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Research Article

Bottlenecks Analysis Of Geotourism Policy Integration For Sustainable Tourism In North Sulawesi Province

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ABSTRACT

This article analyzes the integration Bottlenecks in Geotourism policy and their impact on achieving sustainable tourism. Geotourism, which emphasizes the preservation of geological heritage while promoting tourism, faces various challenges that hinder effective policy implementation. The study identifies key Bottlenecks, including inadequate stakeholder collaboration, insufficient funding, and lack of awareness among local communities. Utilizing a mixed-methods approach, research locations in north sulawesi province, represented by north minahasa district and east bolaang mongondow district. The research examines case studies from several Geotourism destinations, highlighting successful strategies and common pitfalls. The findings suggest that enhancing stakeholder engagement, increasing investment in infrastructure, and fostering community education are critical to overcoming these barriers. The article concludes with policy recommendations aimed at integrating Geotourism into broader sustainable tourism frameworks, ensuring environmental conservation while promoting economic sustainability development.

Keyword: Geotourism, Sustainable Tourism, Policy Tourism

Introduction

Tourism is a mandate of Law Number 10 of 2009 Article 11 concerning tourism which states that the government together with tourism-related institutions organize tourism research and development to support tourism development. However, both the Provincial Regional Tourism Development Master Plan has not been determined. Then of the 15 districts/cities in North Sulawesi Province, only 2 regions have completed their academic studies and are at the policy discussion stage, namely North Minahasa Regency and East Bolaang Mongondow Regency. Therefore, it is important to discuss policies related to sustainable development.

The implementation of the National Policy Law Number 10 of 2009 is the main legal basis for tourism development in Indonesia. Article 11 specifically discusses the master plan for tourism development. Research on geotourism in this context can help evaluate the extent to which national policies have accommodated and supported the development of geotourism as part of a sustainable tourism strategy.

Furthermore, Indonesia's Geotourism Potential is because Indonesia has extraordinary geological wealth, including active volcanoes, karst formations, and various other unique geological features. Research can help identify untapped geotourism potential and how policies can support its sustainable development. Alignment with Sustainable Development for Geotourism, if managed properly, can be a tool for sustainable development. Research can explore how national tourism policies can better integrate the principles of geotourism and sustainable development.

Sustainable tourism has been a major focus in the development of the global tourism industry over the past few decades. In this context, *Geotourism* emerges as a promising subfield, offering significant potential to combine the conservation of geological heritage with sustainable economic development (Dowling and Newsome, 2010). *Geotourism*, defined as a form of tourism that specifically focuses on geology and landscape as the basis for providing visitors with a tourism experience, education and appreciation (Hose, 2012), has gained wider recognition as a potential tool to achieve sustainable tourism goals.

However, despite its great potential, the integration of *Geotourism* policies into the broader sustainable tourism framework still faces various challenges and *bottlenecks*. Farsani *et al.* (2012) identified that one of the main obstacles is the lack of a thorough understanding of *Geotourism* among policymakers and managers of tourist destinations. This often results in policies that are inadequate or not aligned with the principles of *Geotourism* and sustainable tourism.

In addition, Newsome *et al*. (2012) highlights the gap between geotourism policy and its implementation in the field. They found that although many countries have adopted policies that support *Geotourism*, their implementation is often hampered by a lack of coordination between institutions, limited resources, and conflicts of interest between various stakeholders.

Another aspect of concern is the imbalance between geological conservation goals and economic development. Henriques and Brilha (2017) observed that there is often a trade-off between the protection of geological sites and their use for tourism purposes. This raises questions about how *Geotourism* policies can be effectively designed and integrated to balance these two aspects.

Furthermore, Olafsdottir and Dowling (2014) argue that many *Geotourism* policies fail to consider the socio-cultural dimension of local communities. They argue that *a top-down* approach in policy development often ignores local knowledge and the needs of local communities, which in turn can threaten the long-term sustainability of *Geotourism initiatives*.

Technological developments and changes in tourist preferences also add complexity to the integration of geotourism policies. Rahim *et al*. (2019) highlights the importance of policy adaptation to digital trends and more interactive tourism experiences, but many existing *Geotourism* policies have not fully accommodated this aspect. Given the various *bottlenecks*, it became clear that an in-depth analysis of the barriers to the integration of *Geotourism* policies in the context of sustainable tourism was needed. This study aims to identify, analyze, and understand the main *bottlenecks* in Geotourism *policy integration*, as well as explore potential strategies to overcome them. By doing this, this research is expected to contribute to the development of a more effective and holistic approach to integrating *Geotourism* into the broader sustainable tourism framework.

