



Community-Based Ecotourism Development and Sustainable Rural Entrepreneurship in Indonesia

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Abstract

Community-based ecotourism has increasingly been promoted as a strategic pathway for fostering sustainable rural development, yet empirical evidence explaining how it systematically enables sustainable rural entrepreneurship remains limited, particularly in developing country contexts. This study examines the relationship between community-based ecotourism development and sustainable rural entrepreneurship in Indonesia, emphasizing the roles of participation, local governance, and environmental management. Employing an empirical quantitative design, data were collected from rural tourism communities managing ecotourism destinations through structured questionnaires administered to community entrepreneurs, cooperative leaders, and local managers. The data were analyzed using Partial Least Squares Structural Equation Modeling to assess measurement validity and test structural relationships among latent constructs. The findings demonstrate that community-based ecotourism development has a significant positive effect on sustainable rural entrepreneurship, reflected in enhanced economic viability, social value creation, and environmental orientation of rural enterprises. The results further reveal that collective learning, social capital, and institutional embeddedness mediate this relationship, transforming tourism activities into resilient and adaptive entrepreneurial systems. The study contributes to the literature by empirically positioning community-based ecotourism as a developmental platform that integrates governance, entrepreneurship, and sustainability, offering practical insights for rural development policy and community empowerment strategies.

Keywords: Community-Based Ecotourism, Rural Entrepreneurship, Social Capital, Sustainability, Tourism Governance.



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INTRODUCTION

The global discourse on sustainable development has increasingly converged on community-based ecotourism and rural entrepreneurship as intertwined mechanisms for addressing persistent challenges of rural marginalization, environmental degradation, and uneven economic growth, particularly within developing economies where tourism expansion often outpaces institutional capacity and local empowerment. Within this evolving landscape, ecotourism is no longer conceptualized merely as a niche market for environmentally conscious travelers, but as a governance arena in which local communities negotiate control over natural resources, cultural representation, and economic value creation through entrepreneurial activities embedded in social and ecological systems (Aquino et al., 2022). This shift reflects a broader transformation in tourism and entrepreneurship studies, where sustainability is framed not only in terms of environmental conservation but also through social capital formation, participatory decision-making, and long-term livelihood resilience in rural contexts (Mandrysz, 2020).

Indonesia, with its vast rural landscapes, biodiversity hotspots, and strong traditions of communal organization, occupies a strategically significant position in this global conversation, yet remains underrepresented in theoretically integrative and empirically nuanced scholarship linking community-based ecotourism with sustainable rural entrepreneurship (Djuwendah et al., 2023). Existing research has generated important insights into how community-based ecotourism initiatives can stimulate entrepreneurial activity, diversify rural incomes, and foster social inclusion, though these findings often

emerge from fragmented analytical lenses. Studies on rural tourism entrepreneurship highlight the importance of local leadership, access to networks, and institutional support in shaping business viability and sustainability outcomes (Utami et al., 2023), while parallel strands of literature emphasize the role of social and community entrepreneurship in translating collective values into economic practices that reinforce local ownership and participation (Aquino et al., 2022).

Empirical evidence from Indonesia suggests that community-based entrepreneurship models can enhance ecotourism sustainability when local actors are actively involved in planning, benefit-sharing, and innovation processes, as demonstrated in agro-ecotourism and village-based tourism settings (Djuwendah et al., 2023; Arifia et al., 2025). Complementary studies in rural tourism ecosystems further indicate that entrepreneurial motivations, including lifestyle and pro-social orientations, can influence management practices in ways that align economic goals with environmental stewardship (Cunha et al., 2020), reinforcing the argument that sustainability-oriented entrepreneurship emerges from complex interactions between individual agency and collective structures. Despite these advances, the literature reveals substantive limitations that constrain a deeper understanding of how community-based ecotourism effectively translates into sustainable rural entrepreneurship over time.

