

## COMMUNITY-BASED DEVELOPMENT OF THE BELITUNG GEOPARK IN THE MANAGEMENT OF GEOTOURISM AREAS IN EAST BELITUNG REGENCY, INDONESIA

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Received : 25 December 2025

Accepted : 28 January 2026

Revised : 01 January 2026

Published : 17 February 2026

### Abstract

This study examines the development of Geopark Belitung as a geotourism area based on community participation in East Belitung Regency, Indonesia. The research aims to analyze the physical conditions of geosites, the forms and levels of community participation, and the management strategies applied in developing community-based geotourism. A qualitative descriptive approach was employed, using purposive sampling to select key informants from local communities, geopark managers, and government institutions. Data were collected through in-depth interviews, field observations, and document analysis, and analyzed using an interactive model of data reduction, data display, and conclusion drawing. The findings reveal that Geopark Belitung possesses significant geological, ecological, and cultural potential; however, the level of development and supporting facilities remains uneven across geosites. Community participation is largely limited to operational and economic activities, while involvement in planning, decision-making, and evaluation processes is still minimal. The absence of systematic capacity-building programs, institutional strengthening, and sustained external support constrains the effectiveness of community-based geotourism development. This study highlights the need for more inclusive and collaborative governance models that integrate community empowerment, conservation awareness, and sustainable destination management to enhance the long-term competitiveness and sustainability of Geopark Belitung.

**Keywords:** *Geopark development; Community participation; Geotourism; Sustainable tourism; Destination management.*

### INTRODUCTION

The development of geopark areas represents one of the key strategies in sustainable tourism development, as it integrates natural resource conservation, local community empowerment, and regional economic strengthening. Geoparks are not merely positioned as areas with geological significance, but also as managerial instruments for destination governance based on multi-stakeholder collaboration (UNESCO Global Geoparks: Guidelines and Criteria, 2021). In the global context, the geopark concept has been institutionalized by UNESCO through the UNESCO Global Geoparks (UGG) framework, which promotes a management model emphasizing balance among environmental protection, education, and community-based economic development (Zukhri et al., 2026). Geopark Belitung, located in the Province of Bangka Belitung Islands, has become one of the strategic areas prioritized in national geopark development and has received a positive recommendation for inclusion in the UNESCO Global Geoparks network (Zukhri et al., 2023). UNESCO recognizes the geological diversity of Belitung Island and its surrounding areas, which encompasses unique landscapes, rock formations, mineral resources, geological and tectonic processes, as well as evidence of Earth's evolutionary history with high scientific value. The uniqueness of Geopark Belitung lies not only in its geological attributes but also in the strong interconnection between geological, biological, and cultural elements, forming a distinctive and competitive geotourism landscape (Christianingrum et al., 2024). Within the national and regional policy framework, the development of ecotourism and geotourism is strongly supported by regulatory instruments. The issuance of the Minister of Home Affairs Regulation No. 33 of 2009 on Guidelines for Ecotourism Development in Regions has encouraged local governments to optimize natural resources, environmental assets, and unique natural and cultural characteristics as leading sectors of regional development. This regulation emphasizes that ecotourism should not solely focus on the exploitation of natural

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attractions, but should also uphold sustainability principles, conservation efforts, and the active involvement of local communities as key actors. The commitment of the East Belitung Regency Government to tourism development is reflected in the Decree of the Regent of East Belitung No. 188.45.249 of 2020 dated March 23, 2020, concerning the designation of Priority and Super Priority Tourism Destinations(Pemerintah Kabupaten Belitung Timur, 2020). This policy serves as a strategic foundation for planning and managing regional tourism destinations, including areas that form part of Geopark Belitung. The list of priority and super priority tourism destinations in East Belitung Regency is presented in Table 1.

