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Stakeholder-Oriented Ecotourism Management and Marketing: A Sustainability Performance Evaluation of Chengyang Eight Villages in Guangxi, China

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Abstract

As ecotourism destinations face increasing market competition and growing sustainability pressures, destination managers must balance stakeholder interests while converting ecological, sociocultural, and economic resources into sustainable market value. Drawing on stakeholder theory, strategic management, and destination marketing perspectives, this study develops a stakeholder-oriented sustainability performance evaluation framework for ecotourism management. Fourteen indicators across economic, sociocultural, and environmental dimensions are constructed through a literature review and evaluated from the perspective of indigenous residents as core stakeholders. Using the Analytic Hierarchy Process (AHP), Likert-scale survey data, and Chengyang Eight Villages in Guangxi, China as the empirical setting, the study assesses the relative managerial priorities of sustainable ecotourism development. The reported dimension weights assign the highest priority to economic sustainability, followed by sociocultural sustainability, whereas environmental sustainability receives the lowest relative weight. Discrepancies between the displayed matrices and indicator weights require reconciliation before the indicator rankings can be treated as definitive. The reported weighting structure highlights differences in the relative emphasis assigned to livelihood, cultural, and environmental considerations, creating important implications for destination governance, market positioning, service experience, and long-term competitiveness. This study contributes to management and marketing research by reframing ecotourism sustainability evaluation as a strategic decision-support mechanism through which destination managers can coordinate stakeholder interests, allocate resources, strengthen destination value propositions, protect cultural and environmental assets, and improve sustainable competitive advantage. Managerially, the findings suggest that destination management organizations should integrate stakeholder engagement, sustainability performance measurement, cultural branding, visitor experience design, and environmental governance into a coherent destination marketing strategy.

Keywords: stakeholder management; strategic destination management; sustainable marketing; destination marketing; sustainability performance; competitive advantage; ecotourism

1. INTRODUCTION

The tourism industry has experienced significant growth in recent years [1], making notable contributions to improving residents' living standards, creating employment opportunities, promoting rural development, and alleviating poverty [2]. However, as tourism continues to expand, it has placed significant pressure on local natural resources, with its negative impacts on society and the environment increasingly evident [3].

Ecotourism centers on the core principle of sustainable development, adhering to three fundamental tenets: environmental protection, cultural continuity, and economic benefits [3]. It not only generates stable economic returns for destinations, provides employment opportunities, and ensures livelihoods [4], but also plays a positive role in advancing ecosystem conservation, economic development, and poverty alleviation [3]. Particularly in developing countries, many indigenous communities view ecotourism as a vital pathway to increase income, improve household economic conditions, and enhance quality of life [5].

However, as ecotourism advances, its potential negative impacts have gradually emerged. A key reason lies in the conflicts, contradictions and non-cooperative behavior stemming from interests and tensions among stakeholders [6]. In ecotourism practices, stakeholders such as governments, tourism enterprises, local residents, and visitors often experience conflicts and governance imbalances due to differences in their interests, development goals, and behavioral patterns. This, to some extent, constrains the sustainable development of ecotourism [6]. Research on ethnic tourism villages in China also identifies risks to rural household livelihoods, underscoring the importance of examining how tourism benefits and vulnerabilities are distributed within local communities [7]. Promoting the sustainable development of ecotourism requires not only attention to economic and ecological outcomes but also a focus on coordinating stakeholder interests and behaviors [8]. Through guidance and governance, conflicts among stakeholders can be transformed into cooperation, thereby establishing a mutually beneficial, symbiotic model of ecotourism development [9].

Accordingly, the central managerial challenge is not only to evaluate whether ecotourism is sustainable, but also to determine how destination managers can coordinate stakeholder interests and allocate resources in ways that strengthen destination value and long-term market competitiveness. This study focuses on Chengyang Eight Villages in Guangxi and develops a core stakeholder-based sustainability performance framework as a strategic management and marketing decision-support tool. By identifying the relative importance of economic, sociocultural, and environmental indicators, the study aims to help destination managers identify management priorities, improve stakeholder coordination, strengthen the destination value proposition, and align sustainability initiatives with market positioning and visitor experience. The study therefore addresses the following managerial question: how can stakeholder-oriented sustainability evaluation support strategic destination management and marketing in indigenous ecotourism destinations?