Many studies privilege outcome-oriented assessments such as income generation or tourist numbers while under-theorizing the dynamic processes through which community capabilities, entrepreneurial skills, and governance arrangements co-evolve within ecotourism settings (Dhewanto et al., 2020). Research on entrepreneurial training and motivation underscores the importance of internal drivers and learning environments for sustainable entrepreneurship (Kummitha & Kummitha, 2021), yet these insights are rarely integrated with tourism-focused analyses that examine community participation and power relations. Moreover, empirical findings across different rural contexts display inconsistencies regarding the extent to which community-based models genuinely enhance local autonomy, with some cases revealing dependency on external actors or vulnerability to market fluctuations, as observed in wetland tourism and rural livelihood studies outside Southeast Asia (Aazami & Shanazi, 2020).

Such conceptual and empirical gaps signal the need for frameworks that move beyond isolated success factors toward relational and systemic explanations. The unresolved issues within this body of work carry significant scientific and practical implications, particularly for countries like Indonesia where rural development strategies increasingly rely on tourism-led growth. Without a clearer understanding of how community-based ecotourism fosters entrepreneurial ecosystems that are socially inclusive, economically viable, and environmentally regenerative, policy interventions risk reproducing superficial participation or short-term gains that undermine long-term sustainability (Mandrysz, 2020). The absence of integrative models also limits the capacity of local governments, development agencies, and community organizations to design interventions that align entrepreneurial training, institutional support, and community governance with ecological constraints and cultural contexts (Dhewanto et al., 2020; Kummitha & Kummitha, 2021).

Addressing these shortcomings is not merely an academic exercise, but a prerequisite for ensuring that rural tourism development contributes meaningfully to poverty reduction, resilience, and social equity in ecologically sensitive regions (Utami et al., 2023; Djuwendah et al., 2023). Positioned within this scholarly terrain, the present study advances a community-centered perspective that conceptualizes ecotourism development and rural entrepreneurship as mutually constitutive processes embedded in local socio-ecological systems. Building on insights from social entrepreneurship, rural tourism, and sustainable development literatures, this research treats community agency not as a static precondition but as an evolving capability shaped by institutional arrangements, entrepreneurial learning, and collective action (Aquino et al., 2022; Arifia et al., 2025). By foregrounding the Indonesian rural context, the study responds to calls for context-sensitive analyses that capture how cultural norms, social capital, and participatory practices mediate entrepreneurial outcomes within community-based ecotourism initiatives, thereby extending existing models that have largely been developed in non-Indonesian or highly aggregated settings.

This study aims to examine how community-based ecotourism initiatives contribute to the development of sustainable rural entrepreneurship in Indonesia through an integrated analytical framework that links community participation, entrepreneurial capability formation, and sustainability outcomes. The research seeks to generate theoretical contributions by refining the conceptual relationship between community-based ecotourism and sustainable entrepreneurship, emphasizing

processual and relational dimensions that remain underexplored in current models. Methodologically, it offers an empirically grounded approach that captures the lived experiences and strategic choices of rural communities, providing nuanced insights capable of informing both scholarly debates and evidence-based policy design in the fields of management, entrepreneurship, and tourism.

RESEARCH METHODS

This study adopts an empirical research design grounded in a quantitative explanatory approach to examine the relationship between community-based ecotourism development and sustainable rural entrepreneurship in Indonesia. The population comprises rural tourism communities that actively manage ecotourism destinations through community-based organizational arrangements, particularly tourism villages and agro-ecotourism initiatives operating under local governance structures. A purposive sampling strategy is employed to select community-based ecotourism units that meet predefined criteria, including formal community participation mechanisms, entrepreneurial activity linked to tourism services, and sustainability-oriented objectives, following prior empirical tourism and entrepreneurship research designs (Djuwendah et al., 2023). Primary data are collected through structured questionnaires administered to community entrepreneurs, cooperative leaders, and local managers, complemented by secondary data from policy documents and community records to enhance contextual validity. The key constructs are operationalized as latent variables: community-based ecotourism development is measured through indicators of participation, local governance, benefit-sharing, and environmental management (Arifia et al., 2025), while sustainable rural entrepreneurship is operationalized through economic viability, social value creation, and long-term environmental orientation of entrepreneurial activities (Mandrysz, 2020).

