



## Evaluating the Impact of Policies on Inclusive Ecotourism for People with Disabilities: Accessibility, Community Awareness, Environmental Health, and Sustainability—A Systematic Review



Hairudin La Patilaiya\*<sup>ID</sup>, Ari Natalia Probandari<sup>ID</sup>, Hartono<sup>ID</sup>, Sunarto<sup>ID</sup>

Doctoral Programme in Environmental Science, Postgraduate School, Universitas Sebelas Maret, 57126 Surakarta, Indonesia

\* Correspondence: Hairudin La Patilaiya (hairudinpatilaiya25@gmail.com)

Received: 06-30-2025

Revised: 08-07-2025

Accepted: 10-13-2025

**Citation:** La Patilaiya, H., Probandari, A. N., Hartono, and Sunarto, “Evaluating the impact of policies on inclusive ecotourism for people with disabilities: Accessibility, community awareness, environmental health, and sustainability—A systematic review,” *Int. J. Environ. Impacts.*, vol. 9, no. 1, pp. 27–36, 2026. <https://doi.org/10.56578/ijei090103>.



© 2026 by the author(s). Licensee Acadlore Publishing Services Limited, Hong Kong. This article can be downloaded for free, and reused and quoted with a citation of the original published version, under the CC BY 4.0 license.

**Abstract:** Inclusive ecotourism promotes equal access, community participation, and environmental conservation, thereby generating both social and economic benefits. Although scholarly interest in inclusive ecotourism has increased, empirical research examining how specific policy frameworks address the needs of people with disabilities remains limited. This study presents a systematic review of the existing literature to evaluate the extent to which ecotourism policies enhance accessibility, foster community awareness, and support environmental sustainability. Following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, a comprehensive literature search was conducted using the Scopus, Web of Science, and ProQuest databases. Of the 1,215 records identified, only seven studies met the inclusion criteria, indicating that research in this area is still at an early stage of development. The review highlights several key policy strategies, including the provision of accessible infrastructure, stakeholder engagement, and the integration of sustainability-oriented practices. However, the findings also reveal persistent challenges, such as weak policy enforcement, limited intersectoral collaboration, and gaps in physical infrastructure. By synthesizing insights related to accessibility, community awareness, and environmental policy, this study provides an integrated perspective to inform the development of more inclusive and sustainable ecotourism initiatives. It underscores the need for stronger cross-sector collaboration to address existing policy shortcomings and to promote tourism systems that equitably benefit all visitors, including individuals with disabilities.

**Keywords:** Ecotourism; Disability; Policy impact; Community awareness; Environmental sustainability

### 1 Introduction

Inclusive ecotourism has gained increasing global attention as a key component of sustainable development, particularly in promoting accessibility for people with disabilities and supporting environmental stewardship [1]. Given that more than one billion people worldwide live with some form of disability, the development of accessible tourism experiences represents both a social obligation and an economic opportunity. Such initiatives enable equitable participation for all travelers while addressing barriers related to physical accessibility, community awareness, and environmental conditions [2]. In this context, accessible tourism contributes not only to social inclusion but also to the long-term resilience and attractiveness of tourism destinations.

The COVID-19 pandemic further emphasized the importance of adaptable and inclusive tourism systems. The widespread disruption of tourism activities prompted a reassessment of policy frameworks aimed at strengthening resilience and universal accessibility. This period highlighted the need to systematically integrate inclusive measures across tourism destinations. Ensuring that ecotourism areas can accommodate diverse visitor needs is therefore essential for achieving sustainability objectives and fostering a more inclusive global tourism sector [3].

Despite growing recognition of these issues, research specifically examining intervention models that assess and improve community knowledge, attitudes, and behaviors toward disability accessibility in ecotourism remains limited. Existing studies primarily address accessibility in ecotourism at a conceptual level [2] or discuss inclusive tourism frameworks in general terms [3, 4]. Other research has explored community participation in sustainable tourism [5]

or analyzed the socio-economic impacts of inclusive ecotourism [6]. However, there is a notable lack of systematic evaluations of targeted policy intervention models designed to influence local community perceptions and practices related to disability access in nature-based tourism settings.

Recent literature reflects a gradual expansion of this research field. For example, an integrative review published in 2023 examined disability inclusion within hospitality and tourism systems, highlighting the evolving discourse on inclusive practices while also noting the scarcity of empirical policy intervention studies in ecotourism [7, 8]. Similarly, studies published in 2024 on accessible tourism drivers and stakeholder engagement indicate increased attention to socio-economic and relational dimensions of inclusion, particularly for underrepresented groups [9]. Although these contributions identify important emerging trends, comprehensive evaluations of policy impacts, especially those implemented after 2022, remain underdeveloped within the ecotourism literature.

Accordingly, this review aims to evaluate the effects of inclusive ecotourism policies on accessibility, community awareness, and environmental health, with the objective of identifying policy approaches that support more inclusive and sustainable tourism development.