Ecotourism is typically defined as a form of tourism involving cooperative participation among the tourism industry, local governments, community residents, and visitors. Its purpose is to enable tourists to visit destinations to observe, learn about, and experience the local natural environment and culture without causing resource depletion or hindering sustainable development [10]. Sustainable ecotourism emphasizes the holistic economic, social, and environmental impacts of tourism activities, balancing current development outcomes with the needs of future generations [2]. Its focus extends beyond visitor experiences to encompass the long-term development of destinations' natural environments and local communities, emphasizing harmonious coexistence between tourism development and both natural ecosystems and local societies [11]. To achieve these objectives, systematic assessment of ecotourism activities and their potential impacts is essential.

Stakeholder theory emerged as a major perspective in strategic management. Freeman characterizes stakeholders as individuals or groups that can affect, or are affected by, the achievement of an organization's objectives [12, p. 46]. This definition connects managerial decisions with the interests of the people and organizations involved in, or influenced by, those decisions. From a management perspective, the theory argues that organizational performance depends on managers' ability to identify, prioritize, coordinate, and create value for multiple stakeholder groups rather than focusing on a single interest. In tourism destinations, this perspective is particularly relevant because governments, tourism enterprises, residents, visitors, and community organizations jointly shape resource use, service delivery, destination image, and development outcomes. Effective stakeholder management can reduce conflict, improve participation and legitimacy, facilitate resource coordination, and support long-term sustainable competitive advantage [8, 13]. In marketing terms, stakeholder coordination also influences whether a destination can deliver a credible and differentiated value proposition to visitors while maintaining resident support and protecting the resources on which the destination brand depends.

Stakeholders are typically categorized into primary and secondary stakeholders [4]. Primary stakeholders refer to entities that play a central role in organizational or project decision-making processes and exert direct influence on outcomes, also termed core stakeholders [14, 15]. Secondary stakeholders, conversely, can influence or be affected by an organization without being essential to its continued operation; this distinction does not imply that their interests or potential influence are unimportant [15]. Research at Cibinong Botanical Gardens illustrates how stakeholder mapping can distinguish primary and secondary actors and clarify their roles in tourism development [16].

Research in recreation ecology examines the effects of recreational activities on natural environments and identifies gaps relevant to sustainable tourism management [17]. Broader reviews of ecotourism research encompass social and community concerns alongside environmental protection, demonstrating the value of considering multiple dimensions when developing evaluation frameworks [18].

Regarding evaluation methodologies, interviews and the Delphi method are commonly used to identify key evaluation dimensions and indicator elements. Multi-criteria evaluation techniques such as the Analytic Hierarchy Process (AHP), fuzzy comprehensive evaluation, fuzzy Delphi, and fuzzy DEMATEL are used with structured indicator systems to quantitatively measure and comprehensively assess the development level of sustainable ecotourism [19–23].

Indicator development typically involves systematic consideration across multiple dimensions, encompassing environmental, social, cultural, and economic aspects, as well as political, technological, and institutional or governance factors [24, 25].

Reviews of sustainability indicators and tourism governance emphasize the need to consider economic, social, and environmental dimensions together when assessing destination development [8, 22, 25]. From a strategic management perspective, these dimensions can also be interpreted as a destination performance portfolio: economic sustainability reflects value creation and local economic returns; sociocultural sustainability reflects stakeholder relationships, cultural assets, and destination authenticity; and environmental sustainability reflects resource stewardship and the quality of the physical setting underpinning the visitor experience. The economic dimension focuses on tourism employment, income growth, and improvements in residents' economic welfare [26, 27]. The sociocultural dimension evaluates community participation, cultural preservation, and changes in residents' lifestyles [28, 29]. The environmental dimension examines ecosystem conservation, environmental quality, resource utilization efficiency, and environmental awareness [21, 24, 25, 30]. Accordingly, the present study uses these indicators not only to assess sustainability outcomes but also to identify strategic management priorities that can inform destination positioning, resource allocation, stakeholder engagement, and sustainable marketing decisions in Chengyang Eight Villages.

