

Trends in Ecotourism Research in Indonesia: Basic Analysis of the Development of Ecotourism-Based Teaching Materials

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Received: March 15, 2023

Revised: June 25, 2023

Accepted: July 25, 2023

Published: July 31, 2023

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DOI: [10.29303/jppipa.v9i7.4028](https://doi.org/10.29303/jppipa.v9i7.4028)

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Abstract: Currently and in the future, tourism is expected to make the biggest contribution to increasing the country's foreign exchange in the government's efforts to realize people's welfare and prosperity. One form of tourism product as a derivative of the concept of sustainable tourism development is the concept of ecotourism development. This study aims to map the research that has been carried out related to ecotourism in Indonesia. Data were obtained from scientific papers published on Google Scholar from 2010-2022 and there were 985 published scientific papers consisting of 968 from journals, 16 from proceedings, and 11 from books. Bibliometric analysis was carried out using the Vos Viewer application. The results of the study show that Indonesia has many tourist areas that can be developed into ecotourism areas, and these can be used as objects of research on ecotourism, but during the last 10 years research has only been conducted in a few areas. In addition, research on the same thing is often carried out in different research locations. This is the weakness of research on ecotourism in Indonesia. Thus, it is concluded that there are still many areas and keywords that are different and related to the concept of ecotourism which can be used as research subjects in Indonesia. research on the same thing is often done with different research locations. This is the weakness of research on ecotourism in Indonesia. Thus, it is concluded that there are still many areas and keywords that are different and related to the concept of ecotourism which can be used as research subjects in Indonesia. research on the same thing is often done with different research locations. This is the weakness of research on ecotourism in Indonesia. Thus, it is concluded that there are still many areas and keywords that are different and related to the concept of ecotourism which can be used as research subjects in Indonesia.

Keywords: Bibliometric Analysis; Ecotourism; Materials

Introduction

Tourism is positioned as one of the mainstay sectors in Indonesia's national development. At present and in the future, tourism is expected to provide the biggest contribution to increasing the country's foreign exchange in the government's efforts to realize people's welfare and prosperity. One of the efforts made by the tourism sector is to continue to improve its performance by strengthening existing networks and increasing the competitiveness of Indonesian tourism businesses. Due to its spectacular biodiversity, the potential to provide quality nature experiences in Indonesia is high and

tourism development is happening fast (Ross & Wall, 1999) Over the years, the need to increase sustainability in the tourism industry has been widely recognized (Graci, 2013). The involvement of the host community (or tourism destination population), especially in developing countries is very necessary because the success of tourism development also depends on the local community (Saufi et al., 2014).

One form of tourism product as a derivative of the concept of sustainable tourism development is the concept of ecotourism development (Ni'am et al., 2021b). Ecotourism has become an increasingly important market-based practice in nature conservation (Choi et

How to Cite:

Hamidi, H., Purwoko, A.A., Al Idrus, A., Harjono, A., Rokhmat, J., & Sukarso, A. (2023). Trends in Ecotourism Research in Indonesia: Basic Analysis of the Development of Ecotourism-Based Teaching Materials. *Jurnal Penelitian Pendidikan IPA*, 9(7), 246-255. <https://doi.org/10.29303/jppipa.v9i7.4028>

al., 2020; Ni'am et al., 2021a; Xu et al., 2022). Ecotourism is more than just a dedicated group of nature lovers, as a combination of interests that arise from a concern for social, economic and environmental issues. It was revealed that the current relationship between people, resources and tourism in Indonesia has not yet provided the co-benefits needed for ecotourism success (Ross & Wall, 1999) Many destinations have tried to move towards sustainability, but unfortunately, their efforts have been hindered by a lack of necessary collaboration among stakeholders to support their sustainability agenda (Graci, 2013).

Travel and tourism has become a fast growing industry and a major source of income for many developing countries (Manzoor et al., 2019; Rasool et al., 2021), including Indonesia. Indonesia has excellent tourist areas and is rich in a wide variety of living things (Cleary & Devantier, 2011), so that tourists visiting Indonesia are spoiled with exotic flora and fauna, stunning panoramic views, and adventurous experiences because of Indonesia. Ecotourism is defined as responsible travel to natural areas in a sustainable manner and involves interpretation and education (Quezada-Sarmiento et al., 2018). Ecotourism development is based on awareness of every environmental condition that is oriented towards conservation and concern for local culture and civilization (Kia, 2021).

