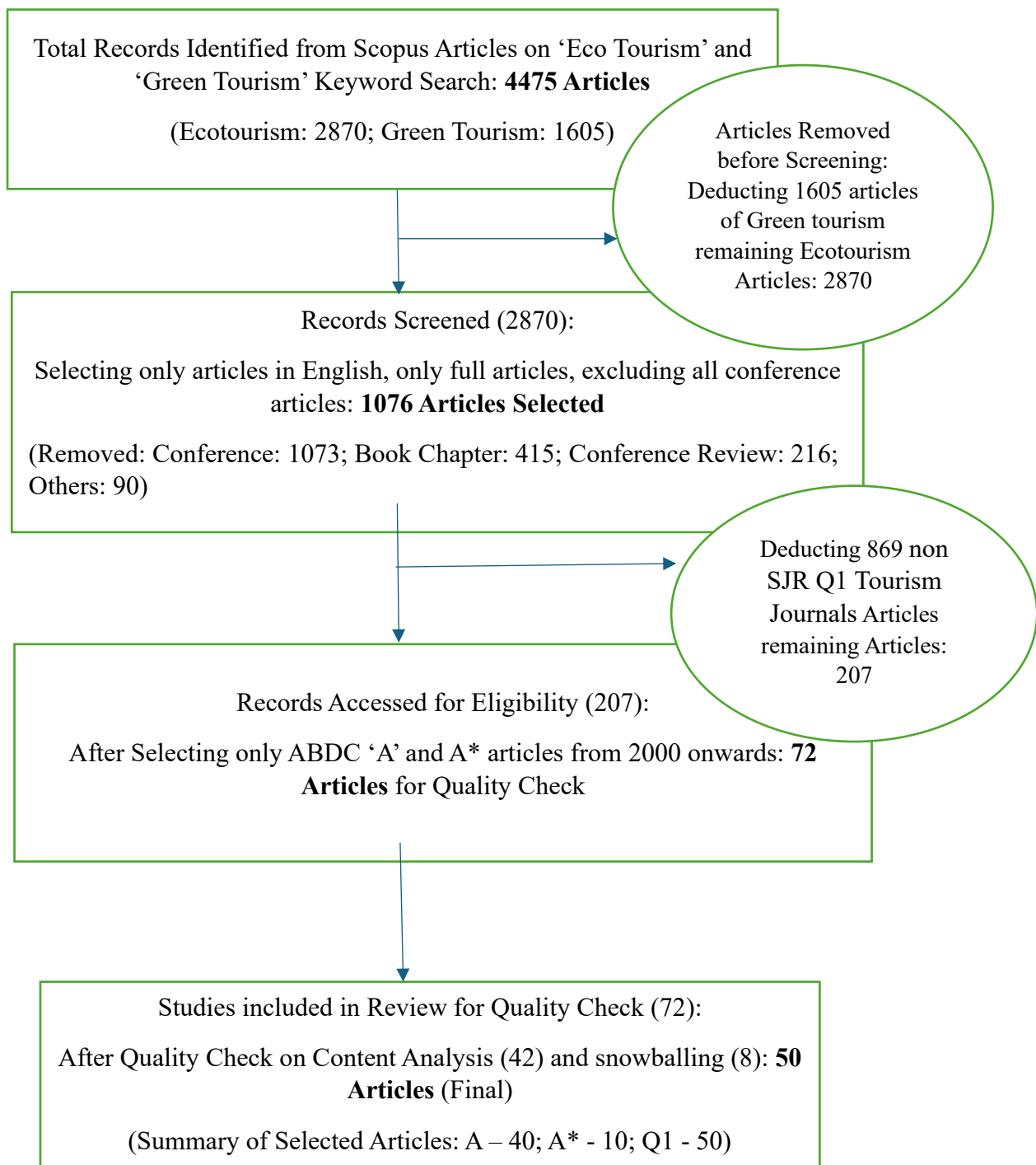
By integrating systematic database querying, stringent quality filters, thematic screening, and recursive bibliographic exploration, this multi-stage search protocol ensured that the resulting literature set represented a comprehensive, high-quality, and thematically coherent foundation for the subsequent phases of the research.