Table 1. *Sustainable Ecotourism Measurement Scale*

Target layer (A)	Subtarget Layer (B)	Indicator Layer (C)
Sustainability Dimensions (A)	Economic Sustainability(B^1)	Employment opportunities have increased because of tourism (C^1)
		I am able to save money from income earned through tourism-related employment (C^2)
		The indigenous community's economy has become stronger because of tourism (C^3)
		Tourism-related employment in this village has enhanced purchasing power, resulting in a better quality of life (C^4)
		Employment generated by the tourism industry in this village will prevent the younger generation from migrating to the towns and cities (C^5)
		Tourism gives me a sense of security for future generations (C^6)
	Socio-cultural sustainability(B^2)	Tourism builds stronger indigenous group relationships (C^7)
		I feel proud when visitors and tourists appreciate my community (C^8)
		Tourism helps preserve the community's culture (C^9)
		My lifestyle has improved since the development of tourism (C^{10})
		Communication with tourists has provided a break from my routine work (C^{11})
	Environmental sustainability(B^3)	The village is cleaner because of tourism (C^{12})
		Awareness of cleanliness has increased because of tourism (C^{13})
		Tourism has created a beautiful image and environment of the village and indigenous group (C^{14})

Sources informing the indicators: [25, 27, 28].

Chengyang Eight Villages Scenic Area comprises a group of traditional Dong settlements and is located in Linxi Town, Sanjiang Dong Autonomous County, Guangxi, China. Its Dong cultural landscape includes wind-and-rain bridges, drum towers, and traditional wooden stilt houses. The scenic area received national 5A designation in February 2024, reflecting its recognition within China's scenic-area classification system [31]. The combination of inhabited villages, distinctive architecture, and living cultural practices provides a relevant setting for examining the relationship between tourism development and residents' priorities. These attributes also make it important to distinguish tourism promotion from the everyday needs of the people who maintain the cultural landscape.

The area's appeal depends on the continuing relationship between community life, traditional buildings, and the surrounding environment. Research on the streets and alleys of Chengyang's Dong settlements demonstrates that spatial form, surface materials, and seasonal conditions influence local microclimates and thermal comfort [32]. This evidence

supports including environmental quality alongside economic and sociocultural considerations in destination management. In the present study, the site is therefore treated as a lived community and a tourism destination whose development requires attention to resident benefits, cultural continuity, environmental conditions, and the quality of visitor experiences. These considerations provide the contextual basis for the indicator selection and stakeholder-oriented evaluation described below.

2. RESEARCH METHODOLOGY

Drawing on a review of relevant scholarly research and the specific characteristics of the study destination, this study selected three dimensions—economic, sociocultural, and environmental sustainability—and 14 corresponding indicators to construct an evaluation framework for sustainable ecotourism centered on indigenous peoples as core stakeholders, as shown in Table 1. These scales were developed based on existing relevant literature in the field of sustainable ecotourism research [24, 25, 27, 28]. The selected studies provide conceptual and measurement foundations for the indicator set, including previous work on indigenous tourism. However, prior use of related measures does not automatically establish the reliability or validity of the adapted instrument in Chengyang Eight Villages. Context-specific assessment is therefore necessary, particularly because the meaning and relative importance of tourism outcomes may vary across communities. The present framework should be interpreted as an adaptation informed by this literature rather than as an independently validated scale transferred unchanged to the study site.

2.1. QUESTIONNAIRE DESIGN

This study employed a systematic quantitative research approach, using a structured questionnaire survey for data collection. The survey questionnaire consisted of two sections. The first section addressed demographic information of local residents, who were treated as the core stakeholders of Chengyang Eight Villages. In this study, the survey subjects were residents who had lived locally for more than 10 years and were aged 18 years or above. The demographic characteristics recorded for the sample included gender, age, educational level, length of residence, and occupation. The second part comprised 14 indicators across three dimensions: economic, sociocultural, and environmental. Indicators were scored using a five-point Likert scale, with each indicator assigned values of 1, 2, 3, 4, or 5, corresponding to the following response categories: 1 = Strongly Disagree; 2 = Disagree; 3 = Neither Agree Nor Disagree; 4 = Agree; 5 = Strongly Agree.

