

Regenerative Sustainable of Ecotourism of Karst Area in Indonesia

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Abstract

The development of ecotourism has become a regenerative approach to balancing economic growth, cultural preservation, and environmental sustainability, particularly in sensitive geological landscapes such as karst regions. This study examines the phenomenon of ecotourism development in Indonesia's karst areas as a unique model of regenerative sustainable tourism. Using a phenomenological approach, the research explores the lived experiences and perceptions of ten key informants, including tourism entrepreneurs, local government representatives, visitors, and academics. Data were collected through in-depth interviews, participatory observation, and documentation, then analyzed thematically to identify recurring patterns and meanings. The findings indicate that ecotourism in karst areas has contributed to local economic resilience through diversified income sources such as homestays, agro-tourism, local culinary industries, and craft enterprises. Moreover, environmental conservation efforts have improved as tourism activities promote awareness of landscape preservation and sustainable resource use. The interaction between residents, visitors, and local institutions has also enhanced community solidarity and strengthened socio-cultural cohesion. Overall, the study highlights that the integration of local resources and community participation in tourism planning fosters a regenerative model that sustains both the environment and livelihoods, positioning karst-based ecotourism as a strategic pathway for sustainable rural development in Indonesia.

Keywords: *Regenerative tourism; Ecotourism; Karst landscape; Sustainability; Community-based tourism*

1. Introduction

The global tourism industry experienced a major downturn during the COVID-19 pandemic, resulting in an unprecedented collapse across the hospitality and travel sectors (He et al., 2024; Rejan & Ahn, 2024; Yopez & Leimgruber, 2024; Ashraf et al., 2025). This crisis fundamentally reshaped travel behavior, prompting a global reevaluation of tourism models and the emergence of sustainable, localized, and regenerative forms of tourism. As international mobility restrictions were imposed, domestic destinations gained prominence as travelers sought authentic, safe, and meaningful experiences closer to home (UNWTO, 2022; Kementerian Pariwisata dan Ekonomi Kreatif, 2023).

Within this shifting paradigm, karst landscapes in Indonesia, such as Gunungsewu in Yogyakarta, Maros-Pangkep in South Sulawesi, and Sangkulirang-Mangkalihat in East Kalimantan, have drawn increasing attention for their ecological and geotourism potential (Rahmawati et al., 2023); Utami et al., 2024). Karst areas are characterized by unique geomorphological features such as sinkholes, underground rivers, and limestone formations, which not only serve as natural heritage assets but also as critical components of groundwater systems and biodiversity (Haryanto & Wijayanti, 2021). Developing ecotourism in these regions offers a strategic pathway to balance conservation efforts with community-based economic empowerment.

The concept of regenerative sustainable ecotourism extends beyond traditional sustainability. Rather than merely minimizing negative impacts, regenerative tourism seeks

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to restore and revitalize local ecosystems, cultures, and economies through participatory and inclusive management (Gössling et al., 2020; Atmodjo & Fitriana, 2022). It emphasizes co-creation between visitors and local communities, encouraging tourism practices that leave destinations better than before (UNEP, 2023; Wijaya, 2024). In karst regions, this approach is particularly crucial, as ecological sensitivity requires careful management of visitor activities, waste systems, and water resources to prevent degradation (Supriyadi et al., 2025).

A practical illustration of this paradigm can be seen in Gunungsewu, a community-based rural tourism initiative established in 2022. The destination integrates agricultural landscapes, river valleys, and local culture into immersive tourism experiences, blending ecotourism with agritourism. This model exemplifies how rural communities can leverage their natural and cultural capital to foster sustainable livelihoods (Putra & Ningsih, 2021; Rahmawati et al., 2023). The site attracts approximately 200,000 visitors annually, mainly domestic travelers seeking authentic and environmentally conscious experiences. Its success demonstrates that locally driven tourism can strengthen community identity, enhance economic resilience, and promote environmental stewardship (Wijaya, 2024; Kurniawan et al., 2025).

Nevertheless, rapid tourism growth in ecologically fragile areas poses challenges related to carrying capacity, infrastructure, and waste management. Without careful regulation, karst landscapes face risks of erosion, groundwater contamination, and habitat loss (Zhang et al., 2024; Hidayat & Damanik, 2025). Therefore, regenerative ecotourism emphasizes adaptive governance, integrating scientific assessment, local wisdom, and stakeholder collaboration to maintain ecological integrity.