The study focused only on full-length English articles on 'Ecotourism', though there were many studies on similar and overlapping subjects like 'Green Tourism' and 'Sustainable Tourism', those themes were not considered in this study, as many earlier studies have already delved into it in detail. We explored that there were 34 Q1 SJR journals that had published articles on 'Ecotourism', out of which only 15 journals were in the ABDC (A & A* category) listed. The thematic and quality check further narrowed down the final journal list to 9 journals.

The final selected articles were from 9 different journals from which 50 articles were chosen for the final analysis. Out of these 50 articles 60% of the articles (30 articles) were from two different journals one The Journal of Sustainable Tourism with 17 articles and the Journal of Tourism Management, next highest representations were from The Annals of Tourism Research with 6 articles and from Journal of Hospitality and Tourism Management with 4 numbers of articles (Fig.3).

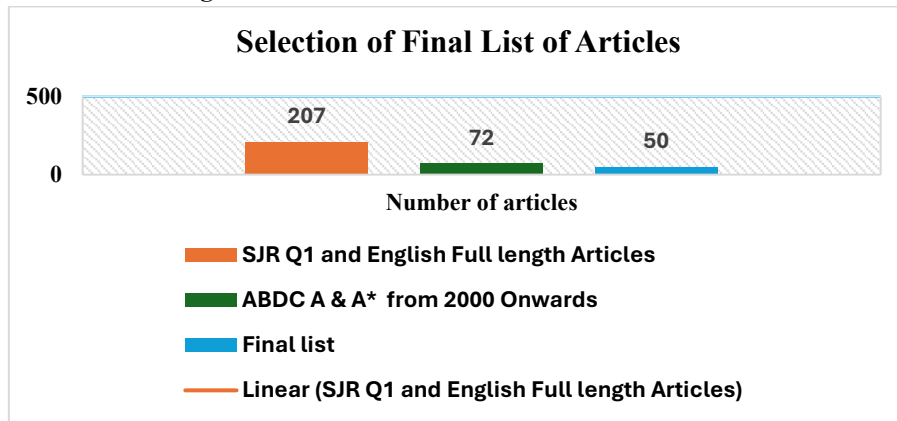
It was observed (Fig.4) that out of the selected articles, the highest 4 numbers of articles were chosen from 2023. Three articles each were chosen from 2000, 2005 to 2008, 2012, and 2008. This showed that from 2017 to 2022, there was no significant quality research on 'Ecotourism', which may be due to the pandemic effect during this time. The most cited article was 'Twenty years on: The state of contemporary ecotourism research' (Weaver & Lawton, 2007) with 1239 citations in the Tourism Management journal, followed by the article 'A content analysis of ecotourism definition' (Fennell, 2001) with citations of 877 in the Journal of Current Issues in Tourism. The two articles from Annals of Tourism Research titled 'Community Views of Ecotourism' (Stronza, 2008) and

'Community-based ecotourism: The significance of social capital' (Jones, 2005) were next in the list with 873 numbers of citations each.



Through a thorough analysis of the methodology adopted by these articles, it was observed that 27 articles (54%) were quantitative research. The qualitative and case study approach was applied in 14 (28%) of articles. The mixed-method approach was followed by 8 numbers (16%). The remaining articles were adopted (Fig.5).