2.2. DATA COLLECTION AND WEIGHTING

A total of 300 questionnaires were distributed across eight natural villages in Chengyang Eight Villages, with 273 valid responses collected, yielding a response rate of 91%. Statistical analysis of the 273 valid questionnaires was conducted using SPSS software, yielding demographic descriptive analysis results as shown in Table 2. The SPSS software was used to analyze and summarize the data from 273 valid questionnaires; expert ratings and the literature review were used to establish judgments concerning the relative importance of the indicators at each level. Subsequently, pairwise comparisons were conducted for each indicator value at the same level to construct the dimension-level judgment matrix A and the indicator-level judgment matrices B_1–B_3, as shown in Table 3.

Table 3 presents matrix A for the three sustainability dimensions and matrices B_1, B_2, and B_3 for the indicators within their respective dimensions. The row-sum normalization expression for the local indicator weights is given in Eq. (1), while the consistency index (CI) was obtained using Eq. (2). The consistency ratio (CR) was then calculated using Eq. (3) in conjunction with random consistency index (RI) values in Table 4. When CR ≤ 0.1, the judgment matrix was considered to have passed the consistency test. The reported calculation results are presented in Table 5. AHP provides relative priority scales derived from pairwise judgments, and these scales must be distinguished from observed performance scores [33]. The questionnaire responses and the expert judgments therefore play different analytical roles: the former describe respondent assessments, whereas the latter determine the relative weighting structure. The manuscript does not report item-level Likert means or an explicit aggregation rule linking those responses to the pairwise judgments. Consequently, the weights alone cannot establish the magnitude of economic benefits, cultural preservation, or environmental improvement.

$$\omega_i = \frac{\sum_{j=1}^{n} B_{ij}}{\sum_{k=1}^{n}\sum_{j=1}^{n} B_{kj}}, \tag{1}$$

Here, B_{ij} is a pairwise-comparison entry in a matrix of order n, and ω_i denotes a normalized row-sum weight. Row-sum normalization coincides with the principal-eigenvector solution for a perfectly consistent ratio matrix, but it is not generally identical for inconsistent judgments. The weighting method must therefore be applied consistently when calculating and

reporting the results.

$$\text{C. I.} = \frac{\lambda_{\max} - n}{n-1}, \tag{2}$$

$$\text{C. R.} = \frac{\text{C. I.}}{\text{R.I.}}. \tag{3}$$

Based on the single-level weights presented in Table 5, the comprehensive weights of each indicator were calculated using Eq. (4), followed by the overall ranking of the indicators. The calculation results are shown in Table 6.

$$W_i = b_{g(i)} c_i, \qquad i = 1, \ldots, 14. \tag{4}$$

Here, W_i denotes the global weight of indicator i, $b_{g(i)}$ is the weight of its parent sustainability dimension, and c_i is its local weight within that dimension. Each indicator belongs to one dimension; its global weight is therefore obtained by multiplying the parent and local weights [33].

Table 2. *Respondents' Demographic Profile*

Variable	Category	Number	Frequency (%)
Gender	Male	142	52.01
	Female	131	47.99
Age	18–20 years old	30	10.99
	21–40 years old	118	43.22
	41–60 years old	96	35.16
	61 years old and above	29	10.63
Education Level	Primary school and below	66	24.18
	Junior high school	101	37.00
	High School	54	19.78
	Junior College	35	12.82
	Bachelor's Degree and above	17	6.22
Occupation Sector	Agricultural production	90	32.97
	Scenic area staff	45	16.48
	Services, Sales and Trade	53	19.41
	Other occupations	85	31.14

