

# Ecotourism in Indonesia: Overview and Visualization of Research Trends and Future Direction


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Information	ABSTRACT
<p>Submitted: 15-02-2024 Revised: 23-03-2024 Accepted: 12-05-2024</p> <p><b>How to cite:</b> Salouw, E., Pakniany, Y., Nugroho, T., Adinugroho, S., Situmorang, D. M., &amp; Dahoklory, J. C. (2024). Exploring Research Trends in Ecotourism in Indonesia: A Bibliometric Analysis. <i>Khizanah Al-Hikmah : Jurnal Ilmu Perpustakaan, Informasi, Dan Kearsipan</i>, 12(1). <a href="https://doi.org/10.24252/kah.v12i1a13">https://doi.org/10.24252/kah.v12i1a13</a></p> <p>DOI: <a href="https://doi.org/10.24252/kah.v12i1a13">10.24252/kah.v12i1a13</a></p> <p>Copyright 2024 © the Author(s)</p> <p>This work is licensed under a <a href="https://creativecommons.org/licenses/by-nc-sa/4.0/">Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License</a>.</p> 	<p>This study aims to examine the evolution of research, identify trends, and visualize the landscape of ecotourism research in Indonesia using bibliometric methods. A total of 472 articles were retrieved from the Scopus database accessed on February 11, 2023. These articles were analyzed using VOSviewer and Microsoft Excel to map research trends and identify influential articles. The analysis reveals a significant increase in research on ecotourism in Indonesia over the past decade. Notably, several influential articles, including those featuring popular case studies within the Indonesian ecotourism context, were successfully identified. This study addresses a gap in the literature by providing insights into the trends and research opportunities in ecotourism in Indonesia. The findings are expected to be valuable for stakeholders, researchers, and practitioners in the tourism sector, particularly those involved in ecotourism development.</p> <p><b>Keywords:</b> Bibliometric; research trends; ecotourism</p>

## 1. INTRODUCTION

Over the past decade, research on ecotourism has received significant attention (Aji et al., 2024; Hasana et al., 2022) and has seen organic growth due to increased sustainability awareness in tourism. As a growing research topic, emphasis has been placed on outdoor tourism activities with a focus on preserving the natural environment and implementing pro-environmental behavior (Ajuhari et al., 2023). It has also been noted that ecotourism has a long-term direct relationship with environmental conservation, community income, community participation, and environmental infrastructure (Xu et al., 2023).

The discussion on ecotourism started in the late 1980s (Xu et al., 2023) and has continued to the present date, with the concept observed to have become an essential keyword for academics and tourism practitioners (Dang, 2023). It has continued to gain attention from scholars worldwide (Aji et al., 2024; Hasana et al., 2022; Vysochan et al., 2022) as indicated by the conduct of several related studies globally. For example, (Ajuhari et al., 2023) focused on Penang, Samani et al. (2023) on West Africa, Cordon et al. (2023) on Mexico, and Haldane et al. (2023) on Prince Edward Island. Moreover, several studies have also been conducted in Indonesia, such as Gusrizal et al. (2023) on marine ecotourism in Bintan, Tiga et al. (2019) on community perceptions regarding ecotourism in NTT, and Aji et al. (2016) on the potential of ecotourism in Morotai district. The number of studies on ecotourism in Indonesia has increased quantitatively, but none have focused on mapping research trends, opportunities, and agendas related to ecotourism in the country. Meanwhile, mapping and visualization are essential to discovering the development of research trends related to ecotourism. This is why this study was conducted to fill the gaps observed and answer the question: What are the research trends and opportunities for ecotourism in Indonesia?

Bibliometric methods have been commonly used to answer research questions as observed in previous research on tourism (Atsız et al., 2022; Garrigos-Simon et al., 2018; Niñerola et al., 2019; Salouw, Aji et al., 2023; Salouw, Setiawan, et al., 2023). These methods could contribute significantly to scientific development by serving as an evaluation material for practitioners and academics in the field of tourism.

