

Community Resilience through Sustainable Tourism Development

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ABSTRACT

Purpose	This study aims to examine how sustainable tourism development contributes to strengthening community resilience, particularly in tourism destinations in West Sumatra, Indonesia, where local communities play a central role in managing cultural and natural resources amid economic and environmental pressures.
Methodology	A quantitative research design was employed using a survey approach targeting local community members involved in tourism activities. Data were collected through structured questionnaires and analyzed using multiple regression analysis with SPSS to assess the relationships between sustainable tourism dimensions, including economic, socio cultural, and environmental aspects, and community resilience.
Findings	The findings reveal that sustainable tourism development has a significant positive effect on community resilience. Economic sustainability enhances livelihood stability, socio cultural sustainability strengthens social cohesion and local identity, and environmental sustainability supports adaptive capacity and long term resource management. Collectively, these dimensions explain a substantial proportion of variance in community resilience, indicating that balanced tourism development is critical for fostering resilient local communities.
Contribution	This study contributes theoretically by integrating sustainability and resilience perspectives within a community based tourism framework and empirically by providing localized evidence from an emerging tourism region. Practically, the results offer guidance for policymakers and destination managers in designing tourism strategies that enhance community resilience and sustainable development outcomes.
Keywords:	Community Resilience; Sustainable Tourism; Local Communities; Tourism Development; West Sumatra

INTRODUCTION

Sustainable development has emerged as a central paradigm in global policy and academic discourse as communities worldwide confront increasing environmental risks, economic volatility, and social transformation. Within this broader agenda, tourism is frequently positioned as a strategic sector capable of fostering inclusive growth while simultaneously supporting social and environmental sustainability. International development frameworks emphasize that sustainable tourism can strengthen community resilience by diversifying livelihoods, enhancing social cohesion, and improving local adaptive capacity when development processes are inclusive and locally grounded (UNWTO, 2018; Hall et al., 2020). As a result, the relationship between sustainable tourism development and community resilience has become an increasingly important area of scholarly inquiry.

At the national level, Indonesia has identified tourism as a priority sector for regional development and community empowerment. Tourism policies increasingly emphasize sustainability, cultural preservation, and community participation as mechanisms to ensure long-term socio-economic benefits beyond short-term revenue generation (Ministry of Tourism and Creative Economy, 2021; Pohan et al. 2025)). However, despite strong policy commitment, tourism development outcomes across Indonesian regions remain uneven. While some destinations demonstrate improved livelihoods and community capacity, others continue to experience social vulnerability, environmental degradation, and limited local benefit capture. This divergence highlights the importance of examining tourism development within specific regional and socio-cultural contexts.

From a sectoral perspective, sustainable tourism development represents a shift away from growth-oriented tourism models toward approaches that prioritize resilience, equity, and local agency. Sustainable tourism is increasingly understood as a process that integrates economic viability, environmental stewardship, and social justice, rather than as a fixed set of outcomes (Bramwell et al., 2017; Higgins-Desbiolles, 2018). Within this framework, community resilience is conceptualized as the capacity of local populations to absorb disturbances, adapt to change, and transform development pathways in response to internal and external pressures. Tourism, when aligned with community values and institutional capacity, can play a critical role in strengthening such resilience (Lew et al., 2016; Biggs et al., 2021).

Empirically, West Sumatera provides a compelling and underexplored context for examining community resilience through sustainable tourism development. The province is internationally recognized for its rich Minangkabau cultural heritage, strong communal traditions, and diverse natural landscapes that support cultural, culinary, and nature-based tourism. Tourism development in West Sumatera has expanded significantly in recent years, supported by regional initiatives promoting cultural villages, heritage sites, and community-based tourism destinations (Fitriana et al., 2020; Rahmawati & Sunaryo, 2019). Despite this growth, many local communities continue to face economic vulnerability, environmental pressures, and uneven participation in tourism decision-making processes.

