



Ecotourism and Geopark: A Potential For a Sustainable Symbiosis

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ABSTRACT

This research attempts to highlight the symbiotic relationship between the conservation of geopark natural resources and the competitiveness of ecotourism destinations. While the intrinsic environmental reasons for land protection are losing their appeal due to environmental damage. This research uses descriptive method with qualitative analysis techniques. The results of this study explain that ecotourism can provide greater benefits for the quality of natural resources in an area than considering the use of natural resources based on other factors such as local economic conditions. Through ecotourism visiting sensitive areas such as geoparks, local communities can be provided with additional economic incentives to protect their natural resources that might not exist in the absence of tourism.

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1. INTRODUCTION

Geopark is an area that pays attention to the whole of nature along with its living and inanimate things, as well as human interaction with the environment. All the elements that make up a geopark make it an outdoor museum that provides opportunities to learn and increase knowledge. In addition, geoparks are also considered as attractive tourist spots for visitors who want to see, study, and conduct research on the resources contained therein. The Geopark area includes not only historical sites, but also protected species of plants and animals. The area also has historical monuments, unique architectural and archaeological artefacts, and distinctive traditions and crafts. All of these are important conditions in the development of tourism that can provide economic and social benefits for the community (Kaur, 2022; Hutabarat, and Pratiwi., 2022; Setiyabudi, et al., 2019).

Within the Geopark area, economic benefits can be achieved through tourism development which can create job opportunities for local communities (Dowling, 2011; Yolal, 2012). In fact, local and regional development is one of the main targets of geoparks and most of it is realized through tourism (Koçan, 2012; Pijet-Migoń and Migoń, 2019; Torabi Farsani et al., 2012).

One type of tourism that can potentially be developed by geoparks is ecotourism or sustainable tourism (Barna et al., 2011; Iswara and Santhyasa, 2021). Ecotourism is a type of tourism that aims to preserve and preserve nature. The concept of ecotourism includes the development of sustainable ecotourism areas and tourist destinations and involves the active participation of the community and tourists in maintaining the ecology and creating satisfaction with nature. Along with the increasing interest of tourists in nature tourism activities, the development of ecotourism is becoming increasingly important (Ana, 2017; D. S. Ruhimat et al., 2021). The principles of sustainable tourism emphasize three main topics, namely socio-cultural, economic and environmental issues. The principles of sustainable tourism and relevant issues are in line with the main principles of geoparks (Dowling, 2013; Torabi Farsani et al., 2012; Yuliawati, et al., 2016).

One way to develop geological resources in a sustainable manner in an area is through the development of ecotourism in Geoparks. Ecotourism development in Geopark can balance economic, environmental and social aspects for the surrounding community. Ecotourism includes biodiversity, geology and culture in the area, so this potential is very strategic to support geological potential (Marlina and Herawan, 2020). Therefore, related to the concept of the ecotourism industry, ideas, concepts, and Geopark areas meet the criteria and are involved as one of the most popular ecotourism destinations. Tourism activities around the Geopark area related to historical values have become the focus of heritage tourism ideas.

The use of sensitive natural areas as tourism destinations has resulted in serious environmental, social, and economic problems, due to the pressure generated by individual recreation and commercial tourism on conservation areas. This problem continues to grow worldwide, including in the Geopark area. According to (Biermann and Kim, 2020; Whitelaw et al., 2014). The increasing conversion of land, such as urban, suburban, and agricultural development, from its natural state, has led to loss of biodiversity, shortages of water and food, and climate change due to the ability of ecosystems to not function properly. Not only are environmental problems related to land conversion and ecosystem fragmentation, but the ecotourism potential of the region is also marginalized when natural resources are reduced. This potential is often considered less valuable and eventually converted to other purposes (Boley and Green, 2016). This article aims to review the importance of geoparks for ecotourism competitiveness and the importance of ecotourism for the conservation of

natural resources with the final product being a model that illustrates the potential for symbiotic relationships.

2. LITERATURE RESEARCH

There is a symbiotic relationship between ecotourism and natural resource conservation, where increased conservation of natural resources will increase the competitiveness of ecotourism destinations, as well as increase awareness of the importance of conserving natural resources, which will ultimately increase land and biodiversity protection. In essence, the success of ecotourism destinations and geoparks are interdependent because they work together to provide a higher economic value to the natural environment than converting land for other purposes. This relationship is further emphasized through recognition (Boley, 2015) on the role of tourism in creating market-based incentives in favor of conservation rather than land conversion. This relationship is called a symbiosis because it is mutually beneficial between the development of ecotourism and the conservation of natural resources in the geopark area.