Talking about tourist destinations in Indonesia will never end. Lots of tourist destinations in Indonesia which are certainly very interesting to visit. Every tourist destination in Indonesia has its own uniqueness and beauty. There are many types and varieties of tourism in Indonesia, ranging from culinary tourism, culture, history, to natural tourism. All types of tourism can be used as ecotourism areas in Indonesia. However, so far there is still a lack of information relating to the potential for ecotourism in Indonesia, both from the media and research results on ecotourism. The purpose of this

research is to map the research that has been done related to ecotourism in Indonesia.

Method

In this study, data was obtained from research results that have been published on Google Scholar from 2010-2022, 985 articles have been published. The use of Google Scholar as a source for taking in this research is due to the small number of publications about ecotourism in Indonesia that are indexed in Scopus indexed journals and the Web of Science.

The research data obtained was searched for with the keywords "Ecotourism" and "Indonesia". The research results obtained are in the form of scientific journals, proceedings, and books. In the end, the research data obtained was analyzed using bibliometric analysis using the VosViewer application. Bibliometric analysis is seen from several types such as research location, year of publication, type of publication, and research variables.

Result and Discussion

In Indonesia, 38 ecotourism destinations have been identified in several provinces in Indonesia (Kia, 2021) (Figure 1). Ecotourism areas are very important for the welfare of the community. Every region in Indonesia has potential that can be developed for the welfare of the people in that area. One of these potentials is the development and preservation of natural resources through ecotourism, which is a form of tourism that closely adheres to conservation principles, using conservation strategies to maintain the integrity and authenticity of ecosystems in pristine areas, while increasing the economic welfare of the people in these areas.



Figure 1. Map of the Distribution of Ecotourism Destinations (Kia, 2021)

Based on the results of data analysis obtained from Google Scholar, publications on the topic of ecotourism

in Indonesia have increased and will peak in 2020 (Figure 2). Publications related to ecotourism have

become a trend in the last 10 years in Indonesia. But unfortunately, even though the ecotourism trend is increasing with certainty, there is still overlap with existing regulations (Sisriany & Furuya, 2020). Along with the trend of publications about ecotourism in Indonesia, it is certain that the number of tourist visits to

tourist areas will increase. On the one hand, the increasing number of tourists has a positive impact on the economic development of the local community and increases state revenues, but on the other hand this incident also has a negative impact such as uncontrolled environmental damage.

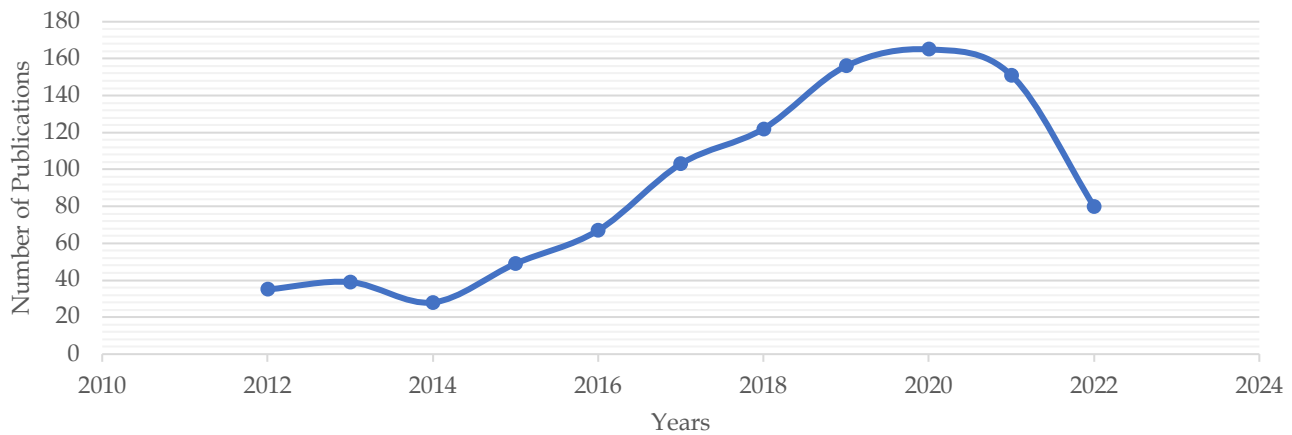


Figure 2. Research Results of Research Publication on the Topic of Ecotourism in Indonesia in the 2012-2022 Period.

