



Regenerative Tourism in Post-Mining Landscapes: A Case Study of Belitung Island, Indonesia

Rudy Pramono*

School of Hospitality and Tourism, Pelita Harapan University, 15811 Tangerang, Indonesia

*Correspondence: Rudy Pramono (rudy.pramono@uph.edu)

Received: 08-18-2024

Revised: 09-10-2024

Accepted: 09-22-2024

Citation: Pramono, R. (2024). Regenerative tourism in post-mining landscapes: A case study of Belitung Island, Indonesia. *Tour. Spectr. Div. Dyn.*, 1(3), 165-173. <https://doi.org/10.56578/tsdd010304>.



© 2024 by the author. Published by Acadlore Publishing Services Limited, Hong Kong. This article is available for free download and can be reused and cited, provided that the original published version is credited, under the CC BY 4.0 license.

Abstract: Belitung Island, Indonesia, long dependent on tin mining, is undergoing a profound transition following the decline of its extractive economy. This study examines how regenerative tourism has been adopted as a foundation for economic revitalization and ecological restoration in a post-mining context. A qualitative exploratory design was employed through a case study approach, with data collected from in-depth interviews with former miners, tourism stakeholders, government officials, non-governmental organizations (NGOs), and local communities in Belitung and East Belitung. Supplementary methods included field observations and document analysis. Thematic analysis was conducted using open and axial coding, and findings were validated through triangulation of sources and methods. Results indicate that the collapse of the mining sector acted as a catalyst for tourism development, supported by regional initiatives such as the Geopark program and destination branding strategies. Regenerative tourism practices have emerged through ecological rehabilitation of abandoned mines (e.g., Kaolin Lake and Nam Salu Open Pit), community participation in homestay enterprises and small-scale businesses, and multi-stakeholder collaborations. Despite these advances, challenges remain, including limited human resource capacity, unequal access to opportunities, and risks associated with over-tourism and land commodification. Analysis through a multi-level perspective (MLP) and resilience theory demonstrates that local regenerative tourism initiatives function as niche innovations capable of contesting and gradually replacing the dominant mining regime. The study contributes to regenerative tourism scholarship by advancing understanding of how local agency and structural constraints interact to shape post-mining transitions in the Global South. Findings underscore the potential of regenerative tourism not only to restore degraded landscapes and diversify local economies but also to foster long-term socio-ecological resilience in regions with extractive legacies.

Keywords: Post-mining transition; Regenerative tourism; Community participation; Belitung; Sustainable development

1. Introduction

The island of Belitung, located off the east coast of Sumatra in Indonesia, has long been known for its rich deposits of tin. During the Dutch colonial period and continuing through the post-independence era, tin mining became the backbone of Belitung's local economy, significantly shaping its social structure, labor dynamics, and regional identity (Haryadi et al., 2022). However, this dependence on extractive industry came at a cost. Large-scale mining operations left behind deep ecological scars, including degraded landscapes, open pits, contaminated water systems, and reduced biodiversity. Furthermore, the depletion of tin reserves and the decline of the mining sector in the early 21st century triggered socioeconomic challenges such as unemployment, poverty, and limited economic diversification (Pratiwi et al., 2021). The environmental impact of tin mining in Belitung is particularly evident in the numerous abandoned mining sites that dominate the island's interior. These sites, often referred to as "kolong" or mining pits, are remnants of decades of extractive activity with minimal restoration or environmental rehabilitation. In many cases, these pits have become hazardous for local communities and contribute to water pollution and land instability (Pratiwi et al., 2021). In addition to the ecological consequences, the collapse of the mining industry has left a void in the island's economic base, particularly affecting the livelihoods of former mine workers and peripheral service sectors.

These realities highlight the urgent need for a new, sustainable, and inclusive development model. In recent years, tourism has emerged as a promising alternative to revive Belitung's economy, particularly through the development of nature-based and community-driven tourism initiatives. However, the goal is not merely to replace mining with tourism but to foster a regenerative development paradigm—one that restores ecological balance, empowers local communities, and generates long-term cultural and environmental value (Raworth, 2018; Sterling & Orr, 2001). The concept of regenerative tourism offers a forward-looking approach for post-extractive regions like Belitung. Unlike conventional or even sustainable tourism, regenerative tourism emphasizes the healing of past damages, the co-creation of socio-ecological value, and a deeper engagement with place-based identities (Horlings, 2015). It aligns with the principles of circular economy, local stewardship, and systems thinking, enabling regions that once depended on resource extraction to reimagine their futures through community resilience and ecological regeneration (Mang & Reed, 2012). Regenerative tourism goes beyond sustainability by actively enhancing the natural, cultural, and social capital of destinations. It emphasizes collaboration with local communities and aims to create net positive benefits for people and the planet (Duarte et al., 2024).