**Table 1. Priority and Super Priority Tourism Destinations in East Belitung Regency**

No	Tourism Object	Location
1	Tebat Rasau Geotourism	Lintang Village, Simpang Renggang District
2	Punai Beach	Tanjung Kelumpang Village, Simpang Pesak District
3	Burung Mandi Tourism Village Area	Burung Mandi Village, Damar District
4	Mount Lumut Geotourism	Limbongan Village, Gantung District
5	Momporang Island Cluster	Buku Limau Village, Manggar District
6	Laskar Pelangi Cultural Area	Lenggang Village, Gantung District
7	Open Pit Nam Salu and Stoven Geotourism	Senyubuk Village, Kelapa Kampit District
8	Balok Kingdom and Keretak Nibong Heritage Tourism	Balok Village, Dendang District
9	Nyiur Melambai Beach and Samak Hill	Lalang Village, Manggar District
10	Serdang Beach	Baru Village, Manggar District

Source: East Belitung Regent Decree No. 188.45.249 of 2020

The table indicates that several priority and super priority tourism destinations in East Belitung Regency are geosites located within the Geopark Belitung area. This condition implies that the success of Geopark Belitung development is highly dependent on the effectiveness of integrated destination management. However, the administrative designation of priority destinations does not automatically guarantee successful tourism development if it is not supported by sound governance, appropriate management strategies, and active participation of local communities(Kusumah et al., 2023). From a tourism management perspective, destination development should not be limited to physical infrastructure provision, but must also encompass human resource management, institutional strengthening, and community participation as key stakeholders(Zukhri et al., 2021). Tourism involves complex interactions among tourists, destination managers, government authorities, and local communities. Therefore, the sustainability of geotourism development is largely determined by the extent to which local communities are actively involved in planning, management, and benefit-sharing processes.

The development of nature-based tourism and ecotourism fundamentally pursues two main objectives: improving the economic welfare of local communities and conserving the surrounding natural environment. Integrating these objectives is particularly challenging in areas that have historically depended on extractive economic activities. In the Geopark Belitung area, local communities are predominantly engaged as river fishermen, miners, and farmers. Limited formal education and alternative livelihood opportunities have led some community members to continue illegal mining activities, which pose risks to environmental sustainability and threaten the long-term viability of the geopark. Numerous studies emphasize that local community participation is a critical success factor in sustainable tourism development. Participation should not be symbolic, but should involve genuine engagement in decision-making processes, destination management, and equitable distribution of economic benefits. Without community involvement, tourism development may trigger social conflicts, policy resistance, and even environmental degradation due to a lack of ownership. Conversely, active community participation can enhance governance legitimacy, strengthen social monitoring, and promote community-based conservation. Although Geopark Belitung has been designated as a strategic area and supported by strong policy frameworks, the main challenge lies in formulating and implementing an effective community-based geopark management model. Empirical studies specifically examining community participation in Geopark Belitung development from a destination management perspective remain limited, particularly at the regency level. Previous research has predominantly focused on geological characteristics, tourism potential, or policy aspects, while managerial and institutional dimensions of community-based geopark governance have received less scholarly attention.

Based on these conditions, this study aims to analyze the development of Geopark Belitong based on community participation as a geotourism area in East Belitung Regency. This research is expected to contribute academically to the literature on tourism management, particularly in the context of community-based geotourism destination management, and to provide practical recommendations for local governments and stakeholders in formulating sustainable and inclusive geopark management strategies.

## **LITERATURE REVIEW**

### **Geoparks and Geotourism as a Destination Development Strategy**

Geoparks are understood as an area-based development approach integrating conservation, education, and economic development, particularly through tourism, by emphasizing the sustainable management of geoheritage. In practice, geoparks are not merely territorial labels but represent a governance model that requires multi-actor collaboration to preserve geological heritage, biodiversity, and cultural values while simultaneously generating local economic benefits. Numerous studies indicate that geoparks can enhance destination competitiveness through the development of geotourism products, geosite management, interpretation systems, and educational tourism experiences, provided that they are supported by robust institutional arrangements and professional management (Dowling & Newsome, 2017; Du & Girault, 2018). From a destination marketing perspective, geoparks also function as place branding instruments that can strengthen territorial identity and differentiation. However, their effectiveness largely depends on governance quality, narrative consistency, and meaningful community involvement to ensure that economic benefits extend beyond promotional gains (Van Geert & Parks, 2019). These insights are highly relevant to Belitung Timur, where geosite development and geotourism packaging directly interact with local socio-economic conditions and sustainability imperatives.

