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THE SUCCESS AND SUSTAINABILITY OF
COMMUNITY-BASED ECOTOURISM: INSIGHTS
FROM SANTA CRUZ DE LA SIERRA, BOLIVIA**

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EL ÉXITO Y LA SOSTENIBILIDAD DEL ECOTURISMO
COMUNITARIO: PERSPECTIVAS DE SANTA CRUZ DE LA
SIERRA, BOLIVIA**

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Assessment of Key Factors Influencing the Success and Sustainability of Community-Based Ecotourism: Insights from Santa Cruz de la Sierra, Bolivia

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ABSTRACT

Community-based ecotourism (CBET) has emerged as a promising sustainable development strategy. This study assesses factors contributing to the success and sustainability of seven CBET initiatives around Santa Cruz de la Sierra, Bolivia, based on a proposed conceptual model. Through qualitative interviews and quantitative surveys, five key CBET factors were evaluated: community pride, cooperative structures, local oversight, economic diversification, and external support. Results indicate that cultural and environmental preservation primarily drive CBET participation, fostering community pride and inclusivity. Initiatives with structured management and diversified economies, such as San José de Chiquitos, report high satisfaction and resilience, while those solely reliant on tourism, like Aguas Calientes, face sustainability challenges. Despite the overall success, there remains a disconnect between recognizing non-financial benefits and acknowledging the environmental impacts of CBET. Additionally, business and management skills gaps indicate a need for targeted training. Although government support is limited, partnerships with NGOs have contributed to CBET development in the region. These findings validate the proposed CBET model and highlight the importance of adaptive, external support across diverse cultural contexts. Further research should address how community pride fosters CBET and how communities effectively collaborate with external entities, such as tourism industries and governments.

Keywords: community-based ecotourism, CBET factors, structured management, sustainability, Bolivia

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Evaluación de Factores Clave que Influyen en el Éxito y la Sostenibilidad del Ecoturismo Comunitario: Perspectivas de Santa Cruz de la Sierra, Bolivia

RESUMEN

El ecoturismo comunitario (CBET por sus siglas en inglés) se ha consolidado como una estrategia prometedora de desarrollo sostenible. Este estudio evalúa, con base en un modelo conceptual, los factores que contribuyen al éxito y la sostenibilidad de siete iniciativas de CBET en Santa Cruz de la Sierra, Bolivia. A través de entrevistas cualitativas y encuestas cuantitativas, se evaluaron cinco factores clave del CBET: orgullo comunitario, estructuras cooperativas, supervisión local, diversificación económica y apoyo externo. Los resultados indican que la preservación cultural y ambiental son los principales impulsores de la participación en CBET, fomentando el orgullo comunitario y la inclusión. Iniciativas con estructuras de gestión organizadas y economías diversificadas, como San José de Chiquitos, reportan altos niveles de satisfacción y resiliencia, mientras que aquellas dependientes exclusivamente del turismo, como Aguas Calientes, enfrentan desafíos de sostenibilidad. A pesar del éxito general, persiste una desconexión en el reconocimiento de beneficios no financieros y la conciencia sobre el impacto ambiental del CBET. Además, brechas en las habilidades de negocio y gestión indican la necesidad de capacitación específica. Aunque el apoyo gubernamental es limitado alianzas con ONGs han contribuido al desarrollo de CBET en la región. Estos hallazgos validan el modelo de CBET propuesto, y enfatizan la importancia del apoyo externo adaptativo en diversos contextos culturales. Investigaciones adicionales deberían abordar cómo el orgullo comunitario impulsa el CBET y cómo las comunidades colaboran eficazmente con entidades externas, como agencias gubernamentales y otros sectores de la industria turística.

Palabras clave: ecoturismo comunitario, factores de CBET, gestión estructurada, sostenibilidad, Bolivia

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INTRODUCTION

Tourism is a crucial driver of global economic growth, promoting development across diverse regions (The World Travel & Tourism Council, 2022). Yet, its rapid expansion has brought environmental challenges, prompting a shift towards sustainable approaches (Baloch et al., 2023; Triarchi & Karamanis, 2017). Community-based ecotourism (CBET) has emerged as a promising strategy, combining economic development with environmental conservation, cultural preservation, and social responsibility (Guerrero-Moreno & Oliveira-Junior, 2024; Nguyen et al., 2022; Lonn et al., 2018). Globally, CBET has shown adaptability and positively impacted local livelihoods (Matiku et al., 2020; Lonn et al., 2018). However, while a universal CBET model is appealing (Zielinski, Jeong, et al., 2020), research reveals uneven growth, with success stories often counterbalanced by disparities in outcomes (Guerrero-Moreno & Oliveira-Junior, 2024; Zielinski, Jeong, et al., 2020; Dodds et al., 2018).