## 2 Methods

### 2.1 Study Design

This systematic review was conducted to evaluate the effects of ecotourism policies on inclusivity, accessibility, and environmental health. The review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines to ensure a transparent, rigorous, and reproducible selection process. Rayyan AI was used to support systematic screening by facilitating the organization and comparison of eligible studies.

### 2.2 Eligibility Criteria

Clear inclusion and exclusion criteria were established to ensure the relevance and quality of the selected studies. Studies were eligible for inclusion if they empirically examined the effects of ecotourism policies on inclusivity and accessibility, with explicit consideration of environmental health outcomes within ecotourism contexts. Only peer-reviewed journal articles reporting original qualitative or quantitative data were included. No geographic restrictions were applied, allowing the inclusion of studies from both developed and developing regions.

The inclusion criteria were designed to capture research addressing the intersection of ecotourism policy, disability inclusion, and environmental outcomes. Studies that focused solely on conceptual discussions without empirical analysis were excluded. Additional exclusions applied to publications not directly related to tourism or policy-based inclusivity and accessibility, as well as to non-English articles, editorials, opinion pieces, and other non-peer-reviewed materials. Review articles, conference papers, policy guidelines, and editorial letters were also excluded.

These exclusion criteria were applied to maintain a focused analytical scope and to ensure methodological rigor. The exclusion of non-English and grey literature may have resulted in the omission of some relevant studies; however, this decision was made to preserve consistency in data quality and evaluative standards. The application of strict eligibility criteria also contributed to the relatively small number of studies included in the final synthesis.

**Table 1.** Databases and search keywords used in the systematic review

Database	Search Keywords / Fields
Scopus	TITLE-ABS-KEY (ecotourism OR “inclusive tourism” OR “accessible tourism”) AND TITLE-ABS-KEY (“tourism policy” OR “environmental policy” OR “policy impact”) AND TITLE-ABS-KEY (accessibility OR “community awareness” OR “environmental health” OR sustainability)
Web of Science	TS=(ecotourism OR “inclusive tourism” OR “accessible tourism”) AND TS=(“tourism policy” OR “environmental policy” OR “policy impact”) AND TS=(accessibility OR “community awareness” OR “environmental health” OR sustainability)
Ovid	(ecotourism OR “inclusive tourism” OR “accessible tourism”).ti,ab. AND (“tourism policy” OR “environmental policy” OR “policy impact”).ti,ab. AND (accessibility OR “community awareness” OR “environmental health” OR sustainability).ti,ab.
JSTOR	(ecotourism OR “inclusive tourism” OR “accessible tourism”) AND (“tourism policy” OR “environmental policy” OR “policy impact”) AND (accessibility OR “community awareness” OR “environmental health” OR sustainability)
ProQuest	TI (ecotourism OR “inclusive tourism” OR “accessible tourism”) AND TI (“tourism policy” OR “environmental policy” OR “policy impact”) AND TI (accessibility OR “community awareness” OR “environmental health” OR sustainability)

## 2.3 Search Strategy

A systematic search was conducted across five major academic databases to identify relevant literature. Predefined keyword combinations were applied consistently, with minor adjustments to accommodate the specific search fields and indexing structures of each database. The databases searched included Scopus, Web of Science, Ovid, JSTOR, and ProQuest. The detailed search terms and fields used for each database are presented in Table 1.

## 2.4 Data Screening and Selection Process

All records retrieved from the database searches were imported into Rayyan AI for screening. Duplicate records were removed prior to screening. Study selection was conducted in two stages: an initial screening of titles and abstracts, followed by a full-text review of potentially eligible articles. Two independent reviewers applied the inclusion and exclusion criteria at each stage. Any discrepancies were resolved through discussion, and a third reviewer was consulted when consensus could not be reached.

Although the initial search identified a substantial number of records, only seven studies satisfied all inclusion criteria. This outcome reflects both the emerging nature of empirical research on inclusive ecotourism policy and the methodological rigor applied in this review. While the limited number of included studies represents a constraint, it enabled a focused synthesis of studies that were directly relevant and methodologically robust.