Measurement items are assessed using multi-item Likert-type scales adapted from validated instruments in sustainable tourism and entrepreneurship literature, ensuring content validity and contextual relevance (Kummitha & Kummitha, 2021). Data analysis is conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM), which is appropriate for theory development, complex causal relationships, and predictive-oriented models involving latent constructs in management and entrepreneurship research. The analysis proceeds through evaluation of the measurement model testing indicator reliability, internal consistency, convergent validity, and discriminant validity followed by assessment of the structural model to examine path coefficients, explanatory power, and effect sizes. Assumption testing includes checks for multicollinearity, common method bias, and model fit indicators, ensuring robustness of the empirical findings. This analytical strategy enables a rigorous examination of how community-driven ecotourism initiatives translate into sustainable entrepreneurial outcomes within rural Indonesian contexts.

RESULTS AND DISCUSSION

Community Participation, Local Governance, and Ecotourism Development Outcomes

The empirical results demonstrate that community participation and local governance constitute foundational dimensions of community-based ecotourism development within rural Indonesian contexts, as reflected in the robust explanatory power of the measurement and structural models. High factor loadings for indicators related to participatory decision-making, transparency, and collective management confirm that ecotourism initiatives function as socio-institutional systems rather than isolated economic projects. The structural paths indicate that participatory intensity is positively associated with perceived destination resilience and adaptive capacity, reinforcing arguments that community agency shapes sustainability trajectories in rural tourism settings (Akbar et al., 2021; Iqbal et al., 2021). These findings resonate with ecosystem-based perspectives emphasizing that governance arrangements mediate the translation of natural capital into sustainable tourism value (Hidayat et al., 2024). Empirical consistency across sampled villages suggests that participation operates as a systemic mechanism rather than a context-specific anomaly.

Quantitative analysis further reveals that local governance quality exerts a statistically significant influence on ecotourism performance indicators, particularly those related to environmental stewardship and social legitimacy. Communities exhibiting formalized organizational structures and clear role differentiation demonstrate higher levels of coordination in conservation activities and visitor management. This pattern aligns with actor-network and socio-ecological resilience frameworks that emphasize the co-production of space, institutions, and environmental outcomes through sustained

interaction among local actors (Ainurrohmah et al., 2022). Governance effectiveness also moderates the relationship between participation and outcomes, indicating that participation alone is insufficient without institutional coherence. Such evidence supports comparative findings from rural ecotourism cases beyond Indonesia, where governance capacity conditions sustainability outcomes (Demkova et al., 2022).

The results also indicate meaningful variation in participation depth across communities, reflecting differences in social capital and civic engagement. Villages with strong associational traditions and active tourism awareness groups exhibit higher mean scores on participation indicators, suggesting that historical patterns of collective action shape contemporary ecotourism practices. This observation is consistent with studies highlighting the role of community organizations as mediating structures that align individual incentives with collective goals (Umam et al., 2022). Quantitative dispersion in responses underscores that community-based ecotourism should be understood as a spectrum of practices rather than a uniform model. Such heterogeneity reinforces calls for context-sensitive policy design grounded in local social dynamics (Aji & Faniza, 2024).

Environmental management indicators emerge as one of the strongest components of the ecotourism development construct, particularly those related to ecosystem conservation and waste management practices. Respondents from coastal and mangrove-based destinations report higher engagement in conservation-linked tourism activities, reflecting integrated livelihood–environment strategies. This finding corresponds with empirical evidence from coastal empowerment and mangrove ecotourism models that position environmental care as both an economic asset and a normative commitment (Adi et al., 2025). The convergence of ecological responsibility and tourism operations strengthens destination competitiveness while maintaining local legitimacy. Such alignment echoes broader systematic reviews identifying sustainability orientation as a determinant of tourism competitiveness (Streimikiene et al., 2021). To illustrate the quantitative patterns underlying these relationships, Table 1 presents selected results from the PLS-SEM structural model focusing on participation and governance pathways. The table is referenced here to contextualize the statistical strength of the estimated effects and their relevance for subsequent interpretation.

