

**ANALYSIS OF STAKEHOLDERS' KNOWLEDGE, SKILLS,  
ATTITUDES, AND PRACTICES: INPUTS FOR COMMUNITY-  
BASED ECOTOURISM ENTREPRENEURSHIP DEVELOPMENT  
IN TINORIAN RIVER, ILOILO, PHILIPPINES****John Vincent I. Manalo<sup>1</sup>, Jescel B. Bito-onon<sup>2</sup>,  
Nurdy D. Siason, Jr.<sup>3</sup> Ma. Gerlia Blanza<sup>4</sup>**<sup>1</sup>Iloilo State University of Fisheries Science and Technology, johnvincentmanalo13@gmail.com<sup>2</sup>Iloilo State University of Fisheries Science and Technology, bitoononjescel@isufst.edu.ph<sup>3</sup>Iloilo State University of Fisheries Science and Technology, president@isufst.edu.ph<sup>4</sup>West Visayas State University, mgblanza@wvsu.edu.ph**ABSTRACT**

*Abstract— Ecotourism offers a promising pathway for sustainable development by integrating environmental conservation, community engagement, and economic opportunities. Barangay Tinorian in Barotac Nuevo, Iloilo, Philippines, exemplifies the potential for community-based ecotourism focused on the Tinorian River. This study aimed to assess the knowledge, skills, attitudes, and practices of local stakeholders in ecotourism entrepreneurship and environmental conservation. It identified needs and gaps in their current engagement with ecotourism. Using a mixed-methods approach, the study combined quantitative surveys and qualitative interviews with residents, community leaders, business owners, entrepreneurs, and government agencies. The findings showed that stakeholders possess moderate knowledge of environmental conservation principles and business management. While they demonstrate strong technical skills in ecotourism and positive attitudes towards sustainable ecotourism, their practical engagement in ecotourism activities remains moderate. Through Focused Group Discussions (FGD) and Key Informant Interviews (KII), the study identified the need for greater community involvement in decision-making, stronger conservation efforts, and the integration of cultural preservation into ecotourism. The study also identified potential socioeconomic benefits of ecotourism, such as income generation and job creation, while acknowledging identified challenges. These insights were used to develop targeted capacity-building programs to enhance stakeholders' knowledge and skills, promote community-based tourism enterprises, and foster partnerships between local government, NGOs, and grassroots organizations. The recommendations from the study emphasized the importance of institutional support and policy frameworks to ensure sustainable ecotourism development. A strategic roadmap was developed to leverage ecotourism and conduct participatory community extension programs to translate knowledge into effective conservation actions and sustainable ecotourism entrepreneurship.*

**Keywords:** Tinorian River; Community-Based EcoTourism (CBET); Mixed-Method Approach; Entrepreneurship.

## 1. Introduction

Ecotourism has increasingly become a vital component of sustainable development strategies, particularly in regions rich in natural resources and cultural heritage. It provided an opportunity for local communities to engage in environmentally responsible tourism activities that promoted both conservation and socioeconomic development. In rural areas, where traditional livelihoods were often in decline, ecotourism offered an alternative path for economic growth while preserving natural ecosystems. This was particularly relevant in the Philippines, a country renowned for its biodiversity and cultural diversity. Community-Based Ecotourism (CBET) served as a valuable mechanism for fostering local entrepreneurship and environmental stewardship, allowing rural communities to capitalize on their natural and cultural assets. However, the success of these initiatives largely depended on the knowledge, skills, attitudes, and practices (KSAP) of local stakeholders, who played a critical role in ensuring that ecotourism ventures were both sustainable and economically viable.

Barangay Tinorian, located along the Tinorian River in Barotac Nuevo, Iloilo, represented an ideal site for the development of community-based ecotourism. The river's rich biodiversity and scenic landscapes offered numerous opportunities for nature-based tourism activities that had the potential to attract a wide range of visitors. Nonetheless, the successful implementation and sustainability of ecotourism initiatives in the area required an assessment of local stakeholders' preparedness. Understanding their capacity in terms of environmental conservation and ecotourism management was essential for identifying areas where targeted interventions could be introduced. This study aimed to evaluate the KSAP of stakeholders in Barangay Tinorian and provide insights that would support the development of community-based tourism initiatives.

The KSAP framework was crucial for assessing the readiness of stakeholders to engage in ecotourism entrepreneurship. It examined their knowledge of environmental conservation, business management skills, technical expertise in biodiversity conservation and waste management, and their attitudes towards sustainable tourism. While previous research emphasized the importance of local stakeholder involvement in ecotourism (Stronza & Gordillo, 2008; Sebele, 2010), there was a gap in understanding the specific capacities of rural communities like Barangay Tinorian. This study sought to address that gap by providing a detailed analysis of stakeholders' readiness, with the goal of informing capacity-building efforts that could support sustainable tourism development.

A mixed-method approach was employed in this research, combining quantitative surveys and qualitative interviews to gather data from a diverse range of stakeholders, including community members, local leaders, business owners, and government representatives. The findings from this study were intended to serve as a foundation for designing targeted programs aimed at enhancing the capacity of local stakeholders to manage and benefit from ecotourism activities. By identifying gaps in knowledge, skills, and practices,

the research contributed to the development of a strategic framework for sustainable ecotourism in Barangay Tinorian. The study aimed to achieve the following objectives:

- a. To assess the level of knowledge among stakeholders in Barangay Tinorian regarding environmental conservation within the context of community-based ecotourism.
- b. To evaluate stakeholders' understanding of business principles relevant to ecotourism development, with a focus on financial management and marketing strategies.
- c. To examine stakeholders' familiarity with environmental conservation laws, policies, and regulations that pertained to ecotourism activities in Barangay Tinorian.
- d. To measure the proficiency of stakeholders in technical skills necessary for the effective implementation of ecotourism initiatives, such as biodiversity conservation and waste management.
- e. To assess the attitudes of stakeholders towards environmental conservation and their commitment to sustainable practices.
- f. To provide recommendations for targeted capacity-building initiatives aimed at enhancing stakeholders' capabilities and promoting sustainable ecotourism development in the region.

Through this analysis, the research contributed to the broader understanding of how local communities could engage in ecotourism as a tool for both environmental protection and economic development.