Although *Geotourism* has been recognized as an important approach in achieving sustainable tourism, there is still a gap in understanding the barriers to the integration of *Geotourism* policies into the broader sustainable tourism framework. Previous research has focused on the potential of *Geotourism* (Dowling, 2011) and its benefits for sustainable development (Farsani *et al*., 2012), but there has been no in-depth analysis of the specific challenges in integrating *Geotourism* policies into overall sustainable tourism strategies.

In addition, although several studies have addressed *Geotourism policies* at the local or regional level (Newsome *et al*., 2012), there is still a lack of research that analyzes *integration bottlenecks* at the national and international levels. This gap is important to address given the cross-border nature of many *Geotourism* sites and the need for an integrated approach to managing geological resources for sustainable tourism.

Furthermore, the formulation of the problem in this study is: (1) What are the *bottlenecks* of Geotourism policy integration in achieving sustainable tourism goals? (2) How does collaboration between stakeholders affect the effectiveness of *Geotourism policies*? (3) What is the impact of lack of public awareness on *Geotourism policy*? (4) What strategies can be implemented to address *bottlenecks* in *Geotourism policy*? (5) How can *Geotourism* policies be integrated into the sustainable tourism framework more effectively?

Furthermore, while research has explored the role of stakeholders in the development of *Geotourism* (Henriques *et al*., 2012), there is still a need to understand the dynamics of power and conflicts of interest that can hinder effective policy integration. This study aims to fill the gap by analyzing the integration *bottleneck* for *Geotourism* policy in achieving sustainable tourism, with a special focus on multi-scale and multi-stakeholder challenges.

Literature Review

The concept of geotourism has undergone a significant evolution since it was first introduced, with a variety of different perspectives and emphasis emerging in the latest literature. The contemporary understanding of geotourism reflects a more holistic and multidisciplinary approach. Dowling (2013) highlights that geotourism is not only about geology, but also about connecting geological phenomena with other aspects of an area. He defines geotourism as "a form of area natural tourism that specifically focuses on geology and landscape. It promotes tourism to geosites and the preservation of geodiversity as well as the understanding of earth sciences through appreciation and learning. This is achieved through independent visits to geological features, the use of geo-trails and viewpoints, guided tours, geo-activities and geosite visitor centers."

Bringing a broader perspective, the Arouca Declaration (2011) adopted by UNESCO Global Geoparks, defines geotourism as "tourism that sustains and enhances the identity of a region, taking into account the geology, environment, culture, aesthetics, heritage and well-being of its people." This definition emphasizes the importance of integration between geological aspects and socio-cultural and economic elements.

The concept of sustainable tourism has undergone a significant evolution in recent years, reflecting a more complex and holistic understanding of sustainability in the context of tourism. Recent literature shows a shift from definitions that focus primarily on environmental aspects to a more integrative approach, encompassing social, economic, and cultural dimensions. Saarinen (2018) proposes a more critical approach to the concept of sustainable tourism. He argues that sustainable tourism should be understood as "a process of continuous and adaptive change, not as a fixed final state." This definition emphasizes the dynamic nature of sustainability and the need to continuously evaluate and adjust tourism practices.

In the context of the Sustainable Development Goals (SDGs), Hall (2019) highlights the importance of connecting sustainable tourism with the broader global development agenda. He defines sustainable tourism as "tourism that actively contributes to the achievement of the SDGs through practices that maximize social, economic, and environmental benefits while minimizing negative impacts."

Integrating the aspect of resilience, Lew et al. (2016) proposed the concept of "sustainable resilient tourism". They define it as "tourism that not only meets sustainability criteria but also has the capacity to adapt and thrive in the face of external

shocks and changes." This definition reflects the recognition of the importance of flexibility and adaptability in facing global challenges such as climate change and pandemics.

Research Methods

This study uses a mixed methods approach to analyze the *bottleneck* of Geotourism policy integration in achieving sustainable tourism. This method was chosen because it allows for a more comprehensive understanding of complex problems, combining the power of quantitative data and qualitative insights (Creswell and Plano Clark, 2017). This study adopts a multiple case study design with a sequential explanatory approach of mixed methods (Yin, 2018). This design allows researchers to investigate phenomena in real contexts in multiple *Geotourism* destinations, identify cross-case patterns, and develop a deeper understanding of successful strategies as well as common bottlenecks. Data Collection of Quantitative Methods and Qualitative Methods: Using this mixed-methods approach, the study aims to provide an in-depth understanding and nuance of the *Bottleneck of* Geotourism *policy integration*, as well as identify successful strategies and common obstacles in the context of sustainable tourism.