### **Community Participation in Area-Based Tourism Development**

Community participation is widely recognized as a critical determinant of sustainable destination development because it influences policy legitimacy, implementation quality, and long-term program continuity. Participation extends beyond symbolic involvement to include engagement in planning, decision-making, business operations, and impact monitoring. Within geopark contexts, participation becomes especially important because local communities are often the closest stakeholders to geosites, cultural heritage, and daily economic activities that may affect conservation outcomes. Empirical studies on geoparks in Indonesia reveal that community-based development can enhance social acceptance, expand local entrepreneurial opportunities, and strengthen institutional capacity. Nevertheless, these initiatives frequently encounter challenges such as limited human capital, fragmented governance structures, and unequal access to tourism benefits (Darsiharjo., 2016; Wibowo et al., 2019). Consequently, participation should be positioned as a strategic managerial instrument, rather than an auxiliary activity, designed through collaborative mechanisms, capacity-building programs, and equitable economic incentive schemes.

### **Collaborative Governance and Geopark Institutional Arrangements**

The development of geoparks requires collaborative governance involving local governments, geopark management bodies, private sector actors, communities, academics, and civil society organizations (Lee & Jayakumar, 2021). Institutional capacity is a key success factor because geoparks demand independent, professional, and financially sustainable organizations to manage conservation, education, and tourism programs. Research in the Indonesian context emphasizes that strong institutional frameworks are essential for accountable governance, including alternative financing mechanisms through innovative geoproducts and geoservices, partnerships with private and community-based enterprises, and effective geosite asset management (Lestari & Indrayati, 2022). At the operational level, best-practice studies on geopark management highlight that success is strongly influenced by: (i) clearly defined organizational structures and mandates, (ii) standardized interpretation and educational programs, (iii) inclusive local economic partnerships, and (iv) systematic monitoring of visitation impacts and conservation outcomes (Canesin et al., 2020). These findings reinforce the importance of embedding community participation within institutional design, for example through multi-stakeholder forums, community-based tourism enterprises, or cooperative governance arrangements.

### **Local Economic Impacts, Benefit Distribution, and Sustainability**

One of the principal arguments for geopark development lies in its potential to generate local economic benefits through tourism growth, micro-enterprise development, and employment creation. However, the literature

consistently emphasizes that such benefits are not automatic; they depend on community capacity, destination management quality, and benefit-sharing mechanisms. Comparative studies in Asia demonstrate that UNESCO Global Geoparks can improve local economic outcomes by increasing visitor numbers and business opportunities, but the magnitude and distribution of these impacts vary according to governance models and levels of community engagement (Lee & Jayakumar, 2021). In conservation-oriented geoparks, community involvement is also crucial for mitigating trade-offs between visitation growth and environmental vulnerability (Okazaki, 2008). Consequently, geotourism development should prioritize local capacity enhancement, identity-based product development, and visitor flow management aligned with carrying capacity. Studies on geosite management further emphasize the importance of geosite assessment and interpretation as foundations for high-quality geotourism products that preserve geoheritage values while supporting sustainable tourism development (Marescotti et al., 2022).

### **Research Gap and Relevance to Belitung Timur**

Although several studies have examined community participation and geotourism development in Indonesian geoparks, including Ciletuh and Merangin, research focusing on Belitung Timur remains limited and fragmented. Existing studies often emphasize promotional strategies or geosite potential, while the institutionalization of participation through governance mechanisms, financing models, and local economic partnerships has received comparatively less attention from a management perspective. This study addresses this gap by integrating community participation as a destination management strategy, institutional strengthening, and sustainability outcomes within a single analytical framework. By doing so, it contributes to management-oriented discussions on geopark development and provides empirical insights into how community participation can function as a critical driver of sustainable geotourism in emerging destinations such as Belitung Timur.

### **METHOD**

This study adopts a qualitative approach with a descriptive qualitative research design. The selection of this approach is intended to obtain an in-depth understanding of community participation in the development of geotourism areas within Geopark Belitung, particularly in relation to the roles, forms of involvement, and interaction dynamics among key stakeholders involved in geopark management. A qualitative design is considered appropriate as it allows the researcher to explore complex social processes, institutional arrangements, and community experiences that cannot be adequately captured through quantitative measurement alone. The qualitative approach facilitates the exploration of meanings, perceptions, and lived experiences of actors who are directly involved in geopark development. In this study, the researcher functions as the primary research instrument, actively engaging in the processes of data collection, interpretation, and analysis. The data generated are descriptive in nature, consisting of written and spoken narratives that reflect the social realities observed in the research setting.