### **Literature Review**

Ecotourism has garnered increasing global attention as an essential approach to sustainable development, integrating environmental conservation, community engagement, and economic advancement (Fennell, 2019). Defined broadly as responsible travel to natural areas that conserve the environment while improving the well-being of local communities (Weaver & Lawton, 2019), ecotourism is a viable mechanism for promoting sustainable livelihoods, particularly in rural areas rich in biodiversity. In the context of Barangay Tinorian, Iloilo, Philippines, the natural and cultural assets of the Tinorian River offer immense potential for ecotourism development. This review examines key themes and scholarly perspectives on ecotourism development, stakeholder engagement, and the knowledge, skills, attitudes, and practices (KSAP) essential for fostering sustainable community-based ecotourism.

Ecotourism has been conceptualized as a sustainable alternative to mass tourism, focusing on environmental conservation, local community empowerment, and cultural preservation (Fennell, 2019; Weaver & Lawton, 2019). Sustainable ecotourism development demands a holistic approach that addresses environmental, social, and economic dimensions. The environmental aspect includes biodiversity conservation, minimizing the negative impact of tourism activities, and ensuring the long-term protection of natural ecosystems. Socially, ecotourism offers a pathway for community participation and inclusivity, aligning tourism development with the aspirations of local residents. Economically, it provides opportunities for income generation, local entrepreneurship, and poverty alleviation (Tosun & Jenkins, 2016; Duffy, 2019).

Numerous studies have highlighted the transformative potential of ecotourism in contributing to biodiversity conservation and local economic development. For instance, Tosun and Jenkins (2016) emphasize that ecotourism encourages environmental stewardship by involving local communities in the management of natural resources. In regions like Barangay Tinorian, where both natural beauty and cultural heritage abound, ecotourism could serve as a critical driver for sustainable economic development while preserving ecological integrity. However, successful ecotourism ventures require the engagement of local communities as primary stakeholders, whose active involvement ensures that tourism practices are sustainable and aligned with local values.

Stakeholder engagement is fundamental to the success of ecotourism initiatives, as it fosters local ownership, social cohesion, and collaborative governance (Ribeiro et al., 2020). Studies underscore that effective ecotourism development depends on the active participation of various stakeholders, including residents, indigenous groups, local entrepreneurs, government agencies, and non-governmental

organizations (NGOs) (Simpson & Seddighi, 2019). Engaging local communities, in particular, empowers them to take control of tourism activities, fosters pride in their cultural heritage, and promotes the conservation of natural resources (Lindberg & McKercher, 2018).

In the context of community-based ecotourism (CBET), local participation ensures that tourism development is responsive to the needs, aspirations, and cultural identity of the community (Mbaiwa & Stronza, 2011). Empowering stakeholders through participatory decision-making processes enhances social capital, strengthens community bonds, and increases the likelihood of sustainable outcomes (Ribeiro et al., 2020). Research by Lindberg and McKercher (2018) further highlights that community-based ecotourism fosters a sense of stewardship over local environments, as stakeholders become key actors in protecting and promoting their natural and cultural assets.

The integration of local knowledge into ecotourism planning and management is also critical. Stakeholders' intimate knowledge of local ecosystems, cultural practices, and tourism dynamics allows for a more authentic and sustainable tourism experience. Simpson and Seddighi (2019) argue that for ecotourism to be sustainable, stakeholders must be meaningfully involved at all stages—from planning and implementation to management and evaluation. This ensures that tourism activities are not only environmentally responsible but also culturally sensitive and economically beneficial.

A recurring theme in ecotourism literature is the importance of building local capacity to manage tourism activities sustainably (Fennell, 2019). Effective ecotourism development requires stakeholders to possess a range of knowledge, skills, and technical competencies. Knowledge of environmental conservation principles is fundamental, as it informs stakeholders about best practices for protecting biodiversity, managing natural resources, and minimizing environmental degradation (Blangy et al., 2020). Similarly, an understanding of business management, including financial planning, marketing strategies, and entrepreneurship, is necessary for ensuring the economic viability of ecotourism enterprises (Diamantis et al., 2021).

In Barangay Tinorian, stakeholders' proficiency in biodiversity conservation, waste management, and environmental laws is critical for ensuring that ecotourism activities comply with regulatory frameworks and contribute to sustainable development goals. According to Mbaiwa and Stronza (2011), targeted capacity-building programs, including training workshops and technical assistance, play a crucial role in enhancing local stakeholders' capacities. Such initiatives not only equip community members with the technical skills needed to manage tourism sustainably but also foster local leadership and entrepreneurship, thereby increasing the community's autonomy over ecotourism activities.

Capacity-building efforts in ecotourism extend beyond technical skills. Blangy et al. (2020) suggest that interpretive skills—such as the ability to communicate the value of local ecosystems and cultural heritage to tourists—are equally important for delivering meaningful ecotourism experiences. These skills help bridge the gap between local knowledge and tourist expectations, enhancing visitor satisfaction while promoting conservation awareness.

Positive attitudes towards environmental conservation are essential for promoting sustainable tourism practices and garnering local support for ecotourism initiatives. Attitudes influence behavior, particularly in terms of stakeholders' willingness to engage in conservation efforts, adhere to sustainable practices, and support ecotourism as a means of protecting local environments (Mowforth & Munt, 2015). Kaltenborn et al. (2019) posit that stakeholders who exhibit high levels of environmental awareness and an appreciation of their natural surroundings are more likely to participate actively in conservation and sustainable tourism activities.

In the context of Barangay Tinorian, fostering a culture of environmental stewardship is vital for ensuring the long-term success of ecotourism initiatives. Studies show that when community members take pride in their natural and cultural heritage, they are more likely to embrace ecotourism as a tool for both conservation and economic development (Andereck & Vogt, 2000). Moreover, stakeholders' attitudes toward sustainability can influence their adoption of eco-friendly practices, such as waste management, biodiversity conservation, and the promotion of cultural heritage.

The role of attitudinal factors in ecotourism success cannot be overstated. Mowforth and Munt (2015) emphasize that fostering environmental consciousness among stakeholders is a key element in ensuring that ecotourism activities contribute to broader sustainability goals. Encouraging stakeholders to view ecotourism as a vehicle for conservation and cultural preservation helps build a sense of responsibility and stewardship over local resources.