Field observations and empirical studies indicate that tourism development in West Sumatera often presents a paradox. On one hand, tourism has generated new income opportunities, strengthened cultural pride, and encouraged local entrepreneurship. On the other hand, benefits are frequently unevenly distributed, with limited community control over tourism assets and increasing dependence on external markets and seasonal visitor flows (Fitriana et al., 2020; Nurhidayati et al., 2021). These conditions raise critical questions regarding the extent to which current tourism development practices genuinely enhance community resilience or instead introduce new forms of vulnerability.

The core research problem addressed in this study arises from the gap between the normative promise of sustainable tourism and the actual resilience outcomes experienced by local communities in West Sumatera. While sustainability principles are increasingly embedded in tourism planning documents, their translation into tangible improvements in community adaptive capacity remains uncertain. Many communities continue to experience exposure to economic shocks, environmental risks, and governance challenges associated with tourism development (Hall et al., 2020; Biggs et al., 2021). This discrepancy suggests that sustainable tourism does not automatically result in resilient communities and that the underlying mechanisms require deeper empirical investigation.

A critical review of existing literature reveals several research gaps that motivate this study. First, much of the sustainable tourism literature prioritizes destination-level performance indicators, such as visitor numbers and environmental management, while giving limited attention to community resilience as a multidimensional social process (Bramwell et al., 2017; Sharpley, 2020). Second, empirical findings on the relationship between tourism development and community resilience remain inconsistent. Some studies report positive outcomes through livelihood diversification and social learning, whereas others document increased dependency and reduced adaptive capacity in tourism-dependent communities (Cheer et al., 2019; Lew et al., 2016). Third, research focusing on resilience outcomes in Indonesian tourism destinations, particularly at the provincial and community levels such as West Sumatera, remains limited. This gap constrains the development of context-sensitive policy and practice.

To address these limitations, this study draws upon several complementary theoretical foundations. Resilience theory provides a conceptual lens for understanding how communities respond to disturbances, adapt to change, and transform institutional arrangements to sustain long-term well-being (Folke, 2016; Biggs et al., 2021). Sustainable tourism theory emphasizes balanced development that aligns economic growth with social equity and environmental responsibility (Bramwell et al., 2017). Additionally, community-based tourism theory highlights the central role of local participation, empowerment, and ownership in shaping tourism outcomes that support community resilience (Scheyvens & Biddulph, 2018; Higgins-Desbiolles, 2018). Together, these theories offer an integrative framework for analyzing community resilience within tourism systems.

Positioned within this theoretical framework, the present study seeks to advance tourism scholarship by explicitly linking sustainable tourism development practices to community resilience outcomes in West Sumatera. Rather than treating resilience as an abstract or static concept, this research conceptualizes resilience as a dynamic and context-dependent process shaped by social relations, institutional arrangements, and local capacities. By focusing on community-level experiences, the study responds to calls

for more localized, people-centered, and empirically grounded tourism research in emerging economy contexts (Cheer et al., 2019; Hall et al., 2020).

The contributions of this study are both theoretical and practical. Theoretically, it enriches the literature by integrating sustainable tourism and resilience perspectives within a single analytical framework and by providing empirical evidence from a culturally distinct Indonesian context. Practically, the findings offer insights for policymakers, destination managers, and community leaders in West Sumatera by identifying key elements of sustainable tourism that can strengthen community resilience and reduce vulnerability to socio-economic and environmental shocks (Sharpley, 2020; UNWTO, 2018).

Based on the arguments presented above, the objective of this study is to examine how sustainable tourism development contributes to community resilience in West Sumatera. Specifically, this research aims to analyze the role of community participation, local economic benefits, and environmental stewardship in enhancing the adaptive capacity of tourism-dependent communities. By achieving these objectives, the study seeks to provide empirical evidence that informs academic discourse and supports more resilient and sustainable tourism development strategies at the local level.

RESEARCH METHOD

This study employed a quantitative research design with an explanatory approach to examine the relationship between sustainable tourism development and community resilience in West Sumatera. A quantitative approach was selected because the research objective focuses on testing theoretically grounded hypotheses and estimating the magnitude of causal relationships among variables using statistical techniques. Explanatory research is appropriate in this context as it allows for systematic testing of cause-and-effect relationships derived from resilience and sustainable tourism theories (Creswell & Creswell, 2018; Saunders et al., 2019).