In light of Belitung's history and current trajectory, this study explores the transition from mining to tourism through the lens of regenerative development, identifying both the challenges and opportunities of such a transformation. Sustainable tourism has long been advocated as a model that seeks to minimize negative environmental, social, and cultural impacts while generating economic benefits for host communities (UNWTO, 2013). It focuses on maintaining a balance between tourism development and the carrying capacity of destinations to ensure long-term viability. However, critics argue that sustainability, as currently practiced, often falls short of transformative change—it tends to mitigate harm rather than heal or regenerate (Raworth, 2018; Sterling & Orr, 2001). In contrast, regenerative tourism moves beyond the “do no harm” approach of sustainability. It embraces principles of ecological restoration, cultural renewal, and community empowerment. Rather than simply sustaining the status quo, regenerative tourism actively contributes to the healing of ecosystems, revitalization of local economies, and deepening of human-nature relationships (Goodwin, 2016; Mang & Reed, 2012). It is guided by systems thinking, long-term stewardship, and a shift from extractive to participatory and reciprocal relationships between visitors and hosts (Horlings, 2015).

Regenerative tourism is not only concerned with reducing footprints but also with leaving a positive handprint—co-creating regenerative value with local communities and the environment. It is particularly relevant in post-industrial or post-extractive landscapes, where there is a need to restore degraded ecosystems and redefine economic identities. The application of regenerative tourism has begun to emerge in post-mining areas globally, offering valuable insights into its potential and challenges. In Sawahlunto, West Sumatra, Indonesia, the transformation from a coal-mining town to a heritage tourism site offers a compelling case. The city has revitalized its colonial-era mining infrastructure into cultural attractions and received a United Nations Educational, Scientific and Cultural Organization (UNESCO, 2019b) World Heritage designation in 2019. While this has brought tourism revenue and historical preservation, challenges remain in ensuring equitable benefits for local communities (Armis & Kanegae, 2020).

Similarly, in Bangka-Belitung, efforts have been made to convert abandoned tin mining pits into eco-tourism attractions, such as Kolong Lakes and geological parks. However, these initiatives often lack comprehensive regeneration frameworks, and the involvement of local communities is still limited (Pratiwi et al., 2021). Internationally, the Ruhr region in Germany is a flagship example of post-industrial regeneration. Former coal mines and steelworks have been transformed into parks, museums, and creative hubs through a process that combined environmental remediation, cultural programming, and inclusive planning (Hospers, 2004). Similarly, the Cornwall region in the United Kingdom (UK), once dependent on tin and clay mining, has shifted toward eco-tourism and creative industries, supported by regeneration-led development models (Saarinen & Gill, 2019). These cases suggest that successful transitions require more than infrastructural repurposing—they need value-driven frameworks that center on community agency, ecological repair, and long-term resilience. Transformation is seen as a necessary pathway when existing systems become untenable or undesirable. Folke et al. (2010) distinguished between adaptation (incremental adjustments within a system) and transformation (fundamental shifts in system identity). Belitung's shift from tin mining to tourism represents such a transformation—a reorganization of its ecological and economic systems aimed at long-term sustainability and regeneration.

MLP proposed by Geels (2002) provides a framework for analyzing how systemic change occurs across levels: niches (innovative experiments), regimes (dominant structures), and landscapes (external pressures). According to this theory, transformative change arises when pressures from the landscape (e.g., ecological crisis and economic collapse) destabilize existing regimes (e.g., mining), creating space for niche innovations (e.g., community-based tourism) to scale up and restructure the system. In Belitung's case, the decline of mining as a dominant regime, combined with global and local environmental concerns, opens opportunities for emergent models like generative tourism to gain traction—especially when supported by visionary actors, governance frameworks, and cultural shifts. Belitung, an island in Indonesia, has experienced significant ecological and socio-economic transformations due to its history of tin mining. As the mining industry declines, the region faces challenges in achieving sustainable development. This study explores how regenerative tourism initiatives in Belitung offer alternative

pathways, contributing to the theoretical discourse on regenerative tourism in post-extractive contexts. Specifically, the objectives of this study are as follows:

- To analyze the key processes, actors, and strategies involved in Belitung's transition from mining to regenerative tourism.
- To identify the enabling and constraining factors that influence the success of this transformation.