Considering these complexities, we sought to understand *what key factors are crucial for the success and sustainability of CBET initiatives and how these factors interplay within the unique contexts of diverse communities?* For this, we developed a conceptual model of factors influencing CBET development and sustainability. Initially tested in Mexico (Hirami & Hidalgo Morales, 2024), this study seeks to further validate the model by examining whether similar patterns emerge in the Bolivian context.

Bolivia's rich natural diversity and cultural heritage position it as a strong candidate for ecotourism development (Medinaceli, 2022; Høyne, 2016). Santa Cruz de la Sierra, in particular, offers a stable and favorable setting for CBET research due to its well-developed infrastructure, accessibility (Gobierno Autónomo Municipal de Santa Cruz de la Sierra, 2022), and relatively straightforward socio-political landscape (Andersen & Rocabado, 2020). This study aims to evaluate how well the CBET model aligns with real-world dynamics in the region and to examine its potential applicability to areas with similar characteristics, thereby contributing to the broader academic discourse on sustainable tourism development.



THEORETICAL FRAMEWORK

CBET has emerged as a sustainable alternative to mitigate the environmental and social impacts of conventional tourism (Baloch et al., 2023; Triarchi & Karamanis, 2017). By integrating environmental conservation with economic empowerment and fostering community involvement in decision-making, CBET promotes a sense of ownership and responsibility (Ginanjjar, 2023; Nguyen et al., 2022; Sartika & Wargadinata, 2019). In regions with rich biodiversity and cultural heritage, this model generates jobs, strengthens local economies (Matiku et al., 2020; Lee & Jan, 2019; Lonn et al., 2018), and enables communities to share traditions with visitors (Đukić & Volić, 2017), advancing broader sustainability goals (Rumangkit et al., 2024; Zielinski, Kim, et al., 2020).

Challenges in CBET Implementation

While CBET has shown flexibility and success across various settings (Dodds et al., 2018; Zielinski, Jeong, et al., 2020), it faces challenges that threaten its sustainability (Phuong et al., 2020; Sonjai et al., 2018; Kim et al., 2014). Key obstacles include limited access to resources, uneven benefit distribution, reliance on external entities, conflicts between conservation and community needs, and the risk of cultural commodification (Zielinski, Kim, et al., 2020; Dodds et al., 2018; Sonjai et al., 2018).

In Kenya's Maasai Mara, CBET has fostered sustainable livelihoods, preserved cultural traditions, and supported wildlife conservation by integrating indigenous knowledge into tourism. However, the community also faces significant challenges, such as restricted access to essential resources, conflicts with wildlife, and uneven distribution of benefits stemming from limited local involvement in decision-making (Nampushi & Nankaya, 2020). Similarly, CBET has led to job creation, educational improvements, and greater social cohesion in Mexico's Coba community. Still, they struggle with benefit allocation and cultural commodification, causing internal rivalry and the erosion of cultural values (Mendoza-Ramos & Prideaux, 2018).

These examples underscore the complexity of CBET and the importance of understanding the key factors that influence its outcomes. The literature identifies four domains that shape CBET's success: environmental, economic, social, and institutional (Phuong et al., 2020; Zielinski, Kim, et al., 2020; Dodds et al., 2018).



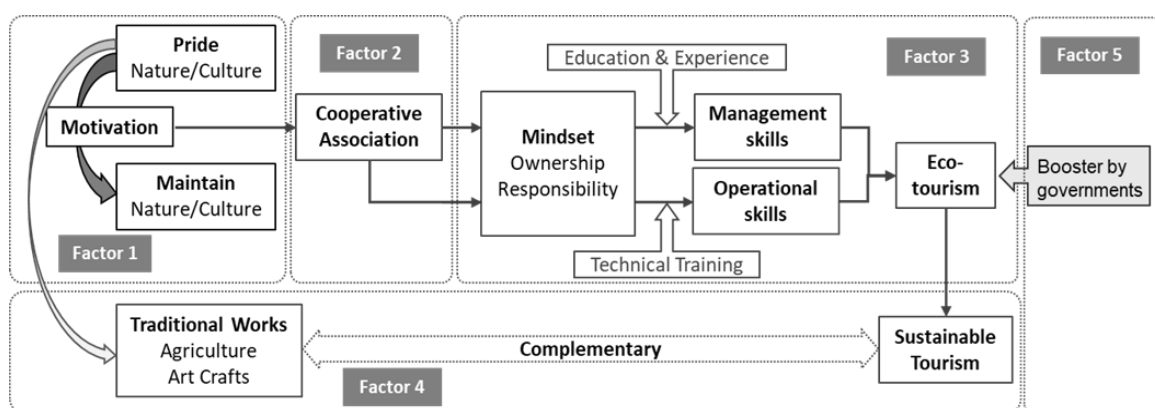
Understanding the interactions and specific contexts within these areas is essential for creating sustainable CBET models adaptable to diverse contexts (Guerrero-Moreno & Oliveira-Junior, 2024; Zielinski, Kim, et al., 2020).