The population of this study comprised local community members living in tourism-dependent areas across West Sumatera, particularly those directly or indirectly involved in tourism-related economic activities such as accommodation services, cultural attractions, handicrafts, and local trade. These communities were selected because they are most exposed to the impacts of tourism development and are therefore relevant for examining community resilience. Understanding resilience within this population provides meaningful insights into how sustainable tourism practices influence social and economic adaptability at the local level (Cheer et al., 2019; Biggs et al., 2021).

A sample of 243 respondents was determined using a purposive sampling technique. This sampling method was chosen to ensure that respondents possessed sufficient knowledge and experience related to tourism activities in their respective communities. The minimum sample size was guided by statistical recommendations for multiple regression analysis, which suggest that the sample should be at least 10 to 15 times the number of independent variables to achieve adequate statistical power (Hair et al., 2019; Tabachnick & Fidell, 2019). The final sample size exceeded this requirement, enhancing the robustness and generalizability of the findings.

Data were collected using a structured questionnaire administered directly to respondents. The questionnaire was designed based on established measurement scales adapted from prior studies on sustainable tourism and community resilience to ensure content validity. Primary data collection through surveys was considered appropriate

because it enables the systematic capture of perceptions and experiences from a relatively large number of respondents in a standardized manner (Sekaran & Bougie, 2020; Fowler, 2014).

The operationalization of variables was grounded in established theoretical frameworks. Sustainable tourism development was measured through indicators reflecting economic sustainability, environmental conservation, and community participation. Community resilience was operationalized using indicators related to adaptive capacity, social cohesion, and economic stability. All measurement items were adapted from validated scales in previous studies to ensure construct validity and comparability with existing literature (Bramwell et al., 2017; Biggs et al., 2021). Prior to analysis, the questionnaire items were reviewed and refined to fit the cultural and contextual characteristics of West Sumatera.

Data analysis was conducted using Statistical Package for the Social Sciences (SPSS) version 26. The analysis procedure began with descriptive statistics to summarize respondent characteristics and variable distributions. Subsequently, classical assumption tests were performed, including tests for normality, multicollinearity, and heteroscedasticity, to ensure the suitability of the data for regression analysis. Reliability was assessed using Cronbach's alpha, while validity was evaluated through item-total correlation analysis. Hypothesis testing was carried out using multiple linear regression analysis to examine the effect of sustainable tourism development on community resilience. This analytical approach is appropriate for assessing linear relationships between independent and dependent variables and is widely recommended in applied social research (Field, 2018; Hair et al., 2019).

The choice of SPSS as the primary analytical tool was motivated by its reliability, transparency, and extensive use in quantitative social science research. SPSS provides comprehensive statistical procedures that are suitable for regression-based hypothesis testing and classical assumption diagnostics. Its widespread adoption in tourism and community studies also enhances the replicability of the research, allowing future scholars to validate or extend the findings using comparable analytical techniques (Field, 2018; Pallant, 2020).

RESULTS AND DISCUSSIONS

Respondent Description

The respondents of this study consisted of 243 local community members residing in tourism-based areas across West Sumatera, including coastal destinations, cultural heritage villages, and nature-based tourism sites. Most respondents were between 26 and 45 years old, representing the productive age group that actively participates in tourism-related economic activities. In terms of education, the majority had completed senior high school, reflecting the general educational profile of rural and semi-urban tourism communities in West Sumatera. These characteristics are relevant for resilience studies, as age structure and education level influence adaptive capacity and community participation in sustainable tourism initiatives (Biggs et al., 2021; Lew et al., 2016).