Fig. 2. Process of Selection of Final List of Articles



No. of Selected Articles from Different Journals

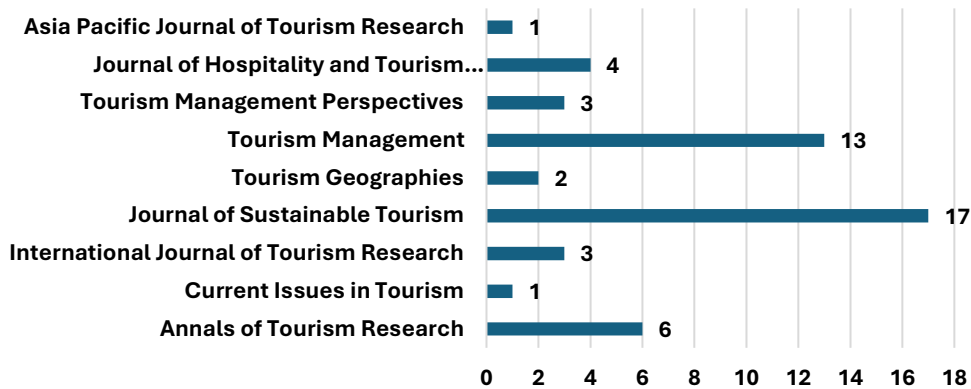


Fig.3. No. of Selected Articles from Different Journals

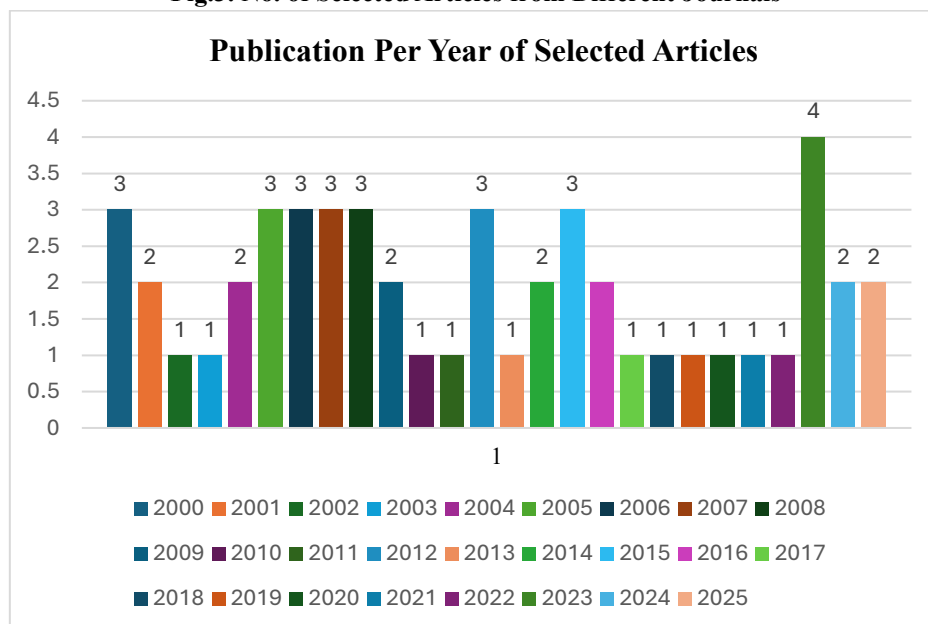


Table 2: Some Prominent Theories Applied in Ecotourism Research

Sl.No.	Primary Studies	Authors	Theory	Journals
1	Community-based ecotourism: The significance of social capital	Jones, 2005..	Social Capital Theory	Annals of Tourism Research
2	Environmentally responsible behavior in ecotourism: Antecedents and implications	Chiu et al., 2014	The Expectancy Theory	Tourism Management
3	Stakeholder collaboration as a major factor for sustainable ecotourism development in developing countries	Wondirad et al., 2020.	Stakeholder and Collaboration Theories and Triple-bottom-line principles	Tourism Management
4	Towards a sustainable future: Analysing meta-competencies in community-based ecotourism on Liuqiu Island	Lee, 2025.	SOR Theory	Journal of Hospitality and Tourism Management
5	Quantitative content analysis of codes of conduct for ecotourism in Japan	Zhang et al., 2024.	Means-End Chain Theory	Journal of Hospitality and Tourism Management
6	Influence analysis of interpretation services on ecotourism behavior for wildlife tourists	Lee et al., 2023.	SOR	Journal of Sustainable Tourism
7	Eco-destination image, environment beliefs, ecotourism attitudes, and ecotourism intention: The moderating role of biospheric values	Luong, 2023.	Values-Identity-Personal (VIP) Theory	Journal of sustainable tourism
8	Ecotourism anywhere? The lure of ecotourism and the need to scrutinize the potential competitiveness of ecotourism developments	Thompson, 2022.	Destination Competitiveness Theory	Journal of Hospitality and Tourism Management
9	A structural model of residents' intention to participate in ecotourism: The case of a wetland community	Zhang, & Lei, 2012.	The Theory of Reasoned Action	Tourism Management

It was observed that, contrary to other domains of studies, research on ecotourism mostly followed quantitative, qualitative and case-based approach compared to the theory-based approach.