Table 1. Structural Path Coefficients for Community-Based Ecotourism Development

Path Relationship	Coefficient	t-value	Significance
Community Participation → Ecotourism Development	0.48	6.72	p < 0.001
Local Governance → Ecotourism Development	0.41	5.89	p < 0.001
Environmental Management → Ecotourism Development	0.37	5.11	p < 0.001

The coefficients reported in Table 1 indicate that participation exerts the strongest direct effect, followed closely by governance quality, confirming the centrality of social organization in ecotourism systems. The statistical significance across all paths suggests a stable structural relationship rather than spurious association. These results empirically substantiate qualitative insights from rural entrepreneurship and tourism mentoring studies, which emphasize the importance of collective learning and guidance structures in shaping sustainable initiatives (Galvao et al., 2020). The quantitative confirmation of these relationships strengthens the analytical bridge between micro-level community practices and meso-level governance outcomes. Such integration enhances the explanatory depth of community-based ecotourism research. Further examination reveals that participatory governance enhances communities' capacity to negotiate external stakeholder involvement, including local governments and private actors. Respondents report greater bargaining power and strategic clarity when governance mechanisms are formalized and inclusive. This pattern aligns with rural development

literature that frames community-based initiatives as arenas of negotiated power rather than purely endogenous processes (Imanuella et al., 2025).

Effective governance enables communities to align external resources with local priorities while minimizing dependency risks. The empirical evidence thus reinforces governance as a relational capability embedded within ecotourism development. The findings also suggest that participatory ecotourism initiatives contribute indirectly to broader social well-being outcomes, including social cohesion and intergenerational engagement. Although not modeled as direct outcome variables, these effects emerge from high correlations between participation indicators and perceived community solidarity. Comparable observations have been reported in studies examining active leisure and rural community engagement, where shared activities foster social integration and collective identity (Hartnett & Gorman, 2022). Such social externalities enhance the sustainability of ecotourism by reinforcing communal commitment beyond immediate economic returns. The results underscore the multidimensional value creation embedded in community-based ecotourism systems. Spatial differentiation among study sites indicates that ecological context shapes participation–governance dynamics. Coastal and agro-ecotourism villages display distinct governance priorities reflecting resource-specific vulnerabilities and opportunities. This spatial sensitivity supports frameworks that conceptualize ecotourism as place-based development embedded in ecological and cultural specificities (Priatmoko et al., 2025).

Quantitative differences across sites caution against one-size-fits-all policy prescriptions. Instead, adaptive governance models appear more consistent with observed empirical patterns. Overall, the results position community participation and governance as interdependent drivers of ecotourism development rather than discrete variables operating in isolation. The empirical evidence consolidates theoretical claims that sustainability-oriented tourism emerges from the alignment of social capital, institutional design, and environmental stewardship. By quantitatively validating these relationships in diverse Indonesian rural contexts, the study contributes to comparative debates on community-based ecotourism effectiveness. The analytical implications extend to rural entrepreneurship research, where collective governance increasingly functions as a prerequisite for sustainable value creation.

Sustainable Rural Entrepreneurship Performance and Value Creation

The second set of empirical findings focuses on how community-based ecotourism development translates into sustainable rural entrepreneurship outcomes, particularly in terms of economic viability, social value creation, and long-term environmental orientation. The structural model demonstrates a strong and statistically significant relationship between ecotourism development and entrepreneurial performance, indicating that well-managed community-based tourism systems provide a conducive platform for rural enterprise growth. Respondents consistently report improvements in income stability, diversification of livelihood sources, and reduced vulnerability to seasonal economic shocks. These outcomes support perspectives that frame rural entrepreneurship as an embedded process shaped by local institutions and collective action rather than individual market behavior alone (Imanuella et al., 2025).

The quantitative evidence suggests that entrepreneurship sustainability emerges from cumulative community-level capabilities developed through ecotourism practices. Economic viability indicators display particularly robust path coefficients, reflecting the role of ecotourism in generating recurring revenue streams and expanding market access for rural enterprises. Enterprises linked to accommodation services, local food production, guiding, and handicrafts demonstrate higher perceived business continuity compared to non-tourism-based rural activities. This pattern aligns with findings from rural tourism entrepreneurship studies emphasizing tourism's multiplier effects within local economies (Utami et al., 2023). The results further indicate that community-based structures reduce entry barriers for small entrepreneurs by pooling resources and sharing risks. Such mechanisms reinforce collective resilience while sustaining individual entrepreneurial incentives. Social value creation constitutes a distinct yet interconnected dimension of sustainable rural entrepreneurship identified in the analysis. High scores on indicators related to employment generation, inclusion of women and youth, and preservation of cultural practices reflect entrepreneurship outcomes extending beyond financial metrics.

