

# Environmental sustainability through Sendang Sombomerti ecotourism management

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**Abstract.** Ecotourism is a model of sustainable tourism that is environmentally sound and needs to be developed. Ecotourism needs to be developed because it prioritizes environmental sustainability and pays attention to the balance of interactions between humans and nature. Thus, finding out how and to what extent ecotourism management supports environmental sustainability is this research's focus point and objective. The method used in this research is a qualitative descriptive type. The descriptive type was chosen because it aims to obtain an overview of how and to what extent the local community ability to preserve the environment through the management of Sendang Sombomerti ecotourism in Sombomerten Village, Sleman Regency, Yogyakarta. Primary data and secondary data also support data collection. Research informants were selected using the snowball sampling technique. The collected data were then analyzed using source triangulation. Based on the results of field data analysis, it is known that the local community management of Sendang Sombomerti ecotourism in preserving the environment can be categorized as good because it is by the principles of ecotourism development. So that realizing good environmental sustainability will be easily achieved and maintained, community economic sustainability will also be more easily realized.

## 1 Introduction

Tourism is the most promising sector to accelerate economic growth and is also the largest contributor to the country's foreign exchange. According to data from the United Nations World Tourism Organization (UNWTO), tourism is currently the most lucrative industry [1]. This sector ranks as the third most significant source of state revenue, following mining and oil and gas [2].

However, over time, the development of existing tourism will certainly be in line with the impact on the surrounding environment that cannot be avoided, both positive and negative impacts [3]. To overcome the negative impact of tourism on the environment, of course, there needs to be a model that can maintain the balance and sustainability of environmental sustainability. Ecotourism is one of the tourism ideas and models that can be created to protect the environment. To give economic benefits, ecotourism is a sustainable type of

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tourism that supports environmental conservation programs and involves local communities in conservation management [4,5]. The concept of ecotourism is defined as a tourist trip that pays attention to environmental health and keeps the tourist area as natural as possible [6]. Ecotourism is a comprehensive model in which there are characteristics of environmental sustainability that support global environmental improvement without ignoring local communities in its implementation [7]. This approach also takes into account other important factors such as education, economy, society and culture in its application. The application of ecotourism can also provide benefits, such as providing opportunities for local people or communities to be involved in ecotourism development.

Ecotourism was first introduced in the 1980s and began to be recognized as an alternative concept for tourism [8]. Then it became a concept that is quite popular until now and is even growing very fast. Conservationists assert that ecotourism is a suitable method to conserve natural resources and promote the development of local communities [9]. Three previous studies have also shown that promoting local livelihoods through ecotourism is widely recognized as an essential policy measure to conserve biodiversity [10,11]. Ecotourism has been shown to significantly contribute to environmental sustainability and natural resource conservation in various locations worldwide [12]. Developing the idea of ecotourism is considered necessary for managing the tourism business in Indonesia.

Countries in the world face the problem of environmental damage that never ends. Researchers and environmental experts are trying to find various ways to save the earth from damage. Therefore, the ecotourism model comes as a form of realization for sustainable environmental sustainability. With increasing awareness to protect the environment, ecotourism is one model that is able to overcome the environmental impacts caused by the tourism sector.

Not all ecotourism initiatives can achieve the desired results. Ecotourism still faces various barriers. Ecotourism is mainly used as a marketing tool to encourage support for sustainable environmental progress. According to reference Banerjee [13], along with ecotourism development, many regulations do not address conservation efforts or local communities. Therefore, the concept requires a deeper understanding. M. Das and B. Chatterjee [10] many scholars have raised significant concerns over neglecting local communities and environmental sustainability in ecotourism methods. Ecotourism is often used as a marketing tool to attract customers, often trumping the true principles of ecotourism. Ecotourism prioritizes economic factors while neglecting sustainable environmental considerations. According to Haryanto [14], tourism development in Indonesia appears to prioritize the economic and aesthetic aspects associated with the industrial scale while ignoring the community's cultural, social, and environmental values. The practical implementation of the ecotourism model should be carefully evaluated and improved to achieve ecological sustainability effectively.