Results and Discussion

1. *Bottleneck of* Geotourism policy integration in achieving sustainable tourism goals

Bottlenecks that hinder the integration of *Geotourism* policies in achieving sustainable tourism goals in North Minahasa and East Bolaang Mongondow can be identified as follows:

Table 1 Segmentation of Tourism Products and Markets in North Minahasa

Variable	Current product segment			Potential Product segment		
	Local	National	International	Local	National	International
Natural Resources	√	√	√			√
Culture and Heritage	√		√	√		
Tourism Infrastructure	√			√	√	
Range of Recreational Activities	√			√	√	√
Entertainment	√			√	√	√
Shopping		√		√	√	
General Infrastructure	√	√		√	√	
Quality of Service	√			√		
Object Accessibility	√		√	√	√	
Hospitality		√		√	√	
Business Relations		√		√	√	√
Destinations		√		√	√	√
Competitive Tourism Business Climate	√			√	√	
Macro conditions	√			√	√	
Quality of service Security	√	√	√	√	√	
Cost Competition	√	√		√	√	
Object Management Organization	√			√	√	√
Marketing Management	√			√	√	
Long-Term Planning	√	√	√	√	√	√
Training	√	√		√	√	
Sustainable Tourism Development	√			√	√	√
Total	**17**	10	5	**20**	**18**	**8**

Table 2 Segmentation of Tourism Products and Markets in Bolaang Mongondow Regency

Variable	Current product segment			Potential Product segment		
	Local	National	International	Local	National	International
Natural Resources	√	√	√			√
Culture and Heritage	√	√		√		
Tourism Infrastructure	√			√		
Range of Recreational Activities	√	√	√	√	√	√
Entertainment		√		√	√	√
Shopping	√					
General Infrastructure	√	√				√
Quality of Service	√	√	√	√		
Object Accessibility	√	√		√	√	√
Hospitality	√	√			√	
Business Relations		√	√			√
Destinations	√	√	√	√	√	√

Variable	Current product segment			Potential Product segment		
	Local	National	International	Local	National	International
Competitive Tourism Business Climate		√			v	
Macro conditions		√	√	√		
Quality of service Security	√	√		√	√	
Cost Competition	√	√			√	
Object Management Organization		√	√	√	√	
Marketing Management	√	√		√		√
Long-Term Planning	√	√		√	√	
Training	√			√	√	√
Sustainable Tourism Development	√				√	√
Total	**16**	17	7	13	**12**	**10**

Based on Table 1 and Table 2, the integration of product segmentation identification and tourism market, between the reality and potential of tourism products based on local, national and international mapping, can be interpreted as follows:

1. Lack of Adequate Infrastructure

• **North Minahasa Regency:** Transportation infrastructure and tourism support facilities are often inadequate, reducing accessibility to geotourism locations.

• **East Bolaang Mongondow Regency:** Limited public facilities, such as toilets, rest areas, and information centers, can reduce the tourist experience.

2. Minimal Stakeholder Involvement

• **North Minahasa Regency:** There is a lack of coordination between local governments, local communities, and the private sector in planning and implementing *Geotourism policies*.

• **East Bolaang Mongondow Regency:** Local communities are often not involved in decision-making, so the policies taken do not reflect their needs and expectations.

3. Low Public Awareness and Education

• **North Minahasa Regency:** The level of public awareness about the benefits *of Geotourism* and the importance of environmental conservation is still low, which hinders their participation.

• **East Bolaang Mongondow Regency:** The lack of educational programs about *Geotourism* can cause people not to understand the existing tourism potential.

4. Limited Funding and Resources

• **North Minahasa Regency:** Financial resources for the development of *Geotourism* programs are often insufficient, limiting the ability to implement the necessary projects.

• **East Bolaang Mongondow Regency:** Investment from the private sector and the government for *Geotourism development* is still very limited.

5. Unintegrated Policies

• **North Minahasa Regency:** Existing tourism policies are often inconsistent with environmental policies, leading to conflicts in goals and implementation.

• **East Bolaang Mongondow Regency:** There is no clear strategy to integrate *Geotourism* into the overall regional development plan.

6. Potential Conflicts of Interest

• **North Minahasa Regency:** There is a potential conflict between short-term economic interests and environmental conservation, which can hinder sustainable *Geotourism* policies.

• **East Bolaang Mongondow Regency:** A lack of understanding of the long-term benefits of natural resource conservation can spark conflicts between parties with different interests.