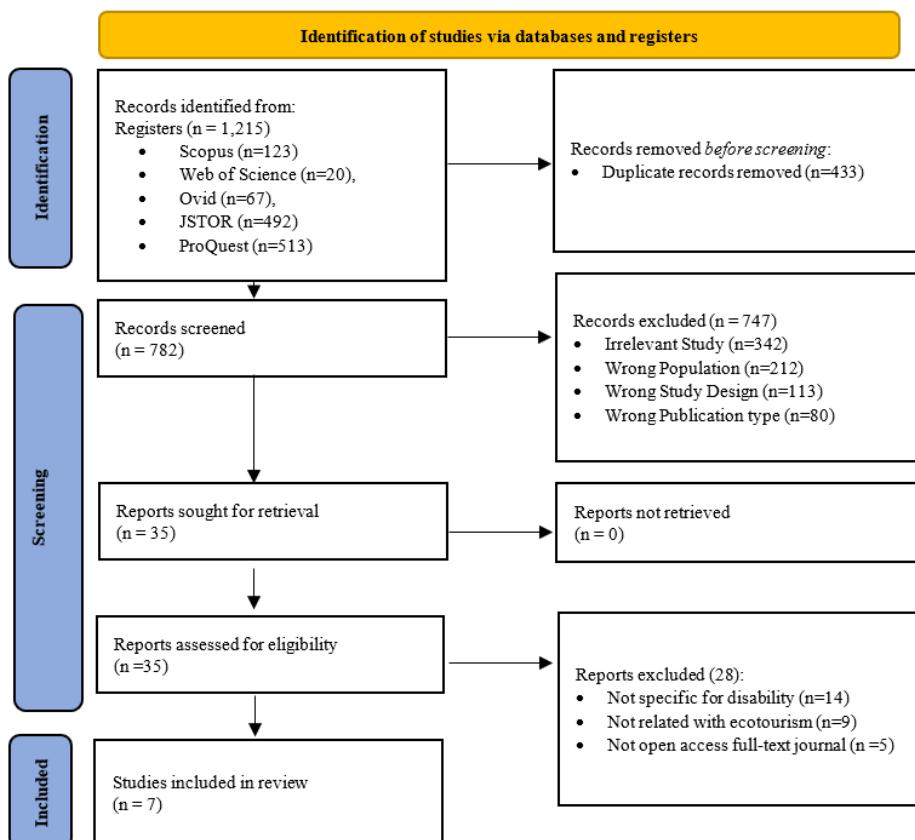
The small evidence base further highlights the need for future empirical research on inclusive ecotourism policies, particularly in underrepresented geographic regions and policy contexts.

## 2.5 Data Extraction and Analysis

Relevant data were systematically extracted from each included study. Extracted variables included study design, geographic context, types of ecotourism policies examined, indicators of accessibility and inclusivity, and reported outcomes related to community awareness and environmental health. Quantitative results were synthesized using descriptive statistical approaches where applicable. Qualitative findings were analyzed thematically to identify recurring patterns and policy-related impacts across different ecotourism settings.

## 3 Results

### 3.1 Flow Chart Diagram



**Figure 1.** Flowchart diagram of the systematic review process

As illustrated in Figure 1, a total of 1,215 records were initially identified from five databases: Scopus (n = 123), Web of Science (n = 20), Ovid (n = 67), JSTOR (n = 492), and ProQuest (n = 513). After duplicate records were removed, 782 articles remained for screening based on the predefined inclusion and exclusion criteria. Of these, 747 articles were excluded due to irrelevant study populations, inappropriate study designs, publication types, or outcomes. Full-text screening was subsequently conducted for the remaining 35 articles. Following a detailed assessment, 28 additional studies were excluded, resulting in a final sample of seven studies that met all eligibility criteria for inclusion in the systematic review.

Table 2 presents a summary of the key characteristics and findings of the included studies. The table outlines the country context, study setting, target population, type of intervention, and reported outcomes related to accessibility and the inclusion of people with disabilities within tourism and ecotourism contexts.

**Table 2.** Databases and search keywords used in the systematic review

Ref.	Year	Country	Setting	Population	Intervention	Outcome
Sisto et al. [10]	2021	Italy	Gargano National Park	General travelers, including those with disabilities	E-Chain project, focusing on connectivity and personalized travel information for accessibility	Participatory approach led to stakeholder engagement and development of guidelines to improve park accessibility and support sustainable tourism. Stakeholders gained awareness, fostering disability inclusion and conservation.
Bertolini et al. [11]	2023	Italy	Intermodal tourism network	General travelers, including people with disabilities	E-Chain project for data harmonization and accessibility	Data unavailability highlighted the need for stakeholder awareness on policy co-design to address accessibility and data collection gaps.
Happ and Bolla [12]	2022	Hungary	General tourism context	People with disabilities in tourism	Exploration of links between disability science, special-needs education, psychology, and tourism	Theoretical analysis connected disability tourism with disability studies, advocating for social sustainability and aligning tourism with SDG goals.
Pavlíková et al. [13]	2023	Turkey	4- and 5-star hotels	Hotel managers and guests	Assessment of hotel accessibility for disabled guests	Identified reluctance of non-disabled guests to stay in accessible rooms, suggesting a challenge for hotels to balance accessibility with high occupancy demands during peak seasons.
Cerutti et al. [14]	2020	Europe	Hotels and attractions	Tourists (55+ age group, disabled)	Analysis of policies to enhance tourism accessibility for all	Found persistent barriers in tourism accessibility despite policy progress, affecting the inclusion of people with disabilities in tourism. Social media tools offered insights into accessibility perceptions, revealing areas for policy improvement in web usability and service accessibility.
Altinay et al. [15]	2016	Turkey	Tourism services and social media platforms	Orthopedically disabled individuals	Evaluation of social media's role in accessible tourism	Family and peer support enhanced OSH knowledge and practices, showing the influence of social support networks on health and safety attitudes.
Sukismanto et al. [16]	2021	Indonesia	Industrial context	Workers in limestone processing	OSH training with peer and family support	