While the Belitung case illustrates regenerative tourism practices in a post-extractive context, its theoretical contribution extends beyond description. This study provides novel insights into how small-scale tourism initiatives can catalyze socio-ecological regeneration in regions transitioning from extractive industries. Specifically, it refines the conceptual understanding of regenerative tourism by highlighting (a) the adaptive strategies that communities employ in post-mining landscapes, (b) the negotiation between local agency and structural constraints, and (c) the emergent pathways through which tourism fosters resilience and sustainability. By situating these insights in the Global South, the study challenges assumptions derived from Global North cases and offers conceptual extensions for the regenerative tourism theory that account for socio-economic inequalities and post-extractive transformations (e.g., recent studies on post-mining transitions from 2023 to 2024).

From a theoretical and scholarly perspective, the research contributes to the growing body of literature on regenerative development and regenerative tourism, which remains underexplored in Southeast Asian contexts, especially in Indonesia. While sustainable tourism has been widely studied, the concept of regenerative tourism—which emphasizes healing, co-creation, and long-term socio-ecological renewal—offers a more transformative framework for post-mining regions (Horlings, 2015; Mang & Reed, 2012). By focusing on Belitung, a former tin mining island undergoing a tourism-led transformation, this study provides a grounded case that expands academic understanding of how regenerative principles can be applied in the Global South. Post-extractive transitions in the Global South often involve navigating socio-economic inequalities and environmental degradation.

In terms of policy relevance, the findings of this research are expected to inform regional development planning, particularly in areas transitioning from extractive economies to service- or experience-based economies. It offers insights for local governments, tourism stakeholders, and community leaders seeking to implement policies that not only boost economic diversification but also promote environmental restoration, cultural preservation, and inclusive growth. The study supports the need for integrated, community-driven models of development that go beyond short-term economic gains to ensure the long-term sustainability and resilience of local communities (Goodwin, 2016; Raworth, 2018). Ultimately, this research emphasizes that post-extractive recovery must be more than technical or economic—it must be ecological, cultural, and participatory. The case of Belitung can thus serve as a model for regenerative transitions in other former mining regions across Indonesia and beyond.

2. Methodology

This study adopts an exploratory qualitative approach using a case study design to investigate the transformation process from a mining-based economy to a regenerative tourism model in Belitung, Indonesia. Qualitative inquiry is deemed appropriate for capturing the complexity of socio-economic and cultural transitions in post-mining regions, especially where narratives, perceptions, and lived experiences are central (Creswell & Poth, 2016). The case study approach enables an in-depth analysis of contextual factors influencing the trajectory of economic transformation in a bounded system (Yin, 2017). A qualitative case study approach was employed, involving in-depth interviews with local stakeholders, including community leaders, tourism operators, and policymakers. The data were analyzed using the MLP framework to identify the interactions between the mining regime, emerging tourism niches, and broader landscape pressures.

The research was conducted in Belitung Regency and East Belitung Regency, areas formerly dominated by tin mining operations and now experiencing a shift towards tourism development. These locations were chosen due to their historical dependence on extractive industries and their current efforts to reinvent their economic identity through nature-based and cultural tourism. A purposive sampling strategy was employed to select participants with direct involvement or expertise in Belitung's tourism sector. Table 1 shows the stakeholder categories of participants.

Table 1. Stakeholder categories of participants

Stakeholder Group	Number of Participants	Recruitment Criteria
Community leaders	8	Actively involved in tourism planning or local governance
Tourism operators	10	Owner/manager of eco-resorts, heritage tours, or regenerative initiatives
Government officials	5	Representatives from tourism or environmental agencies

Data were collected through the following three ways:

- In-depth interviews to explore narratives of transformation and perspectives on tourism.
- Focus group discussions to gain collective insights from community members and tourism stakeholders.

- Document analysis of regional development plans, tourism policies, and environmental impact reports.

The triangulation of data sources is intended to enhance the validity of findings and to understand the multifaceted dimensions of Belitung's economic transition (Denzin, 2012). Interviews continued until thematic saturation was reached within each stakeholder group, ensuring that no new themes emerged after repeated discussions. To achieve this triangulation, three complementary methods were employed as follows:

- Semi-structured interviews: The interviews were conducted face-to-face or via video call, lasting 45–90 minutes each.
- Observation: Field visits to eco-resorts and heritage sites.
- Document analysis: Review of local tourism reports, policy documents, and promotional materials.

Data were analyzed using thematic analysis through open and axial coding, based on the grounded theory methodology introduced by Strauss & Corbin (2008):

- Open coding: Initial categorization of raw data by breaking down interview transcripts, observation notes, and documents into discrete concepts and labeling them with relevant codes.
- Axial coding: Reorganizing and linking codes to identify relationships between categories and subcategories, thereby revealing the underlying patterns, causal conditions, and consequences related to the transformation process.