## 2. **Research Method**

**Research Design.** This study adopted a mixed-methods approach, integrating both quantitative and qualitative research methodologies to provide a comprehensive analysis of stakeholders' knowledge, skills, attitudes, and practices (KSAP) in relation to ecotourism development in Barangay Tinorian, Iloilo, Philippines. The quantitative component involved the use of structured surveys to gather measurable data on stakeholders' KSAP, while the qualitative component utilized semi-structured interviews to explore the nuanced experiences, insights, and perceptions of community members involved in ecotourism. This dual approach facilitated a robust triangulation of data, ensuring a more holistic understanding of the phenomena under study (Creswell & Plano Clark, 2018).

The decision to utilize a mixed-methods design was rooted in the complex nature of ecotourism, which involves both quantifiable elements such as knowledge and skills, as well as subjective components like attitudes and perceptions. Thus, combining the strengths of quantitative surveys with the depth of qualitative interviews allowed for a thorough investigation of the community's engagement in ecotourism.

**Population and Sample.** The population for this study comprised stakeholders involved in ecotourism initiatives in Barangay Tinorian, Iloilo. The target population included local residents, community leaders, small-scale business owners, ecotourism entrepreneurs, and government officials directly or indirectly engaged in the development of ecotourism in the region. These groups were identified as key actors influencing the successful implementation of community-based ecotourism.

A purposive sampling technique was employed, allowing for the intentional selection of participants who were most relevant to the research objectives. Purposive sampling is appropriate in studies where specific insights are sought from individuals with direct experience or involvement in the subject matter (Palinkas et al., 2015). The sample aimed to reflect diversity across different demographics, sectors, and roles within the community to ensure a wide representation of viewpoints. A total of 100 respondents participated in the survey, while 20 individuals were interviewed for the qualitative component, including business owners, local leaders, ecotourism advocates, and government representatives.

**Data Collection Instruments.** A structured questionnaire was developed to quantitatively assess the KSAP of stakeholders in relation to ecotourism. The survey included both multiple-choice questions and Likert-scale items (1 = Strongly Disagree, 5 = Strongly Agree), allowing for the measurement of variables such as knowledge of ecotourism principles, proficiency in business skills, attitudes toward environmental conservation, and engagement in ecotourism practices. The survey underwent pilot testing to ensure clarity and relevance, with adjustments made based on feedback from the pilot phase. To complement the

quantitative data, semi-structured interviews were conducted to gather in-depth insights from key stakeholders. An interview guide was developed based on the study objectives, focusing on participants' perceptions of ecotourism, the challenges faced, and potential strategies for improvement. The semi-structured format allowed for flexibility in responses, enabling interviewers to probe deeper into specific topics as necessary. Each interview lasted between 30 to 60 minutes, and participants' responses were audio-recorded with their consent for subsequent transcription and analysis.

**Data Collection Procedure.** Trained researchers administered the survey in person, ensuring that participants fully understood the questions and were able to provide independent responses. The survey administration was conducted over a period of two weeks, with researchers providing assistance where necessary to clarify questions. Interview data were collected by experienced interviewers who followed the semi-structured guide. Interviews were scheduled based on participants' availability, conducted in locations where participants felt comfortable, and recorded for transcription purposes. The interviews aimed to delve into participants' subjective experiences, perceptions, and suggestions for enhancing ecotourism in the region.

#### Operationalization of Variables

**Knowledge.** Assessed through questions on stakeholders' understanding of environmental conservation principles, laws, and ecotourism management.

**Skills.** Measured by evaluating stakeholders' abilities in biodiversity conservation, financial management, waste management, and tourism operations.

**Attitudes.** Explored using Likert-scale items to capture participants' views on ecotourism, environmental conservation, and sustainable development.

**Practices.** Quantified by analyzing stakeholders' current engagement in ecotourism activities, such as participation in local ecotourism projects and conservation efforts.

#### Data Analysis

**Quantitative Analysis.** The survey data were analyzed using descriptive statistics (mean, standard deviation, frequency) to provide a general overview of stakeholders' KSAP. Comparative analyses (e.g., ANOVA or t-tests) were performed to examine differences across stakeholder groups, such as variations in knowledge levels between government officials and local residents. Statistical significance was set at  $p < 0.05$ , and analysis was conducted using SPSS software (Version 25).

**Qualitative Analysis.** Interview transcripts were analyzed using thematic analysis (Braun & Clarke, 2006). This involved coding the data to identify recurring themes related to the stakeholders' perspectives on ecotourism. A coding framework was developed based on the research objectives, and emergent themes were organized into categories such as community empowerment, challenges in ecotourism, and opportunities for sustainable development. The qualitative data were triangulated with the survey results to enhance the credibility and validity of the findings.

**Ethical Considerations.** The study adhered to ethical standards as set by institutional review boards. All participants provided informed consent prior to participation, ensuring that they understood the purpose of the research and their rights, including the right to withdraw at any point. Confidentiality was maintained by anonymizing participants' responses, and the data were securely stored to protect participant privacy.

**Limitations.** The study acknowledges several potential limitations. First, the use of purposive sampling may introduce sampling bias, as the sample may not fully represent all possible perspectives in the community. Second, self-reporting biases in the survey data may affect the accuracy of responses, particularly when

participants self-assess their knowledge and skills. Finally, the findings are context-specific to Barangay Tinorian, limiting the generalizability of the results to other regions.

**Validation and Reliability.** To ensure the reliability and validity of the findings, several steps were taken. The survey instrument was pre-tested and refined to improve clarity and relevance. Researchers were trained to ensure consistency in data collection. Triangulation of quantitative and qualitative data was employed to cross-validate findings. In addition, member checking was conducted during the interviews, where participants were asked to confirm the accuracy of their statements, and peer debriefing was used to verify the data analysis process.

### 3. **Results and Discussion**

**Knowledge on Environmental Conservation in Community-Based EcoTourism (CBET).** The mean score of 2.68 indicates a moderate level of knowledge and understanding among stakeholders regarding environmental conservation within the context of community-based ecotourism. This suggests a foundational awareness of conservation principles but highlights the need for further education and awareness campaigns to deepen understanding and promote active participation in conservation efforts. While there is a baseline understanding, there appears to be room for improvement in terms of awareness and comprehension of key concepts related to sustainable tourism management.