4. 2 Key Focus Areas

The analysis of studies on eco-tourism explored seven distinct categories. In order to find out the key focus areas, we have segregated the ecotourism literatures into seven different categories: (i) Policy Evaluation; (ii) Behavioral Drivers; (iii) Smart Ecotourism; (iv) Climate Adaptation; (v) Indigenous Perspectives; (vi) Community Involvement; (v) Economic Viability (Fig.6), which are in line with previous studies (Weaver & Lawton, 2007; Lai & Nepal, 2006; Buckley et al., 2008).

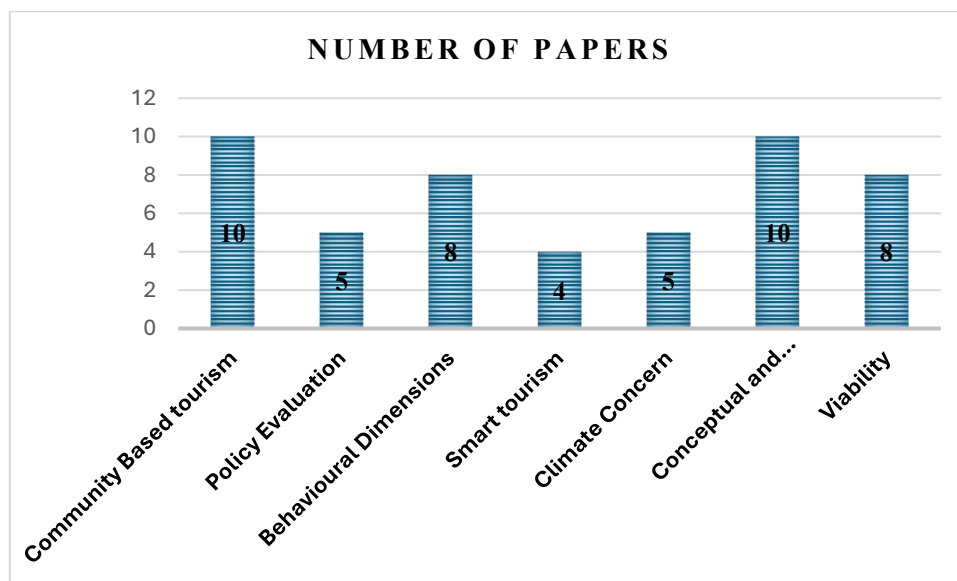


Fig.6 Category-Wise Number of Papers

This study approaches through a lens of ‘sustainable development theory’. The environmental dimension of the theory is reflected in indicators such as biodiversity conservation, ecosystem protection, responsible resource use, carbon and waste reduction, and respect for ecological carrying capacities. The social dimension is captured through indicators including community well-being, equitable benefit sharing, cultural heritage preservation, local empowerment, and participatory governance. The economic dimension is expressed through indicators such as sustainable livelihood creation, local employment generation, financial viability of tourism enterprises, and reinvestment in conservation and community development. These three pillars are integrated and stabilized through governance and institutional mechanisms, evident in indicators such as stakeholder coordination, policy coherence, transparency, and regulatory effectiveness. Underpinning all these dimensions is the principle of intergenerational and intra-generational equity, reflected in long-term resource stewardship, fairness in development outcomes, and social justice considerations. More recently, the theory has also emphasized learning and innovation, as seen in indicators such as the adoption of eco-friendly technologies, capacity building among local actors, and adaptive management practices. Taken together, these concept–indicator linkages offer a coherent and operational lens for assessing how ecotourism can simultaneously advance conservation goals, community well-being, and economically viable development.