This analytical process is iterative and reflexive, allowing themes to emerge organically from the data while maintaining theoretical sensitivity. Initial codes were generated inductively, based on emerging patterns from the transcripts, and then reviewed deductively in relation to MLP and resilience theory concepts. Codes were grouped into themes corresponding to MLP levels: niche innovations, regime destabilization, and landscape pressures. Themes were reviewed through peer debriefing and member checking with select participants to validate interpretations. Contemporary tools, such as text analysis assisted by Artificial Intelligence (AI), were applied to detect recurrent patterns and sentiment in interview data, supporting analytical rigor. Table 2 shows the operationalization of key constructs.

Table 2. Operationalization of key constructs

Construct	Definition	Indicators/Dimensions
Community participation	Active involvement of local stakeholders in tourism planning and operations	Attendance in planning meetings, contribution to decision-making, and leadership roles
Regeneration	Positive socio-ecological outcomes resulting from tourism	Environmental restoration, cultural preservation, and economic benefits
Success of initiatives	Effectiveness of tourism projects in achieving regenerative goals	Visitor satisfaction, revenue generation, ecological improvements, and community feedback

These indicators guided coding and thematic analysis, reducing subjectivity and enhancing analytical transparency. To ensure the credibility and trustworthiness of the findings, source and method triangulation was employed (Patton, 1999), including comparing data across different types of informants, settings, and collection methods.

3. Results

3.1 Dynamics of Economic Transition in Belitung

The economic transformation of Belitung from a mining-based to a tourism-oriented economy represents a significant socio-economic and spatial shift. Based on in-depth interviews with local government officials, tourism stakeholders, and former tin mine workers, the decline of the tin mining industry in the early 2000s was described not merely as an economic crisis but as an identity crisis for the island. A former miner from Tanjung Pandan stated, "When the mines stopped, it was as if the island lost its heartbeat. Everyone was affected—from miners to street vendors."

Observations in several former mining sites, such as in Kelapa Kampit and Membalong, revealed abandoned pits, degraded landscapes, and economically stagnant communities. These observations are consistent with previous findings that mining-dependent regions often face significant ecological and economic challenges post-extraction (Bebbington et al., 2008). The physical scars of tin mining, however, paradoxically became a foundation for imagining new tourism landscapes—transforming post-mining lakes into ecotourism attractions and leveraging geological uniqueness as a tourism asset. Within this context, local actors have begun experimenting with regenerative tourism models that directly address both environmental degradation and cultural revitalization. Two prominent forms of such initiatives emerged during fieldwork as follows:

- Community eco-resorts: Seven out of ten tourism operators reported implementing regenerative practices (e.g., reforestation and energy-efficient operations).

- Heritage and cultural initiatives: Six out of eight community leaders emphasized restoring cultural sites, which fostered local identity and tourism appeal.

These initiatives illustrate ‘niches’ in the MLP framework, functioning as experimental spaces that challenge the declining mining regime. The emergence of tourism as a strategic alternative was driven by a convergence of local government initiatives and global sustainability narratives. Policy documents, including the Rencana Induk Pengembangan Pariwisata Daerah (RIPPDA) and Master Plan of Belitung Geopark, emphasize a shift toward a “green economy” through sustainable tourism (Pekab Belitung, 2015). Interviews with government planners indicated that the regional administration viewed tourism not only as an economic substitute but as a regenerative force to restore degraded land, empower communities, and rebrand Belitung's image. The declaration of the Belitung UNESCO Global Geopark in 2021 marked a critical milestone in legitimizing the island's new identity (UNESCO, 2021). It provided a framework for integrating geology, education, conservation, and community-based tourism. Field observations in areas like Bukit Peramun and Nam Salu Open Pit highlight efforts to narrate mining history through interpretive signage, guided tours, and local storytelling—embedding heritage into the tourist experience.

Branding initiatives such as "Belitung, the Blue Paradise" and hosting events like Tour de Belitung and Festival Laskar Pelangi (Rainbow Troops Festival) also played a role in shaping new imaginaries of the island. These campaigns, observed in public spaces and promotional materials, reoriented the external perception of Belitung from a resource-extraction site to a nature- and culture-based destination (Ministry of Tourism & Creative Economy, 2019). This transition, however, has not been seamless. Some interviews revealed tensions between conservation and commercialization, with concerns over the commodification of mining heritage and unequal access to tourism benefits. Nonetheless, the case of Belitung exemplifies a form of regenerative tourism—where tourism serves not only as a post-extractive replacement but also as a platform for healing ecological wounds, restoring cultural meaning, and reimagining regional futures. The dominant regime in Belitung is the declining tin mining industry, which has historically driven the region's economy. As global demand for tin decreases and environmental concerns rise, the mining sector faces challenges in maintaining its dominance.