### 3.2 Characteristics of Included Studies

The included studies were conducted across diverse geographic regions, including Italy, Hungary, Turkey, and Indonesia. They addressed a range of settings relevant to ecotourism and inclusive tourism, such as national parks, intermodal tourism networks, accommodation facilities, digital platforms, and occupational environments. This geographic and contextual diversity provides a broad perspective on current policy approaches, implementation challenges, and outcomes related to accessibility, community engagement, and environmental sustainability [13].

### 3.3 Ecotourism Initiatives and Accessibility

Several studies examined targeted initiatives aimed at improving accessibility in ecotourism through inclusive infrastructure development and data harmonization strategies. Notably, the Italian “E-Chain” project was implemented in both national park environments and intermodal tourism networks. The project provided travelers, including individuals with disabilities, with improved access to travel information and personalized support systems. A participatory, stakeholder-driven approach was adopted to develop guidelines intended to reduce physical and informational barriers to access [10, 11].

However, limitations in data availability revealed the need for more coordinated data-sharing mechanisms among tourism stakeholders. The findings also highlighted systemic challenges, including fragmented institutional responsibilities, the absence of standardized accessibility indicators, and limited integration of disability perspectives during early policy design stages. These results suggest that while localized interventions may generate positive outcomes, sustained improvements in accessibility require broader structural reforms. Such reforms include the establishment of national-level accessibility standards and the strengthening of cross-sector collaboration to ensure policy coherence and accountability.

### 3.4 Cross-Disciplinary and Theoretical Approaches

Some studies adopted interdisciplinary frameworks that integrated tourism research with perspectives from psychology and disability science. For example, a study conducted in Hungary applied a theoretical approach linking disability studies, special-needs education, and tourism. This analysis emphasized the role of inclusive tourism in advancing social sustainability and aligning tourism development with the Sustainable Development Goals (SDGs) [12]. These cross-disciplinary perspectives highlight the importance of situating accessibility policies within broader social and sustainability agendas.

### 3.5 Hotel Accessibility and Occupancy Challenges

Accessibility challenges were also identified within accommodation settings, particularly in balancing inclusive design requirements with high occupancy demands during peak tourism periods. A study conducted in Turkey found that non-disabled guests were often reluctant to occupy rooms designed for accessibility. This reluctance complicates hotel management strategies aimed at maintaining inclusive facilities. The findings indicate that effective inclusive tourism policies must address not only physical infrastructure but also the attitudes and behaviors of non-disabled travelers [13].

### 3.6 Digital Accessibility and Social Media Engagement

Digital accessibility emerged as an additional dimension of inclusive tourism policy. Research conducted in Turkey examined the role of social media and web usability in shaping the travel experiences of orthopedically disabled individuals. The study demonstrated that social media platforms can function as effective feedback mechanisms, enabling the identification of accessibility gaps in tourism services. These platforms also offer opportunities to raise awareness and inform policy improvements related to digital accessibility and service design [15].

### 3.7 Community Support and Occupational Health Initiative

In Indonesia, one study approached accessibility from an occupational health perspective by examining the influence of social support networks on safety training in the limestone processing industry. Although this study was not directly focused on tourism, its findings underscore the importance of peer and family support in shaping knowledge, attitudes, and behavioral change [16]. These insights suggest that community-based support models may be transferable to tourism contexts to enhance awareness and implementation of accessibility practices.

### 3.8 Barriers to Participation and Policy Development

Across the reviewed studies, persistent structural and societal barriers to participation in ecotourism were consistently identified. Despite the implementation of accessibility-related policies and initiatives, challenges such as inadequate infrastructure, limited digital data availability, and prevailing social stigmas continue to restrict full inclusion. For example, Cerutti et al. [14] reported that accessibility barriers remain prevalent despite policy

advancements, due to both physical limitations and societal attitudes. These findings indicate that effective policy development must address both material and social dimensions of accessibility to achieve sustainable and inclusive ecotourism outcomes.

## 4 Discussion

To the best of the authors' knowledge, this study represents the first systematic review to comprehensively examine the effects of policy interventions on inclusive ecotourism, with particular attention to accessibility, community awareness, environmental health, and sustainability for people with disabilities. The findings provide critical insights into the role of policy in advancing inclusive and sustainable ecotourism while also identifying persistent gaps, structural challenges, and opportunities for improvement. This section discusses the implications of the results across key thematic areas and highlights how policy frameworks can more effectively support inclusive, accessible, and environmentally sustainable ecotourism development [10].