Table 1. Knowledge on Environmental Conservation in Community-Based EcoTourism

Statement	Mean	SD
Q1. Climate change is a long-term change in the average weather patterns that have come to define Earth's local, regional, and global climates.	2.85	0.383
Q2. Global warming is the long-term heating of Earth's surface observed since the pre-industrial period (between 1850 and 1900) due to human activities, primarily fossil fuel burning, which increases heat-trapping greenhouse gas levels in Earth's atmosphere.	2.82	0.490
Q3. Tourism Industry is an important element of the national economy that must be harnessed as an engine of socioeconomic growth.	2.81	0.467
Q4. The Tourism Industry is of national interest and can be a tool for cultural affirmation to generate investment, foreign exchange and employment, and to continue to mold an enhanced sense of national pride for all Filipinos.	2.85	0.376
Q5. Philippine Tourism Industry has been marketed and promoted by the government, i.e. WOW Philippines, It's more fun in the Philippines?	2.70	0.493
Q6. "Tourism enterprises" refers to facilities, services and attractions involved in tourism, such as travel and tour services and tourist transport services, whether for land, sea or air transportation.	2.78	0.413
Q7. "Tourism enterprises" also refers to facilities, services and attractions involved in tourism, such as tour guides; adventure sports services involving such sports as mountaineering, spelunking, scuba diving and other sports activities of significant tourism potential.	2.73	0.510
Q8. Convention organizers; accommodation establishments, including, but not limited to, hotels, resorts, apartelles, tourist inns, motels, pension houses and home stay operators are considered as Tourism Industry.	2.69	0.526
Q9. . Tourism estate management services, restaurants, shops and department stores, sports and recreational centers, spas, museums and galleries, theme parks, convention centers and zoos are Tourism Industry.	2.79	0.445
Q10. "Primary tourism enterprises" refers to travel and tour services; land, sea and air transport services exclusively for tourist use.	2.72	0.528
Q11. Accommodation establishments; convention and exhibition organizers; tourism estate management services are considered as Primary Tourism Enterprises.	2.66	0.551
Q12. Tourism activities have negative impacts on the environment, i.e. carbon emission, over consumption of water and energy, land degradation, loss of habitat of flora and fauna, etc.	2.42	0.734
Q13. Tourism Industry is dependent upon environment and natural resources.	2.65	0.526
Q14. The damage on the environment will affect the tourism industry.	2.67	0.504
Q15. Tourism industry is a climate-sensitive sector.	2.57	0.597
Q16. Green Practices are environmental friendly actions, which can help to environment protection and sustainability development.	2.75	0.471
Q17. Companies should engage in "Corporate Social Responsibility" (CSR) that would enhance the society and the environment.	2.75	0.483
Q18. Accreditation in the Department of Tourism as a tourism enterprise will enhance the image of the business.	2.75	0.483
Q19. Carbon dioxide emitted by vehicles and the like.	2.55	0.660
Q20. Clearing of forests and widespread loss of vegetation increase carbon emission.	2.66	0.591
Q21. Irresponsible use of natural resources can damage the environment.	2.62	0.591



Q22. Clean and healthy environment is good for the physical and mental wellness of an individual.	2.78	0.472
Q23. Maintenance and protection of the environment and its resources is everybody's concern and responsibility.	2.79	0.426
Q24. Existing company policy on Green Practices.	2.78	0.449
Q25. Creation/existing Green Practices Team in the company.	2.75	0.503
Q26. Company is a partner to agencies, i.e. Department of Environment and Natural.	2.75	0.483
Q27. Resources (DENR), Department of Tourism (DOT), LGUs and other stakeholders on activities related to environment and tourism	2.75	0.483
Q28. Observance of green practices of tourism industry will help conserve and protect the environment for sustainable tourism?	2.74	0.507
Q29. Company is an ISO certified.	2.72	0.517
Q30. Company has been recognized or awarded as one of the best implementers of green practices in tourism industry.	2.51	0.662
Q31. Company is a DOT accredited establishment.	2.68	0.557

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**Knowledge of Business Literacy Among Stakeholders in Ecotourism.** The assessment of stakeholders' knowledge of business literacy in ecotourism, based on the Business Literacy Questionnaire (Manalo & Gabayeron, 2023), provides critical insights into their ability to manage ecotourism enterprises sustainably. Ecotourism requires not only environmental awareness but also sound business acumen to ensure financial viability and long-term success. The findings from this study reveal a moderately high level of knowledge on various business principles among stakeholders, which is essential for the effective operation and management of ecotourism ventures.

The mean scores, ranging between 3.58 and 3.97 on a 5-point Likert scale, indicate that stakeholders generally possess an adequate understanding of key business concepts relevant to ecotourism development. However, the variation in the standard deviations (SD) highlights some disparities in the depth of knowledge across different respondents, which may stem from varying levels of exposure to formal business training or practical experience in financial management. Below is a more detailed discussion of each business literacy aspect assessed in the study.

The mean score of 3.88 (SD = 1.004) suggests that most stakeholders are familiar with the overarching goals and objectives of their respective ecotourism organizations. This is a crucial starting point, as alignment with organizational goals is necessary for successful strategy implementation and decision-making (David, 2021). Understanding both measurable and global objectives ensures that stakeholders can contribute meaningfully to long-term planning, strategic direction, and mission-driven efforts in ecotourism.

Stakeholders demonstrated a solid grasp of reading and interpreting financial statements, with a mean score of 3.75 (SD = 1.035). Familiarity with income statements, balance sheets, and cash flow statements enables stakeholders to track financial performance and make informed decisions regarding resource allocation, cost management, and profitability. As ecotourism often involves fluctuating revenues and seasonality, the

ability to understand financial metrics is crucial for maintaining liquidity and avoiding financial pitfalls, such as mismanagement of operational funds (Drumm & Moore, 2005).

#### Impact of Individual Roles on Financial Performance

The highest score of 3.97 (SD = 0.956) was noted for the statement related to understanding how one's work impacts organizational goals, financial statements, and key success measures. This suggests a strong recognition among stakeholders of the connection between their roles and the financial health of their ecotourism ventures. This is significant because individual responsibility and accountability are critical in ensuring that day-to-day operations align with the broader organizational strategy and financial targets (Mintzberg, 1994).