### **Research Subjects and Informant Selection**

The selection of research informants was conducted using purposive sampling. This technique enables the deliberate selection of informants based on specific criteria that align with the objectives of the study. Informants were chosen because they possess relevant knowledge, experience, and direct involvement in the development of Geopark Belitung and its associated geotourism activities. Through this approach, the study ensures that the data collected are rich, contextual, and relevant to the research focus. The informants comprised local community members residing within the Geopark Belitung area who are actively involved in tourism-related and creative economic activities, geopark and tourism destination managers including representatives from geopark management institutions and tourism awareness groups, as well as local government officials from agencies responsible for tourism development, environmental management, and regional planning.

### **Data Collection Techniques**

Data collection was conducted through methodological triangulation to enhance the credibility and depth of the findings. Multiple data collection techniques were employed to capture diverse perspectives and validate information obtained from different sources. In-depth interviews were carried out using a semi-structured format to allow flexibility while maintaining focus on key research themes. These interviews were designed to obtain comprehensive insights into the forms and levels of community participation, the roles of local communities in geotourism management, as well as the challenges and opportunities associated with community-based development of Geopark Belitung.

Field observations were conducted directly at the research sites to gain a contextual understanding of community activities within the geopark area. Through observation, the researcher examined interactions among local communities, destination managers, and tourists, as well as identified the development and utilization of natural and cultural tourism attractions within Geopark Belitung. Documentation was used as a complementary data source to support and validate findings obtained from interviews and observations. Documentary data included policy documents and regulations related to geoparks and tourism, official reports and records, as well as photographs, maps, and other archival materials relevant to the study.

### **Data Analysis Technique**

Data analysis was conducted interactively and continuously throughout the research process by adopting the analytical model proposed by Miles and Huberman. The analysis began with data reduction, which involved selecting, simplifying, and focusing the data in accordance with the research objectives. This was followed by data display, in which the reduced data were organized and presented in the form of narrative descriptions, matrices, or tables to facilitate the identification of patterns and relationships among concepts. The final stage involved drawing and verifying conclusions through an iterative process of interpretation and reflection, ensuring that the findings were grounded in the empirical data.

### **Data Trustworthiness**

To ensure the trustworthiness and rigor of the research findings, several validation strategies were employed. Source and method triangulation were applied by comparing data obtained from different informants and data collection techniques. Member checking was conducted by sharing preliminary findings with key informants to confirm accuracy and credibility. In addition, referential adequacy was ensured by systematically comparing empirical findings with relevant academic literature and official documents related to geopark and tourism development.

## **RESULTS AND DISCUSSION**

### **Physical Conditions and Characteristics of Geosites in the Belitung Geopark Area**

The research findings indicate that the Belitung Timur Geopark area possesses a diverse range of geosites with distinct physical characteristics and geological values. Geosites such as Nam Salu Open Pit, Kerangas Forest, Tebat Rasau, Mount Lumut, Punai Beach, and Burung Mandi Beach represent geological richness, biodiversity, and cultural values that hold significant potential for development as sustainable geotourism destinations. Nam Salu Open Pit represents a former tin mining landscape with high geological significance and industrial heritage value. Kerangas Forest and Mount Lumut reflect conservation areas with endemic flora diversity and essential ecological functions as environmental buffers. Meanwhile, Tebat Rasau, Punai Beach, and Burung Mandi Beach exhibit unique aquatic and coastal ecosystem characteristics, as well as strong biogeographical and cultural values. Despite their considerable potential, the level of physical development and availability of supporting facilities across geosites remains uneven. Some areas are equipped with relatively adequate supporting infrastructure, while others still face limitations in terms of accessibility, educational facilities, and environmental management.

### **Forms of Community Participation in Geotourism Development**

Community participation in the development of the Belitung Geopark area varies across locations. In general, community involvement predominantly takes the form of tourism-supporting economic activities, such as selling goods, consigning local products, and participating in collective activities facilitated by site managers. At certain geosites, such as Burung Mandi Beach and Punai Beach, community participation is relatively more active, marked by the establishment of local organizations, engagement in tourism-related economic activities, and the creation of new employment opportunities. In contrast, at sites such as Nam Salu Open Pit, Kerangas Forest, Tebat Rasau, and Mount Lumut, community participation remains limited and insufficiently organized. In terms of conservation awareness, most community members lack adequate understanding of conservation concepts, waste management, and carrying capacity. Nevertheless, there is an emerging awareness among communities to refrain from activities that could damage tourism areas, such as illegal mining within geosite boundaries.