Ecotourism has continued to gain attention from scholars worldwide in the last decade, but other aspects must be discussed to enrich the ecotourism studies field (Aji et al., 2024; Hasana et al., 2022). The intricacy and protracted debate around ecotourism cannot be separated from the various parties involved in its development and preservation. This discourse is mainly because ecotourism is unique and different from conventional tourism (Nascimento et al., 2020). It is oriented towards environmental preservation and conservation. The concept focuses on creating a tourist choice that can meet the needs of tourists for clean air, a protected environment, and unpolluted water. Moreover, ecotourism is considered a vital tourism activity that provides income diversification for the surrounding community. There has been continuous growth in global research related to ecotourism in recent years due to the interest of scholars from different parts of the world (Aji et al., 2024; Vysochan et al., 2022).

Several bibliometric studies have been conducted concerning ecotourism (Aji et al., 2024; Khanra et al., 2021; Vysochan et al., 2022) but generally have a broad scope. It was discovered that there is presently no bibliometric study on ecotourism within Indonesia. This means there is a need for bibliometric studies covering Indonesia to describe the current status of ecotourism research in the country and map future research opportunities. This study is expected to contribute to scientific mapping and provide an overview of the latest trends in practically useful ecotourism research. The results of this study will provide an important overview for scholars to understand future research opportunities on ecotourism cases in Indonesia. For stakeholders, this research will provide an overview of current problems, ecotourism cases in Indonesia, and developments in ecotourism research in Indonesia that are important in policy interventions.

## 2. METHODS

This study was conducted using a bibliometric method, which is an analytical technique that can map the structure and pattern of research development through a research database (José de Oliveira et al., 2019; Liao et al., 2018; Salouw, Aji et al., 2023). It usually has a clear protocol to produce accurate and quality information (Keathley-Herring et al., 2016) and is applicable in several fields of science using quantitative studies from magazines, journals, books, and other written documents (Heersmink et al., 2011).

A repository of research data is normally required to run a bibliometric analysis. Several databases provide data on previous studies, such as Scopus and Web of Science. These two have an extensive scope, which means they can be ideally applied in bibliometric analysis, but the process is difficult due to their uniqueness (Lima & Bonetti, 2020). Scopus is credible and popular (López-Meneses et al., 2015), which means it can be used as a bibliometric analysis database. Therefore, it was applied in this study because of its credibility and ease of access to data.

The first step was to determine the keywords and databases to use. As previously stated, Scopus was used as a database, while the keywords used to search for the articles include "ecotourism" and "Indonesia." These keywords had the ability to specifically display results related to ecotourism and Indonesia on the Scopus database. Furthermore, the document type was specified as an article, and the search period was limited to only February 11, 2023. After all the documents were obtained, the second step was to export them in CSV form. The third step was to refine and separate documents that did not match the desired criteria. It is important to note that the total number of articles retrieved from the database was 735, which was refined to 472 based on the criteria listed in Table 1. The last step was to conduct analysis and visualization using the VOSviewers application. Furthermore, thematic analysis was applied to answer the research questions, which were focused on determining 1) the progress of ecotourism research in Indonesia, 2) the most popular articles about ecotourism in Indonesia, 3) the most widely used essential keywords, and 4) the most popular case study of ecotourism.