Key Factors in CBET Development: A Proposed Model

To effectively address CBET's challenges and opportunities, we proposed a model that identifies key factors influencing its development and the relationships among them, as shown in Figure 1. This framework clarifies CBET dynamics, providing a tool to evaluate its sustainability and potential for replication.

The model highlights four core factors critical to CBET success. Community pride and the commitment to preserve nature and culture (*Factor 1*) are key drivers, leading to the establishment of local cooperatives (*Factor 2*). These cooperatives promote community involvement in decision-making and all phases of CBET, ensuring that local oversight and management (*Factor 3*) reflect community priorities. Integrating ecotourism into traditional practices and livelihoods (*Factor 4*) allows communities to maintain cultural identity while diversifying economic opportunities. The model validation in Mexico also revealed a fifth factor: *government support* (Figure 1). Indigenous communities embraced external assistance, particularly in the early stages, as a catalyst for growth. However, this support worked well mainly because laws concerning indigenous communities protected the community's independence and control (Hirami & Hidalgo Morales, 2024; Ley de la Comisión Nacional para el Desarrollo de los Pueblos Indígenas [LCNDPI], 2003)

Figure 1. The proposed model identifies five key factors and their interrelationships that influence the development of CBET initiatives (Hirami & Hidalgo Morales, 2024)



The interconnection among these factors creates a self-reinforcing system, with each component strengthening the others. However, isolated efforts—such as relying solely on pride without adequate management skills—tend to underperform, as observed in some initiatives in Mexico (Hirami & Hidalgo Morales, 2024). A comprehensive approach is, therefore, essential to developing a resilient CBET framework that can adapt and thrive over time (Rumangkit et al., 2024; Zielinski, Kim, et al., 2020). To further assess the relevance of this model, it was tested in Bolivia to see if similar patterns and factors would emerge. The insights gained contribute to evaluating the model's adaptability across different settings.

The Tourism Landscape of Bolivia

Between 2006 and 2019, Bolivia saw a consistent 10% annual growth in tourism, with international tourism ranking as its fourth-largest export sector before the COVID-19 pandemic (Andersen & Rocabado, 2020). This growth is driven by Bolivia's vast natural diversity—from Amazon rainforests to Andean mountains—and its rich cultural heritage, which includes over 36 indigenous groups (Minority Rights Group (MRG), 2018). These features provide a strong base for niche tourism, encompassing adventure, cultural, gastronomic, and ecotourism experiences (Andersen & Rocabado, 2020).

However, Bolivia's tourism sector remains underdeveloped relative to neighboring countries like Peru and Brazil (Andersen & Rocabado, 2020). Limited infrastructure in rural areas restricts access to potential tourism sites (Medinaceli, 2022). Additionally, while Bolivia's national policies, such as the Constitution and the Mother Earth Law (2012), prioritize tourism and advocate for sustainable development, slow implementation, and occasional policy contradictions often hinder sector growth (Muñoz, 2023; Medinaceli, 2022). In this context, CBET offers the potential for localized economic development and environmental protection that other tourism models may not as readily support.

Bolivia has successfully implemented CBET projects across different regions. Madidi National Park, in the upper Amazon River basin, serves as a key ecotourism destination, blending wildlife conservation efforts with the involvement of local indigenous communities (Coarite & Arteaga Gómez-García, 2023; Hirami, 2023; Høyne, 2016).



Similarly, in the Cochabamba department, Omereque supports Red-fronted macaw conservation by training locals to manage tourism services independently, generating income, and encouraging species protection while supporting local livelihoods and preserving cultural traditions (Armonía Bolivia, n.d.; Hiramí, 2023, 2015). Additional CBET initiatives in Chuquisaca and Potosí showcase how the model can preserve cultural heritage and promote economic diversification in historically rich landscapes (Coarite & Arteaga Gómez-García, 2023). These examples underscore CBET's potential to succeed across Bolivia's diverse regions.