Source: Authors' Calculations

Table 3. *Pairwise Judgment Matrices for Ecotourism Sustainability Priorities*

Target Layer A	B_1	B_2	B_3			
B_1	1	5/4	5			
B_2	4/5	1	4			
B_3	1/5	1/4	1			
Criteria layerB_1	C_1	C_2	C_3	C_4	C_5	C_6
C_1	1	3/2	3/4	3/4	3/2	3/5
C_2	2/3	1	2/4	2/4	1	2/5
C_3	4/3	4/2	1	1	4/2	4/5
C_4	4/3	4/2	1	1	4/2	4/5
C_5	2/3	1	2/4	2/4	1	2/5
C_6	5/3	5/2	5/4	5/4	5/2	1
Criteria layerB_2	C_7	C_8	C_9	C_{10}	C_{11}	
C_7	1	1/5	1/4	1/3	1/2	
C_8	5	1	5/4	5/3	5/2	
C_9	4	4/5	1	4/3	4/2	
C_{10}	3	3/5	3/4	1	3/2	
C_{11}	2	2/5	2/4	2/3	1	
Criteria layer B_3	C_{12}	C_{13}	C_{14}			
C_{12}	1	3/2	3/5			
C_{13}	2/3	1	2/5			
C_{14}	5/3	5/2	1			

Table 4. *Random Consistency Index (RI) Values by Matrix Order*

V	1	2	3	4	5	6	7	8	9	10
R.I.	0.00	0.00	0.58	0.90	1.12	1.24	1.32	1.41	1.45	1.49

Source: Saaty [34]

Table 5. *Reported Eigenvalues, Priority Vectors, and Consistency Test Results*

	λ_{max}	Eigenvector ω						n	CI	RI	CR	Consistency test
A	3.000	0.5	0.4	0.1				3	0.000	0.58	0.000	Accepted
B1	6.161	0.168	0.098	0.196	0.196	0.098	0.245	6	0.032	1.24	0.026	Accepted
B2	5.098	0.073	0.331	0.265	0.199	0.132		5	0.025	1.12	0.022	Accepted
B3	3.000	0.225	0.150	0.375				3	0.00	0.58	0.000	Accepted

Source: Authors' Calculations

Table 6. *Reported Local Weights, Global Weights, and Indicator Rankings*

Dimension	Weight	Indicator	weight	Total weight W^i	Rank	Factor name
B^1	0.5	C^1	0.168	0.084	6	Employment opportunities have increased because of tourism
		C^2	0.098	0.049	9	I am able to save money from income earned through tourism-related employment
		C^3	0.196	0.098	4	The indigenous community's economy has become stronger because of tourism
		C^4	0.196	0.098	4	Tourism-related employment in this village has enhanced purchasing power, resulting in a better quality of life
		C^5	0.098	0.049	9	Employment generated by the tourism industry in this village will prevent the younger generation from migrating to the towns and cities
		C^6	0.245	0.1225	2	Tourism gives me a sense of security for future generations
B^2	0.4	C^7	0.073	0.0292	12	Tourism builds stronger indigenous group relationships
		C^8	0.331	0.1324	1	I feel proud when visitors and tourists appreciate my community
		C^9	0.265	0.106	3	Tourism helps preserve the community's culture
		C^{10}	0.199	0.0796	7	My lifestyle has improved since the development of tourism
		C^{11}	0.132	0.0528	8	Communication with tourists has provided a break from my routine work
B^3	0.1	C^{12}	0.225	0.0225	13	The village is cleaner because of tourism
		C^{13}	0.15	0.015	14	Awareness of cleanliness has increased because of tourism
		C^{14}	0.375	0.0375	11	Tourism has created a beautiful image and environment of the village and indigenous group