Stakeholders' ability to understand income statements and balance sheets, with mean scores of 3.82 (SD = 1.018) and 3.70 (SD = 1.024), respectively, underscores a foundational level of financial literacy. These documents are key indicators of business performance, reflecting profitability, financial stability, and equity. Without a strong understanding of these statements, stakeholders may struggle to make critical financial decisions, such as managing costs or determining pricing strategies that balance profitability with affordability for ecotourists (Weaver, 2019).

#### Profit vs. Cash Flow Management

The stakeholders' understanding of the difference between profit and cash flow was relatively strong, with a mean score of 3.80 (SD = 0.968). In the context of ecotourism, cash flow management can be particularly challenging due to seasonality and fluctuating demand. Profit does not always translate into available cash, which can create liquidity issues for ecotourism businesses that need to cover operational costs during off-peak seasons (Goodwin, 2007). Therefore, this knowledge is critical for maintaining business continuity and financial solvency.

With a mean score of 3.76 (SD = 1.084), stakeholders displayed a good understanding of capital budgeting and its importance in decision-making. Capital budgeting is essential for ecotourism development, as it involves evaluating long-term investments such as infrastructure improvements, conservation projects, and marketing campaigns. Ecotourism ventures often operate on tight budgets, and stakeholders must prioritize investments that offer the greatest return in terms of environmental sustainability and financial viability (Blangy et al., 2020).

The mean score of 3.67 (SD = 1.037) for understanding the connection between work and financial success reflects moderate awareness among stakeholders. This suggests that while many recognize the broader financial implications of their activities, there may still be a need for further training or awareness-raising on how everyday tasks—such as cost control, resource management, and customer service—directly influence financial outcomes. A stronger understanding here could lead to more conscientious practices and better financial decision-making.

Stakeholders' comprehension of how expenses impact company success and their role in controlling those expenses was moderately strong, with mean scores of 3.68 (SD = 1.027) and 3.58 (SD = 0.955), respectively. This finding highlights the importance of financial discipline in ecotourism. Ecotourism businesses must balance expenses related to environmental conservation, guest services, and operational costs. Efficient expense management can lead to increased profitability, which in turn supports reinvestment in conservation efforts (Fennell, 2019).

The mean score of 3.80 (SD = 0.976) indicates that stakeholders have a relatively good understanding of how sales revenue is distributed across expenses such as salaries, benefits, and materials. This knowledge

is vital for pricing ecotourism services appropriately and ensuring that revenue covers both direct and indirect costs, while leaving enough margin for reinvestment into the business and local conservation efforts (Honey, 2008).

Stakeholders' awareness of the financial impact of non-financial business practices was the lowest among the assessed dimensions, with a mean score of 3.58 (SD = 0.955). This suggests a potential gap in understanding how practices such as sustainable resource use, waste management, and community engagement affect financial performance. Ecotourism is inherently intertwined with non-financial practices that impact reputation, customer satisfaction, and long-term sustainability. This gap could be addressed through targeted training, linking sustainability practices with financial outcomes to encourage more comprehensive financial literacy.

**Implications for Community-Based Ecotourism Development.** The findings suggest that stakeholders possess a foundational level of business literacy necessary for managing ecotourism operations. However, certain areas—particularly the financial impacts of non-financial practices and the detailed understanding of financial documents—could benefit from further development. This knowledge gap is particularly concerning given the unique nature of ecotourism, which requires a delicate balance between financial sustainability and environmental stewardship.

Improving stakeholders' business literacy, particularly in financial management and strategic decision-making, could enhance the long-term success of ecotourism initiatives in Barangay Tinorian. The integration of capacity-building programs that focus on financial literacy, budget management, and the financial implications of conservation practices could equip stakeholders with the skills to make more informed decisions, ultimately contributing to the sustainable growth of ecotourism in the region.

Moreover, empowering stakeholders with better financial tools will enable them to plan for future investments in both ecotourism infrastructure and environmental conservation, creating a positive feedback loop where financial success supports sustainability and vice versa (Diamantis et al., 2021). As ecotourism continues to grow in the region, fostering financial literacy among stakeholders will be key to ensuring that the industry not only thrives economically but also fulfills its potential as a driver of environmental and community development.

Table 2. Knowledge on Business Literacy

Statements	Mean	SD
1. I know the organizations goals and objectives (both measurable and global).	3.88	1.004
2. I know how to read and explain one or more of the financial statements (income statement, balance sheet, cash flow statement) and understand the key measures of success for their organization	3.75	1.035
3. I know how my work/job impacts the organization's goals and objectives, financial statements, and key measures	3.97	0.956
4. I can understand what is written in an income statement	3.82	1.018
5. I know the key elements of a balance sheet.	3.70	1.024
6. I know and understand the difference between profit and cash and why that difference is important	3.80	0.968
7. I know the basics of the cash flow statement.	3.68	1.049
8. I know what capital budgeting and decision-making is	3.76	1.084

9.	I understand the key numbers contained in the statement or how to manage their area using the statement.	3.67	1.007
10.	I understand the connection between their work and revenue, expenses, and profit.	3.67	1.037
11.	I understand the impact expenses have on the success of the company and understand their role in controlling those expenses	3.68	1.027
12.	I know and understand the percentage of sales that goes to salary, benefits, materials, and so on.	3.80	0.976
13.	I understand the financial impact of non-financial business practices; they understand how everything fits together to achieve success	3.58	0.955

**Assessment of Environmental Attitudes.** The mean score of 3.79 indicates a high level of positive attitudes towards environmental conservation and ecotourism development among stakeholders. Encouragingly, stakeholders demonstrate a willingness to embrace ecotourism as a means of promoting conservation and cultural heritage, indicating a strong foundation for collaborative conservation efforts. This favorable disposition is crucial for fostering community support and participation in sustainable tourism endeavors. Encouragingly, the high attitude score indicates a readiness among community members to embrace ecotourism as a means of promoting conservation and cultural heritage.

The positive attitudes observed among stakeholders signify a strong foundation for collaborative ecotourism development. Community members demonstrate a willingness to embrace ecotourism as a means of promoting conservation and cultural heritage, indicating a favorable disposition towards sustainable tourism initiatives. Encouragingly, stakeholders exhibit a sense of ownership and stewardship, which is essential for fostering community support and participation in conservation efforts. Capacity building efforts should focus on sustaining this momentum by fostering a sense of pride and responsibility among stakeholders, encouraging active engagement in ecotourism activities and conservation initiatives.