The impact of tourism development can be categorized into three aspects, namely environmental aspects, socio-cultural aspects, and economic aspects (Juandi et al., 2018; Lukman et al., 2022). Ecotourism activities in addition to having a positive impact, can also have a negative impact on the natural environment, as well as the impact of tourist attraction on local socio-cultural values (Baloch et al., 2022). If not controlled, the negative impact on the environment can cause environmental pollution or environmental degradation (Butarbutar & Soemarno, 2013; Chang et al., 2018). Environmental degradation includes destruction of vegetation communities, wildlife, coral reefs and the emergence of heaps of garbage (Heery et al., 2018).

Other negative impacts can occur as a result of poor tourism management plans, lack of attention to environmental capacity and lack of knowledge and awareness of local communities and tourists in preserving the natural environment (Chang et al., 2018). Negative consequences on physical, chemical and biotic aspects include soil erosion due to high frequency of visits, destruction of vegetation due to changes in the natural landscape, increased volume of waste, and noise pollution due to motorized vehicles (Manisalidis et al., 2020). There are also negative socio-economic and cultural consequences, which are the occurrence of imitative behavior by local people, materialistic attitudes, increased irregular sales, moral disturbance in local communities, decreased income, lack of tourist interest in traditional artistic designs (such as traditional souvenirs), decreased level of tourism magnetism, including traditional cultural attractions, decreased

creativity of people in some historical and religious festivals or celebrations.

Various positive impacts are generated as a result of ecotourism activities, namely ecotourism can provide economic benefits for the government and local communities (Anup, 2016), synergism between ecotourism and the natural environment, where tourists and local communities appreciate and understand each other's ecosystem problems and the need for environmental preservation, providing incentives to government agencies, private sector and individuals who introduce, plan and manage natural resources in a sustainable manner, provide public education about natural resources, provide education to visitors about natural and cultural assets at destination sites, offer research opportunities, provide employment opportunities to local communities, and developing less developed areas.

Based on ecotourism development activities, this impact arises from various aspects including physical, biological, economic, social, cultural and political aspects. For the physical and biological aspects of the natural environment, ecotourism development suggests every opportunity in driving ecosystem succession into man-made ecosystems. In large-scale development, succession occurs in the ecosystem as a whole and suddenly. As for the social, economic and cultural impacts on changes in traditional lifestyles and the income of the local community.

In the socio-economic aspect, ecotourism activities also have an impact on local people's livelihoods, income, employment and public health (Upadhaya et al.,

2022). Tourism activities have caused socio-economic impacts on local communities. The positive impact of tourism activities in socio-economic terms is an increase in local community income and increased employment in rural areas. On the contrary, there are negative impacts, such as ecosystem degradation due to the development of tourist objects and social conflicts involving local communities (Baloch et al., 2022).

Every ecotourism activity has an impact on various aspects of the natural environment. The occurrence of changes in biological, physical, social, economic and cultural aspects is the impact of tourism activities. Therefore, all parties must be more concerned about preserving nature: learning to know and understand the natural environment, expanding employment opportunities and involving local communities in every activity.

Considering the positive and negative impacts of the concept of ecotourism, various studies have been conducted in Indonesia. This can be seen from the results of searching publications related to ecotourism by type of publication in the period 2012-2022 in Figure 3.

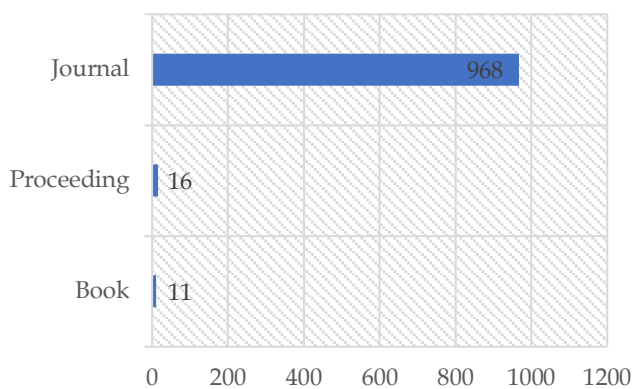


Figure 3. Number of Publications on Ecotourism Topics by Type of Scientific Work during the 2012-2022 Period

Figure 3 shows that there are 968 publications originating from journals, 16 publications from proceedings, and 11 from publications from books. It indicate that publication in journals is one of the trends in how to disseminate research results related to ecotourism in Indonesia.