3.2 Emerging Practices of Regenerative Tourism in Belitung

The transition from a mono-industrial tin-mining economy to a tourism-driven economy in Belitung has fostered the emergence of what can be understood as regenerative tourism—a form of tourism that not only avoids harm but actively restores, regenerates, and revitalizes ecological and socio-economic systems. Drawing from field interviews, observations, and regional planning documents, this section highlights three key aspects of regenerative tourism practices emerging in Belitung: ecological rehabilitation of post-mining landscapes, local community participation in tourism entrepreneurship, and multi-stakeholder collaboration. One of the most prominent examples of regenerative tourism is the ecological transformation of degraded post-mining sites into attractive tourist destinations. The Kaolin Lake, once a barren mining pit, has been reimagined as a serene blue lake surrounded by white clay hills, now serving as a major ecotourism attraction. Similarly, the Nam Salu Open Pit, a historic tin mine, has been preserved and interpreted as an industrial heritage site, attracting educational and niche heritage tourism (Belitung Timur Tourism Board, 2023).

This shift reflects a deliberate attempt to convert environmental degradation into educational and aesthetic experiences that also carry the message of restoration. As observed during field visits, local tour guides are increasingly trained to incorporate ecological narratives, describing how landscapes once scarred by extraction are now recovering and being given new meaning (Local guide, personal interview, June 2024). This aligns with principles of restorative tourism, which aim to heal the wounds of past exploitation (Wijesinghe, 2023). Regenerative tourism in Belitung is also characterized by grassroots entrepreneurial activities, particularly through homestays, local restaurants (warung), cultural performances, and small-scale souvenir production. Many former miners or their family members have transitioned into these roles, often with support from government training programs or NGO facilitation.

For instance, in the village of Kulong, several homestay operators reported that they initially started tourism-related businesses as a survival strategy after the closure of mining operations. Over time, however, they began to take pride in showcasing local culture and natural heritage, suggesting a deeper social regeneration beyond economic adaptation (Homestay owner, personal interview, June 2024). Local ownership and participation are seen as key indicators of regenerative tourism, as they allow communities not just to benefit from tourism but to shape its direction (Scheyvens, 1999; Scheyvens & Biddulph, 2018). Observations in markets and village-based tourism centers also indicate that women and youth are playing a more active role in managing visitor experiences, furthering inclusiveness and resilience (Author's field notes, June 2024). Another crucial feature of Belitung's regenerative tourism model is the collaborative framework among government, the private sector, civil society, and local communities. The establishment of the Belitung UNESCO Global Geopark in 2019 has catalyzed more structured cooperation, with local stakeholders coordinating conservation, education, and tourism development

(UNESCO, 2019a).

Policy documents from both Belitung and Belitung Timur regencies show a strong emphasis on sustainable and inclusive tourism in their regional development plans (RPJMD 2020–2025) (Regional Government of Belitung, 2020). Initiatives such as the “Geosite Adoption” program allow private companies to invest in the rehabilitation and management of specific geosites while involving local communities in their operations (Belitung Geopark Council, 2022). While challenges persist—such as uneven benefit distribution and regulatory inconsistencies—interviews with local government officials and NGO staff suggest that the participatory governance model has increased transparency and community trust (Regional Tourism Agency official, personal interview, June 2024). The declining tin-mining industry creates economic and ecological vacuums, destabilizing the prior dominant regime. Four out of five government officials highlighted regulatory shifts favoring sustainable tourism as a response to mining decline. In sum, the transformation of Belitung’s economy has not merely involved replacing tin with tourists. Rather, it reveals a complex and evolving model of regenerative tourism that regenerates natural landscapes, empowers communities, and fosters collaborative governance. While still nascent and imperfect, these practices offer valuable insights into how post-industrial regions can reinvent themselves through regenerative pathways. Emerging tourism initiatives, such as community-led eco-resorts and heritage conservation projects, represent niche innovations that offer alternative livelihoods and promote environmental stewardship. These initiatives are characterized by local agency, cultural preservation, and ecological restoration.

3.3 Challenges in Developing Regenerative Tourism

While the shift from mining to tourism in Belitung represents a promising example of post-industrial regeneration, various challenges persist that hinder the full realization of a regenerative tourism model. One of the foremost challenges is the inadequacy of human resource capacity. Interviews with local tourism actors and former miners indicate a skills mismatch between the needs of the tourism sector and the competencies of the local workforce. Many former miners lack hospitality training and digital literacy, which are crucial for engaging in tourism-related enterprises (Former miner #2, personal interview, Belitung Timur, 2024). Moreover, educational programs and vocational training related to tourism remain concentrated in urban centers, leaving rural communities with limited access (Author’s field notes, Tanjungpandan, 2024).