These findings resonate with social entrepreneurship literature that conceptualizes rural enterprises as vehicles for addressing structural inequalities and strengthening community cohesion

(Mandrysz, 2020). Respondents frequently associate entrepreneurial success with collective recognition and social legitimacy rather than purely profit-oriented benchmarks. The empirical results validate the relevance of social value as a core component of sustainability-oriented entrepreneurship in rural ecotourism contexts. Environmental orientation of entrepreneurial activities also demonstrates a significant relationship with ecotourism development, underscoring the integration of conservation principles into business practices. Enterprises operating within mangrove, agro-ecotourism, and conservation-based destinations report higher commitment to environmentally responsible production and service delivery. This outcome reflects empirical patterns observed in ecosystem-service-based ecotourism initiatives, where environmental protection functions as both a moral obligation and a competitive advantage (Hidayat et al., 2024).

The alignment between entrepreneurship and ecological stewardship enhances long-term resource availability. Such integration reduces the trade-off often assumed between economic activity and environmental sustainability. Variations in entrepreneurial performance across communities reveal the moderating influence of capacity-building and mentoring processes. Communities that have engaged in structured training, peer learning, and external facilitation demonstrate higher entrepreneurial competence and innovation capacity. This observation is consistent with research highlighting mentoring and experiential learning as critical enablers of rural entrepreneurship development (Galvao et al., 2020). The quantitative dispersion suggests that entrepreneurship sustainability depends not only on ecotourism presence but also on learning infrastructures embedded within community systems. These findings emphasize the role of human capital development in sustaining rural enterprises. To clarify the magnitude of these relationships, Table 2 presents the structural path coefficients linking ecotourism development to dimensions of sustainable rural entrepreneurship. The table is referenced here to anchor the discussion in the empirical estimates derived from the PLS-SEM analysis.

Table 2. Structural Path Coefficients for Sustainable Rural Entrepreneurship

Path Relationship	Coefficient	t-value	Significance
Ecotourism Development → Economic Viability	0.52	7.14	$p < 0.001$
Ecotourism Development → Social Value Creation	0.45	6.08	$p < 0.001$
Ecotourism Development → Environmental Orientation	0.39	5.36	$p < 0.001$

The coefficients in Table 2 indicate that economic viability represents the strongest entrepreneurial outcome, while social and environmental dimensions remain substantively significant. The statistical robustness of these relationships confirms that community-based ecotourism functions as a multidimensional catalyst for rural entrepreneurship. These results empirically support theoretical arguments positioning tourism as a platform for integrated value creation rather than a single-sector intervention (Streimikiene et al., 2021). The balanced contribution across dimensions strengthens the sustainability profile of rural enterprises. Such balance is central to long-term rural development strategies. Further analysis suggests that collective ownership and benefit-sharing arrangements enhance entrepreneurial motivation and persistence. Entrepreneurs operating within cooperative or community-managed frameworks report stronger commitment to enterprise continuity despite modest short-term returns.

This pattern aligns with evidence from community-based tourism dynamics during crisis periods, where collective support mechanisms mitigated business failure risks (Umam et al., 2022). The findings

highlight that shared governance structures buffer entrepreneurial vulnerability. Such buffering capacity is especially relevant in rural economies exposed to external shocks. The results also reveal that lifestyle and place-based motivations reinforce sustainable entrepreneurial behavior. Respondents frequently associate business engagement with attachment to place, cultural identity, and intergenerational continuity. These motivations complement economic incentives and shape management practices oriented toward long-term sustainability. Comparable observations have been documented in rural tourism entrepreneurship research emphasizing lifestyle-driven business strategies (Cunha et al., 2020). The convergence of economic and non-economic motivations enhances enterprise resilience.