Ecotourism is a tourist destination that is centered on the environment and social as well as education (Erkol Bayram et al., 2017). Tourist destinations like this are quite interesting destinations to visit. Several ecotourism tourist destinations in Indonesia, such as Tangkahan Eco Tourism. This tourist location is one part of the tourist attractions of North Sumatra which is quite famous. Several studies on this area have also been carried out such as mSelling captive nature: Commodification of life, elephant encounters, and valuable production in Sumatran ecotourism (Ni'am et

al., 2021a). Basically, Tangkahan itself is located in the Binjai area. Tangkahan Eco Tourism focuses on various types of activities related to the outdoors. One of the things that is quite interesting about this area is the activities that will be carried out with free elephants. Visitors get a very interesting experience, namely the activity of bathing elephants in the river. Apart from Tangkahan Eco Tourism, several interesting ecotourism locations to visit are Rubiah Island, Komodo National Park, Lombok Mandalika SEZ, Ijen Crater, Brayut Tourism Village, Kasongan Tourism Village, Ulun Danu Beratan Temple, Penglipuran Tourism Village, Mount Bromo, Mount Bromo Nature Park Pancar, Nglanggeran Ancient Volcano, Mount Merapi National Park, Mount Rinjani National Park, Nusa Penida Island, Nusa Lembongan Island, Gili Lontar, Rafting Oyo, and Mount Leuser National Park.

Of the several interesting ecotourism areas to visit in Indonesia, only a few people know about this. The low information obtained on the many ecotourism areas in Indonesia is caused by the lack of research conducted in these areas. This can be seen from the search results from publications about ecotourism in Indonesia, only carried out in a number of regions. Several areas that were used as research objects based on the results of searching publication data can be seen in Figure 4.

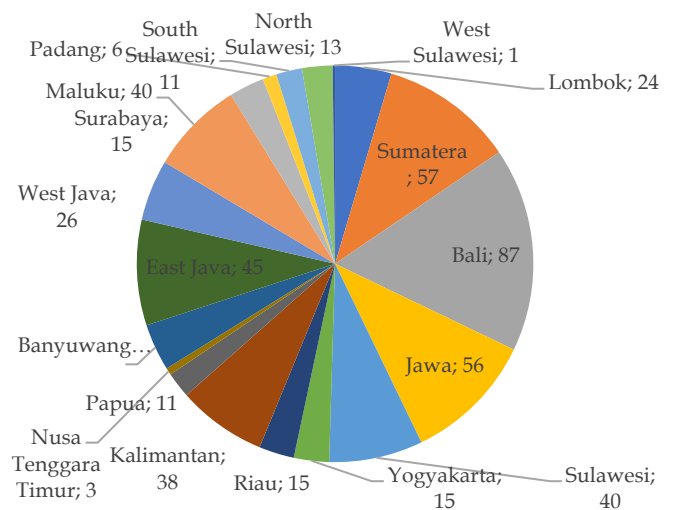


Figure 4. Results of research on ecotourism in Indonesia based on research locations.

Most research on ecotourism is carried out in the Bali Region. This shows that Bali is one of the most famous tourist areas at the international level. Other areas that are quite often used as research subjects on ecotourism are Sulawesi, Java and Sumatra. Even though from the previous explanation it was explained that other regions in Indonesia have ecotourism areas that are worth visiting. Thus, it is necessary to increase research on ecotourism areas in several other areas.

Apart from location, research trends on ecotourism in Indonesia can also be seen based on keywords from research that has been done (See Figure 5). It shows a network of research conducted related to ecotourism in Indonesia. The search results show that the ecotourism keyword has a fairly extensive network and has a relationship with other research keywords such as conservation, local wisdom, diversity, sustainability, mangroves, and so on.