Among the many ecotourism that ignore environmental sustainability, of course, some ecotourism's successfully apply the principles of ecotourism and still preserve the surrounding nature. Among these is Sendang Sombomerti Ecotourism, situated in Maguwoharjo Village, Depok, Sleman, Yogyakarta's Sombomerten Hamlet. Examining ecotourism's application, which is still centered on protecting the environment, the study seeks to determine how and to what degree ecotourism management contributes to environmental preservation.

## **2 Materials and method**

In this study, descriptive qualitative research methodology was applied. The research object is the Sendang Sombomerti tourist site in Yogyakarta, Sombomerten Hamlet, Sleman Regency, Yogyakarta. The data collection period in 2023 was June to August. This study

used two different categories of data: primary and secondary data. Interview guidelines constituted the preliminary data, while secondary data included easily accessible reading materials, including scientific journals, news articles, books, and reports. Field data was collected through in-depth interviews, documentation review, and observation. The snowball sampling method selected managers and community members around tourist destinations as research informants. Twelve individuals provided information:

- The village head
- The head of Pokdarwis
- Three administrators;
- One trader living around the tourist site
- Three residents
- Three visitors

The validity of the data obtained from in-depth interviews was then assessed through source triangulation analysis, which includes the following steps: data reduction, data presentation, data verification, data interpretation, and conclusion. This research will examine the contribution of ecotourism to environmental conservation from various perspectives, including socio-cultural, partnership, and economic sustainability. These components are derived from the theory and concept of ecotourism proposed by Heher [15].

### **3 Results and discussion**

Sombomerten Village in Sleman Regency, Yogyakarta, is one of the ecotourism-focused natural tourism sites managed by the community and is considered successful in its growth. This tourist attraction is named "Sendang Sombomerti." Sendang Sombomerti Tourism is a form of natural tourism that utilizes springs as tourist destinations. Its management is organized autonomously by the community group of Sombomerten Hamlet. The development of Sendang Sombomerti Tourism Village requires various aspects that work together to achieve goals such as improving the community's economy and maintaining a sustainable natural environment. The community's interest in contributing to the development of this tourist village is closely related to the social capital owned by the residents of Sombomerten Village in their efforts to preserve the environment through ecotourism management.

#### **3.1 Management and development of Sombomerti spring ecotourism**

##### *3.1.1 Social and culture*

Social culture is something that needs to be considered in the development of ecotourism in Sendang Sombomerti because this element plays an important role in realizing sustainable environment-based tourism management. The role of socio-culture in this case can be seen first in its social aspects, such as interactions between local communities with managers and communities with visitors (tourists). The interaction is also supported by the values of cooperation that are still held firmly by the local community. This further strengthens social interaction within the community. As explained by Susilawati [16] and Rusdi [17], ecotourism functions as a supporting element of social empowerment, which is essential because the existence of community-based tourism can have a strong enough social dynamic influence on community groups. So that it can affect the level of community participation in every activity carried out. The point is that people feel involved in ecotourism management activities.

In the cultural context, it can be seen in the management of this ecotourism, seen from the way the community and managers maintain the values of customs that have been believed for generations. People apply the "memory-haying bacon" philosophy to protect, beautify, and save the earth. This idea is a Javanese philosophy of life passed down for centuries. It emphasizes that by maintaining the balance of nature without causing damage, nature will offer peace and tranquillity to those who inhabit it. When one can maintain the balance of nature, the atmosphere will become more harmonious, calm, and peaceful [18,19]. The next cultural value that is still applied is a traditional ceremony called "Merti Desa". This ceremony aims to show the community's gratitude for the goodness that nature has given them. This ceremony is also an annual agenda that is routinely carried out by the Sendang Sombomerti community. Finally, Sendang Sombomerti's future tourism development planning is to hold a Javanese cultural arts performance as an attraction and also a form of application of cultural values. While developing and working towards goals, individuals are consistently influenced by values and norms that serve as a framework for their behavior, actions, and interactions with others [20]. Most ecotourism management in Indonesia is more focused on the economic value generated without being balanced with socio-cultural elements, even though ecotourism is a concept that pays attention to many aspects and fields in its application and development [16].