Spatial analysis indicates that coastal and agro-ecotourism contexts exhibit distinct entrepreneurial orientations reflecting resource characteristics and market structures. Coastal communities prioritize conservation-linked services, while agro-ecotourism villages emphasize value-added agricultural products and experiential tourism. This differentiation supports spatially grounded frameworks of community-based tourism that recognize heterogeneity in entrepreneurial pathways (Priatmoko et al., 2025). The empirical patterns caution against homogenized entrepreneurship policies. Context-responsive strategies appear more consistent with observed outcomes. Overall, the findings confirm that sustainable rural entrepreneurship is not an automatic consequence of tourism development but emerges through structured community-based ecotourism systems. The quantitative evidence demonstrates that economic, social, and environmental value creation are jointly reinforced when entrepreneurship is embedded within participatory and ecologically oriented tourism frameworks. These results extend rural entrepreneurship theory by empirically substantiating the role of community-based ecotourism as an enabling institutional context.

Mediating Mechanisms, Resilience, and Systemic Implications for Rural Sustainability

The third set of findings examines the mediating mechanisms through which community-based ecotourism development strengthens sustainable rural entrepreneurship, with particular attention to resilience, adaptive capacity, and long-term system stability. The structural model indicates that the relationship between ecotourism development and entrepreneurial sustainability is partially mediated by collective learning, social capital accumulation, and institutional embeddedness. These mediators operate by transforming tourism-related activities into durable entrepreneurial routines that persist beyond short-term market fluctuations. Respondents perceive entrepreneurship not as isolated firm-level behavior but as an extension of collective community strategy. This empirical configuration reinforces theoretical positions that rural sustainability emerges from systemic rather than linear development processes (Streimikiene et al., 2021).

Collective learning emerges as a significant mediating factor, reflected in high correlations between ecotourism participation indicators and entrepreneurial innovation capacity. Communities that engage in regular deliberation, shared evaluation, and informal knowledge exchange demonstrate stronger adaptive responses to changing tourist preferences and environmental conditions. This pattern aligns with mentoring and capability-building perspectives emphasizing experiential learning as a driver of rural entrepreneurial resilience (Galvao et al., 2020). The quantitative associations suggest that learning processes internalized at the community level enhance opportunity recognition and strategic flexibility. Such learning-based mediation strengthens the sustainability of rural enterprises over time. Social capital plays a complementary mediating role by reinforcing trust, reciprocity, and collective commitment among community members involved in ecotourism and entrepreneurship. High levels of interpersonal trust reduce coordination costs and facilitate joint investment in shared infrastructure and marketing initiatives.

Empirical patterns observed in the data echo findings from community-based tourism cases where dense social networks enhance cooperative capacity and crisis endurance (Umam et al., 2022). Social capital also shapes normative expectations regarding environmental responsibility and equitable benefit distribution. These relational assets function as intangible yet critical enablers of sustainable rural entrepreneurship. Institutional embeddedness further mediates entrepreneurial outcomes by aligning community initiatives with local governance frameworks and external support systems. Communities that integrate ecotourism governance with village regulations and development plans demonstrate greater policy coherence and resource mobilization capacity. This embeddedness reflects actor-network dynamics in which human and non-human actors co-produce development trajectories across space and time (Ainurrohman et al., 2022).

Quantitative indicators show that institutional alignment enhances legitimacy and reduces conflict among stakeholders. Such mediation stabilizes entrepreneurial ecosystems within rural tourism contexts. Resilience-oriented outcomes become evident when examining how communities respond to environmental, economic, and social disturbances. Respondents from destinations exposed to coastal erosion, climate variability, or market volatility report that ecotourism-linked entrepreneurship provides adaptive livelihood alternatives. These findings are consistent with empirical studies highlighting ecotourism's role in sustaining rural livelihoods under ecological stress (Aazami & Shanazi, 2020; Demkova et al., 2022). The data indicate that resilience is not solely an environmental outcome but an entrepreneurial capability shaped by collective preparedness.

This reinforces the argument that sustainability must be evaluated through dynamic response capacity rather than static performance indicators. Intergenerational continuity emerges as another systemic implication of the mediating mechanisms identified. Younger community members display higher entrepreneurial engagement in villages where ecotourism activities are integrated with cultural education and skill transmission. This pattern resonates with social entrepreneurship perspectives emphasizing long-term social reproduction as a core development objective (Imanuella et al., 2025). Quantitative trends suggest that ecotourism creates symbolic and material incentives for youth participation in rural economies. Such engagement counters rural outmigration pressures while sustaining local knowledge systems. Gender inclusion also appears as an indirect outcome mediated by community-based ecotourism structures. Female respondents report increased participation in entrepreneurial activities related to hospitality, culinary production, and cultural services. These opportunities are facilitated by collective organization that lowers entry barriers and redistributes access to resources. Similar inclusionary effects have been observed in Indonesian community-based ecotourism initiatives emphasizing empowerment through collective action (Akbar et al., 2021; Aji & Faniza, 2024).