### 4.1 Accessibility: Moving Beyond Physical Barriers

Accessibility is widely acknowledged as a fundamental element of inclusive ecotourism; however, its practical implementation remains uneven across global ecotourism destinations [17]. Although many policies emphasize the development of accessible infrastructure, the results of this review reveal a substantial gap between policy intent and implementation, particularly in developing regions. Evidence from Europe illustrates policy-driven initiatives such as the E-Chain project in Italy, which aimed to enhance accessible travel through digital integration and information systems [11]. Despite its conceptual strength, the project encountered limitations related to data availability and technological capacity, demonstrating that well-designed initiatives may be constrained without sufficient resource allocation, data harmonization, and coordinated cross-sector collaboration [10, 11].

In addition, an overreliance on technological solutions often neglects the role of community engagement and local capacity building, both of which are essential for sustaining inclusive practices in ecotourism [18]. In developing contexts, accessibility challenges are further compounded by weak regulatory enforcement, limited stakeholder training, and low levels of awareness regarding disability rights within local communities [19, 20]. These findings indicate that accessibility policies must adopt a holistic approach that integrates infrastructure development with community empowerment, institutional capacity building, and scalable technological solutions [21].

The discrepancy between policy commitments and on-the-ground practice is particularly evident during peak tourism seasons. During these periods, accessible accommodation is frequently allocated to non-disabled guests, thereby restricting availability for travelers with disabilities [13]. This recurring issue highlights the need for stronger enforcement mechanisms and clearer policy directives to ensure that accessible facilities serve their intended purpose throughout the year. Policies should therefore incentivize tourism operators to view accessibility not merely as a regulatory obligation, but as an integral component of service quality, visitor equity, and destination competitiveness.

Collectively, these findings suggest that future inclusive ecotourism policies must extend beyond physical infrastructure and incorporate social dimensions, including education, inclusive leadership, and stakeholder integration. Policymakers should develop cross-sector regulations that mandate accessibility training for tourism operators and support inclusive service delivery. At the operational level, tourism providers are encouraged to adopt Universal Design principles and establish internal mechanisms to systematically evaluate and improve accessibility-related practices.

### 4.2 Community Awareness: The Catalyst for Inclusivity

The review demonstrates that community awareness and engagement play a critical yet underutilized role in advancing inclusive ecotourism. Although the importance of community participation is widely acknowledged, few policies explicitly require or facilitate meaningful community involvement in promoting accessibility for travelers with disabilities [15]. This gap often results from the absence of structured policy frameworks that integrate community-based initiatives into ecotourism planning and implementation processes [22].

Evidence from studies conducted in Italy and Indonesia indicates that participatory approaches involving local communities and tourism service providers enhance the effectiveness of inclusive ecotourism initiatives. Such approaches foster shared responsibility, increase awareness of the socio-economic benefits of accessibility, and improve policy acceptance at the local level [14]. Community involvement in policy design and implementation also strengthens trust and accountability among stakeholders, which is essential for overcoming persistent accessibility barriers. Furthermore, participatory processes create feedback mechanisms that help identify context-specific challenges and inform the development of tailored, sustainable solutions [23].

Community-based engagement also contributes to long-term capacity building by equipping local stakeholders with the knowledge and skills needed to support inclusive practices as tourism systems evolve [24, 25]. Raising awareness of the social and economic value of accessible ecotourism can generate lasting benefits by encouraging inclusive attitudes and reducing stigma associated with disability [26–28]. Policies that incorporate structured

community education and outreach initiatives can therefore reposition accessibility as a core element of sustainable development rather than a peripheral compliance requirement [15].

The implications of these findings highlight the importance of embedding community participation within policy mandates. Governments can facilitate sustained behavioral change by promoting inclusive governance structures and supporting partnerships between tourism operators, local communities, and disability advocacy groups. Such collaboration enhances local ownership and strengthens the long-term sustainability of accessibility initiatives.

#### **4.3 Environmental Health and Sustainability: Expanding the Scope of Inclusive Ecotourism**

Environmental sustainability is a central principle of ecotourism; however, accessibility considerations remain insufficiently integrated into environmental and conservation policies [29, 30]. While ecotourism aims to balance environmental protection with socio-economic development, many existing policies fail to recognize the interconnected nature of environmental health and inclusivity for travelers with disabilities [31]. Studies that address this intersection often conceptualize accessibility as a component of social sustainability aligned with the Sustainable Development Goals (SDGs), rather than embedding it directly within environmental management frameworks [12].

The findings of this review suggest that integrating accessibility into environmental health policies can enhance both social equity and ecological sustainability. Aligning accessibility objectives with conservation initiatives may support the development of inclusive ecotourism models that minimize environmental impact while accommodating diverse visitor needs. Such integration could include the design of low-impact, accessible trails, inclusive conservation programs, and environmentally sustainable accommodations that are accessible to people with disabilities [14].