4.2.1. Environmental Dimension

Policy Evaluation

There is a requirement for robust policy framework for ecotourism, which is required to be monitored on regular basis (Bentley et al., 2010). There is also a serious need for standardisation for measuring compliances and monitoring the processes (Medina, 2008). The code of conduct for ensuring environmental conservation through ecotourism was felt in the ecotourism studies of Japan (Zhang & Fukami, 2024). There must be established linkages between the constraints and barriers of ecotourism, as there required an integrated network of connections, when we are making provisions for accessible ecotourism (Garrod & Fennell, 2021).

Climate Concern

Comprehensive scales of measurement were prepared to measure the environmental impact of ecotourism (Buckley, 2009; Li, 2024). Research explored that the environmentally responsible behaviour shown by the ecotourists has generated more inherent satisfaction for them (Chiu et al., 2014). Studies indicated that there was a significant contribution made by ecotourism towards sustainable development (Khanra et al., 2021), which was contradicted by others in later years (Lasso & Dahles, 2023). Environmental values played an important role

mediated by attitude, and moderated by the emotional intelligence of tourists for sustainable ecotourism (Shi & Chen, 2024).

4.2.2. Social Dimension

Community-Based Tourism

The impact of ecotourism on local communities, their economies, lifestyle, and on social as well as cultural aspects was undeniable (Stronza & Gordillo, 2008). Studies also depicted that the higher level of social capital was instrumental in community-based ecotourism (Jones, 2005). Community-based ecotourism promoted women empowerment through their active involvement in the process by means of different ventures (Scheyvens, 2000). There were many complexities in addressing issues like environmental conservation, local livelihood, and preservation of culture through community-based ecotourism (Reimer & Walter, 2013; Lee, 2025). Studies have explained that environmental knowledge of residents played a vital role in an effective ecotourism process (Zhang & Lei, 2012). It was observed that local decision-making practices promoted sustainable ecotourism, the studies from Fijian culture suggested that a culturally appropriate methodology can produce better outcomes for sustainable tourism (Farrelly, 2011). A study on Taiwan found that there was a significant impact of social and political influences on the social and political consequences of ecotourism (Wang et al., 2016). The embeddedness of multi-layered characters of local communities and their impact on the regional economy. It was also explored that ecotourism failed to contribute positively to the sustainable goals (Lasso & Dahles, 2023). There is a requirement for more equitable division of labor, increased income, self-confidence and community involvement, and new leadership roles for women (Tran & Walter, 2014).

Behavioural aspect

Previous studies suggested the need for developing a behavioural scale for eco-tourism (Lee & Jan, 2018). A well-designed and delivered interpretation of experiences of ecotourism has influenced positively towards environmental behavioural intentions, and support of conservation (Powell & Ham, 2008). Tourists' behavioural intentions, knowledge, attitude, and awareness explained the conservation benefits of the environmental management practices (Lee & Moscardo, 2005). The evaluation of the quality of experience of eco tourists included both emotional as well as functional elements (Lian & Baum, 2007). It was explored that eco tourists' satisfaction is directly dependent on their eco-tourism knowledge and awareness (Oviedo-Gracia et al., 2017). It was observed that eco-destination image, environmental beliefs, and ecotourism attitudes have a huge impact on the ecotourism intention (Luong, 2023). Eco tourists are gaining an affective rather than cognitive experience and the experiences are mostly ocular and selective in nature (Ryan et al., 2000).

There are many uncertainties surrounding the meaning and contents of ecotourism (Cobbinah, 2015). The content analysis of ecotourism depicted five key dimensions, such as natural areas, conservation, culture, benefits to locals, and education (Fennell, 2010). It was observed that the prime segmentation in ecotourism market segmentation, ecological impacts of wildlife viewing, and community-based ecotourism (Weaver & Lawton, 2007). Eco tourism is a unique form of tourism that involves four central groups, like the local people, the authorities, tourists, and companies involved in tourism (Bjork, 2000). There were many structural, operational and cultural problems, ecotourism bottlenecks in ecotourism, and it must be monitored, maintained, and evaluated properly (Das & Chatterjee, 2015). There were two core ideals in ecotourism minimalist proposed superficial learning opportunities focused on charismatic megafauna, whereas the sustainability approach focused on the sites and status quo orientations (Weaver, 2005). A study of Botswana depicted that ecotourism has a significant impact on women -empowerment (Lenao & Basupi, 2016).