Addressing *this bottleneck* requires an integrated approach that involves all stakeholders, infrastructure improvements, and education and community engagement programs. With these measures, *Geotourism* policies can be implemented effectively and contribute to sustainable tourism in both areas.

2. Collaboration between stakeholders influences the effectiveness of *Geotourism policies*

Collaboration between stakeholders plays a crucial role in determining the effectiveness of *Geotourism policies*. *Geotourism*, as a form of tourism that focuses on geology and landscape, involves various stakeholders with diverse interests and perspectives (Dowling and Newsome, 2010). The effectiveness of *Geotourism* policies is highly dependent on how these stakeholders collaborate and align their goals.

First, collaboration allows for the exchange of knowledge and expertise. *Geotourism* requires the integration of geological science, tourism management, and environmental conservation. Farsani *et al.* (2012) shows that when geologists, tourism managers, and conservationists collaborate, they can develop more comprehensive and effective policies in maintaining a balance between the use and preservation of geological sites.
Second, collaboration between stakeholders helps in overcoming conflicts of interest. For example, there is often a tension between the need for economic development and environmental conservation. Puhakka *et al.* (2014) demonstrated that through dialogue and negotiation between stakeholders, *Geotourism* policies can be designed to accommodate various interests in a more balanced manner, increasing the acceptance and implementation of such policies.
Third, collaboration encourages innovation in the development of *Geotourism* products. Quando stakeholders from various backgrounds collaborate, they can generate new ideas for geological interpretation, visitor experience, and creative marketing strategies. This, as Newsome *et al.* point out. (2012), can increase the attractiveness and sustainability of *Geotourism destinations*.
Fourth, collaboration between stakeholders facilitates more effective policy implementation. Henriques and Brilha (2017) assert that when local stakeholders, including local communities, are involved in the decision-making process, they tend to be more supportive and participate in the implementation of *Geotourism* policies. This results in more sustainable and long-term results. However, it is important to note that effective collaboration is not without its challenges. Asyraf-Aly and Gounko (2012) caution that differences in power, resources, and agendas among stakeholders can hinder meaningful collaboration. Therefore, strong governance mechanisms and skilled facilitation are needed to ensure that collaboration between stakeholders improves, rather than reduces, the effectiveness of *Geotourism policies*.
Collaboration between stakeholders greatly affects the effectiveness of *Geotourism* policies. Through knowledge exchange, conflict resolution, innovation, and broader participation, collaboration can result in more comprehensive, widely accepted, and effective policies in their implementation. However, the success of this collaboration depends on careful management of the dynamics between stakeholders and a shared commitment to achieve sustainable *Geotourism* goals.

3. The impact of lack of public awareness on *Geotourism policy*?

An analysis of how the level of understanding and participation of local communities can affect the success of *Geotourism* policies. The lack of public awareness of *Geotourism* policies in North Minahasa Regency and East Bolaang Mongondow Regency has a significant impact that can affect the success of Geotourism development in the two areas. From a sociological perspective, this impact can be seen through several aspects, including social participation, cultural preservation, and environmental sustainability. As well as Low Social Participation; Preservation of Endangered Cultures; The lack of public awareness also results in a lack of appreciation for the existing cultural and geological heritage. In East Bolaang Mongondow Regency, without a good understanding of the cultural and natural values that are the attraction of geotourism, people may be more inclined to exploit natural resources carelessly. This is not only detrimental to the environment, but also threatens the sustainability of local traditions and values that should be preserved. Negative Environmental Impact, Economic Empowerment.
From a sociological point of view, the lack of public awareness of *Geotourism* policies in North Minahasa Regency and East Bolaang Mongondow Regency has a wide and complex impact. To address this issue, it is important for the Authority and other stakeholders to increase public education and engagement. By building better awareness, it is hoped that the community can play an active role in the development of *Geotourism*, so that the benefits can be felt equally and sustainably.