Some popular research about ecotourism in Indonesia are the research covers sustainable freshwater swamp forest management as an ecotourism destination in Indonesia (Sjaifuddin, 2020), The existence of Rawa Danau as an ecotourism destination is important to be explored, because its utilization has not been based on the principles of sustainable management (Sjaifuddin, 2020), Research on other ecotourism related to mangrove

ecotourism includes research on production of mangrove forest litter in quiet bay coastal waters, West Lombok (Zamroni & Rohyani, 2008). Then research about level of participation in the development of ecotourism Mangrove Wonorejo Surabaya (Idajati et al., 2016), the potential of Indonesia's mangrove forests to mitigate global climate change (Murdiyarso et al., 2015), Crab Diversity as a Support for Ecotourism Activities in Pejarakan Mangrove Forest, Buleleng, Bali, Indonesia (Ginatra et al., 2021), Brief communication: Using ecological parameters to assess the sustainability of mangrove ecotourism in Jeneponto, South Sulawesi, Indonesia (Askar et al., 2021), Analysis of the suitability and carrying capacity of mangrove ecosystems for ecotourism in Lembar Village, West Lombok Regency, Indonesia (Sukuryadi et al., 2020).

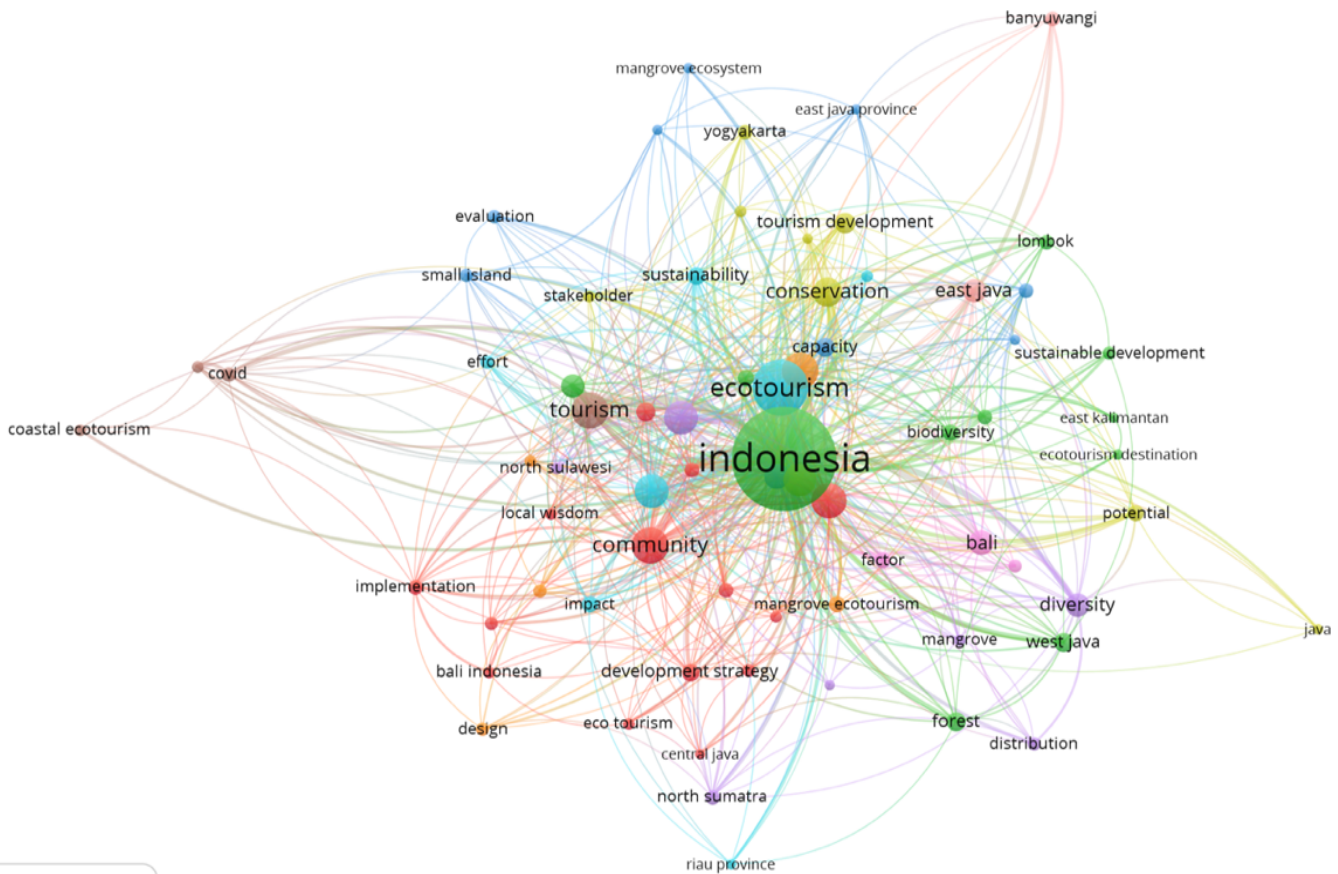


Figure 5. Vos Viewer analysis results based on research keywords on ecotourism in Indonesia