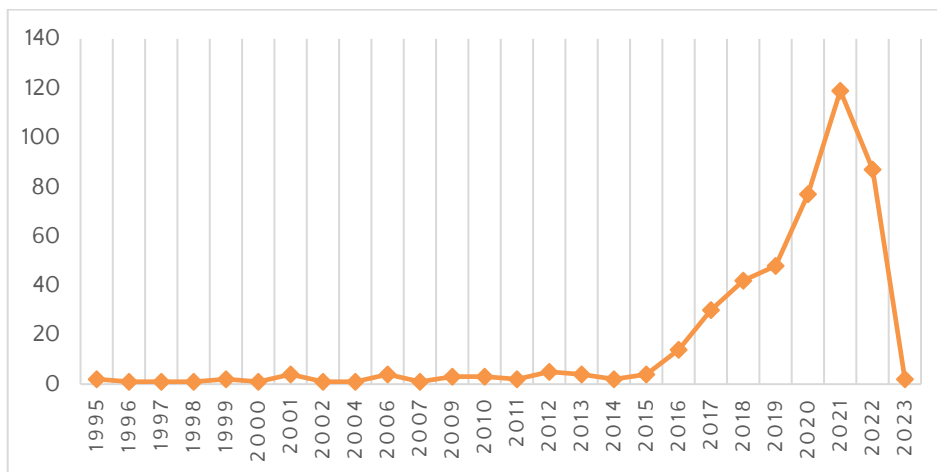
**Table 1.** Refinement criteria

<b>Scope</b>	<b>Inclusion criteria</b>	<b>Exclusion criteria</b>
Database	Scopus	Google Scholar, WOS
Publication period	Up to 11 February 2023	After February 11, 2023
Document type	Articles	In addition to the article document
Source type	Journal	Other sources besides the Journal
Subject area	Social Sciences, Business, Management and Accounting, Environmental Science, Earth and Planetary Sciences, Economics, Econometrics and Finance, Arts and Humanities, Engineering,	Other subjects
Language	English	Other language

### 3. RESULTS AND DISCUSSION

#### Results

#### Ecotourism Scientific Publications in Indonesia



**Figure 1.** Productivity of scientific publications on Indonesian ecotourism

The visualization results presented in Figure 1 showed that the first document on ecotourism in Indonesia was published in 1995. It was further discovered that the publications have continued to increase since 2015 and the peak was in 2021 with 119 articles. At the time of this study on February 11, 2023, only two articles were reported to have been published in 2023. This simply showed that there has been a very productive research trend on ecotourism in Indonesia in the last ten years.

The peak recorded in 2021 was linked to several global issues regarding sustainable development. It was also discovered that several studies have evolved and continue to emerge concerning sustainable development in the last decade (González García et al., 2020; Sweileh, 2020; Yamaguchi et al., 2023). Moreover, the scholarly attention placed on ecotourism was also observed to be prevalent in other topics in the field of tourism such as wine tourism (Sánchez et al., 2017), community-based tourism (Álvarez-García et al., 2018), and cross-border tourism (Salouw, Aji, et al., 2023).

#### Most Popular Articles on Ecotourism in Indonesia

The popularity of articles was determined based on the number of citations as indicated by the data retrieved from the Scopus database. It is important to note that having many citations does not necessarily indicate the importance of an article to a particular topic. However, it can indicate the relevance or popularity of such an article (Mulet-Forteza et al., 2019).

**Table 2.** Most popular article in ecotourism terminology in Indonesia

Rank	Author and Pub. Year	Title	Total Citation
1	(Murdiyarso et al., 2015)	The potential of Indonesian mangrove forests for global climate change mitigation	391
2	(Cole, 2006)	Information and empowerment: The keys to achieving sustainable tourism	283
3	(Walpole et al., 2001)	Pricing policy for tourism in protected areas: Lessons from Komodo National Park, Indonesia	258

4	(Walpole & Goodwin, 2000)	Local economic impacts of dragon tourism in Indonesia	209
5	(Ross & Wall, 1999)	Evaluating ecotourism: The case of North Sulawesi, Indonesia	150
6	(Dodds et al., 2010)	Does the tourist care? A comparison of tourists in Koh Phi Phi, Thailand and Gili Trawangan, Indonesia	129
7	(Clifton & Benson, 2006)	Planning for sustainable ecotourism: The case for research ecotourism in developing country destinations	125
8	(Graci, 2013)	Collaboration and Partnership Development for Sustainable Tourism	116
9	(Walpole & Goodwin, 2001)	Local attitudes towards conservation and tourism around Komodo National Park, Indonesia	115
10	(Galley & Clifton, 2004)	The motivational and demographic characteristics of research ecotourists: Operation Wallacea volunteers in South-east Sulawesi, Indonesia	102

Table 2 shows that the article by [Murdiyarso et al., \(2015\)](#) was the most popular and it discussed the potential of mangroves as an ecosystem with a focus on nutrient cycling, soil formation, timber production, fish spawning, ecotourism, and carbon dioxide storage. It was noted that there is a need to prevent the loss of mangroves due to their numerous functions. The second most popular was the article by [Cole \(2006\)](#) which focused on the Eastern Indonesia region and covered the theoretical and practical ideas on how passive community participation leads to community empowerment. The third was found to be [Walpole et al.'s \(2001\)](#) article that discussed the existence of protected forests in relation to the economy, land, and natural resources. The study showed that nature-based tourism offers a mechanism for governments and local communities to generate substantial benefits from protected areas. It also promoted ecotourism as a sustainable use of protected areas and concluded that the provision of different rates based on the purpose of the visit increased tourism's conservation value to visitors and managers. The phenomenon allowed the managers to see the potential of increasing the visitors' willingness to pay.