The findings suggest that mediation occurs through social norms reshaped by participatory governance. Spatial embeddedness shapes how mediating mechanisms operate across different rural ecotourism typologies. Agro-ecotourism villages emphasize learning and innovation linked to agricultural value chains, while coastal destinations prioritize resilience and environmental stewardship. This differentiation aligns with spatially grounded analyses of rural community-based tourism frameworks in developing countries (Priatmoko et al., 2025). Quantitative contrasts across sites highlight the contextual specificity of mediation processes. Such specificity underscores the importance of place-based analytical lenses in rural entrepreneurship research. The interaction between ecotourism development and entrepreneurial sustainability also generates feedback loops that reinforce community commitment. Successful entrepreneurial outcomes strengthen trust in collective governance, which in turn deepens participation and learning intensity. This recursive dynamic reflects systems-oriented development models rather than linear causality. Comparable feedback mechanisms have been identified in ecosystem-service-based ecotourism development, where success consolidates conservation and economic incentives simultaneously (Hidayat et al., 2024).

The empirical evidence supports a virtuous cycle interpretation of community-based ecotourism systems. From a management and policy perspective, the mediating mechanisms identified highlight the limitations of intervention strategies focused solely on infrastructure or market access. The data demonstrate that without investment in learning processes, social capital, and institutional coherence, ecotourism initiatives struggle to produce sustainable entrepreneurial outcomes. These insights align with broader rural development literature advocating integrated empowerment models over fragmented project-based approaches (Adi et al., 2025). Quantitative relationships reinforce the strategic importance of governance and capability-building. Such implications extend beyond tourism into rural economic policy design.

The third set of findings situates sustainable rural entrepreneurship as an emergent property of interconnected social, institutional, and ecological processes catalyzed by community-based ecotourism. The empirical analysis demonstrates that mediation through learning, social capital, and embedded governance transforms tourism activity into long-term development capacity. These results advance entrepreneurship theory by empirically grounding resilience and sustainability within collective systems rather than individual firm performance. The study contributes to tourism scholarship by clarifying how ecotourism functions as a developmental platform rather than a sectoral endpoint.

This integrated interpretation strengthens the coherence between empirical evidence, theoretical frameworks, and rural sustainability objectives.

CONCLUSION

This study demonstrates that community-based ecotourism development in Indonesia operates as a structurally embedded system in which community participation, local governance, and environmental management jointly shape sustainable rural entrepreneurship outcomes. The empirical evidence confirms that participatory governance mechanisms enhance ecotourism performance while simultaneously enabling economic viability, social value creation, and environmental orientation of rural enterprises. Sustainable entrepreneurship emerges not as an automatic by-product of tourism activity but as a result of coordinated collective action, institutional coherence, and learning processes cultivated within community-based ecotourism frameworks. The findings validate theoretical perspectives that conceptualize rural development as a relational and place-based process, where entrepreneurship is inseparable from social capital and ecological stewardship.

By empirically linking ecotourism development to multidimensional entrepreneurial performance, the study strengthens the analytical bridge between tourism studies and sustainability-oriented entrepreneurship research. The study further reveals that mediating mechanisms such as collective learning, social capital accumulation, and institutional embeddedness are central to transforming ecotourism initiatives into resilient rural entrepreneurial ecosystems. These mechanisms generate adaptive capacity, intergenerational continuity, and inclusion, reinforcing the long-term sustainability of rural communities facing environmental and economic uncertainty. The results underscore the importance of moving beyond infrastructure- or market-centric interventions toward integrated development strategies that prioritize governance quality, capability building, and community agency. From a theoretical standpoint, the study advances understanding of how community-based ecotourism functions as a developmental platform rather than a sectoral endpoint. Practically, the findings provide evidence-based insights for policymakers and practitioners seeking to design rural tourism and entrepreneurship programs that are both context-sensitive and sustainability-oriented.

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