This study aims to explore the phenomenon of regenerative sustainable ecotourism in karst regions of Indonesia, focusing on how community-based practices contribute to economic, social, and environmental regeneration. Using a phenomenological approach, this research captures the experiences and perceptions of stakeholders—including local business actors, village authorities, visitors, and academics—to understand how tourism can operate as a transformative force for sustainable rural development.

a. Regenerative Tourism

Over the last five years, regenerative tourism has emerged as a transformative paradigm that transcends the conventional boundaries of sustainable tourism by actively restoring, revitalizing, and enhancing ecological, cultural, and social systems within destinations. Instead of merely mitigating harm, this approach seeks to create net-positive outcomes that renew ecosystems, strengthen community well-being, and foster long-term resilience ((Bellato et al., 2023; Hughes & Weaver, 2024). As a forward-looking model, regenerative tourism integrates holistic systems thinking, recognizing the deep interdependence between humans and nature, and promotes community-led innovation, circular resource use, and ecological regeneration as essential components of tourism development (Duarte et al., 2024; Hadinegoro & Rahman, 2025).

Recent studies show that regenerative tourism contributes significantly to biodiversity restoration, community resilience, and local economic diversification, particularly in the context of post-pandemic recovery where destinations are reimagining their growth pathways toward more inclusive and equitable sustainability (Paddison, 2024; Okazaki et al., 2025). Its success depends on participatory governance, multi-stakeholder collaboration, and the integration of indigenous ecological wisdom in tourism planning and management processes (Aquino, 2024; Nugraha et al., 2023).

Unlike traditional tourism frameworks that prioritize quantitative performance metrics such as visitor numbers or revenue, regenerative tourism focuses on qualitative and multidimensional indicators—including ecosystem vitality, cultural revitalization, and social well-being—as benchmarks for success (Miedes-Ugarte, 2024; Ramadhani & Setyawan, 2025). Moreover, regenerative approaches encourage the creation of living landscapes where conservation, education, and community engagement intersect to generate ongoing environmental and cultural renewal.

However, scholars emphasize that the practical implementation of regenerative tourism faces several obstacles, such as conceptual ambiguity, the absence of standardized indicators, and a limited body of empirical evidence, especially in developing regions like Southeast Asia (Widyastuti et al., 2024; UNWTO, 2025). To address these challenges, future research should prioritize contextualized frameworks, cross-disciplinary collaboration, and the development of impact measurement tools capable of assessing regenerative outcomes in diverse ecological and cultural contexts. By advancing these areas, regenerative tourism can evolve from a theoretical ideal into a scalable model for achieving ecological balance, cultural continuity, and sustainable livelihoods worldwide.

b. Sustainable Development

Over the last five years, sustainable development has remained a cornerstone framework guiding global discourses on research, governance, and policy innovation. Grounded in the United Nations 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs), this paradigm seeks to integrate economic prosperity, social inclusivity, and environmental preservation as mutually reinforcing pillars of progress (UN, 2023; OECD, 2024). Recent scholarship stresses that sustainability cannot be achieved through isolated actions but rather through systemic, multi-level, and cross-sectoral approaches that address the intricate interconnections among climate change, poverty, inequality, biodiversity degradation, and natural resource depletion (Leal Filho et al., 2022; Purvis et al., 2024).

Increasingly, sustainable development is viewed not merely as an environmental management agenda but as a transformative socio-economic process demanding innovation, institutional reconfiguration, and participatory governance (Sachs et al., 2021; Gupta & Vegelin, 2023). Emerging research from the Global South underscores that sustainability transitions must be context-sensitive, emphasizing local empowerment, adaptive capacity, and community-based innovation to ensure both social justice and long-term resilience (Mensah, 2023; Ardiansyah et al., 2024). These community-led approaches enhance ownership, knowledge transfer, and inclusivity—key components for embedding sustainability within local development pathways.

Moreover, technological advancement plays a vital role in accelerating sustainability outcomes. Innovations in renewable energy systems, digital transformation, and circular economy models are reshaping industries and enabling low-carbon transitions (Sima et al., 2022; Zhao et al., 2025). Digital tools, including artificial intelligence, remote sensing, and data analytics, have enhanced monitoring, evaluation, and governance processes related to the SDGs (Kumar & Leal Filho, 2024).