Integrating accessibility with environmental sustainability is therefore not only feasible but essential for the long-term viability of ecotourism destinations. Policymakers are encouraged to revise conservation strategies to incorporate inclusive design principles and allocate funding to nature-based tourism projects that benefit both ecosystems and disabled visitors. Tourism operators can contribute by offering accessible eco-friendly accommodations and developing inclusive interpretive materials and nature-based experiences.

#### **4.4 Policy Implications: Toward a Framework for Inclusive and Sustainable Ecotourism**

The review underscores the need for a coherent and enforceable policy framework that systematically integrates accessibility, environmental sustainability, and community awareness within ecotourism governance [32]. At present, policy approaches remain fragmented, limiting their effectiveness and undermining the interconnected nature of inclusive ecotourism development [33]. Policies that explicitly link these dimensions could establish a more robust foundation for long-term inclusivity and sustainability.

An effective policy framework for inclusive ecotourism should include clearly defined accessibility standards covering infrastructure, information provision, and service delivery [34]. Financial incentives, such as subsidies or tax benefits, could encourage tourism enterprises to adopt inclusive and environmentally responsible practices. Mandatory community engagement mechanisms would further ensure that policies are context-sensitive and locally supported. In addition, systematic monitoring and evaluation processes should be implemented to assess policy outcomes using indicators related to accessibility, community satisfaction, and environmental impact [12].

Despite its comprehensive scope, this review is limited by the relatively small number of empirical studies examining the combined effects of accessibility, environmental health, and community awareness within ecotourism policy. Most of the available evidence originates from developed countries, which may limit the transferability of findings to resource-constrained settings. Future research should prioritize empirical investigations in diverse geographic and socio-economic contexts, with particular attention to the long-term impacts of inclusive policies. Longitudinal studies would be especially valuable in assessing policy effectiveness over time and informing the scaling of inclusive ecotourism initiatives.

Overall, the findings emphasize that inclusivity should be treated as a cross-cutting principle within sustainability frameworks rather than as an isolated policy objective. This perspective has direct implications for tourism governance at international, national, and local levels. Policymakers should integrate accessibility into national tourism strategies, establish accountability mechanisms, and allocate dedicated funding for inclusive infrastructure and training. Tourism operators, in turn, should align their business models with accessibility standards, employ impact metrics to evaluate inclusion efforts, and adopt inclusive marketing strategies to reach a broader and more diverse visitor base.

### **5 Conclusion**

This systematic review contributes to the literature on inclusive ecotourism by identifying persistent gaps in existing policies and implementation practices and by emphasizing the need for an integrated approach that links accessibility, community engagement, and environmental health. Addressing these interrelated dimensions within ecotourism policy has the potential to enhance accessibility, promote equity, and strengthen the long-term sustainability of tourism destinations.

The findings underscore the importance of coordinated action among policymakers, tourism operators, and local communities to advance inclusive and environmentally responsible ecotourism. Accessibility should be treated as a core component of sustainable development rather than as a supplementary policy objective. To support this shift, the study highlights practical mechanisms for translating policy into practice, including cross-sector stakeholder collaboration, structured community awareness initiatives, and the enforcement of clear accessibility standards.

In addition to its practical implications, this review offers a conceptual contribution by integrating perspectives on social sustainability, environmental health, and disability inclusion within tourism policy discourse. By bridging these domains, the study provides a foundation for future research aimed at evaluating policy effectiveness and supporting the development of inclusive ecotourism models across diverse contexts.

## Author Contributions

Conceptualization, H.L.P. and A.N.P.; methodology, H.L.P.; software, H.L.P.; validation, H.L.P., H., and S.; formal analysis, H.L.P.; investigation, H.L.P.; resources, H. and S.; data curation, H.L.P.; writing original draft preparation, H.L.P.; writing review and editing, A.N.P., H., and S.; visualization, H.L.P.; supervision, H.L.P.; project administration, H.L.P.; funding acquisition, S.

## Data Availability

The data used to support the findings of this study are available from the corresponding author upon request.

## Acknowledgment

The authors sincerely thank the families with mental disorders who participated in this research. We also acknowledge the platform that facilitated the publication of this work and the support of the Ministry of Education, Culture, Research, and Technology. This study was funded by the Higher Education Financing Agency (BPPT) through the Indonesian Education Scholarship (BPI), managed by the Education Fund Management Institute (LPDP) of the Ministry of Finance. The authors are also grateful to Universitas Muhammadiyah Maluku Utara for their moral and material support throughout the research.

## Conflicts of Interest

The authors declare that they have no conflicts of interest.