Santa Cruz de la Sierra: A Strategic Setting for CBET

Santa Cruz de la Sierra, Bolivia's largest and fastest-growing city, is a gateway to the eastern lowlands and the Amazon. Historically reliant on agriculture and industry (Gobierno Autónomo Municipal de Santa Cruz de la Sierra, 2022), the city has recently shifted its focus towards diversifying its economy, particularly through ecotourism. For example, from 2010 to 2020, over 4,600 new hospitality and tourism businesses were created, highlighting the increasing interest in Santa Cruz's tourism potential (Andersen & Rocabado, 2020). Thus, with its robust tourism demand and regional influence, Santa Cruz represents an ideal context for studying CBET.

With its proximity to major ecological reserves, Santa Cruz is strategically positioned to become an ecotourism hub. For instance, Noel Kempff Mercado National Park, a UNESCO World Heritage Site, is celebrated for its pristine rainforests and offers rich nature-based and cultural exchange experiences (UNESCO World Heritage Center, 2000). Similarly, Amboró National Park hosts several small-scale CBET initiatives (Hiramí, 2023; Soria, 2008). However, these projects face significant obstacles, including limited market access, insufficient funding, and inadequate infrastructure, hampering scalability and long-term viability (Soria, 2008).

Considering these challenges, this study assesses the feasibility of applying the CBET model in Santa Cruz, Bolivia, examining whether similar factors and patterns identified in Mexico also emerge here. By identifying these factors, this research aims to contribute valuable insights into enhancing the resilience of CBET initiatives in Bolivia and similar regions.

METHODOLOGY

A concurrent parallel mixed-methods design was used to collect qualitative and quantitative data from seven CBET initiatives in Santa Cruz de la Sierra, Bolivia, to enable a comprehensive analysis. The initiatives were selected in consultation with a local tourism agency, which provided regional context and supported the final selection. These initiatives represent a variety of ecotourism activities and developmental stages, giving a broad view of the local context. A summary of key characteristics for each site is provided in Table 1.

Table 1 Characteristics of the selected CBET initiatives

<i>Characteristic</i> → <i>Initiative</i> ↓	<i>Geographical Context</i>	<i>Development Stage</i>	<i>Accessibility*</i>	<i>Visitor's demographics</i>	<i>Activities Offered</i>	<i>Infrastructure</i>
Villa Amboró	Integrated Management Area of Amboró National Park ¹	Developing	Moderate to difficult	Foreigners / couples & groups	Guided nature tours, wildlife observation, conservation activities	Basic, rustic cabins, camping, communal dining
La Chonta		Uncertain ²	Very difficult	Foreigners / couples & groups	Wildlife observation & education, traditional practices	Limited, small cabins
San José de Chiquitos	Chiquitania region	Growing	Easy	Local & foreigners / groups & families	Cultural heritage, historical tours	Advance, several options including hotels
Tucabaca	Municipal Wildlife Reserve Valle de Tucabaca	Emerging	Moderate	Local / families	Trekking, nature-based tourism	Minimal lodging
Chochís	Serranía de Chochís	Developing	Easy to moderate	Local / families, groups	Religious tourism, scenic tours	Basic, simple accommodation
Aguas Calientes	Aguas Calientes river	Maturing	Moderate	Local / families	Wellness tourism: Hot springs, nature-based relaxation	Moderate, from camping to hotels
Santiago de Chiquitos	Chiquitania region	Planning / Emerging	Easy	Local / families & couples	Cultural and natural heritage	Basic, simple accommodation

* *Accessibility* is a qualitative attribute considering the distance from the state's capital, the road, sign conditions, travel time, and community support for arrival.

¹ A designated region focused on the sustainable management and conservation of biodiversity, promoting ecological integrity while allowing for compatible human activities.

² The current status is challenging to define due to climatic conditions and surrounding wildfires that have rendered the facilities damaged and inoperable

The tourism agency also contributed survey responses, and input was gathered from key Santa Cruz Department Government stakeholders, including the Coordinator of Culture and Tourism, the Legal Advisor, and the Tourism Advisor. These perspectives enriched the assessment of CBET initiatives, providing a more nuanced understanding of the region's ecotourism landscape.

Data Collection: Interviews and Surveys with CBET Stakeholders

Data collection employed semi-structured interviews with initiative coordinators and structured surveys with community members, conducted in person to foster comfort and obtain more in-depth responses. Interviews were held with 14 coordinators or their equivalents, using primarily open-ended questions with a few multiple-choice items. Ten key topics, identified through a literature review, were covered: amenities, promotional strategies, motivations for participation, government support, establishment and conditions of CBET, cooperative involvement, sense of pride, engagement levels, decision-making processes, and benefit-sharing procedures. In parallel, community members actively involved in CBET contributed a total of 40 survey responses. The surveys employed a 5-point Likert scale to assess motivations for participating in ecotourism, benefit-sharing processes, involvement in decision-making, and perceptions of ecotourism impacts. Ethical considerations were prioritized throughout the data collection process. Participants provided verbal consent after receiving comprehensive information about the study. All interviews, surveys, and dataset materials will be available upon request.