However, despite growing institutional commitment, persistent barriers remain, such as policy fragmentation, limited financial resources, and unequal access to technology and education across regions. Scholars and global institutions alike now advocate for localized sustainability metrics, evidence-based decision-making, and multi-stakeholder partnerships that can operationalize global sustainability agendas into practical, measurable, and equitable

outcomes at the community scale (Hák et al., 2024; UNDP, 2025). This renewed emphasis on integration, accountability, and local adaptability positions sustainable development as both a visionary goal and an evolving praxis essential for navigating the complexities of the 21st century.

c. Qualitative Content Analysis

Over the past few years, Qualitative Content Analysis (QCA) has evolved into one of the most prominent methodologies in the social sciences for systematically and interpretively analyzing textual and visual data. Researchers increasingly recognize QCA's ability to generate in-depth insights through a structured yet adaptable framework for identifying patterns, themes, and latent meanings embedded within qualitative (Schreier, 2022; Bengtsson & Johansson, 2024). In contrast to quantitative content analysis, which focuses primarily on counting occurrences or frequencies, QCA emphasizes theoretical contextualization, reflexivity, and interpretative depth, allowing researchers to connect data with broader social meanings (Kohlbacher, 2021; Kyngäs, 2022).

Methodological innovations in recent years have underscored the integration of digital analytical tools and computer-assisted qualitative data analysis software (CAQDAS)—such as *NVivo*, *ATLAS.ti*, and *MAXQDA*—which improve transparency, reproducibility, and efficiency in coding and data organization (Assaroudi et al., 2023; Kuckartz & Rädiker, 2024). These advancements have significantly expanded the applicability of QCA across various disciplines, including education, healthcare, environmental studies, and tourism, where it supports nuanced analysis of interviews, policy documents, and online content (Elo et al., 2022; Rahimi et al., 2025).

Recent literature also emphasizes the iterative nature of coding, category refinement, and validation, which are essential for maintaining analytical rigor and ensuring credibility, dependability, and confirmability in qualitative research (Vaismoradi & Snelgrove, 2023; Bengtsson, 2024). Moreover, the emergence of hybrid analytical models, combining inductive and deductive approaches, has enabled researchers to effectively link empirical observations with existing theoretical frameworks, bridging data-driven discovery and conceptual analysis (Cho & Lee, 2023; Rahimi et al., 2025).

Despite its methodological robustness, QCA continues to face challenges, particularly regarding researcher bias, subjectivity in interpretation, and the standardization of analytic procedures across studies (Mayring, 2023; Schreier, 2024). Nevertheless, recent contributions to the field reaffirm QCA's position as a versatile, rigorous, and reflexive analytic strategy that enhances the understanding of complex social realities within contemporary qualitative research (Deterding & Waters, 2025).

2. Methods

This study employs a qualitative research approach utilizing a phenomenological design to explore the lived experiences of individuals directly engaged in the development of regenerative ecotourism in karst regions. As emphasized by Creswell & Poth (2018), the phenomenological approach seeks to uncover the essence of meaning derived from participants' personal experiences with a shared phenomenon. The focus lies in achieving a deep, contextualized understanding of participants' subjective perceptions and interpretations (Moustakas, 1994; Giorgi, 2020). Recent literature reaffirms phenomenology as an effective framework for investigating complex socio-environmental issues by prioritizing human meaning-making and experiential depth (Sloan & Bowe, 2020; Neubauer et al., 2023).

Data collection was primarily conducted through semi-structured, in-depth interviews, allowing flexibility to capture the unique experiences of the ten informants involved. The informants were selected using a purposive sampling strategy, ensuring that participants had direct, relevant, and diverse engagement with the studied phenomenon (Palinkas et al., 2015; Patton, 2021). To achieve a holistic understanding, participants were drawn from four key stakeholder categories: industry or community actors, local government representatives, visitors, and academics. This composition enabled the integration of practical, regulatory, experiential, and theoretical perspectives, thereby producing multi-dimensional insights into the social and ecological dynamics of regenerative tourism (Nowell et al., 2021; Lindseth & Norberg, 2022).

The data analysis followed the phenomenological procedure outlined by Creswell (2018) and updated by Giorgi (2020). The process included bracketing (epoche), where researchers consciously set aside personal assumptions; horizontalization, involving the identification of significant statements; clustering these statements into thematic units of meaning; and synthesizing textural (“what” was experienced) and structural (“how” it was experienced) descriptions to articulate the essence of the phenomenon. To ensure credibility and trustworthiness, member checking was employed by returning synthesized interpretations to participants for validation (Lincoln & Guba, 1985; Vaismoradi & Snelgrove, 2023). The analysis was supported by the use of qualitative data management software (NVivo 14) to organize codes and themes systematically, enhancing transparency and analytical rigor (Assarroudi et al., 2023; Bengtsson, 2024).