4.2.3. Economic Dimension

Smart Tourism

Smart service, food, location, along with an additional four factors, acted as a satisfier in the eco-tourism perspective (Lu & Stepchenkova, 2012). New dimensions and themes are gaining popularity among ecotourism

activities (Weaver, 2002). There is a requirement for sustainable tourism, which can be achieved through sustainable technologies (Pavlidis et al., 2022). Embedding virtual reality in eco-tourism augmented the process of sustainable eco-tourism (Kumar & Kushwaha, 2025). There is a significant impact of artificial intelligence on eco-tourism marketing, and the future agenda for smart tourist destinations (Florido-Benitez et al. 2024). Research ecotourism is one of the emerging field focused on smart ecotourism these days (Clifton & Benson, 2006).

Viability

It was found that there was less collaboration among various stakeholders of ecotourism, which was a major impediment in sustainable ecotourism (Wondirad et al., 2020). Volunteer ecotourism is another evolving area mostly dependent on aesthetic, economic, and ethical values (Gray & Campbell, 2007). The tangible contribution made by ecotourism to local communities by improving their lifestyle, enhancing their access to resources and information, and enabling biodiversity (Hunt et al., 2015). It was found that there were many social and economic benefits for the local communities from ecotourism (Schellhorn, 2010). Local adaptive capacity is explored as a crucial factor in the case of sustainable marine ecotourism (Suryawan, 2025). A study on four islands of Malaysia has shown that the products and activities of small and medium-scale industries have a significant contribution towards their economic viability (Jaafar & Maideen, 2012). The challenges of economic, operational viability were a serious concern for sites with low ecotourism potential (Thompson,2022; Tsaur et al., 2006).

4.3.1. Implications

The findings of this study carry profound implications for both scholarship and practice in the domain of sustainable tourism. By systematically consolidating two decades of ecotourism research, the study not only delineates the evolution of theoretical and methodological orientations but also highlights critical lacunae that warrant academic attention. The mapping of ecotourism's conceptual trajectories underscores its transition from conservation-centered discourse to multidimensional frameworks that integrate socio-economic viability, behavioral dynamics, and community-based development. Such an integrated synthesis offers scholars a robust platform for theory-building, particularly in aligning ecotourism with broader sustainability paradigms and cross-disciplinary approaches. For practitioners and policymakers, the research provides a comprehensive evidence base to inform decision-making processes. The identification of gaps such as the underrepresentation of longitudinal and cross-cultural analyses, limited community participation in empirical studies, and the need for advanced methodological pluralism signals opportunities for innovation in sustainable destination management. Moreover, the study emphasizes the necessity of embedding ecotourism practices within local socio-ecological systems to ensure resilience, inclusivity, and long-term viability. Future research trajectories suggested by this review such as digital transformation in ecotourism, climate adaptation strategies, and participatory governance extend its significance beyond academia, positioning it as a critical reference point for sustainable development agendas at global and local scales. The implications of this study suggested a significant change in the policy sphere, where ecotourism can serve as both a conservation mechanism and a developmental strategy. The study advised a community-based governance mechanism to ensure equitable benefit-sharing, capacity-building, and empowerment of local stakeholders. It was also recommended that there is a requirement for an integrated monitoring and evaluation systems for better monitoring and timely evaluation (Medina, 2008). The study stressed on smart tourism with digital innovations ecotourism, like virtual tourism platforms and smart destination management systems Florido-(Benitez et al. 2024). Financial, operational, and socio-cultural viability is essential for sustainable ecotourism (Schellhorn, 2010). Integrating climate concern in ecotourism is yet to be completely integrated. Moreover, there is a serious requirement of a robust measuring scale for the measurement of the climatic impact of ecotourism (Buckley, 2009; Li, 2024). Studies depicted that ecotourism is mostly a hedonic experience rather than a learning experience (Ryan et al., 2000) which suggested that behavioural dimensions played a pivotal role in ecotourism.