Data Analysis

Qualitative content analysis was applied to the interview transcripts from coordinators, focusing on key insights and themes related to factors influencing CBET initiatives. Ten predefined topics were examined to derive insights into coordinators' experiences and beliefs. Descriptive statistical analysis was conducted on survey data to calculate percentages and frequencies, revealing trends and community perceptions about CBET impacts. Tucabaca was excluded from the quantitative survey analysis to maintain consistency across sites because only a single coordinator interview was conducted due to the unavailability of rangers.

RESULTS AND DISCUSSION

The studied CBET initiatives originate from varied backgrounds, such as community resistance to government-imposed relocation (Villa Amboró, La Chonta), environmental activism (Tucabaca), cultural preservation (San José de Chiquitos, Chochís, and Santiago de Chiquitos), and entrepreneurial opportunity (Aguas Calientes). These origins influence management practices, target markets, and outcomes (Table 1 and Table 2), providing context for how CBET aligns with the model's five core factors, as examined below.

Table 2. Summary of the main insights from the coordinator's interviews.

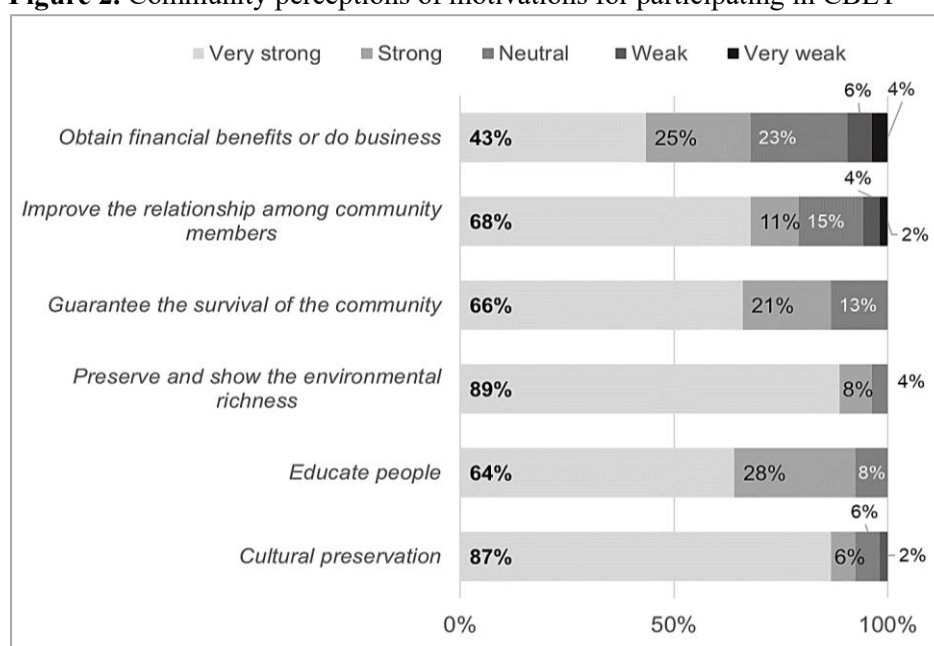
<i>Initiative →</i> <i>Characteristic</i> ↓	<i>Villa Amboró</i>	<i>La Chonta</i>	<i>San José de Chiquitos</i>	<i>Tucabaca</i>	<i>Chochís</i>	<i>Aguas Calientes</i>	<i>Santiago de Chiquitos</i>
<i>Establishment of CBET</i>	1997	2000	2018	2011	2007	Early 2000	2006
<i>External support</i>	Moderate Local NGO's	Moderate Local NGO's	High European NGO & government	Limited municipal government	Limited Belgium & local environ. institutions	Limited French & local NGOs	Limited European NGO
<i>Management skills</i>	55%	40%	30% in CBET 100% in crafts	25%	<25%	40%	<25%
<i>Ownership & Management</i>	Community	Community	Mixed (community /private)	Municipal government	Mixed (community / local NGO)	Mostly private (family owned)	Mixed (town government /private)
<i>Association status</i>	Organized	Semi-organized	Fully organized with legal status	N/A	Unorganized	Mixed (private, semi and organized)	N/A
<i>Association composition</i>	Community affiliates, 65% participation	Community affiliates, 50% participation	Community representatives	N/A	Committee inside town government	Familiar, communal & private	N/A
<i>Benefit distribution system</i>	Clear + reinvestment	Clear, dependent on participation	Very clear & formal salary + individual sales	Not clear	No system Individual profit	Mixed (individual & communal)	No system, Individual profit

N/A: not applicable; NGO: non-governmental organization.