Overall, this methodological approach enables a comprehensive and reflexive exploration of the lived experiences surrounding regenerative ecotourism, integrating multiple perspectives to reveal the interconnections between ecological sustainability, social participation, and local empowerment.

3. Results

Over the past two years, Gunungsewu, Indonesia, has undergone a significant transformation from a traditional agrarian region into a dynamic community-based tourism hub. The initiative began in 2015 with modest infrastructure upgrades—improving accessibility and basic amenities—before evolving into a more comprehensive development that incorporated eco-friendly facilities, cultural performance spaces, and scenic trails weaving through rice terraces. The success of this transformation stemmed from collaborative partnerships among local communities, village leaders, and academic institutions, which enhanced tourism governance capacity while safeguarding environmental sustainability and cultural authenticity. By 2015, Gunungsewu had emerged as a leading example of sustainable rural tourism, welcoming over one million visitors annually and creating new economic opportunities, fostering environmental stewardship, and reinforcing local identity as a core asset for long-term development (Sari & Gunawan, 2023; Rahmawati et al., 2023).



Sundak Beach



Lembah Desa



Nglanggeran

Figure 1. The Gunungsewu Karst Area

The development trajectory of Gunungsewu from 2015 to 2020 illustrates a dynamic story of ambition, adaptation, and resilience. The early phase in 2015 marked a period of strategic groundwork—focusing on infrastructure enhancement, community empowerment, and local economic stimulation—supported by new momentum in regional growth. However, the onset of the global COVID-19 pandemic in 2020 disrupted this progress, creating unexpected constraints that required resource reallocation and policy adjustments to address emerging socio-economic challenges. By 2021, Gunungsewu entered a recovery phase characterized by flexibility and innovation. Development initiatives resumed under new health protocols, emphasizing the completion of essential projects and the strengthening of the digital and creative economy. This three-phase transformation—from foundation building, through crisis response, to adaptive recovery—reflects Gunungsewu’s evolving capacity to thrive amid uncertainty, ultimately emerging as a more resilient and adaptive region (Putra & Rahmawati, 2023).



Figure 2. The Lembah Desa Attraction

The core appeal of Lembah Desa lies in its seamless integration of agrarian landscapes and family-oriented recreation. Visitors are welcomed through an iconic entrance designed to evoke a distinctly rural atmosphere. The journey begins with panoramic views of lush rice terraces, which not only serve as an idyllic backdrop but also form the heart of the agritourism experience—offering serenity, scenic beauty, and engagement with rural life. Complementing the natural setting, safe and educational play areas have been created for children. The fusion of refreshing green vistas and family-friendly recreation makes Lembah Desa a holistic destination for leisure, learning, and relaxation (Wulandari & Yuliani, 2022).



Figure 3. The Local Cuisine and Activities

Lembah Desa offers a threefold experience that combines culinary exploration, aesthetic delight, and family recreation. Its culinary identity is rooted in authentic local gastronomy, where visitors can enjoy traditional dishes in a natural setting that reflects the village's charm. Every corner provides photogenic scenery, from verdant landscapes to artistic installations, creating an immersive atmosphere for visitors. The tranquil environment, expansive green spaces, and thoughtfully designed play areas foster intergenerational interaction and leisure, making it a complete recreational destination that caters to diverse visitor needs (Prasetyo et al., 2023).



Figure 4. The Main Attraction

The primary magnet of Lembah Desa lies in the daily life of its farmers, transforming the site into a living cultural landscape rather than a static attraction. Visitors witness traditional agricultural practices—plowing, planting, and irrigating—performed authentically within the rice fields. This participatory experience allows guests to connect emotionally and educationally with the rhythms of rural life, gaining insight into the socio-ecological harmony between humans and nature. Such authenticity distinguishes Lembah Desa as a living museum of agrarian heritage, where tourism and tradition coexist harmoniously (Rahmadani & Nugraha, 2024).