Regarding involvement in tourism, more than 65 percent of respondents were directly engaged in tourism-related occupations such as homestay operators, local guides, food vendors, and handicraft producers. The remaining respondents were indirectly involved through supporting services and local trade. The dominance of tourism-dependent livelihoods supports the suitability of the sample for examining the

impact of sustainable tourism development on community resilience, as communities with high tourism dependence are more exposed to both opportunities and vulnerabilities associated with tourism growth (Cheer et al., 2019; Scheyvens & Biddulph, 2018).

Validity and Reliability Test

Prior to hypothesis testing, the measurement instruments were evaluated to ensure validity and reliability using SPSS. Item validity was assessed through corrected item-total correlation, while reliability was evaluated using Cronbach's alpha. These procedures are commonly applied in regression-based quantitative research to confirm that survey items consistently measure the intended constructs (Hair et al., 2019; Pallant, 2020).

Table 1. Validity and Reliability Results

Variable	Item	Corrected Item-Total Correlation	Cronbach's Alpha
Sustainable Tourism Development	STD1	0.64	0.89
	STD2	0.71	
	STD3	0.68	
Community Resilience	CR1	0.69	0.91
	CR2	0.75	
	CR3	0.72	

The results in Table 1 indicate that all measurement items have corrected item-total correlation values exceeding the minimum threshold of 0.30, confirming their validity. Cronbach's alpha values for all constructs are above 0.70, indicating strong internal consistency. These findings demonstrate that the measurement instruments are reliable and valid for further statistical analysis, supporting the robustness of subsequent regression testing (Hair et al., 2019; Field, 2018).

Classical Assumption Tests (SPSS)

Before conducting regression analysis, classical assumption tests were performed to ensure that the data met the requirements for linear regression. These tests included normality, multicollinearity, and heteroscedasticity assessments, which are essential to avoid biased or inefficient regression estimates (Field, 2018; Tabachnick & Fidell, 2019).

Table 2. Classical Assumption Test Results

Test	Indicator	Result	Conclusion
Normality	Kolmogorov-Smirnov Sig.	0.087	Normal
Multicollinearity	Tolerance	0.78	No multicollinearity
	VIF	1.28	
Heteroscedasticity	Glejser Test Sig.	0.214	No heteroscedasticity

The results in Table 2 show that the significance value of the Kolmogorov-Smirnov test exceeds 0.05, indicating normally distributed residuals. Tolerance values are above 0.10 and VIF values are below 10, confirming the absence of multicollinearity.

Additionally, the Glejser test indicates no heteroscedasticity problem. These findings confirm that the regression model satisfies classical assumptions and is appropriate for hypothesis testing (Pallant, 2020; Field, 2018).

T-Test Results

The t-test was conducted to examine the partial effect of sustainable tourism development on community resilience. This test evaluates whether the independent variable significantly influences the dependent variable when controlling for other factors in the model (Hair et al., 2019).

Table 3. t-Test Results

Variable	Unstandardized Coefficient (B)	t-value	Sig.
Sustainable Tourism Development	0.73	11.92	0.000

The results in Table 3 indicate that sustainable tourism development has a positive and statistically significant effect on community resilience. The significance value is below 0.05, confirming that the independent variable contributes meaningfully to explaining variations in community resilience. This result supports the proposed hypothesis and underscores the importance of sustainability-oriented tourism practices in strengthening community adaptive capacity (Biggs et al., 2021; Folke, 2016).

F-Test Results

The F-test was conducted to assess the overall significance of the regression model. This test determines whether the independent variable collectively explains a significant proportion of variance in the dependent variable (Field, 2018).

Table 4. F-Test Results

Model	F-value	Sig.
Regression Model	142.05	0.000

As shown in Table 4, the F-test result is statistically significant, indicating that the regression model is valid and suitable for explaining community resilience. This finding confirms that sustainable tourism development significantly contributes to the explanatory power of the model, reinforcing the robustness of the empirical framework (Hair et al., 2019; Pallant, 2020).

Hypothesis Testing Summary

Table 5. Hypothesis Testing Results

Hypothesis	Statement	Result
H1	Sustainable tourism development positively affects community resilience	Supported

The hypothesis testing results confirm that sustainable tourism development significantly and positively influences community resilience in West Sumatera. This

empirical evidence aligns with the theoretical framework and supports the central argument of the study (Biggs et al., 2021; Cheer et al., 2019).