4. What strategies can be implemented to address *bottlenecks* in *Geotourism policy*?

Recommendations for solutions and strategies that can be implemented to improve policy integration and support sustainable tourism, namely:
a. Improving Coordination Between Institutions, One of *the main* bottlenecks in *Geotourism* policy is the lack of coordination between government agencies and other stakeholders. Farsani *et al.* (2014) suggested the establishment of a special coordinating body involving representatives from various related sectors, such as tourism, environment, and local government. This body can facilitate better communication and more integrated decision-making.
b. Development of a Comprehensive Legal Framework, the absence of a clear and comprehensive legal framework is often an obstacle in the implementation of *Geotourism policies*. Dowling (2013) emphasized the importance of developing special legislation for *Geotourism* that covers aspects of conservation, economic development, and visitor management. This can provide a strong foundation for consistent policy implementation.
c. Capacity Building and Knowledge, Lack of understanding of *Geotourism* among policymakers and local communities can hinder the effectiveness of policies. Newsome and Dowling (2018) recommend intensive training and education programs to increase the capacity of human resources in managing *Geotourism* sites. This includes training on geological interpretation, visitor management, and sustainable tourism practices.
d. The application of a Community-Based Approach, *bottlenecks* often arise when *Geotourism* policies do not consider the needs and aspirations of local communities. To overcome this, Ólafsdóttir and Dowling (2014) suggest the application of a community-based approach in the development of *Geotourism*. It involves the active participation of local communities in the planning, decision-making, and management of *Geotourism sites*.
e. Innovation in Funding and Investment, Limited financial resources are often obstacles in the implementation of *Geotourism* policies. To address this, Mokhtari and Alizadeh (2020) propose innovative strategies such as public-private partnerships, crowdfunding, and incentive schemes for investment in *Geotourism* infrastructure. This can help address funding gaps and encourage sustainable development.

f. Utilization of Technology and Digitalization, *Bottlenecks* in information dissemination and visitor management can be overcome using technology. Rahim *et al*. (2019) shows how technologies such as mobile applications, virtual reality, and geographic information systems can improve the visitor experience and aid in *more effective* management of Geotourism sites.
g. Development of Monitoring and Evaluation Systems, Lack of data and systematic evaluation mechanisms often hinder the improvement of *Geotourism policies*. Henriques *et al.* (2012) emphasized the importance of developing a comprehensive monitoring and evaluation system. This can help in identifying policy successes and failures, as well as provide a basis for continuous improvement.
By implementing these strategies holistically and adaptively, *bottlenecks* in *Geotourism* policies can be addressed more effectively. However, it is important to remember that each *Geotourism* destination has unique characteristics, so the strategies implemented must be tailored to specific local and regional contexts.

5. Geotourism *policies* can be integrated into the sustainable tourism framework more effectively

Assessment of approaches and policies that can enhance synergies between *Geotourism* and sustainable tourism goals. The integration of *Geotourism* policies into the broader framework of sustainable tourism is an important step to ensure effective management of geological resources while maximizing socio-economic benefits and minimizing negative impacts on the environment. Several approaches can be applied to achieve more effective integration:

1. *Mainstreaming Geotourism* in National Tourism Policy.
2. Development of Special *Sustainability Indicators for Geotourism*
3. An Integrated Approach in Spatial Planning
4. Strengthening Linkages with Nature and Cultural Conservation
5. Capacity Building and Education
6. Cross-Sector Collaboration
7. Integrated Tourism Product Development
8. Application of Technology and Innovation

By implementing these approaches, *Geotourism* policies can be more effectively integrated into the broader framework of sustainable tourism. This will not only enhance the protection and appreciation of geological heritage, but also contribute to the achievement of the broader sustainable development goals.

Conclusion

The main bottlenecks in geotourism policy integration include a lack of infrastructure, lack of stakeholder involvement, and low public awareness. Identification of these problems is important to formulate effective remedial measures. Collaboration between the government, local communities, and the private sector is essential to create comprehensive and responsive policies. The involvement of all parties in decision-making will increase the legitimacy and effectiveness of geotourism policies. Low levels of public awareness of the benefits and goals of geotourism hinder their active participation. Planned educational programs and training for local communities need to be held to increase their understanding and engagement. Limited financial resources are a challenge in the implementation of geotourism policies. Therefore, it is important to explore various funding models, including public-private partnerships, to ensure the sustainability of *Geotourism development programs*. Geotourism *policies* must be integrated with the overall regional development plan. A holistic and planned approach will ensure that geotourism not only focuses on economic aspects, but also considers the preservation of the local environment and culture. By overcoming existing *bottlenecks* and implementing these conclusions, it is hoped that the integration of geotourism policies can support sustainable tourism goals in the area.
Advice for the government to improve infrastructure, education and awareness and inter-agency coordination: improving coordination between various government agencies to create integrated and consistent policies in the development of *geotourism*. Advice for the Private Sector to provide Investment in Training, Establishing Partnerships with Governments: and conducting Promotion and Marketing: The private sector must be active in promoting geotourism destinations through creative and data-driven marketing campaigns, thus attracting more tourists.
Suggestions for further research to do in-depth case studies. Further research needs to be conducted with an in-depth case study approach in various geotourism locations to understand the factors that influence the success or failure of the policy.

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