## References

- [1] D. A. Fennell and C. Cooper, *Sustainable Tourism: Principles, Contexts and Practices (V6)*. Channel View Publications, 2020.
- [2] D. A. Fennell and B. Garrod, “Seeking a deeper level of responsibility for inclusive (eco) tourism duty and the pinnacle of practice,” *J. Sustain. Tour.*, vol. 30, no. 6, pp. 1403–1422, 2022. <https://doi.org/10.1080/09669582.2021.1951278>
- [3] O. Mubaiwa, T. Bradley, and J. Meme, “The gendered impact of COVID-19 on FGM: 2021 Prize Winner,” in *Rethinking Gender in Development Practice*. Routledge, 2024, pp. 110–120.
- [4] V. V. Kravchenko, “The russian war against ukraine: Cyclic history vs fatal geography,” *East/West: J. Ukr. Stud.*, vol. 9, no. 1, pp. 201–208, 2022. <https://doi.org/10.21226/ewjus711>
- [5] H. Riaz, H. Ahmed, and A. B. Jibril, “Reassessing customer trust and privacy concerns in omnichannel customer experience,” *Cogent Bus. Manag.*, vol. 11, no. 1, p. 2410405, 2024. <https://doi.org/10.1080/23311975.2024.2410405>
- [6] S. C. Talukder, Z. Lakner, and A. Temesi, “Interplay of influencing factors shaping entrepreneurial intention: Evidence from Bangladesh,” *Adm. Sci.*, vol. 14, no. 7, p. 136, 2024. <https://doi.org/10.3390/admsci14070136>
- [7] A. Jamin, G. Gbadamosi, and S. Stoyanova-Bozhkova, “The ecosystem of disability inclusion in hospitality and tourism organisations: An integrative review and research agenda,” *Int. J. Contemp. Hosp. Manag.*, vol. 36, no. 13, pp. 38–56, 2024. <https://doi.org/10.1108/IJCHM-05-2023-0581>
- [8] H. L. Patilaiya, A. N. Probandari, Hartono, and Sunarto, “Improving ecotourism inclusion for people with disabilities: Community-based strategies in Ternate, Indonesia,” *J. Ecohumanism*, vol. 4, no. 3, pp. 237–263, 2025. <https://doi.org/10.62754/joe.v4i3.6619>
- [9] I. Cloquet, M. Palomino, G. Shaw, G. Stephen, and T. Taylor, “Disability, social inclusion and the marketing of tourist attractions,” *J. Sustain. Tour.*, vol. 26, no. 2, pp. 221–237, 2018. <https://doi.org/10.1080/09669582.2017.1339710>
- [10] R. Sisto, G. M. Cappelletti, P. Bianchi, and E. Sica, “Sustainable and accessible tourism in natural areas: A participatory approach,” *Curr. Issues Tour.*, vol. 25, no. 8, pp. 1307–1324, 2022. <https://doi.org/10.1080/13683500.2021.1920002>