Motivations driving CBET participation

Across all initiatives, CBET is predominantly driven by cultural and environmental preservation (>85%), followed by community-building motives (*Factor 1*), with economic gains ranking lowest (only 43%) (Figure 2). Coordinators reinforced this vision, considering tourism a complementary activity rather than a primary income source (Factor 4) and a means to celebrate and preserve cultural identity. However, the limited focus on economic returns highlights business and management skills gaps crucial for CBET's long-term viability. Coordinators expressed a pressing need for training in these areas. San José de Chiquitos exemplifies this community-driven vision by fostering sustained engagement and enhancing community pride through its cultural focus. The prior experience of regional artisans in managing craft businesses (Table 2), combined with knowledgeable leadership, has strengthened the CBET project and improved its overall outcomes (*Factor 3*).

Figure 2. Community perceptions of motivations for participating in CBET



Community Pride and Empowerment

A strong sense of community pride was observed, with 92% of participants expressing it and 71% agreeing that this sentiment is widely shared. Furthermore, 88% believe CBET strengthens pride, and 85% feel it has empowered the community.

Community pride (*Factor 1*) relates primarily to cultural heritage preservation (San José de Chiquitos, Chochís, and Santiago de Chiquitos) and the maintenance of traditional practices (Villa Amboró and La Chonta), contrasting with Mexican CBET initiatives where indigenous identity is central (Hirami & Hidalgo Morales, 2024). Additionally, CBET offers alternatives to traditional livelihoods, mainly benefiting women and elders and supporting inclusive income generation—a goal aligned with Santa Cruz government priorities. For instance, in San José de Chiquitos, women’s artisan empowerment is a core objective, while in Villa Amboró, women-led management has been particularly successful. However, it remains unclear whether community pride drives CBET implementation in an intrinsic or extrinsic way, which warrants further investigation.

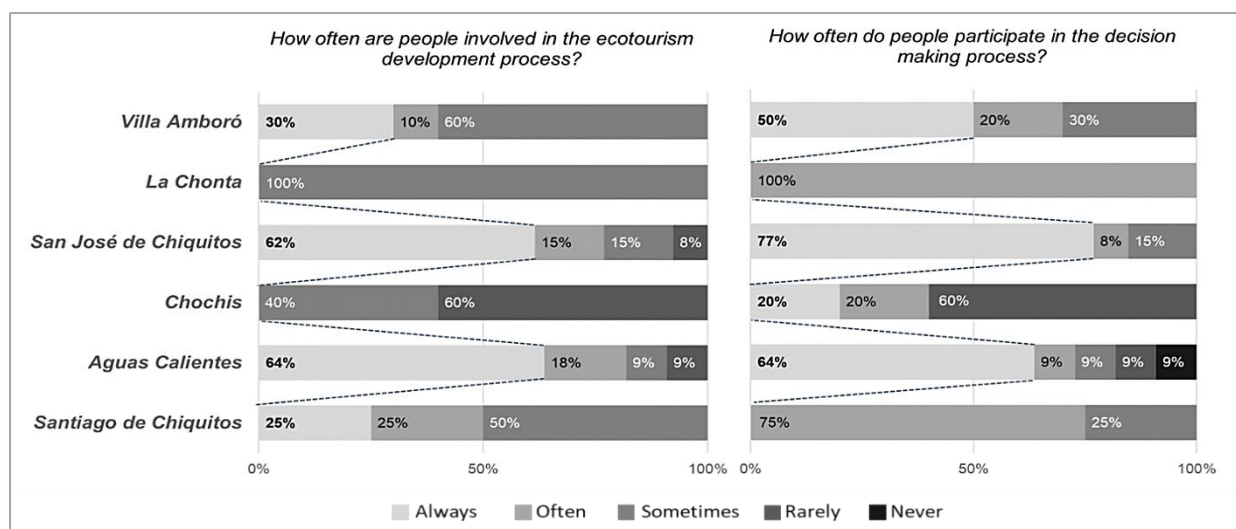
Management of CBET

Community involvement, cooperatives, and decision-making

Community participation in CBET development and decision-making yielded mixed results, with an average of 53% feeling consistently involved in development and 66% in decision-making. Participation varied across initiatives, with San José de Chiquitos and Aguas Calientes reporting the highest engagement (73-85%), while Chochis and La Chonta saw the lowest (