4.3.2. Comprehensive Framework for Ecotourism

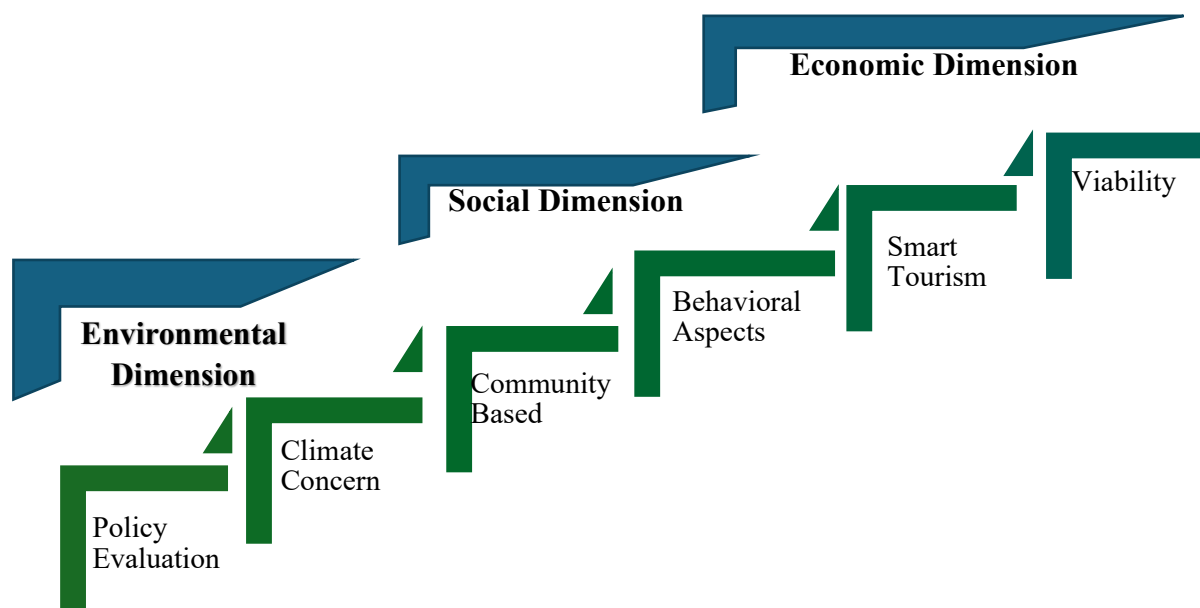


Fig.8 Comprehensive framework on Ecotourism

Viewed through the lens of sustainable development theory, the comprehensive ecotourism framework can be understood as a staged and cumulative process in which environmental protection, social inclusion, and economic viability are progressively integrated rather than pursued in isolation. The step-like structure of the framework is conceptually significant, as it suggests that ecotourism does not emerge as a finished or uniform model, but evolves through successive phases of institutional learning and capacity building. In the early stages, sustainability is largely defensive, oriented toward minimizing ecological harm and regulating tourism pressure. As the framework advances, these concerns are gradually embedded into more coordinated governance arrangements and community-oriented practices, marking a transition from reactive conservation to more strategic and systemic forms of sustainability. At its higher levels, the framework points toward a more mature condition in which ecotourism is no longer limited to protecting nature, but begins to actively contribute to the regeneration of ecosystems, the strengthening of local livelihoods, and the long-term resilience of regional development systems. The framework implies that genuine sustainability in ecotourism emerges only when environmental, social, and economic logics begin to reinforce rather than constrain one another. The progression depicted in the model reflects a shift from treating nature as a fragile resource to be safeguarded, toward recognizing it as a living system that must be continuously renewed, while communities move from being passive beneficiaries to active co-creators of the tourism system. At the same time, economic activities evolve from short-term income generation to more deeply embedded and institutionally supported development pathways. In this sense, the framework does not portray sustainability as a fixed end state, but as a long-term process of maturation in which destinations gradually acquire the governance capacity, social legitimacy, and ecological responsibility needed to align development with intergenerational well-being.