According to [Walpole & Goodwin \(2000\)](#), ecotourism areas within protected regions can serve as an alternative for local communities. These communities bearing the majority of the costs associated with ecotourism were considered to be the primary stakeholders. Meanwhile, [Ross & Wall \(1999\)](#) provided an evaluation framework for ecotourism in North Sulawesi, [Dodds et al. \(2010\)](#) compared the ecotourism status of Phi Phi and Gili Trawangan, and [Clifton & Benson \(2006\)](#) discussed the socio-cultural impacts of ecotourism in Indonesia. [Graci \(2013\)](#) focused on stakeholder partnerships as an effective means of supporting tourism initiatives while [Walpole & Goodwin \(2001\)](#) explored local attitudes toward protected forest areas and the benefits of ecotourism on local support for Komodo National Park in Indonesia. Finally, [Galley & Clifton \(2004\)](#) researched the growth and diversification of ecotourism in the Southeast region of Sulawesi.

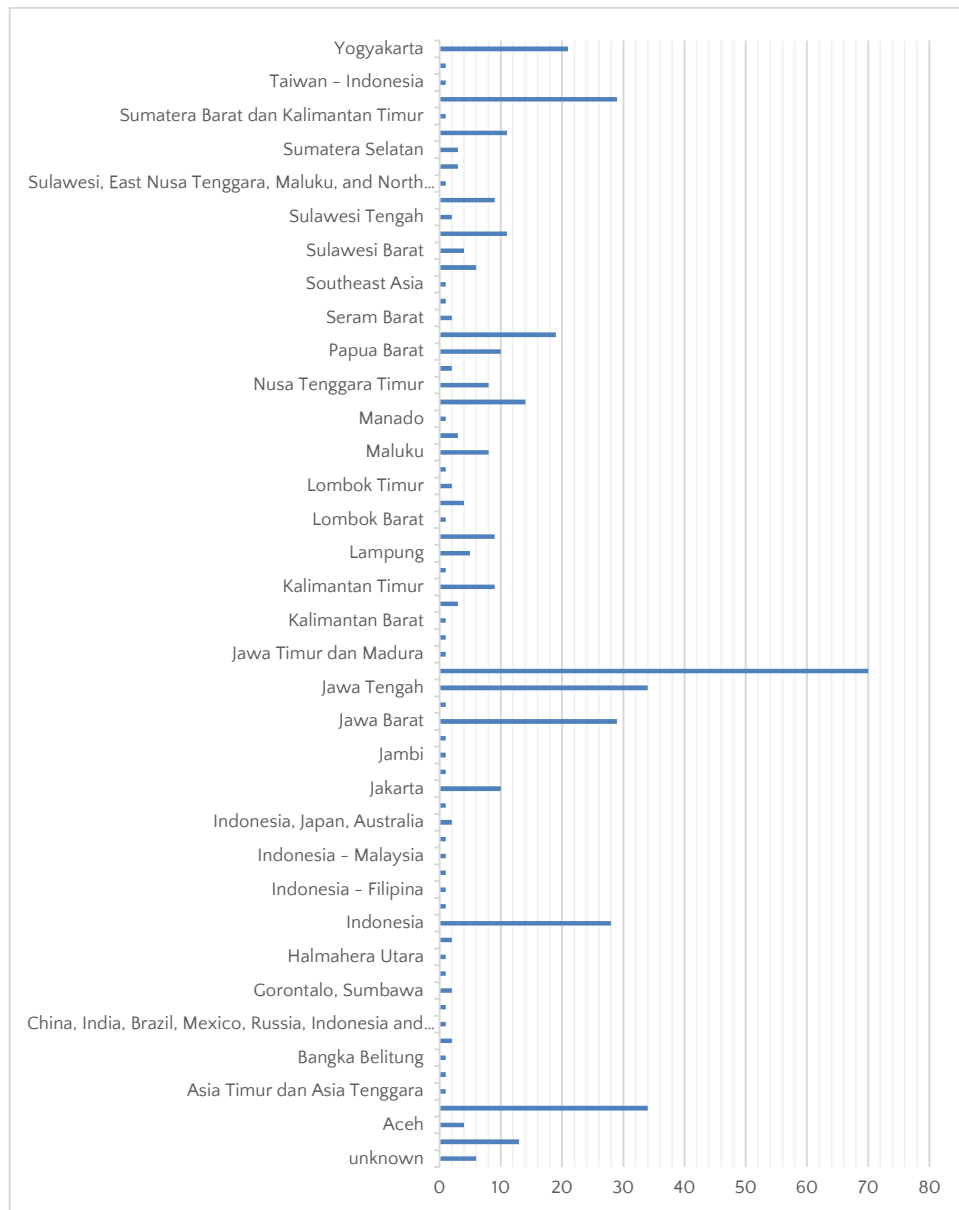
### The Most Frequently Used Keywords

The display of co-occurring keywords in the bibliometric analysis is usually to determine the topic's state of the art. Moreover, keywords are essential in a research topic because they describe critical points in the article. This study focused on displaying keywords co-occurring concerning ecotourism in Indonesia and this led to the visualization presented in Figure 2.



### The Most Popular Case Study Regarding Ecotourism in Indonesia

One of the thematic analyses conducted was to map the case study from a set of articles reviewed and the results showed that the research on ecotourism in Indonesia has not been entirely evenly distributed. The areas with the highest case studies were found to be provinces in East and Central Java followed by those in the ASEAN region which was generally in the form of an ecotourism comparison between the countries in the region.



**Figure 3.** Number of publications on ecotourism Indonesia by the province in Indonesia

The emergence of ecotourism research case studies in Indonesia presents a valuable opportunity for scholars. This is due to the fact that the focus on the case studies in each province can provide insight for policymakers into the development of ecotourism in each area. Figure 3 highlights the significance of the East Java region as a frequently discussed case study and this indicates significant progress for ecotourism as well as the existence of untapped potential in the region. In contrast, other regions in Indonesia that have received little attention likely have untapped ecotourism potential. This means further research is necessary to raise awareness among the community, researchers, and stakeholders.