Figure 3). Initiatives with higher participation often had structured management. For instance, San José de Chiquitos formalized management through the legally recognized Asociación Josesana Sabor y Arte (AJOSA), a directorio with clear benefit-sharing policies and regular meetings, fostering trust and sustained engagement (*Factor 3*). Villa Amboró has an organized directorio with active affiliate participation at around 65% (Table 2). However, challenges remain, particularly in engaging younger generations in CBET activities. In Aguas Calientes, management structures range from private and family-run businesses to small communal groups. While high participation and satisfaction were reported, field observations suggest these views may be overly optimistic. Coordinators noted that decision-making and resource control remain concentrated among a few families, limiting broader engagement and fostering a reluctance to change or collaborate externally. As a result, the positive results may mask underlying dissatisfaction and management issues.

Figure 3. Perceptions by initiative regarding community participation frequency in CBET development and decision-making



In contrast, the local government manages Chochís (and Tucabaca), where CBET priorities may be overlooked, leading to community exclusion. La Chonta faces inconsistent engagement due to unfulfilled expectations about the initiative’s benefits. Notably, engagement in decision-making outpaces involvement across initiatives, suggesting that the “directorio” structure effectively represents community interests. However, it is not as fully developed as cooperatives seen in Mexico, with AJOSA being closer to this model. As the proposed model highlights, these variations underscore the importance of well-managed associations (*Factor 2*) to foster community engagement, trust, ownership, and responsibility (*Factor 3*).

Benefits Distribution and Non-Financial Gains

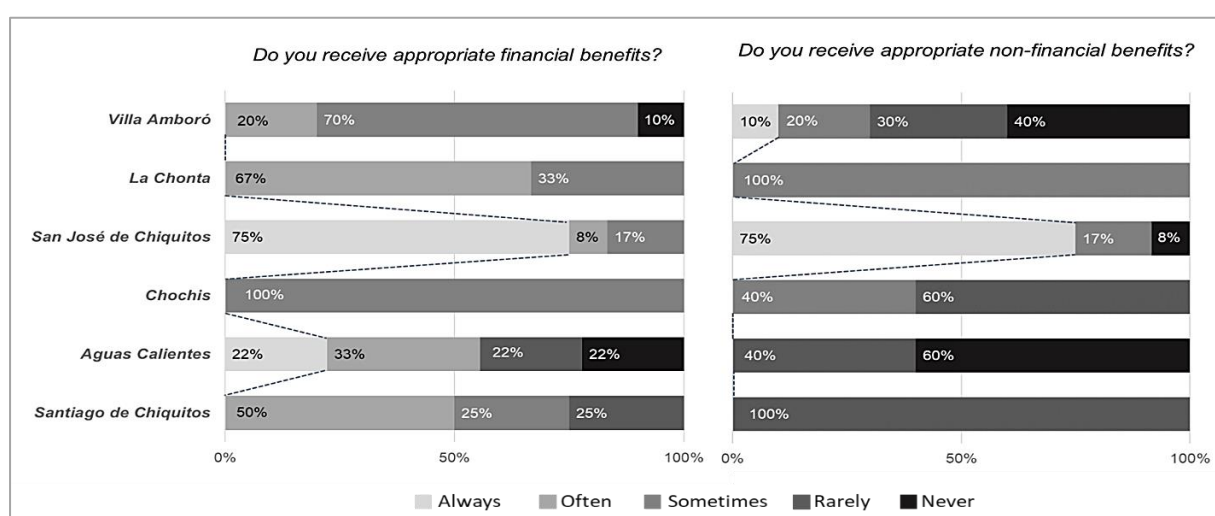
While coordinators in some initiatives reported having transparent benefit-sharing systems (Table 2), only 56% of participants, on average, agreed or strongly agreed that such systems exist. This perception varies among initiatives. In San José de Chiquitos, for example, 90% of participants acknowledged a structured benefit-sharing system, compared to 40–50% in other initiatives and none in Chochís, where most respondents disagreed or remained neutral.

Additionally, ambivalence about benefits allocation persists, as only 42% of participants across all initiatives reported feeling financially compensated, and even fewer, 22% recognized non-financial benefits. In San José de Chiquitos, satisfaction is significantly higher: 83% of respondents reported feeling financially compensated (75% strongly agreed), and 75% recognized non-financial benefits.

This contrast suggests that structured management and clear benefit-sharing mechanisms, as seen in San José, may contribute to higher community satisfaction and perceived benefits (Figure 4).