The findings highlight the importance of enhancing stakeholders' knowledge in various areas relevant to ecotourism development. While stakeholders demonstrate a moderate understanding of environmental conservation principles within the context of community-based ecotourism, there is a need for further education and awareness campaigns to deepen their comprehension. Specifically, stakeholders would benefit from additional training on environmental conservation laws, policies, and regulations to ensure legal compliance and promote responsible ecotourism practices. Strengthening stakeholders' knowledge base in business literacy is also essential for the long-term sustainability of ecotourism enterprises, emphasizing the importance of financial management, marketing strategies, and customer service in effective business operations.

**Skills.** Stakeholders demonstrate a high level of skills, as indicated by the mean score of 4.35. This suggests that community members possess the technical abilities required for implementing ecotourism initiatives effectively. However, further refinement and specialization of skills may enhance the quality and efficiency of ecotourism operations. Stakeholders exhibit a high level of skills, particularly in technical areas relevant to ecotourism development. This proficiency suggests that community members possess the technical abilities required for implementing ecotourism initiatives effectively. However, there is room for refinement and specialization of skills to enhance the quality and efficiency of ecotourism operations. Capacity building initiatives should focus on skills development in areas such as biodiversity conservation, waste management, and visitor interpretation to further reinforce stakeholders' expertise and promote excellence in ecotourism management.

Table 3. Assessment of Environmental Attitudes

Statements	Mean	SD
1. I am NOT the kind of person who loves spending time in wild, untamed wilderness areas.	3.48	1.405
2. I really like going on trips into the countryside, for example to forests or fields.	3.87	1.130
3. I find it very boring being out in wilderness areas.	3.48	1.215
4. Sometimes when I am unhappy, I find comfort in nature.	4.02	1.000
5. Being out in nature is a great stress reducer for me.	3.93	1.051
6. I would rather spend my weekend in the city than in wilderness areas.	3.27	1.316
7. I enjoy spending time in natural settings just for the sake of being out in nature.	3.88	1.027
8. I have a sense of well-being in the silence of nature.	4.04	0.943
9. I find it more interesting in a shopping mall than out in the forest looking at trees and birds.	3.32	1.168
10. I think spending time in nature is boring.	3.18	1.385
SUPPORT FOR INTERVENTIONIST CONSERVATION POLICIES		
11. Industry should be required to use recycled materials even when this costs more than making the same products from new raw materials.	4.09	1.038
12. Governments should control the rate at which raw materials are used to ensure that they last as long as possible.	4.02	0.956
13. Controls should be placed on industry to protect the environment from pollution, even if it means things will cost more.	4.20	0.910
14. People in developed societies are going to have to adopt a more conserving life-style in the future	4.15	0.965
15. The government should give generous financial support to research related to the development of alternative energy sources, such as solar energy.	4.24	0.833
16. I don't think people in developed societies are going to have to adopt a more conserving life-style in the future.	3.92	0.985
17. Industries should be able to use raw materials rather than recycled ones if this leads to lower prices and costs, even if it means the raw materials will eventually be used up.	3.90	1.003
18. It is wrong for governments to try and compel business and industry to put conservation before producing goods in the most efficient and cost-effective manner.	3.75	1.035
19. I am completely opposed to measures that would force industry to use recycled materials if this would make products more expensive.	3.63	0.982
20. I am opposed to governments controlling and regulating the way raw materials are used in order to try and make them last longer.	3.69	1.113

## ENVIRONMENTAL MOVEMENT ACTIVISM

21. If I ever get extra income I will donate some money to an environmental organization.	4.09	0.893
22. I would like to join and actively participate in an environmentalist group.	4.11	0.838
23. I don't think I would help to raise funds for environmental protection.	3.51	1.150
24. I would NOT get involved in an environmentalist organization.	3.47	1.163
25. Environmental protection costs a lot of money. I am prepared to help out in a fund-raising effort.	3.52	1.036
26. I would not want to donate money to support an environmentalist cause.	3.30	1.139
27. I would NOT go out of my way to help recycling campaigns.	3.42	1.153
28. I often try to persuade others that the environment is important.	3.88	0.981
29. I would like to support an environmental organization.	4.00	1.012
30. I would never try to persuade others that environmental protection is important.	3.56	1.134

## CONSERVATION MOTIVATED BY ANTHROPECENTRIC CONCERN

31. One of the best things about recycling is that it saves money.	4.02	1.071
32. The worst thing about the loss of the rain forest is that it will restrict the development of new medicines.	3.93	1.058
33. One of the most important reasons to keep lakes and rivers clean is so that people have a place to enjoy water sports.	4.17	0.908
34. Nature is important because of what it can contribute to the pleasure and welfare of humans.	4.12	0.945
35. The thing that concerns me most about deforestation is that there will not be enough lumber for future generations.	4.01	0.992
36. We should protect the environment for the well being of plants and animals rather than for the welfare of humans.	4.02	1.045
37. Human happiness and human reproduction are less important than a healthy planet.	3.86	1.084
38. Conservation is important even if it lowers peoples' standard of living.	3.90	0.987
39. We need to keep rivers and lakes clean in order to protect the environment, and NOT as places for people to enjoy water sports.	4.07	1.065
40. We should protect the environment even if it means peoples' welfare will suffer.	3.97	1.034

## CONFIDENCE IN SCIENCE AND TECHNOLOGY

41. Most environmental problems can be solved by applying more and better technology.	3.87	1.045
42. Science and technology will eventually solve our problems with pollution, overpopulation, and diminishing resources.	3.68	1.021
43. Science and technology do as much environmental harm as good.	3.72	0.996
44. Modern science will NOT be able to solve our environmental problems.	3.56	1.071

45.	We cannot keep counting on science and technology to solve our environmental problems.	3.79	0.994
46.	Humans will eventually learn how to solve all environmental problems.	3.88	0.948
47.	The belief that advances in science and technology can solve our environmental problems is completely wrong and misguided.	3.65	1.010
48.	Humans will eventually learn enough about how nature works to be able to control it.	3.73	0.994
49.	Science and technology cannot solve the grave threats to our environment.	3.65	1.002
50.	Modern science will solve our environmental problems.	3.92	1.057