Study on the topic of ecotourism in Indonesia was also carried out in the Park area. Several studies such as the tourism economy and visitor preferences: a portrait of sustainable ecotourism in the Tangkahan protected area, Gunung Leuser National Park, North Sumatra, Indonesia (Purwoko et al., 2022), ecotourism as a resource-sharing strategy: a case study of community-based ecotourism in the buffer zone of the Leuser National Park, Langkat Regency, North Sumatra,

Indonesia (Wiratno et al., 2022), and the carrying capacity of biodiversity conservation in ecotourism in Mount Rinjani National Park, Indonesia (Sadikin et al., 2017).

The results of the search show that the trend of research on ecotourism has increased over the last ten years, but unfortunately most of the research has only been carried out on the same research topic (See Figure 6).

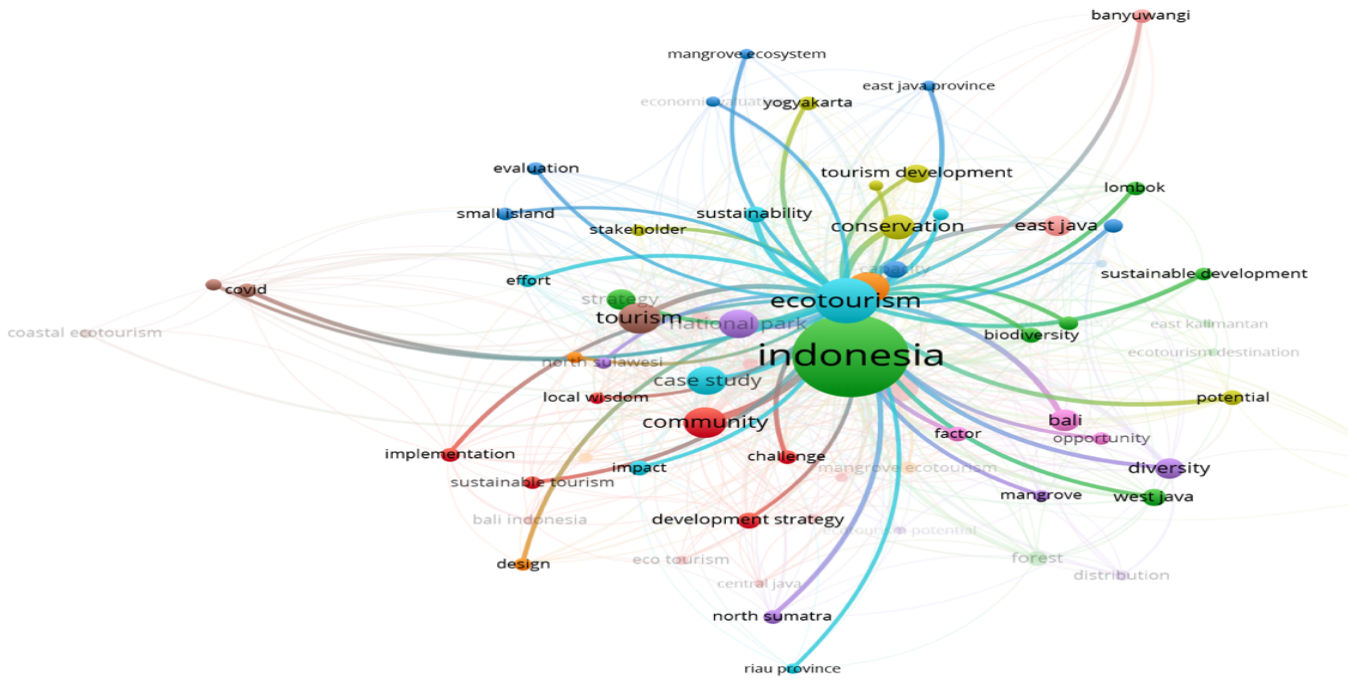


Figure 6. Etourism Keyword Network

Based on the results of the analysis shown in Figure 6, information is obtained that research on ecotourism in Indonesia over the last 10 years is related to several other keywords such as conservation, mangroves, diversity, local wisdom, sustainability, tourism development,

national parks, and Covid-19. This means that there are many other keywords that can be used as research material on ecotourism. To find out some ecotourism keywords that can be used as other research topics, it can be seen in Figure 7.