In communities where CBET complements agriculture (e.g., Villa Amboró) or crafts (e.g., San José de Chiquitos), diversification supports resilience (*Factor 4*), resulting in higher satisfaction rates and reduced dependency on tourism. Conversely, initiatives like Aguas Calientes, which rely solely on tourism, face sustainability risks as heavy dependence on tourism can lead to unsustainable practices driven by economic demands, as indicated by coordinator interviews.

Figure 4. Comparative perceptions across CBET initiatives reveal complexities in benefit-sharing processes



Non-financial benefits were less acknowledged by participants but more apparent to coordinators, suggesting a gap in community awareness, especially in initiatives with unmet financial expectations (La. Chonta, Chochís, Aguas Calientes, and Santiago de Chiquitos). It should be noted that, when asked in more detail in person, participants across initiatives acknowledged CBET's broader contributions, including educating tourists, transferring traditional knowledge, and facilitating skill acquisition.

This suggests persistent challenges in achieving consistent benefit distribution, as reflected in the mixed perceptions of financial compensation and the limited recognition of non-financial benefits across initiatives, highlighting a need for more transparent and inclusive mechanisms.

Environmental and Cultural Impacts

Perceptions of environmental and cultural impacts are generally positive, with only 25% on average viewing CBET as detrimental to lifestyle or heritage and 23% reporting increased local pollution.

However, 95% observed landscape changes due to tourism, suggesting limited awareness of the long-term impacts of environmental alteration (*Factor 3*). In Aguas Calientes, where riverbank pollution and overcrowding are evident, only 33% acknowledged these issues, possibly because information about these problems may only reach some people due to the control of information by a few individuals. It is encouraging that Villa Amboró and Tucabaca lead conservation efforts, with initiatives in recycling, waste management, and environmental education that emphasize the importance of stewardship for the sustainability of CBET.

Government and External Support

Each initiative has received support from NGOs or environmental institutions (Table 2), primarily for infrastructure, technical, or educational purposes, and often with a focus on conservation and resource management. San José de Chiquitos, which benefits from strong partnerships, demonstrates how structured external support can enhance marketing and project development. Coordinators across initiatives reported a lack of governmental support, stressing the need for systematic involvement. According to the Santa Cruz de la Sierra tourism department, CBET support efforts face budget constraints, underscoring the need for strategic and independent planning. These insights highlight the critical role of external support (*Factor 5*) in CBET sustainability and alignment with community goals. Overall, the findings validate the applicability of the CBET model across diverse contexts, with each factor playing a critical role in fostering community engagement, resilience, and sustainable practices.

CONCLUSIONS

This study highlights the complex landscape of community-based ecotourism (CBET) in Santa Cruz de la Sierra, Bolivia. Participation is driven by cultural and environmental preservation over economic incentives. These motivations reflect participants' cultural identity and pride (*Factor 1*), which CBET activities further reinforce.

CBET initiatives with structured management and benefit-sharing systems (*Factor 2*), such as San José de Chiquitos, demonstrated higher community engagement and satisfaction, even in its early stages of development. In contrast, projects solely reliant on tourism, like Aguas Calientes, face sustainability risks, underscoring the importance of economic diversification (*Factor 4*).

Villa Amboró exemplifies this diversification by integrating CBET as a complementary income activity to agriculture and animal breeding, which enhances resilience and stability.

While communities generally recognized both financial and non-financial benefits of CBET, perceptions of fairness in compensation vary. Many participants feel under-compensated financially, with San José de Chiquitos being a notable exception, suggesting potential gaps in transparency or understanding around compensation. Furthermore, a noteworthy gap in community awareness around CBET's non-financial benefits indicates the need for improved education on its broader impact. A pressing need for business and management skills was also identified as essential for long-term viability (*Factor 3*).

Conflicting views on environmental impacts further reveal that while CBET is not widely seen as threatening participants' lifestyles or heritage, many acknowledged landscape changes due to tourism activities. This mixed perception suggests a lack of long-term perspective on environmental impacts, pointing to a need for environmental education as part of CBET's sustainability strategy.

Another critical gap was the limited involvement of government (*Factor 5*), which pointed to the importance of strategic public sector engagement to enhance CBET's impact and longevity across communities.

Overall, this study validates the proposed CBET model, highlighting the relevance of five key factors —community pride, cooperative structures, local oversight, economic diversification, and external support— for CBET development and sustainability. The model offers a practical framework for understanding and addressing CBET challenges, providing insights that can inform similar community-based ecotourism models globally.

Future research should explore how intrinsic and extrinsic motivations, such as community pride, can activate CBET and strategies for building effective partnerships with external stakeholders, including tourism operators and government agencies.

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