#### ENVIRONMENTAL THREATS

51.	If things continue on their present course, we will soon experience a major ecological catastrophe.	3.92	0.915
52.	The earth is like a spaceship with very limited room and resources.	3.83	1.005
53.	The balance of nature is very delicate and easily upset.	3.76	0.979
54.	When humans interfere with nature it often produces disastrous consequences.	3.78	0.998
55.	Humans are severely abusing the environment.	3.75	1.088
56.	The idea that we will experience a major ecological catastrophe if things continue on their present course is misguided nonsense.	3.67	1.052
57.	I cannot see any real environmental problems being created by rapid economic growth. It only creates benefits.	3.69	0.939
58.	The idea that the balance of nature is terribly delicate and easily upset is much too pessimistic.	3.68	0.915
59.	I do not believe that the environment has been severely abused by humans.	3.58	1.077
60.	People who say that the unrelenting exploitation of nature has driven us to the brink of ecological collapse are wrong.	3.62	1.030

#### ALTERING NATURE

61.	Grass and weeds growing between paving stones may be untidy but are natural and should be left alone.	3.73	0.938
62.	The idea that natural areas should be maintained exactly as they are is silly, wasteful, and wrong.	3.75	1.037
63.	I'd prefer a garden that is wild and natural to a well-groomed and ordered one.	3.80	0.952
64.	Beings should not tamper with nature even when nature is uncomfortable and inconvenient for us.	3.74	0.977
65.	Turning new unused land over to cultivation and agricultural development should be stopped.	3.78	1.058
66.	I'd much prefer a garden that is well groomed and ordered to a wild and natural one.	3.66	1.152
67.	When nature is uncomfortable and inconvenient for humans we have every right to change and remake it to suit ourselves.	3.84	0.987

68. Turning new unused land over to cultivation and agricultural development is positive and should be supported.	4.03	0.906
69. Grass and weeds growing between pavement stones really looks untidy.	3.56	1.100
70. I oppose any removal of wilderness areas no matter how economically beneficial their development may be.	3.65	1.033

#### PERSONAL CONSERVATION BEHAVIOR

71. I could not be bothered to save water or other natural resources.	3.58	1.153
72. I make sure that during the winter the heating system in my room is not switched on too high.	3.74	1.097
73. In my daily life I'm just not interested in trying to conserve water and/or power.	3.52	1.215
74. Whenever possible, I take a short shower in order to conserve water.	3.74	1.082
75. I always switch the light off when I don't need it on any more.	3.90	1.048
76. I drive whenever it suits me, even if it does pollute the atmosphere.	3.38	1.259
77. In my daily life I try to find ways to conserve water or power.	3.82	1.077
78. I am NOT the kind of person who makes efforts to conserve natural resources.	3.78	1.066
79. Whenever possible, I try to save natural resources .	3.88	1.121
80. Even if public transportation was more efficient than it is, I would prefer to drive my car.	3.68	1.121

#### HUMAN DOMINANCE OVER NATURE

81. Humans were meant to rule over the rest of nature.	3.86	1.105
82. Human beings were created or evolved to dominate the rest of nature.	3.85	1.007
83. Plants and animals have as much right as humans to exist.	3.95	0.951
84. Plants and animals exist primarily to be used by humans.	3.95	0.934
85. Humans are as much a part of the ecosystem as other animals.	3.89	0.891
86. Humans are no more important in nature than other living things.	3.60	1.132
87. Nature exists primarily for human use.	3.68	1.121
88. Nature in all its forms and manifestations should be controlled by humans.	3.68	1.064
89. I DO NOT believe humans were created or evolved to dominate the rest of nature.	3.73	1.112
90. Humans are no more important than any other species.	3.49	1.247

#### HUMAN UTILIZATION OF NATURE

91. It is all right for humans to use nature as a resource for economic purposes.	3.99	0.944
92. Protecting peoples' jobs is more important than protecting the environment.	3.75	1.064
93. Humans do NOT have the right to damage the environment just to get greater economic growth	3.80	1.052
94. People have been giving far too little attention to how human progress has been damaging the environment.	3.81	0.957



95. Protecting the environment is more important than protecting economic growth .	3.82	1.010
96. We should no longer use nature as a resource for economic purposes.	3.70	0.978
97. Protecting the environment is more important than protecting peoples' jobs .	3.99	0.885
98. In order to protect the environment, we need economic growth.	3.91	0.960
99. The question of the environment is secondary to economic growth.	3.97	0.897
100. The benefits of modern consumer products are more important than the pollution that results from their production and use.	3.95	0.953

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**Green Practices Assessment.** The mean score of 1.6 suggests a moderate level of engagement in ecotourism practices among stakeholders. While there is evidence of some involvement, such as preliminary assessments of the river ecosystem, there is still room for enhancement in terms of actual implementation and integration of sustainable practices into daily operations.

While stakeholders demonstrate moderate engagement in ecotourism practices, there is room for improvement in translating theoretical knowledge into tangible conservation actions on the ground. While preliminary assessments of the river ecosystem have been conducted, there is a need for greater integration of sustainable practices into daily operations. Capacity-building initiatives should prioritize practical training sessions and experiential learning opportunities to encourage stakeholders to actively implement ecotourism practices and contribute to the conservation and management of natural resources effectively. By bridging the gap between knowledge and practices, stakeholders can play a more significant role in promoting sustainable tourism development and environmental stewardship in Barangay Tinorian.