This potential symbiotic relationship between ecotourism and natural resource conservation has been hinted at for quite some time as seen in the work (Budowski, 1976; Butcher, 2006; Fennell and Smale, 1992) specifically states that:

“...the alliance of those in charge of tourism with ecologists and conservationists is a natural thing that should make a major contribution to development. the right kind of development that involves the right kind of change, leading to a better quality of life for all”.

The link between ecotourism and conservation is not only significant in the context of sustainable tourism research, but is also critical to achieving the biodiversity targets set out in the millennium development goals (Sachs et al., 2009; Walpole et al., 2009). Most of the world's biodiversity hotspots are located in areas with very attractive ecotourism potential (Gössling, 1999). Thus, ecotourism has the potential to help protect biodiversity in geopark areas through proper leadership and at an appropriate scale. By providing strong economic incentives for conservation, ecotourism can exceed the opportunity cost of converting land to other consumptive uses.

3. METHODS

This research uses descriptive method with qualitative analysis techniques (Elliott and Timulak, 2005). The data used in this research are primary data and secondary data. Primary data is generated based on data collection by field observation by looking at phenomena regarding the relationship between ecotourism and geopark. While secondary data is generated based on literature studies by looking at previous research that is relevant to the research to be appointed.

The location of this research was carried out in Ciletuh-Palabuhanratu UNESCO Global Geopark which is included in the world-recognized earth park area related to sustainable conservation, education and community empowerment programs. This study aims to further explore the relationship between ecotourism and the conservation of natural resources in geoparks with the final product being a model that describes the potential for a symbiotic relationship.

4. RESULTS AND DISCUSSION

4.1. Ecotourism Competitiveness in Geopark

The development of ecotourism in the geopark area has the goal of developing geological resources in an area so that it can be sustainable which can balance various aspects, namely economic aspects, environmental aspects, and social aspects to the people around the area. This implies that the development of tourism in the geopark area must have competitiveness that is different from tourism in general. This competitiveness can be implemented in responsible tourism or responsible tourism through ecotourism activities.

Ecotourism activities in the geopark area are different from other tours which are mass tourism. Because in geopark based on conservation principles that combine the potential of geodiversity, biodiversity and cultural diversity as an attraction for visiting tourists. This is not owned by other tours and can be an ecotourism competitiveness in geoparks. According to (Barney, 1991; Barney, 2000; Wright, et al., 1994) argues that sustainable competitive advantage is based on the ownership of resources that are valuable, rare, perfectly inimitable, and non- substitutable for different resources. Natural resources in ecotourism destinations are prime examples of resources that are valuable, rare, cannot be perfectly imitated, and cannot be easily replaced.

In addition, the concept of ecotourism in the geopark area has the potential to generate significant income and enable full community involvement in the planning, management and implementation of the ecotourism business and all the benefits derived. Goes along with it (D. S. Ruhimat et al., 2021) explained that the ecotourism point of view was taken to coordinate tourism in favor of local communities.

One example of a geopark that has competitiveness and uniqueness in ecotourism development is Ciletuh-Palabuhanratu UNESCO Global Geopark. Where in the geopark has formed a thematic zones to support the development of ecotourism. These thematic zones can be called geotourism routes that link the potential of geological resources, biodiversity and culture. As well as building supporting components to build certain themes in realizing integrated sustainable ecotourism development. The formation of these thematic zones aims for four things, namely:

- a. Community empowerment Making the community the mainsource of information about the geological potential in their environment, and the main actors in ecotourism development.
- b. Economic Development Increasing the competitiveness of tourism products, developing local resource potential, driving the local economy through the development of competitive tourpackages.
- c. Education Providing knowledge andinsights about geological resources, biodiversity and culture through the active involvement of tourists and the community.
- d. Protection and Conservation Increase awareness and appreciation of efforts to protectand conserve geological resources, biodiversity and culture through educational andcreative tourism programs.

In this case, it can be seen that with all the abundant natural resources in a geopark area, it can be used as an ecotourism activity.

4.2. The Role of Ecotourism in Geopark Conservation

One of the reasons why the concept of ecotourism was introduced in geoparks is to increaseawareness of the importance of tourism which can maintain the authenticity of a tourist spot and maintain its sustainability.Ecotourism involves localcommunities directly as

the mainactors in tourism activities, with the hope of increasing the economicwelfare of the local community.