Source: Authors' Calculations

3. ANALYSIS, DISCUSSION AND MANAGERIAL IMPLICATIONS

The AHP results provide a reported ordering of sustainability priorities for destination management, as summarized in Tables 5 and 6. The tabulated consistency ratios are below the stated acceptance threshold; however, consistency is a property of the judgments and does not, by itself, establish the validity of the indicators or the accuracy of performance claims. The evaluation-layer weights are Economic Sustainability (0.5) > Sociocultural Sustainability (0.4) > Environmental Sustainability (0.1). From a management perspective, the reported weighting structure assigns greatest importance to economic value creation and livelihood security, followed by sociocultural value, while environmental sustainability receives a substantially lower assigned weight. This imbalance is strategically important because the destination's long-term market competitiveness depends on all three dimensions. Strong economic and cultural outcomes can support resident commitment, authentic destination positioning, and differentiated visitor experiences; however, poor environmental conditions, where independently established, can undermine service quality, destination image, resource attractiveness, and the credibility of sustainable marketing claims. The reported pattern provides a reason to discuss resource allocation and stakeholder incentives explicitly, while recognizing that a justified reallocation would also require evidence about current conditions, costs, and expected benefits.

The economic dimension identifies livelihood-related outcomes as important priorities within the reported evaluation hierarchy for Chengyang Eight Villages. These weights indicate relative emphasis rather than the amount of economic value that tourism has generated. Among the economic indicators, "Tourism provides a sense of security for future generations" (0.1225) ranks second overall, while the strengthening of the indigenous group economy and improvement in purchasing power (both 0.098) rank fourth. From a management and marketing perspective, these priorities suggest that managers should consider tourism not only as a source of visitor expenditure but also as a potential local value-creation system that supports employment, household income, entrepreneurship, and resident commitment to destination development. A 2025 report published by China's Ministry of Culture and Tourism describes growth in visitor activity, accommodation and catering businesses, employment, and ticket-revenue sharing in Chengyang Eight Villages [35]. This contextual evidence indicates an established tourism economy, although it does not independently validate the present survey measures or establish how benefits are distributed across all households. For managers, the strategic priority is to convert these economic benefits into stronger stakeholder participation, service capability, and locally embedded tourism products. Maintaining visible and equitable local benefits can strengthen resident support for the destination brand and provide a credible basis for marketing Chengyang Eight Villages as an authentic community-based tourism experience.

The sociocultural dimension represents an important strategic marketing asset for Chengyang Eight Villages. "I feel proud when visitors and tourists appreciate my community" (0.1324) and "Tourism helps preserve the community's culture" (0.106) rank first and third respectively. These rankings assign substantial relative importance to resident pride and cultural preservation. They do not establish that tourism has strengthened either outcome, because the corresponding response distributions and changes over time are not reported. From a destination marketing perspective, Dong architecture, music,

festivals, craftsmanship, and community traditions constitute distinctive brand resources that can differentiate Chengyang Eight Villages from competing rural destinations. Their management should therefore extend beyond cultural protection to strategic brand positioning and experience design. Managers can use authentic cultural assets to develop a coherent destination identity while ensuring that commercialization does not erode the authenticity on which the value proposition depends.

Local cultural practices also provide a basis for interpreting these priorities. Published reporting describes the incorporation of Dong songs, communal meals, Lusheng dances, bamboo-pole dances, and welcoming customs into tourism activities in Chengyang Eight Villages. Residents participate through performances and cultural displays as well as restaurants, accommodation, and tourism-related shops [36]. These activities illustrate the links between cultural representation and livelihood opportunities, but their presence should not automatically be interpreted as evidence that commercialization has no adverse effects. The managerial question is how residents participate in selecting, presenting, and benefiting from the cultural experiences offered to visitors.

Cultural tourism management should consequently distinguish promotional visibility from the continued vitality of community practices. Residents need opportunities to determine which traditions are shared publicly, how performances are organized, and how tourism income supports cultural activities. Managers can monitor participation, resident satisfaction, access to shared spaces, and the continuity of cultural practices alongside visitor demand. Such monitoring would provide a stronger empirical basis for assessing whether tourism reinforces local cultural life or introduces pressures that require adjustment. The reported indicator priorities can help structure these conversations, while independently collected evidence is needed to evaluate the effects of particular management decisions [28, 29].