### *3.1.2 Partnership*

In ecotourism management, the thing that needs to be considered in its implementation is a good partnership or cooperation with other parties because tourism actors will need help to run it. Various stakeholders must work together in this scenario to develop environmentally sustainable tourism [21]. Partnership is more than just cooperation; it is a strategic approach to achieving success in using modern management practices to achieve common goals, such as the advancement of ecotourism. Partnerships play an essential role in the development of ecotourism in Sendang Sombomerti. The alliance strives to build positive interactions with all components. These relationships involve the involvement and participation of local community organizations. To effectively manage partnerships, it is essential to coordinate both vertically and horizontally. To ensure effective communication [22]. Based on the results of data analysis in the field, the partnerships that the Sendang Sombomerti ecotourism management group has established include partnerships with the government where forms of cooperation are carried out, such as providing counselling, grant assistance and road infrastructure development. Then, partnerships with the community, such as cooperation with cultural arts actors and traders, are community members who live around the Sombomerti spring tourism site. Finally, cooperation with other parties is carried out with a freshwater fish farming group called Mina 21. The role of Mina 21 is to provide fish in Sendang Sombomerti so that when tourists visit this location, they can see fish of various colours, types and sizes as a means of education. Then, the tourists can also provide food that the manager has provided at a price of 2,000 per pack. The importance of partnerships in ecotourism Development Wahyuni states that the existence of partnerships can provide many benefits for the community, such as empowerment, economy and environmental sustainability around tourist attractions [21].

### *3.1.3 Sustainable economy*

Tourism is an important economic factor that can improve communal well-being. It is anticipated that ecotourism in Sendang Sombo Merti will have a positive economic impact on the community. Field analysis confirms that Sendang Sombomerti tourism has positively impacted the local community's economy. The community has the opportunity to open kiosks

near the tourist attraction. The money generated from these tourism activities also supports the managers' economy. The results of these tourism operations will be submitted periodically to the management team. These trips have been proven to reduce unemployment by providing employment opportunities for local people. Ecotourism balances environmental and economic sustainability according to its purpose [23].

### **3.2 Environmental preservation and ecotourism of Sendang Sombomerti**

Environmental preservation here focuses more on efforts to support efforts to preserve the surrounding natural environment and preserve local culture through tourism. Wherein the local natural ecosystem can be preserved through tourism activity. Sustainable tourism is another goal of environmental protection. Sustainability aims to satisfy present needs without compromising the capacity of future generations to meet their own [24]. Sustainability can also be interpreted as resilience, balance, and interconnectedness [25]. The Sendang Sombomerti tourism community group demonstrates its commitment to protecting nature by utilizing the natural spring as a tourist attraction, providing a new source of income for the local community. They keep the water clean and protect the natural habitat by not cutting down trees and hunting animals. New varieties of plants are also introduced and cultivated around the attraction. In addition, the administration has placed bins at specific locations and issued a request to dispose of garbage properly. The bins are categorized into organic, inorganic, and recyclable. This reflects the community's awareness of responsibly protecting the natural environment through ecotourism management. Environmental management that does not pay attention to sustainability can cause ecological damage and socio-economic losses for residents [26,27]. Poor ecotourism management will have a negative impact on the environment, such as ecosystem damage, loss of biodiversity, and pollution. With the presence of ecotourism in Sendang Sombomerti, it can overcome these challenges. The concept of ecotourism in Sendang Sombomerti emerged as a solution that combines environmental conservation with sustainable tourism.

## **4 Conclusion**

The findings showed that the local community's management of Sendang Sombomerti ecotourism in preserving the environment can be categorized as good because it is based on the principles of ecotourism development. Ecotourism elements such as socio-culture, partnerships and sustainable economy have been running well and have proven to have a positive impact on the preservation of the natural environment and economic improvement of the local community. Realizing good environmental sustainability will be easy to achieve and maintain so that the economic sustainability of the community will also be easier to realize. The partnership that was established proved to show that the typology was well established. Sombomerti spring ecotourism can be typologized into two types, namely, the government and the community. The success in partnering and establishing this extensive network is certainly inseparable from the role of the super leadership ability of the head of the management group.