In addition to this, the role of ecotourism in geopark conservation has benefits for the community not only in increasing economic income but there are other things, including the following.

a. Conservation aspect

In the aspect of conservation, it is closely related to endangered species, to preserve and increase biodiversity and to protect nature and cultural heritage. With conservation, we can also provide an increase in effective economic incentives and provide positively correlated tourism.

b. Community Development

Ecotourism provides job opportunities for local communities in planning, organizing and managing ecotourism places that fully involve the role of local communities. Ecotourism is an effective way to develop local community empowerment to break the chain of poverty and improve living standards in ecotourism geopark-based tourist areas.

c. Aspects of Environmental Education

Ecotourism must have experience which in this case must be in line with the awareness of tourists and local communities about the importance of protecting the tourism environment through interpretation. This should also be supported by providing proper understanding to local communities and tourists. In this role and benefit, a symbiosis is created between ecotourism and geopark as a complex area that focuses on the pillars of sustainability in the tourism context.

4.3. Ecotourism Model in Geopark

As reviewed in the previous section, a symbiotic relationship between geopark and ecotourism is proposed to exist. Figure 1 visually illustrates this relationship. Where quality natural resources increase the competitiveness of ecotourism destinations. Meanwhile embedded tourism in natural areas increases economic incentives to protect remaining natural lands because natural resources are the basis of ecotourism demand.

Figure 1 highlights a number of the ongoing implications and tangential consequences associated with the symbiotic relationship between ecotourism and natural resource conservation in geoparks. One very important implication is that increased conservation of natural resources and protection of land is a key precondition for protecting biodiversity (Biermann and Kim, 2020).

Ecotourism occurs in some of the most biologically diverse areas in the world, and under the right circumstances can provide a real economic incentive to protect biodiversity (Elliott and Timulak, 2005). An example is seen in the Cooper Creek Wilderness of the Daintree Rainforest in Australia, where ecotourism provides an economic incentive for private landowners to manage their land to meet World Heritage requirements (Hewett, 2014).

Other sustainable benefits from increased conservation of natural resources cover a number of aspects, such as improved water quality, flood control, carbon sequestration, better air quality, protection of native flora and fauna, and development of nature-based recreation for local residents. An example is seen in the Cooper Creek Wilderness where economic incentives from ecotourism to conserve land promote biodiversity and land protection, where the area is home to the 'most endangered Gondwana fauna and flora' (Hewett, 2014; Boley, and Green., 2016; Cruise Malloy, and Fennell., 1998).