Environmental sustainability receives the lowest dimension weight and therefore warrants explicit consideration in discussions of managerial priorities. A low importance weight does not establish poor environmental performance or identify the largest performance gap. The environmental indicators—tourism creating a beautiful village image and environment (0.0375), a cleaner village because of tourism (0.0225), and increased awareness of cleanliness (0.015)—rank near the bottom. From a marketing perspective, environmental conditions have implications beyond ecological protection: environmental quality directly affects visitor experience, destination image, service evaluations, and the credibility of sustainability positioning. Governance deficiencies, insufficient community participation, weak cooperation mechanisms, service-quality problems, and excessive commercialization may also dilute cultural authenticity and reduce the quality of the tourism experience. Destination managers should therefore treat environmental governance and public-service improvement as market-facing investments. Cleaner public spaces, reliable visitor information, stronger emergency services, better environmental facilities, and clearer stakeholder responsibilities can simultaneously improve sustainability performance and strengthen the destination's value proposition and brand credibility.

The findings suggest four integrated priorities for destination managers. First, stakeholder management should be institutionalized through participation, benefit-sharing, responsibility allocation, and regular sustainability performance assessment so that resident interests are incorporated into strategic decisions. Second, the destination should translate its distinctive sociocultural resources into differentiated market positioning by building a coherent Dong cultural brand and designing authentic visitor experiences around architecture, music, festivals, crafts, and community interaction. Third, environmental governance should be treated as part of service and brand management rather than as a separate conservation task, because environmental quality affects visitor satisfaction, destination image, and the credibility of sustainable marketing. Fourth, managers should use the AHP-based indicator system as a recurring strategic control tool to identify priorities for further assessment, guide resource allocation, and balance economic returns with cultural and environmental asset protection. In this way, sustainability evaluation becomes not only an assessment exercise but a management mechanism for creating stakeholder value and sustaining destination competitiveness.

3.1. LIMITATIONS AND INTERPRETATION

The analysis is limited to one destination and to residents meeting the stated age and residence criteria. The resulting priorities should not be generalized to tourists, tourism enterprises, government agencies, or other communities without further evidence. Because the manuscript reports priority weights but not item-level performance scores, its conclusions concern the evaluation structure rather than measured changes in sustainability outcomes. The number and selection of experts, the aggregation of their judgments, and the connection between the resident survey and the pairwise comparisons also require fuller documentation. These details are necessary for assessing reproducibility and the extent to which the weights represent resident preferences.

The reported numerical results additionally require reconciliation before the rankings are used for operational decisions. In particular, the environmental local weights in Table 5 sum to 0.750 rather than 1, and the global weights in Table 6 sum to 0.9755. The displayed pairwise ratios in Table 3 also imply priority vectors that differ from the reported values. These discrepancies prevent an unqualified interpretation of the indicator rankings as a finalized normalized AHP solution. The dimensional ordering is retained as reported, while conclusions concerning individual indicators should be treated as

provisional until the underlying calculations have been checked against the original analysis.

4. CONCLUSION

This study reframes sustainable ecotourism evaluation as a strategic management and marketing issue. Using Chengyang Eight Villages as a case, it constructs a 14-indicator framework across economic, sociocultural, and environmental dimensions and applies AHP and Likert-scale evaluation from the perspective of indigenous residents as core stakeholders. Subject to the numerical reconciliation described above, the reported dimension weights indicate a managerial priority structure: economic sustainability receives the greatest weight, followed by sociocultural sustainability, while environmental sustainability receives the lowest relative weight. These findings indicate that sustainable destination performance depends on managers' ability to balance stakeholder value creation with the protection and market development of cultural and environmental resources. Theoretically, the study connects stakeholder theory and sustainability performance evaluation with strategic destination management and marketing by showing how stakeholder priorities can inform resource allocation, destination positioning, value creation, and competitive advantage. Practically, it suggests that Chengyang Eight Villages should strengthen multi-stakeholder coordination, protect and strategically brand Dong cultural assets, improve environmental governance and public-service quality, and use sustainability indicators as an ongoing management control system. Sustainable ecotourism should therefore be managed not only as a conservation objective, but as an integrated strategy for stakeholder value creation, destination differentiation, visitor experience enhancement, and long-term market competitiveness.

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Author Contributions

All authors contributed equally to this study and approved the final manuscript for publication.

Conflict of Interest

The authors declare no conflicts of interest.

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Data Availability

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

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