## Socioeconomic Impacts on the Management and Development of Ecotourism in Indonesia

As a unit with tourism, ecotourism is also closely related to socio-economic factors. Therefore, in this study, thematic analysis was applied to elaborate on the impact of socioeconomic ecotourism in Indonesia. Thematic analysis shows that the impact of ecotourism on the socioeconomics of Indonesia varies. In his research conducted in West Sumatra, [Zamzami et al., \(2021\)](#) argue that ecotourism can have a positive impact on improving the financial situation of the community. In Komodo National Park, [Walpole & Goodwin \(2000a\)](#) found that ecotourism not only brought economic benefits but could also bring marginal society, especially those who were not directly involved in tourism due to limited capital and skills. In addition, the economic value of ecotourism was identified as a strength in the SWOT analysis conducted on the Ecotourism mangrove in Karangsong, Indramayu by [Novianti et al. \(2022\)](#).

The economic benefits of ecotourism are specifically listed by [Clifton & Benson, \(2006\)](#). Clifton & Benson's research using Indonesia as a case specifically states that the economic benefits of ecotourism are; increasing income through employment, rental accommodation for visitors, handicraft sales, and food businesses. [Basyuni et al., \(2018\)](#) In their research conducted in North Sumatra illustrate that mangrove ecotourism plays a role in increasing community income. By using IFAS and EFAS analysis [Fafurida et al., \(2020\)](#), found that there is an opportunity for imbalances in the management of ecotourism destinations as a result of unprepared human resources. [Ambrita et al., \(2018\)](#) who researched Bakau Mas Ecotourism in North Sumatra stated that there are opportunities for massive community involvement and contribution to the development of ecotourism, on the other hand, knowledge about ecotourism is still minimal. In general, based on the literature included in this study, ecotourism can have a beneficial impact on society and also has a marginalization impact. From a social perspective, the readiness of human resources is essential in the development of ecotourism.