### **Geopark Management Strategies Based on Community Participation**

Geopark management strategies implemented by site managers in Belitung generally focus on physical destination management and the provision of economic space for local communities. Several managers have

developed supporting facilities, educational information boards, and environmental education activities, such as nature schools and conservation signage. However, systematic community empowerment strategies remain limited. Community involvement is largely confined to operational stages, while participation in planning, decision-making, and evaluation processes is minimal. Furthermore, the lack of sustained funding support and external facilitation has hindered the optimal development of community-based geotourism across most geosites.

### **Synthesis of Key Research Findings**

Based on the research results, it can be synthesized that the development of the Belitung Timur Geopark continues to face a gap between its substantial potential and the level of community participation. Community involvement generally remains at the operational level, functioning as supporting economic actors and informal custodians of the area, but has yet to evolve toward strategic participation in planning and decision-making processes. Geosites exhibiting higher levels of community participation tend to have stronger institutional support and more intensive interactions among managers, government entities, and local communities. Conversely, geosites with lower levels of community involvement are more likely to experience management constraints, limited tourism innovation, and lower levels of visitor satisfaction.

## **DISCUSSION**

### **Community Participation from a Tourism Management Perspective**

From a tourism management perspective, the findings indicate that community participation within the Belitung Geopark area remains functional in nature and has not yet fully reflected the principles of community-based tourism. Communities are primarily involved as implementers of tourism-related economic activities, while strategic planning and destination management roles are still dominated by managers and government authorities. This condition aligns with the concept of intermediate-level participation, where communities are engaged in tourism activities but lack significant control over destination development directions. Consequently, the economic benefits gained by communities are not yet balanced by improvements in capacity building, conservation awareness, and local institutional strengthening.

### **Comparison with Previous Studies**

The findings reinforce previous studies emphasizing that community participation is a critical factor in the success of sustainable tourism development. Earlier research suggests that limited community involvement often results in low sense of ownership, weak social monitoring, and increased potential for conflict in tourism destination management. Conversely, destinations that actively involve communities in decision-making and management processes tend to achieve higher levels of sustainability, both environmentally and socioeconomically. These findings suggest that the development of the Belitung Geopark should be directed toward a more inclusive and collaborative management model.

### **Managerial and Policy Implications**

From a managerial perspective, the results highlight the need to strengthen the role of local communities in the management of the Belitung Geopark through capacity building, continuous facilitation, and institutional strengthening. Geopark managers should develop participatory mechanisms that enable community involvement from the planning and implementation stages through to evaluation. From a policy standpoint, local governments are expected to provide regulatory support, funding, and training programs focused on conservation, waste management, and carrying capacity awareness. Integrating geopark development policies with community empowerment strategies is essential to realizing sustainable and competitive management of the Belitung Geopark.

## **CONCLUSION**

This study concludes that the physical condition of the Belitung Geopark area in East Belitung Regency is generally adequate to support geotourism development. The diversity of geosites reflects significant geological, ecological, and cultural value that constitutes a strong foundation for sustainable tourism development. Nevertheless, several geosites have not been optimally managed, particularly in terms of transportation accessibility, visitor safety, and the availability of supporting facilities. Improvements in infrastructure and destination management are therefore required to fully realize the geopark's potential as a leading geotourism destination. The findings also reveal that local community participation in the development of geotourism within the Belitung Geopark remains limited and uneven across sites. Community involvement is primarily manifested in operational activities, such as informal

conservation practices, basic waste management efforts, and limited economic participation. However, participation in strategic aspects especially decision-making, planning, and evaluation has not been substantially realized. This condition is largely influenced by the lack of capacity-building programs, external facilitation, and structured empowerment initiatives. Consequently, stronger governmental involvement and institutional support are essential to enhance meaningful community participation. Furthermore, the strategies employed to develop the Belitung Geopark as a community-based geotourism area differ across destinations, reflecting variations in natural characteristics, socio-cultural contexts, and management capacity. While such differentiation is necessary, the overall development approach should consistently integrate economic, social, cultural, environmental, and political dimensions. These dimensions represent the core principles of Community-Based Tourism (CBT), which are fundamental to ensuring the sustainability and inclusiveness of geopark management.

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