## **References**

1. Z. Hallaj, M. Bijani, E. Abbasi, N. Valizadeh, and M. Mohammadi, *Front Public Heal.* (2022)
2. H. Parlindungan, H. H., Masatip, A., & Manurung, *Eur. J. Sci. Innov. Technol.* **1**, 30 (2021)

3. B. Saputra, H. Fajri, A. D. Akma, N. Wahyuni, and H. S. Halawa, in *IOP Conf. Ser. Earth Environ. Sci.* (2021)
4. M. Riadi, (2019)
5. F. Hafezi, M. Bijani, S. Gholamrezai, M. Savari, and S. Panzer-Krause, *Sci. Total Environ.* **891**, (2023)
6. P. A. Quezada-Sarmiento, J. del C. Macas-Romero, C. Roman, and J. C. Martin, *Heliyon* **4**, (2018)
7. S. Khanra, A. Dhir, P. Kaur, and M. Mäntymäki, *Tour. Manag. Perspect.* **37**, (2021)
8. D. Diamantis, *Curr. Issues Tour.* **2**, (2010)
9. K. Stone, M. Bhat, R. Bhatta, and A. Mathews, *Ocean Coast. Manag.* **51**, 476 (2008)
10. M. Das and B. Chatterjee, *TMP* **14**, 3 (2015)
11. A. Mubarak, B. Saputra, A. Frinaldi, and A. Triono<sup>1</sup>, in *OP Conf. Ser. Earth Environ. Sci.* (IOP Publishing, 2022)
12. N. U. Sekhar, *J. Environ. Manage.* **69**, 339 (2003)
13. A. Banerjee, in *Econ. Polit. Wkly.* (2010), pp. 27–29
14. J. T. Haryanto, *J. Kawistara* **4**, (2014)
15. S. Heher, *Ecotourism Investment and Development Models*, School of Hotel Administration Cornell University, 2003
16. Susilawati, *J. Geogr. Gea* **8**, (2016)
17. Rusdi, B. Saputra, Wirdanengsih, and E. Hardi, *Kurd. Stud.* **12**, 3502 (2024)
18. S. Endraswara, *Memayu Hayuning Bawana: Laku Menuju Keselamatan Dan Kebahagiaan Hidup Orang Jawa* (Narasi, Yogyakarta, 2013)
19. B. Saputra, A. L. Pegi, and Suropto, in *5th Int. Conf. Environ. Sustain. Issues Community Dev.* (IOP Conference Series: Earth and Environmental Science, Semarang, 2023), pp. 1–8
20. Purwoningsih and N. Yulastuti, *Tek. PWK (Perencanaan Wil. Kota)* **3**, 553 (2014)
21. M. A. Wahyuni, *Media Komun. Geogr.* **18**, (2017)
22. S. Maulidah and S. Setiajid, *Unnes Polit. Sci. J.* **5**, 48 (2021)
23. C. Fandeli, *Perencanaan Kepariwisata Alam* (Fakultas Kehutanan Universitas Gadjah Mada, Yogyakarta, 2002)
24. J. Supriatna, *Pengelolaan Lingkungan Berkelanjutan* (Yayasan Pustaka Obor Indonesia, Jakarta, 2020)
25. R. Effendi, H. Salsabila, and A. Malik, *Modul* **18**, 75 (2018)
26. L. D. Nanda, F. Tan, and M. Noer, *J. Kebijakan. Sos. Ekon. Kelaut. Dan Perikan.* **8**, 105 (2018)
27. A. Frinaldi, B. Saputra, A. Mubarak, Jumiati, I. Renaldi, and H. Humaida, in *IOP Conf. Ser. Earth Environ. Sci.* (IOP Publishing, 2022)