- [11] E. M. V. Bertolini, L. Castelli, and B. Chiarelli, “Gathering travel needs and preferences to customize truly inclusive experiences. The case study of the interreg E-Chain project,” in *Design for Inclusion*. IOS Press, 2023, pp. 26–35. <https://doi.org/10.3233/SHTI230395>
- [12] E. Happ and V. Bolla, “A theoretical model for the implementation of social sustainability in the synthesis of tourism, disability studies, and special-needs education,” *Sustainability*, vol. 14, no. 3, p. 1700, 2022. <https://doi.org/10.3390/su14031700>
- [13] E. A. Pavlfková, O. N. Özdogan, and C. Yilmaz, “Ergonomic approach in tourism for visitors with special needs,” in *Public Recreation and Landscape Protection With Environment Hand in Hand?: Proceedings of the 14th Conference*, Brno, Czech Republic, 2023, pp. 45–49. <https://doi.org/10.11118/978-80-7509-904-4-0045>
- [14] S. Cerutti, S. de Falcob, and T. Anna, “Europe without barriers: Accessible tourism between places and projects,” *J.-Read. J. Res. Didact. Geogr.*, vol. 1, no. 9, pp. 115–127, 2020. <https://doi.org/10.4458/3099-11>
- [15] Z. Altinay, T. Saner, N. M. Bahçelerli, and F. Altinay, “The role of social media tools: Accessible tourism for disabled citizens,” *J. Educ. Technol. Soc.*, vol. 19, no. 1, pp. 89–99, 2016.
- [16] S. Sukismanto, H. Hartono, S. Sumardiyono, and T. R. Andayani, “Social support role of occupational safety and health implementation in informal sector during COVID-19 pandemic,” *Int. J. Health Sci.*, vol. 5, no. 3, pp. 416–428, 2021. <https://doi.org/10.53730/ijhs.v5n3.1746>
- [17] B. Garrod and D. A. Fennell, “Strategic approaches to accessible ecotourism: Small steps, the domino effect and not paving paradise,” *J. Sustain. Tour.*, vol. 31, no. 3, pp. 760–777, 2023. <https://doi.org/10.1080/09669582.2021.2016778>
- [18] M. P. T. Duong, L. Lobry de Bruyn, P. Kristiansen, G. R. Marshall, and J. Wilkes, “Community-based ecotourism and the challenges of local participation: Insights from an ecotourism venture in Cat Tien National Park, Vietnam,” *J. Environ. Plan. Manag.*, 2024. <https://doi.org/10.1080/09640568.2024.2428257>
- [19] H. Dovhal and L. Bezuhsa, “Regional innovative development model of ecotourism infrastructure,” *Ukrain. Black Sea Reg. Agrar. Sci.*, vol. 24, no. 2, pp. 25–34, 2020.
- [20] D. Vidickienė, Z. Gedminaite-Raudone, R. Vilke, P. Chmielinski, and A. Zobena, “Barriers to start and develop transformative ecotourism business,” *Eur. Countrys.*, vol. 13, no. 4, pp. 734–749, 2021. <https://doi.org/10.2478/euco-2021-0039>
- [21] W. Wiratno, S. Withaningsih, B. Gunawan, and J. Iskandar, “Ecotourism as a resource sharing strategy: Case study of community-based ecotourism at the Tangkahan Buffer Zone of Leuser National Park, Langkat District, North Sumatra, Indonesia,” *Sustainability*, vol. 14, no. 6, p. 3399, 2022. <https://doi.org/10.3390/su14063399>
- [22] A. Phelan, L. Ruhanen, and J. Mair, “Ecosystem services approach for community-based ecotourism: Towards an equitable and sustainable blue economy,” *J. Sustain. Tour.*, vol. 28, no. 10, pp. 1665–1685, 2020. <https://doi.org/10.1080/09669582.2020.1747475>
- [23] F. G. Bello, B. Lovelock, and N. Carr, “Constraints of community participation in protected area-based tourism planning: The case of Malawi,” *J. Ecotour.*, vol. 16, no. 2, pp. 131–151, 2017. <https://doi.org/10.1080/14724049.2016.1251444>
- [24] M. F. Dias, M. Amorim, M. Macedo, F. Brandão, and R. Madureira, “Empowering sustainable tourism: The crucial role of education and continuous learning,” in *18th International Technology, Education and Development Conference*, Valencia, Spain, 2024, pp. 5328–5335. <https://doi.org/10.21125/inted.2024.1377>
- [25] T. Choibamroong and C. Lee-Anant, “The stakeholder participation-based competency empowerment model of creative tourism planning and management in phra nakhon si ayutthaya world heritage site,” *J. Roi Kaensarn Acad.*, vol. 9, no. 9, pp. 443–463, 2024.
- [26] N. Sapkota, “Socio-economic and environmental impact of ecotourism in Nepal,” *Nepal. J. Hosp. Tour. Manag.*, vol. 4, no. 1, pp. 57–71, 2023. <https://doi.org/10.3126/njhtm.v4i1.53318>
- [27] J. J. C. Arce, “Forests, inclusive and sustainable economic growth and employment: Background study prepared for the fourteenth session of the United Nations Forum on Forest (UNFF),” United Nations Forum on Forests Secretariat, 2019. <https://www.un.org/esa/forests/wp-content/uploads/2019/04/UNFF14-BkgdStudy-SDG8-March2019.pdf>
- [28] A. I. Ramaano, “Alternative ecotourism perspectives within the protected conservation sites and farming communities amid environmental degradation and climate change-bound rural exercises,” *For. Econ. Rev.*, vol. 5, no. 1, pp. 77–104, 2023. <https://doi.org/10.1108/FER-11-2022-0011>
- [29] A. Machnik, “Ecotourism as a core of sustainability in tourism,” in *Handbook of Sustainable Development and Leisure Services*. Cham: Springer International Publishing, 2021, pp. 223–240. [https://doi.org/10.1007/978-3-030-59820-4\\_15](https://doi.org/10.1007/978-3-030-59820-4_15)
- [30] F. Sørensen and T. S. Grindsted, “Sustainability approaches and nature tourism development,” *Ann. Tour. Res.*, vol. 91, p. 103307, 2021. <https://doi.org/10.1016/j.annals.2021.103307>
- [31] A. Bogason, L. Rohrer, and M. Brynteson, *The Value of Social Sustainability in Nordic Tourism Policy*.

Nordregio, 2024.

- [32] S. C. Chien and C. Knoble, “Uneven burdens: The intersection of brownfields, pollution, and socioeconomic disparities in New Jersey, USA,” *Sustainability*, vol. 16, no. 23, p. 10535, 2024. <https://doi.org/10.3390/su162310535>
- [33] V. Svitlichna, M. Tonkoshkur, G. T. Cirella, L. Radionova, M. Yatsiuk, and O. Uhodnikova, “Sustainable ecotourism development: Integrating public marketing, community engagement, and environmental stewardship in Ukraine,” in *Handbook on Post-War Reconstruction and Development Economics of Ukraine: Catalyzing Progress*. Cham: Springer International Publishing, 2024, pp. 271–291. [https://doi.org/10.1007/978-3-031-48735-4\\_16](https://doi.org/10.1007/978-3-031-48735-4_16)
- [34] S. W. Maingi, V. G. Gowreesunkar, and M. E. Korstanje, *Tourist Behaviour and the New Normal, Volume II*. Springer, 2024.