Although Belitung’s tourism numbers are still moderate compared to major Indonesian destinations, stakeholders expressed concern about the early signs of over-tourism in certain iconic sites such as Tanjung Tinggi Beach and Danau Kaolin (Local Tourism Office of Belitung, 2023). The influx of tourists, if unmanaged, risks putting pressure on local ecosystems and infrastructure—potentially reversing the ecological gains from mine rehabilitation. Furthermore, land commodification has become a growing issue. Several interviewees noted the acquisition of large tracts of rehabilitated land by outside investors, marginalizing local ownership and threatening inclusive development (NGO activist #1, personal interview, 2024).

Despite regional efforts to promote tourism through initiatives like the Belitung UNESCO Global Geopark and the “Belitong Negeri Laskar Pelangi” branding campaign, official policies often focus on economic growth metrics without incorporating regenerative principles (Regional Development Plan, Belitung 2020–2025). For instance, spatial planning documents still prioritize infrastructure expansion over environmental restoration or community resilience. As argued by regenerative theorists such as Mang & Haggard (2016), without systemic design that integrates ecological health, social equity, and cultural renewal, tourism may replicate extractive dynamics. In addition, most current regulations do not yet differentiate between sustainable tourism and regenerative tourism, which limits the scope of community-driven innovation. Government stakeholders acknowledge this policy gap but cite limitations in technical capacity and political will (Local government official #3, personal interview, 2024). Landscape pressures influencing the transition include global trends toward sustainable tourism, national policies promoting eco-tourism, and climate change impacts. These external factors create both opportunities and constraints for the development of regenerative tourism in Belitung.

4. Discussion

The findings from the Belitung case reflect the broader dynamics described in transition theory, particularly within the MLP framework. According to Geels (2002), transitions from one socio-technical regime to another—such as from extractive industries to tourism—require a combination of niche innovations, pressures on the incumbent regime, and shifts at the landscape level. In Belitung, the collapse of the tin mining industry served as a destabilizing landscape pressure, creating space for alternative economic narratives such as tourism. At the niche level, community-based tourism initiatives, including homestays, eco-tourism enterprises, and cultural heritage promotion, act as seeds of change. These innovations align with principles of regenerative development, which aim not only to sustain but also to improve ecological and social systems (Mang & Haggard, 2016). The emergence of regenerative tourism practices in Belitung, especially those that rehabilitate degraded lands like Danau Kaolin and Nam Salu Open Pit, provides concrete expressions of this paradigm shift.

However, the transition is far from linear. The lack of a formal regenerative policy framework in local governance, combined with limited capacity-building and unequal access to opportunities, echoes critiques in post-industrial regeneration literature that stress the importance of inclusive and integrative governance (Healey, 1998; Kemp & Martens, 2007; Reed, 2007). Without deliberate institutional support, there's a risk that tourism development will reproduce exploitative dynamics similar to mining, particularly through land speculation and over-tourism pressures.

Theoretically, this case contributes to the growing literature on post-industrial landscape transformation by illustrating how regenerative tourism can act as a strategic pathway for socio-ecological revitalization. The Belitung model is instructive for other post-mining regions in Indonesia, such as Sawahlunto, Pongkor, and East Kalimantan, where similar economic transitions are underway. The key takeaway is that successful regeneration requires multi-stakeholder collaboration, robust community participation, and a policy environment that explicitly supports regenerative principles. The interactions between the declining mining regime, emerging tourism niches, and landscape pressures illustrate a co-evolutionary process. Local initiatives are not merely responses to external pressures but actively shape the trajectory of the region's transition toward sustainability.

5. Conclusions

Belitung is currently undergoing a significant transformation from an extractive economy, centered on tin mining, to a regenerative economy driven by the tourism sector. This transition reflects broader global trends of post-mining economic diversification (Kemp & Owen, 2013). The region's shift is not merely a change of industry but represents a deeper systemic transition involving values, practices, and governance. A key factor enabling the early success of this transformation lies in two interlinked pillars: community participation and ecological restoration. Local communities are increasingly involved in the tourism value chain through homestays, culinary ventures, cultural performances, and small-scale enterprises. Simultaneously, former mining sites such as Danau Kaolin and Nam Salu Open Pit have been ecologically rehabilitated and reimagined as tourism attractions—examples of how degraded landscapes can be repurposed into regenerative assets. Belitung's case illustrates necessary conditions for successful regenerative transitions: active community engagement, supportive policy, and adaptive niche innovations. Testable theoretical propositions were proposed in this study:

- Regenerative tourism niches are more likely to emerge where regime destabilization creates economic and ecological vacuums.
- Multi-level interactions (niche, regime, landscape) are critical to transition success; neglecting any level limits systemic resilience.
- Inclusive governance and equitable participation are central to achieving both social and ecological regeneration.
- These propositions extend regenerative tourism theory and provide a framework for testing in other post-extractive contexts.