5. Limitations and Future Scope

The evolving discourse on ecotourism demands a more rigorous, multidimensional approach to address persistent gaps in scholarship and practice. A critical shortcoming within policy evaluation lies in the scarcity of robust empirical inquiries that measure the tangible impacts of local ecotourism policies over extended timeframes. To strengthen the evidence base, future research should prioritise the development of longitudinal impact assessment

models capable of capturing both direct and diffuse socio-environmental outcomes. In the realm of behavioural drivers, current literature disproportionately centres on Western tourist profiles, thereby neglecting the cultural heterogeneity that shapes tourism-environmental responsible behaviours (TERB) in non-Western contexts. Expanding the analytical lens to incorporate non-Western cultural paradigms would enable a more globally representative understanding of the socio-psychological underpinnings of sustainable tourist conduct. The domain of smart ecotourism remains relatively underexplored, with limited scholarly engagement on the integration of advanced digital technologies into conservation-focused tourism. The transformative potential of artificial intelligence (AI), the Internet of Things (IoT), and immersive virtual reality (VR) platforms warrants systematic investigation, both as tools for enhancing visitor engagement and as mechanisms for ecological monitoring and preservation. Similarly, climate adaptation research within ecotourism exhibits a fragmented relationship with contemporary climate science, often lacking comprehensive integration with established mitigation and adaptation frameworks.

Table 3:
Research Gaps and Future Scope

Sl.No.	Area	Research Gaps	Future Scope
1	Policy Evaluation	Limited empirical impact studies; less stringent monitoring and evaluation system	Develop longitudinal impact models on local policies; prepare robust monitoring and evaluation methods.
2	Behavioral Drivers	Over-focus on Western tourists	Examine non-Western cultural dimensions of TERB
3	Smart Ecotourism	Few studies on tech-enabled conservation	Explore AI, IoT, and VR for ecotourism experiences
4	Climate Adaptation	Fragmented integration with climate science	Link ecotourism with mitigation/adaptation frameworks
5	Conceptual and Perspectives	Clear definition and conceptualisation of ecotourism.	More research on robust system of monitoring, evaluation, and management of ecotourism.
6	Community-based Ecotourism	Underrepresentation of many communities and many case studies in protected/rural areas, but less in other kinds of settings	More representative and holistic research, inclusive of diversified communities.
7	Viability	Comprehensive study on financial, operational, socio-cultural, and sustainable viability of ecotourism.	More research on all the dimensions of the viability of ecotourism.

A more deliberate synthesis between ecotourism strategies and climate resilience planning could position tourism as a proactive contributor to global climate objectives. Lastly, indigenous perspectives remain marginalised within mainstream ecotourism literature, despite their profound relevance to place-based sustainability. Future scholarship should prioritise indigenous-led tourism models, ensuring that such frameworks are not merely included as case studies but recognised as foundational paradigms in shaping equitable and culturally authentic ecotourism practices.

6. Conclusion

This paper has reported the detailed structure, design, methodology adopted, findings, and research gaps concerning studies related to ecotourism through a systematic literature review process. It has identified 4475 articles in the initial stage to narrow down to 50 most relevant articles on ecotourism. The objectives of the study are to analyse the core purposes, methodologies, dimensions of future scopes, and implications of the studies on ecotourism. Most of the articles were perspective in nature, many of them were based on tourist behaviour, intentions, and perception, and few of these articles also discussed the community-based ecotourism and its scope. The majority of the studies were quantitative in nature, followed by qualitative studies. There were limited studies beyond the western countries, therefore, more emphasis must be given to studies on ecotourism, and tourists of other parts of the globe. The need for tech-enabled tourism, and climate-linked ecotourism was observed in this study. We recognised that including more diverse types of sources will enhance the accuracy, representativeness of the study. Therefore, we recommend that future research should have an exhaustive range of systematic literature reviews on ecotourism.

Disclosure statement

The authors report there are no competing interests to declare.

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