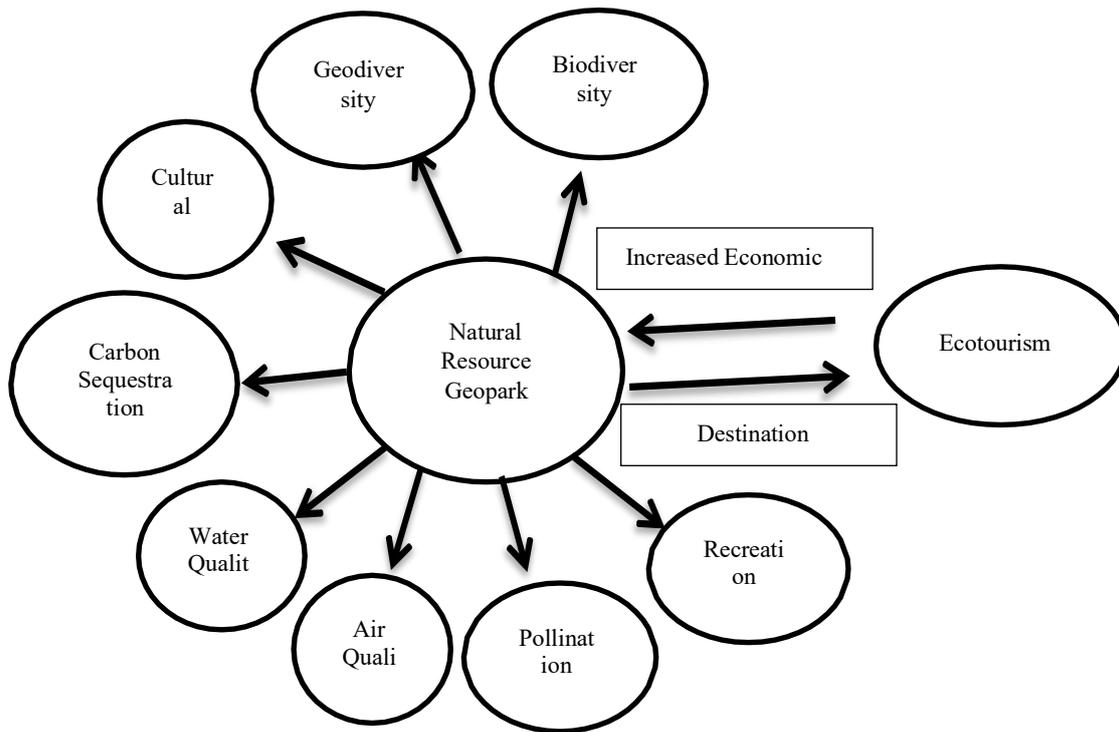


Figure 1. *The symbiotic relationship between geopark and ecotourism*

Protecting the natural resources of an area not only has economic and environmental implications, but is also significant for the third category of the triple bottom line, namely socio-cultural sustainability (Dwyer, 2005). This study does not focus on cultural aspects, but it should be noted that many cultural traditions are directly related to natural resources and can be threatened by land management policies that prioritize urban, peri-urban development and agricultural land use. In this case, the preservation of traditional lifestyles can be another sustainable outcome of the symbiotic relationship between ecotourism and natural resource conservation.

The mutual relationship between ecotourism and natural resource conservation has great significance, especially since it is becoming increasingly difficult for environmental activists to motivate people to protect natural resources using biocentric intrinsic motivation (Robinson, 2006). In this model, there are two anthropocentric reasons for protecting natural resources. First, natural resources are important for ecotourism success because the demand for ecotourism is influenced by natural resources. Second, the ecosystem services provided by natural resources make a significant contribution to human well-being by providing services such as clean water, clean air, and helping to reduce the impact of climate change. Therefore, when calculating the ecosystem service value of an ecosystem, the income generated from ecotourism should be considered as an additional incentive to protect land.

4.4. Implication

This model generates three practical recommendations. First, further research is needed to investigate the economic impact of ecotourism on areas rich in natural resources. This will help public land managers and private landowners understand more accurately the impact of various land management decisions.

Second, there needs to be consistent monitoring of the impact of ecotourism on the natural resource base (Boon et al., 2002). It is necessary to monitor natural resources and

tourists at the right level because tourists' perceptions of degraded natural resources can be as bad as the actual degradation, which can lead to decreased visits and loss of tourism revenue that could be used to support natural resource protection. Tourist satisfaction with the ecotourism experience negatively impacted by too much tourism is evidenced in the findings (Prideaux et al., 2012) that those visitors to the rainforest who perceive tourism as a threat to the ecological integrity of the rainforest are also those who have less than satisfactory experiences. Prior research on the proper carrying capacity can be applied to ensure the proper scale of ecotourism and does not degrade the quality of natural resources or the quality of tourism.

Third, destinations must adapt their marketing and branding towards certain environmentally responsible tourists such as ecotourism (Thi Khanh and Phong, 2020) or geotravellers (Boley et al., 2011; Dolnicar and Leisch, 2008; Ella and Massidda, 2021).

4. CONCLUSION

This research attempts to highlight the symbiotic relationship between the conservation of geopark natural resources and the competitiveness of ecotourism destinations. At times the intrinsic environmental reasons for land protection are losing their appeal. In this context, ecotourism can provide greater benefits for the quality of natural resources in an area than considering the use of natural resources based on other factors such as local economic conditions. Through ecotourism visiting sensitive areas, local communities can be provided with additional economic incentives to conserve their natural resources that might not exist in the absence of tourism.

Figure 1, which was explained earlier, aims to illustrate the important relationship between ecotourism and the natural resources of a geopark, so that ecotourism advocates and environmentalists can see that protecting natural resources is essential to attracting tourists to an area, and without ecotourism, there are no incentives to protect those natural resources. In other words, there is the potential for a mutually beneficial symbiotic relationship between ecotourism and natural resource protection if the value of natural resources for ecotourism is fully understood.

However, it is important to note that this relationship is only potential, and does not always happen automatically. The success of the relationship between ecotourism and natural resource conservation depends on the ability to strike a balance between tourism development and resource protection, and the ability of those in control to take a long-term view. Success is measured when cumulative benefits, quality of life for people, and health of ecosystems are valued over short-term economic gains (Butcher, 2006).

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