This regeneration-oriented development aligns with principles from the regenerative development framework (Mang & Reed, 2012), where healing of ecological systems is linked with human well-being and socio-economic revitalization. In Belitung's case, tourism becomes a medium through which both landscape and livelihoods are being renewed. To strengthen Belitung's transition toward regenerative tourism, several steps are recommended:

- Development of capacity-building programs by investing in training and education to improve local human resources, particularly in sustainable tourism and hospitality.
- Strengthening of policy frameworks by integrating regenerative principles into official tourism and land-use policies to ensure long-term ecological and social benefits.
- Promotion of multi-stakeholder collaboration by encouraging deeper partnerships between government, the private sector, communities, and NGOs to share responsibilities and resources.
- Implementation of monitoring mechanisms by establishing clear indicators to monitor environmental restoration and community well-being outcomes.
- Prevention of over-tourism risks by managing visitor flows and land development to avoid environmental degradation and social inequality.

This study contributes to regenerative tourism theory by demonstrating how local initiatives in Belitung challenge and transform the dominant mining regime. The application of MLP and resilience theory provides a nuanced understanding of the dynamics at play in post-extractive transitions. Future research should explore the scalability of such initiatives and their potential to inform broader sustainability transitions in similar contexts.

Author Contributions

Rudy Pramono was solely responsible for all aspects of this work, including conceptualization, methodology, investigation, data analysis, resources, data curation, writing—original draft preparation, writing—review and editing, and project administration.

Data Availability

The data used to support the research findings are available from the corresponding author upon request.

Conflicts of Interest

The author declares no conflict of interest.

References

- Armis, R. & Kanegae, H. (2020). The attractiveness of a post-mining city as a tourist destination from the perspective of visitors: A study of Sawahlunto old coal mining town in Indonesia. *Asia-Pac. J. Reg. Sci.*, 4(2), 443-461. <https://doi.org/10.1007/s41685-019-00137-4>.
- Bebbington, A., Hinojosa, L., Bebbington, D. H., Burneo, M. L., & Warnaars, X. (2008). Contention and ambiguity: Mining and the possibilities of development. *Dev. Change*, 39(6), 887-914. <https://doi.org/10.1111/j.1467-7660.2008.00517.x>.
- Belitung Geopark Council. (2022). *Annual Report on Geosite Management and Community Engagement*. Tanjung Pandan.
- Belitung Timur Tourism Board. (2023). *Tourism Statistics and Development Plans 2020-2023*. Manggar.
- Creswell, J. W. & Poth, C. N. (2016). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*. SAGE Publications.
- Denzin, N. K. (2012). Triangulation 2.0. *J. Mixed Methods Res.*, 6(2), 80-88. <https://doi.org/10.1177/1558689812437186>.
- Duarte, C. M., Cousins, R., Ficociello, M. A., Williams, I. D., & Khowala, A. (2024). Advancing global climate and biodiversity goals through regenerative tourism. *Sustainability*, 16(20), 9133. <https://doi.org/10.3390/su16209133>.
- Folke, C., Carpenter, S. R., Walker, B., Scheffer, M., Chapin, T., & Rockström, J. (2010). Resilience thinking: Integrating resilience, adaptability and transformability. *Ecol. Soc.*, 15(4), 20. <http://doi.org/10.5751/ES-03610-150420>.
- Geels, F. W. (2002). Technological transitions as evolutionary reconfiguration processes: A multi-level perspective and a case-study. *Res. Policy*, 31(8-9), 1257-1274. [https://doi.org/10.1016/S0048-7333\(02\)00062-8](https://doi.org/10.1016/S0048-7333(02)00062-8).
- Goodwin, H. (2016). *Responsible Tourism: Using Tourism for Sustainable Development (2nd ed.)*. Goodfellow Publishers. <https://haroldgoodwin.info/publications/>
- Haryadi, D., Ibrahim, I., & Darwance, D. (2022). Environmental issues related to tin mining in Bangka Belitung Islands. *PEOPLE: Int. J. Soc. Sci.*, 8(3), 67-85. <https://doi.org/10.20319/pijss.2022.83.6785>.
- Healey, P. (1998). Building institutional capacity through collaborative approaches to urban planning. *Environ. Plan. A*, 30(9), 1531-1546. <https://doi.org/10.1068/a301531>.
- Horlings, L. G. (2015). The inner dimension of sustainability: Personal and cultural values. *Curr. Opin. Environ. Sustain.*, 14, 163-169. <https://doi.org/10.1016/j.cosust.2015.06.006>.
- Hospers, G. J. (2004). Restructuring Europe's rustbelt: The case of the German Ruhrgebiet. *Intereconomics*, 39(3), 147-156. <https://doi.org/10.1007/BF02933535>.
- Kemp, D. & Owen, J. R. (2013). Community relations and mining: Core to business but not "core business." *Resour. Policy*, 38(4), 523-531. <https://doi.org/10.1016/j.resourpol.2013.08.003>.
- Kemp, R. & Martens, P. (2007). Sustainable development: How to manage something that is subjective and never can be achieved? *Sustain.: Sci. Pract. Policy*, 3(2), 5-14. <http://doi.org/10.1080/15487733.2007.11907997>.
- Local Tourism Office of Belitung. (2023). *Tourism Development Report 2023*.
- Mang, P. & Haggard, B. (2016). Regenerative development and design: A framework for evolving sustainability. In *Sustainable Built Environments* (pp. 478-501). Wiley. http://doi.org/10.1007/978-1-4614-5828-9_303.
- Mang, P. & Reed, B. (2012). Designing from place: A regenerative framework and methodology. *Build. Res. Inf.*, 40(1), 23-38. <https://doi.org/10.1080/09613218.2012.621341>.
- Ministry of Tourism & Creative Economy. (2019). *Branding pariwisata Belitung: Strategi penguatan destinasi pasca tambang*. Jakarta: Kemenparekraf.
- Patton, M. Q. (1999). Enhancing the quality and credibility of qualitative analysis. *Health Serv. Res.*, 34(5 Pt 2), 1189-1208. <https://pmc.ncbi.nlm.nih.gov/articles/PMC1089059/>
- Pemkab Belitung. (2015). *Rencana Induk Pengembangan Pariwisata Daerah (RIPPDA) Kabupaten Belitung 2015-2025*. Tanjung Pandan: Dinas Pariwisata Belitung.
- Pratiwi, Narendra, B. H., Siregar, C. A., Turjaman, M., et al. (2021). Managing and reforesting degraded post-mining landscape in Indonesia: A review. *Land*, 10(6), 658. <https://doi.org/10.3390/land10060658>.