### Community Participation

Community participation is an essential discourse in tourism. Community participation means community involvement in tourism activities, including economic, social, and environmental activities. This study has succeeded in elaborating on the results of previous research regarding ecotourism related to community participation.

**Table 4.** Case study of community participation in Indonesia

Author	Case Study	Community participation case
(Zulkarnaini & Nawari, 2021)	Kuantan Singingi District	In Kuantan Singingi District, community participation is still limited and needs more support from the institutions already in place. Ecotourism's growth is hampered by low community participation and the need for a management organization.
(Tuwo et al., 2021)	South Sulawesi	Due to a lack of socioeconomic capital, community participation is quite low.
(Trialfhianty & Suadi, 2017)	Pemuteran, Bali	The high level of community participation in Pemuteran, Bali, occurs because of 'the bridge' from Balinese leaders.
(Siahaya et al., 2021)	Buano Island, Western Seram, Maluku	The community responds positively to the development of ecotourism, and there are opportunities to protect protected forest areas and their flora and fauna.
(Fattah et al., 2022)	Payangan Beach, Jember	Community participation in ecotourism management helps to preserve the mangrove habitat by raising awareness and understanding.
(Feti et al., 2020)	Karangsong, West Java	Community participation in managing ecotourism has a big impact, but government policy intervention can reduce community participation; therefore, relevant policies are needed.
(Ardiansyah et al., 2021)	Cikakak Village, Wangon District, Banyumas Regency	High community participation is seen in ecotourism management, involvement in decision-making, coordinating and supervising ecotourism, and defining policy direction.



(Abus et al., 2022)	Deli Riverscape, Medan City, North Sumatra	There is a need for community participation in ecotourism management, especially in waste management and tree planting.
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### **Devolution of Ecotourism Area**

In Indonesia, decentralization is an interesting discussion in the context of ecotourism. Decentralization has had a major impact on Indonesia at a government level that has a smaller scope. In this study, based on previously obtained documents, it appears that there has not been much discussion regarding decentralization. Two documents specifically discuss decentralization. [Lukman et al., \(2019\)](#) in their study using content analysis of 27 provinces in Indonesia, concluded that decentralization is an important phenomenon that will make Indonesia more accountable in the future. In Gunungkidul, Yogyakarta, [Sulistiowati et al., \(2022\)](#) confirm that decentralization has had a positive impact which is manifested in government programs to develop community forests in the context of ecotourism. Even though decentralization is an important discussion in the context of ecotourism, until now not many researchers have reviewed this matter.

### **Conflict**

Conflicts can occur in various aspects of tourism development and management. In this study, conflicts in ecotourism management were identified in several literatures. [Ernawati et al., \(2019\)](#), identify conflicts that occur in Bali between local communities and tourism forest management authorities. Giving authority to communities as forest managers could be a solution. The case study at Gili Matra Marine Park shows that conflicts in ecotourism management also occur. This conflict occurs because of the many demands for the development of natural resources ([Chen et al., 2021](#)).

A study on ecotourism management conducted by [Nuraini et al., \(2021\)](#), discovered that overseeing ecotourism in Raja Ampat presents a conflict of interest. The ownership of lodging establishments developed by private companies in the names of local municipalities demonstrates this conflict. [Novianti et al., \(2022\)](#), found that there was a potential for conflict in the management of ecotourism in Karangsong, Indramayu, which occurred between the community and the government. This potential conflict can be avoided by implementing co-management in ecotourism development. In their research in Anambas, [Albasri & Sammut \(2021\)](#) also noted disputes that arose between several groups, including foreign and indigenous fishermen.

Conflicts in the context of ecotourism do not only occur between humans and humans. Several studies also show that conflicts in ecotourism are also oriented towards humans and the natural environment, including animals and their habitats. For example, in the Batangtoru Landscape, North Sumatra, there is conflict between humans and orangutans ([Kuswanda et al., 2020](#)), Conflicts between humans and Macaques also occur in Bali ([Fuentes et al., 2007](#)), and conflicts between humans and elephants occur in Sumatra ([Kuswanda et al., 2022](#)). Conflicts between humans and animals generally occur due to competition for habitat that occurs due to regional development and ecotourism.