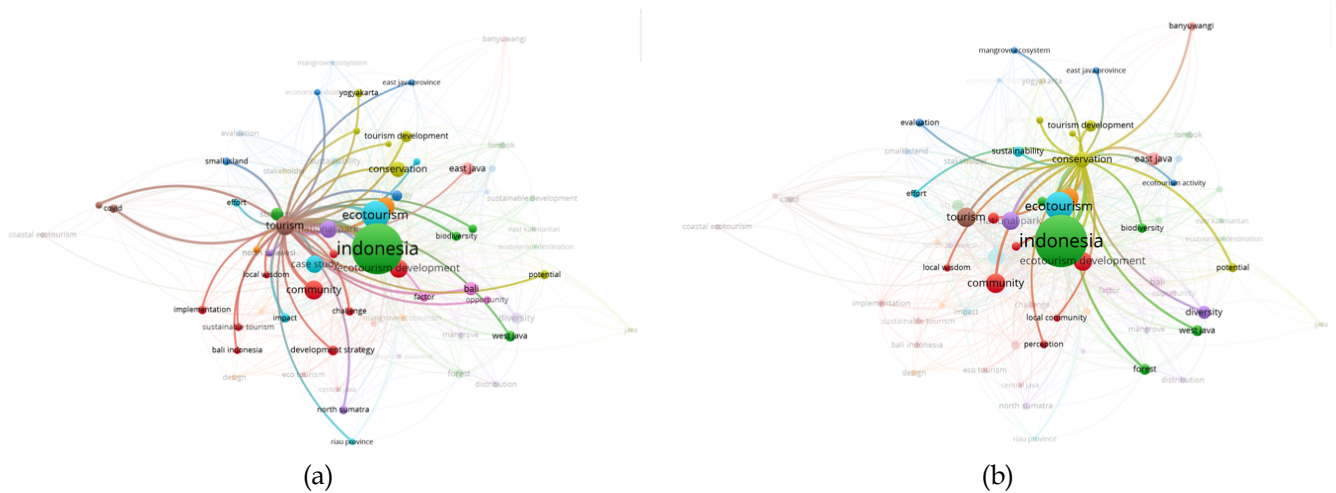


Figure 7. (a) Tourism Keyword Network related to ecotourism, (b) Conservation Keyword Network related to ecotourism

Figure 7a shown that, the tourism keyword has a different network from conservation, this shows that research related to other keywords has not been carried out related to ecotourism such as tourism which is not connected with the keywords mangrove, forest, diversity, sustainability. Even though the existence of tourism is an important sector in supporting local ecotourism (Erkol Bayram et al., 2017). In addition, the mangrove area can be used as a tourist area (Fisu et al., 2020; Kissinger et al., 2020; Spalding & Parrett, 2019). The

same thing with the conservation keyword in Figure 7b which is not related to mangroves. Thus, it can be concluded that ecotourism research that is directly related to mangroves, tourism, and diversity has not yet been carried out in Indonesia and is worthy of research as one of the novelties of research on ecotourism.

Ecotourism is one way to support sustainable development in Indonesia (Jaya et al., 2022). Figure 8a proves that one of the important goals of ecotourism is to support sustainable development. The concept of

to the concept of ecotourism which can be used as research subjects in Indonesia.

Acknowledgment

I would like to thank all those who have provided support and assistance in this research.

Author Contributions

Conceptualization: Hamidi, data curation: Hamidi, funding acquisition: Hamidi, methodology: Hamidi, Agus Abhi Purwoko, Agil Al Idrus, Ahmad Harjono, visualization: AA Sukarso, Joni Rokhmat, writing-original draft: Hamidi, writing-review & editing: Agus Abhi Purwoko, Agil Al Idrus, Ahmad Harjono.

Funding

The authors declare that no funds, grants, or other support were received during the preparation of this manuscript.

Conflicts of Interest

The authors have no relevant financial or non-financial interests to disclose.

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