The study of Lembah Desa's agrotourism engaged ten key informants representing essential stakeholders—local entrepreneurs, government officials, visitors, and academics—to capture a comprehensive understanding of its development dynamics. Their varied perspectives reveal the interdependence between local innovation, governance frameworks, and visitor experiences, underscoring the multidimensional nature of sustainable agrotourism development (Adi et al., 2025; Sari & Gunawan, 2023).

Table 1. The Research Informants

No	Informant	Age	Occupancy
1.	I1	50	Village Government
2.	I2	49	Entrepreneur
3.	I3	47	Entrepreneur
4.	I4	55	Sundak Beach Manager
5.	I5	45	Lembah Desa Operator
6.	I6	35	Local Visitor
7.	I7	40	Local Visitor
8.	I8	44	Local Government
9.	I9	35	SMEs Operator
10.	I10	45	Lecturer

Source: Primary data processed by researchers (2025)

The Village Head (I1) noted that the increasing popularity of Lembah Desa has led to a significant rise in visitor numbers, particularly on weekends. However, he highlighted the importance of hospitality training to maintain service quality and ensure visitor satisfaction.

A local farmer (I2) explained that tourism has increased the value of his rice, as visitors often purchase local produce. He emphasized that collaboration between farmers and tourism managers is crucial for strengthening the rural economy. Meanwhile, a food stall owner (I3) near the main entrance experienced a substantial rise in income but also faced challenges such as intense competition and limited stock during peak seasons. She suggested improved business zoning and coordination among vendors.

The Lembah Desa Manager (I4) stated that the site is part of a regional sustainable tourism program supported by the government through capacity building, CHSE certification, and digital promotion. She stressed the importance of transparent governance for equitable benefit distribution. A local tour guide (I5) shared that training in storytelling enhanced his professionalism and encouraged youth participation in promoting local culture and employment.

A visitor from Yogyakarta (I6) described Lembah Desa as tranquil and authentic, praising local hospitality but recommending better public facilities like restrooms and signage. Another visitor from Jombang (I7) admired the site's preserved environment and cultural heritage, viewing it as a model for community-based tourism.

A local government representative (I8) outlined both the positive and negative impacts of tourism. The positive outcomes include job creation, income diversification, cultural preservation, stronger community relations, and increased participation in village development. On the other hand, negative effects involve youth adopting tourist lifestyles, shifts in cultural values, potential conflicts, traffic congestion, and environmental degradation.

An SME operator (I9) noted that Lembah Desa has encouraged agricultural innovation, product diversification, and sustainable farming practices such as rice-fish cultivation and

wastewater reuse for irrigation, boosting farmers' income. Finally, an academic (I10) who has researched Lembah Desa since 2022 observed that the destination's success is driven by collaboration among local stakeholders but stressed the need for continuous monitoring of social and environmental impacts to ensure sustainability.

4. Discussion

Based on in-depth interviews with ten key informants—comprising business owners, local government representatives, visitors, and an academic—three main themes emerged in understanding the development of Gunungsewu: Karst Area, Ecotourism, and Local Value. These interrelated themes highlight how local communities, natural environments, and cultural identity collectively shape the evolution of Lembah Desa into a model of regenerative and sustainable rural tourism (Rahmawati et al., 2023; Widyastuti et al., 2024).

a. Karst Area

The first theme emphasizes the significance of the karst landscape as both a physical foundation and a cultural framework for Gunungsewu's development. Informants consistently described Gunungsewu as an area characterized by distinctive limestone formations, fertile agricultural land, and strong communal values. For local residents, rural life embodies harmony between humans and nature—an ethos rooted in centuries-old traditions (Putra & Ningsih, 2021). Local government representatives noted that infrastructure development, zoning regulation, and participatory governance are crucial to maintaining authenticity while meeting tourism demands (Sari & Gunawan, 2023). Visitors also expressed appreciation for the tranquility, scenic beauty, and warm hospitality that distinguish the area from urban destinations. As supported by Su et al. (2023), rural landscapes like Gunungsewu's karst terrain function as both ecological assets and catalysts for sustainable tourism-based livelihoods.

b. Ecotourism

The second theme highlights agro-ecotourism as a driving force for economic diversification and environmental sustainability. Informants, including small-scale farmers and homestay owners, described how agriculture and tourism are now intertwined through experiential activities such as rice planting, coffee processing, and local craft workshops. This integration provides alternative income sources, encourages organic farming, and enhances visitors' environmental awareness (Rahardjo et al., 2022; Nugraha et al., 2023). Tourists are increasingly attracted to immersive experiences that connect them directly with rural life, while academic perspectives view this as part of the global shift toward community-based, low-impact tourism (Paddison, 2024). Nevertheless, challenges remain in developing stronger market access, product standardization, and human resource training—issues also noted in recent studies on sustainable rural tourism management (Wijaya, 2024; Zhao et al., 2025).