- Raworth, K. (2018). *Doughnut Economics: Seven Ways to Think Like a 21st Century Economist*. Chelsea Green Publishing. <https://search.worldcat.org/zh-cn/title/961205457>
- Reed, B. (2007). Shifting from 'sustainability' to regeneration. *Build. Res. Inf.*, 35(6), 674-680. <https://doi.org/10.1080/09613210701475753>.
- Regional Government of Belitung. (2020). Rencana Pembangunan Jangka Menengah Daerah (RPJMD) Kabupaten Belitung 2020-2025.
- Saarinen, J. & Gill, A. M. (2019). Resilient destinations and tourism. In *Governance Strategies in the Transition Towards Sustainability in Tourism*. Routledge: London, UK.
- Scheyvens, R. (1999). Ecotourism and the empowerment of local communities. *Tourism Manag.*, 20(2), 245-249. [https://doi.org/10.1016/S0261-5177\(98\)00069-7](https://doi.org/10.1016/S0261-5177(98)00069-7).
- Scheyvens, R. & Biddulph, R. (2018). Inclusive tourism development. *Tour. Geogr.*, 20(4), 589-609. <https://doi.org/10.1080/14616688.2017.1381985>.
- Sterling, S. & Orr, D. (2001). *Sustainable Education: Re-visioning Learning and Change (Vol. 6)*. Totnes: Green Books for the Schumacher Society.
- Strauss, A. & Corbin, J. (2008). *Basics of Qualitative Research (3rd ed.): Techniques and Procedures for Developing Grounded Theory*. SAGE Publications. <https://methods.sagepub.com/book/mono/preview/basics-of-qualitative-research.pdf>
- UNESCO. (2019a). Belitung UNESCO Global Geopark. <https://en.unesco.org/global-geoparks/belitong>
- UNESCO. (2019b). Ombilin Coal Mining Heritage of Sawahlunto. <https://whc.unesco.org/en/list/1610/>
- UNESCO. (2021). *Belitong UNESCO Global Geopark, Indonesia*. <https://en.unesco.org/global-geoparks/belitong>
- UNWTO. (2013). *Sustainable Tourism for Development Guidebook - Enhancing Capacities for Sustainable Tourism for Development in Developing Countries*. World Tourism Organization. <https://www.e-unwto.org/doi/book/10.18111/9789284415496>
- Wijesinghe, S. N. R. (2023). Socialising tourism: Rethinking tourism for social and ecological justice. *J. Sustain. Tour.*, 31(12), 2859-2861. <https://doi.org/10.1080/09669582.2023.2188148>.
- Yin, R. K. (2017). *Case Study Research and Applications: Design and Methods (6th ed.)*. SAGE Publications.