### **Collaboration**

Collaboration is a central aspect in the development of ecotourism. In this study, several examples of collaboration in management and development were identified. In general, it appears that the host community in managing ecotourism needs to be involved, especially several central government policies in Indonesia that support this. In several cases, ecotourism has been successfully developed because of collaboration with the community which has an impact on welfare and sustainability.

**Table 5.** Case study of collaboration in Indonesia

Author	Case Study	Collaboration
(Wiratno et al., 2022)	Tangkahan, Leuser National Park, Langkat District, North Sumatra.	Collaborative Adaptive management in Tangkahan, Leuser National Park, has a positive impact and increases welfare in managing ecotourism.
(Tresiana et al., 2022)	Mangrove Forest in the Coastal Area of the Bandar Lampung	In developing ecotourism in Bandar Lampung, stakeholder collaboration has created important regulations. In addition, this study suggests that stakeholder collaboration has succeeded in implementing several policies.
(Towner, 2018)	Mentawai Islands	Although all stakeholders are enthusiastic about collaborating, there are still several obstacles, namely corruption, lack of trust in the government, and minimal collaboration initiatives which are obstacles to collaboration.
(Solihin et al., 2020)	Gili Matra	Several stakeholders play a role in tourism management in Gili Matra. Collaboration will work well if every stakeholder has an equal position and there is no monopoly.
(Rosardi et al., 2021)	Pagilaran Tea Plantation Agrotourism	Pentahelix stakeholder collaboration is implemented at Pagilaran Tea Plantation Agrotourism. The collaboration implemented involves ABCGM (Academic, Business, Community, Government, Media) to achieve a sustainable tourism model.
(PRAMONO et al., 2021)	Kampong Kayutangan	In Kayutangan Village, collaboration occurs not only in a top-down or bottom-top manner so that the community can be directly involved in tourism development.
(Pangarso et al., 2021)	Semarang	Collaboration and partnership are the keys to developing ecotourism in Semarang, Indonesia. Partnerships provide positive results in local economic development through increasing added value, increasing market access, and improving governance structures.
(NAJA et al., 2021)	Pemuteran, Bali	Centralized collaboration occurs in Pemuteran, Bali. In practice, collaboration occurs in activity and operational aspects at Pemuteran dive centers.
(Manaf et al., 2018)	Nglanggeran Tourism Village, Gunungkidul Regency, Yogyakarta	Many stakeholders play a role in the development of ecotourism in Nglanggeran Tourism Village. However, the community has a central role in implementing development programs so that Nglanggeran Tourism Village becomes a successful and sustainable tourist village.
(Lelloltery et al., 2021)	Western Seram Regency	As the main actor in tourism development in Western Seram Regency, there has been no adequate collaboration in developing ecotourism on Marsegu Island Western Seram Regency.
(Hartoyo et al., 2021)	Gunung Leuser National Park	Until now, the management of Gunung Leuser National Park has not been optimal in collaboration. Collaboration with the community is important for managers in developing ecotourism in Gunung Leuser National Park.
(AKBARINI et al., 2017)	Pelawan Biodiversity Park, Bangka	Collaboration in managing ecotourism is very important, but to date, it has not been implemented at Pelawan Biodiversity Park in Bangka.

#### 4. CONCLUSION

This study explored research trends and publications on ecotourism in Indonesia and the findings were observed to be essential to evaluate and provide an overview of the current status of research on ecotourism in Indonesia. The analysis of this current status is very important to determine the future research direction and important opportunities.

Research on ecotourism in Indonesia was found to be generally increasing since 1995 in line with trending global issues. The ten most popular articles identified in this study can be used as a reference for future studies to examine the potential of unexplored ecotourism in other regions of Indonesia by showing the progress that has been made.

In conclusion, there are vast research opportunities for ecotourism in Indonesia. Future studies can explore crucial topics such as mangrove ecotourism, marine ecotourism, national parks, and conservation, which are fundamental areas in ecotourism research within the country. Moreover, there are untapped research opportunities in areas that have not been widely studied yet such as Lombok, Maluku, and Kalimantan, where ecotourism potential remains unexplored. By conducting research in these regions, scholars can contribute to the sustainable development of ecotourism while benefiting local communities and preserving the environment.

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