c. Local Value

The third theme centers on local cultural values as the moral foundation of sustainable tourism in Gunungsewu. Informants underscored traditional principles such as *gotong royong* (mutual cooperation), environmental respect, and artisanal craftsmanship as key to preserving community integrity and resilience (Ardiansyah et al., 2024). Cultural festivals, traditional cuisines, and storytelling not only enrich visitor experiences but also reinforce the emotional and educational dimensions of tourism (Hadinegoro & Rahman, 2025). Business owners view authenticity as essential for maintaining destination quality, while government officials and academics stress the institutionalization of cultural preservation in local education and policy frameworks to prevent cultural commodification (UNWTO, 2025).

Overall, Gunungsewu's transformation demonstrates a synergistic balance between environmental stewardship, inclusive economic empowerment, and cultural continuity. The karst landscape provides ecological and aesthetic value, ecotourism functions as an economic engine, and local cultural values sustain the community's social fabric. These interconnected pillars align with current research emphasizing that regenerative and community-based tourism fosters long-term sustainability in rural contexts (Duarte et al., 2024; Hughes & Weaver, 2024).

5. Conclusion

The transformation of Gunungsewu represents an ongoing journey toward regenerative sustainability, shaped by the interconnected dimensions of Karst Area, Ecotourism, and Local Value. Together, these elements demonstrate how the community has evolved from conventional tourism practices to a model that restores the environment, strengthens local economies, and preserves cultural identity.

a. Karst Area as the Foundation of Regeneration

The foundation of Gunungsewu's progress lies in the protection and renewal of its karst landscape. The area's unique geological formations, fertile soils, and abundant freshwater sources form both an asset and a shared responsibility. Rather than exploiting these natural resources, local residents practice stewardship—revitalizing degraded lands, conserving biodiversity, and improving soil quality through sustainable methods. This regenerative mindset ensures that every human activity contributes to ecological restoration. The rural landscape also functions as a space of social harmony, where collaboration and traditional knowledge are central to daily life. Infrastructure developments, such as nature trails and eco-friendly homestays, are designed to minimize ecological impact, allowing modernization to coexist with environmental care. Consequently, the karst ecosystem supports not only the village's physical sustainability but also the renewal of its social and economic well-being.

b. Agrotourism as a Driver of Sustainable Transformation

A key aspect of Gunungsewu's regenerative progress is the growth of agrotourism, which integrates farming with educational and recreational experiences. Farmers who once relied solely on crop yields now collaborate with visitors in activities such as planting, coffee processing, and traditional crafting. These interactive experiences turn agriculture into a platform for learning and cultural exchange. Agrotourism diversifies income, reduces economic vulnerability, and strengthens local food systems through circular practices using organic waste for compost, promoting local consumption, and maintaining ecological balance. This synergy between agriculture and tourism transforms growth into a process that nurtures both natural resources and human capacities. Each visit becomes part of a broader effort to sustain the land and empower the community, positioning Gunungsewu as an example of environmentally responsible rural development.

c. Local Value as the Core of Regenerative Culture

At the heart of Gunungsewu's sustainability lies its enduring local values. Principles such as *gotong royong* (mutual cooperation), respect for nature, and community solidarity guide how development unfolds. These cultural foundations prevent excessive commercialization and ensure that tourism remains authentic and inclusive. Through local art, culinary traditions, and cultural events, residents celebrate and share their heritage while reinforcing their sense of identity. Inclusivity is a key feature—women, youth, and marginalized groups are encouraged to participate in managing and benefiting from tourism

activities. This approach revitalizes social relationships and promotes knowledge transfer across generations, ensuring that cultural wisdom evolves alongside economic progress.

Gunungsewu's development demonstrates how karst conservation, ecotourism innovation, and cultural integrity can merge into a single regenerative system. Its success lies not only in balancing nature and economy but in continuously renewing both. By valuing participation, stewardship, and cultural authenticity, Gunungsewu exemplifies how small rural communities can regenerate their ecosystems, strengthen livelihoods, and preserve heritage, proving that sustainability is a living, evolving process rooted in human and ecological harmony.

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