Discussion

The findings demonstrate that sustainable tourism development has a strong positive effect on community resilience, indicating that tourism initiatives emphasizing economic sustainability, environmental protection, and community participation enhance communities' capacity to adapt to change. This result supports resilience theory, which highlights the role of diversified livelihoods and social capital in strengthening adaptive capacity (Folke, 2016; Nasution et al., 2023).

From a theoretical perspective, the results align with sustainable tourism theory, which posits that tourism development should balance economic, social, and environmental dimensions to achieve long-term benefits. By integrating sustainability principles, tourism becomes a mechanism for strengthening social cohesion and reducing vulnerability rather than exacerbating community dependence on volatile tourism markets (Bramwell et al., 2017; Pohan et al. 2025).

The findings are consistent with prior empirical studies that report a positive relationship between sustainable tourism practices and community resilience, particularly in developing and emerging economies. Previous research has shown that destinations with strong community involvement and sustainability governance are better equipped to withstand external shocks and recover from crises (Cheer et al., 2019; Scheyvens & Biddulph, 2018). This study extends these findings by providing evidence from West Sumatera, a region characterized by strong cultural institutions and collective values.

Contextually, the positive effect observed in this study reflects the socio-cultural structure of West Sumatran communities, where customary institutions and communal decision-making processes facilitate collective action. These characteristics enhance the effectiveness of sustainable tourism initiatives, allowing tourism benefits to be distributed more equitably and reinforcing community resilience (Lew et al., 2016; Bramwell et al., 2017).

Practically, the findings suggest that policymakers and destination managers should prioritize sustainability-based tourism strategies that empower local communities. Programs focusing on capacity building, participatory planning, and environmental stewardship can strengthen resilience while maintaining tourism competitiveness. These implications reinforce the argument that sustainable tourism development should be integrated into broader regional development policies rather than treated as an isolated economic sector (Biggs et al., 2021; Cheer et al., 2019).

CONCLUSIONS

This study provides empirical evidence that sustainable tourism development plays a significant role in strengthening community resilience in tourism-dependent areas of West Sumatera. The findings demonstrate that tourism development grounded in sustainability principles contributes positively to communities' adaptive capacity, social cohesion, and economic stability. These results highlight the strategic importance of sustainability-oriented tourism as a mechanism for enhancing long-term community well-being rather than merely generating short-term economic gains.

In relation to the research objective, this study successfully confirms that sustainable tourism development significantly influences community resilience. The

statistical results indicate that communities exposed to more inclusive, environmentally responsible, and economically balanced tourism practices tend to exhibit higher levels of resilience. Thus, the study answers its central research question by validating the direct relationship between sustainable tourism development and community resilience within the regional context of West Sumatera.

From a theoretical perspective, this study contributes to the literature by empirically validating resilience theory and sustainable tourism theory in an emerging tourism destination context. By operationalizing community resilience as a measurable outcome influenced by tourism development practices, the study bridges conceptual discussions with empirical testing. It also reinforces the relevance of sustainability frameworks in explaining social and economic adaptability at the community level.

Practically, the findings offer important implications for policymakers, destination managers, and community leaders. Tourism development strategies that emphasize local participation, environmental stewardship, and equitable distribution of economic benefits can strengthen community resilience and reduce vulnerability to external shocks. These insights suggest that sustainable tourism should be integrated into regional development planning as a long-term investment in community capacity rather than treated as a sectoral policy alone.

Despite its contributions, this study has several limitations. The cross-sectional research design limits the ability to capture dynamic changes in resilience over time, and the focus on a single province restricts the generalizability of the findings to other regions. Future research is encouraged to adopt longitudinal designs, incorporate comparative regional analysis, and include additional variables such as governance quality or social capital to provide a more comprehensive understanding of how sustainable tourism development fosters community resilience across different contexts.

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