Table 4. Green Practices Assessment

Statement	Mean	SD
1. The community conducts orientations/learning events on the policy on Green Practices including environmental and tourism laws.	1.26	0.475
2. The community sends personnel to attend learning events/fora on environmental and tourism relates laws.	1.23	0.441
3. Creates/existing Green Team in the community.	1.29	0.489
4. Observes power saving techniques, i.e. unplug appliances, device, gadgets, equipment when not in use.Q5. Philippine Tourism Industry has been marketed and promoted by the government, i.e. WOW Philippines, It's more fun in the Philippines?	1.22	0.454
5. Installed motion detection lights that turn off when everyone leaves the room.	1.26	0.475
6. Use of solar power.Q8. Convention organizers; accommodation establishments, including, but not limited to, hotels, resorts, apartelles, tourist inns, motels, pension houses and home stay operators are considered as Tourism Industry.	1.51	0.739
7. Use of LED lights.Q10. "Primary tourism enterprises" refers to travel and tour services; land, sea and air transport services exclusively for tourist use.	1.24	0.510
8. Use of key cards in rooms that serve as control switches.	1.75	0.526
9. Low-flow showerheads and toilets.	1.79	0.445
10. Reduced chemical and laundry supplies.	1.46	0.528
11. Linen reuse programs.	1.47	0.551
12. Availability of online booking.	1.77	0.734
13. Conducts of Tree Planting Activities with other agencies and institutions	1.32	0.526
14. Implementation of vertical green garden and placement of indoor plants.	1.42	0.504
15. Establishment of green spaces, i.e. mini park; mini garden.	1.42	0.597
16. Establishment of composting station for biodegradable wastes, i.e., banana peels, coffee grinds, apple cores, etc.	1.38	0.471
17. Paperless initiatives, i.e., receipts, reports, employees memo, etc. are converted to digital format.	1.55	0.483
18. Installation of bike racks.	1.78	0.483
19. Green transportation, i.e., encouraging employees to use bicycles, public transportation and electric vehicles.	1.52	0.660
20. Some of the vehicles of the company use hybrid or electric vehicles.	1.58	0.591
21. The community observes green procurement, i.e., purchases from a supplier or company that is highly environment conscious, manufactures goods with ecological consciousness and eco-friendly products, with green certification or environmental rating.	1.35	0.591
22. Use of less fragile table wares.	1.37	0.472
23. Avoid usage of plastic cups, spoons, and forks.	1.43	0.426
24. No straw policy on beverages.	1.49	0.449
25. Observance of Reduce, Reuse and Recycle.	1.28	0.503
26. Support to local economy, i.e., buying/using locally produced products, buy fair trade and organic products.	1.31	0.483
27. Placed/pasted reminder stickers on conspicuous places on green practices, i.e., Conserve Water, Every Drop Counts; Let's Live Green; Be Proactive – As part of our efforts in saving the environment, hanged towels mean that you would like to reuse your towel.	1.25	0.483
28. Installed/constructed rain-water harvesting and water collected is treated for use.	1.42	0.507
29. Black water recycling strategy, i.e., sewage is treated then recycled water is purified water used.	1.49	0.517
30. Adopts National Greening Program site/s of DENR 6 or other projects of the agency; i.e., MOA to protect and conserve a particular area.	1.27	0.662

## **Thematic Analysis**

Thematic analysis was conducted to identify recurring themes, patterns, and insights from qualitative data obtained through interviews with stakeholders in Barangay Tinorian regarding ecotourism development. The analysis revealed several key themes, each offering valuable insights into stakeholders' perspectives, experiences, and suggestions for improving ecotourism initiatives in the region. The following themes emerged from the data:

**Community Engagement and Participation.** Stakeholders expressed a strong desire for increased community involvement in ecotourism development efforts. Participants emphasized the importance of community engagement in decision-making processes, highlighting the need for inclusive planning and consultation with local residents, indigenous communities, and other stakeholders. Suggestions for enhancing community participation included establishing community-based organizations, fostering partnerships between local government and grassroots organizations, and implementing mechanisms for community input and feedback.

**Environmental Conservation and Sustainability.** Environmental conservation emerged as a central theme in stakeholders' discussions on ecotourism development. Participants expressed concerns about the degradation of natural resources and ecosystems due to unsustainable practices and overexploitation. There was a consensus among stakeholders on the importance of prioritizing conservation efforts, such as reforestation, watershed management, and biodiversity protection, to ensure the long-term sustainability of ecotourism initiatives. Suggestions for promoting environmental conservation included implementing ecotourism codes of conduct, raising awareness about conservation issues, and enforcing regulations to mitigate environmental impacts.

**Cultural Preservation and Heritage Tourism.** Participants highlighted the significance of cultural preservation and heritage tourism in ecotourism development. Stakeholders emphasized the need to showcase the cultural diversity and traditional practices of local communities while promoting responsible tourism. Suggestions for integrating cultural preservation into ecotourism initiatives included organizing cultural festivals and events, offering authentic cultural experiences for visitors, and supporting local artisans and cultural practitioners. Participants also emphasized the importance of respecting indigenous rights and promoting indigenous-led ecotourism ventures.

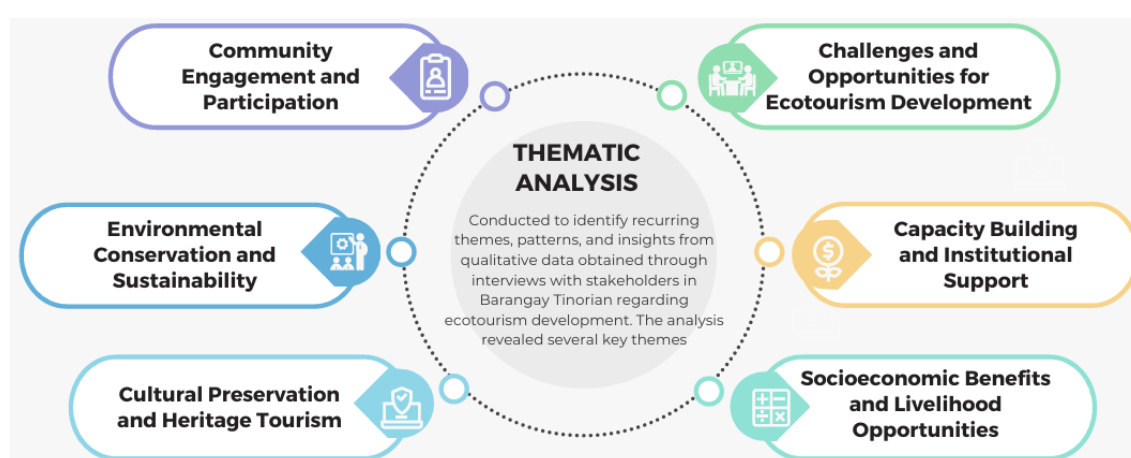
**Socioeconomic Benefits and Livelihood Opportunities.** Stakeholders discussed the potential socioeconomic benefits of ecotourism for local communities, including income generation, job creation, and poverty alleviation. Participants identified ecotourism as a viable livelihood option for residents, particularly those living in rural and marginalized areas. Suggestions for maximizing socioeconomic benefits included providing training and capacity-building opportunities for local entrepreneurs, promoting community-based tourism enterprises, and establishing ecotourism cooperatives to ensure equitable distribution of profits. Participants also emphasized the importance of sustainable tourism practices to safeguard livelihoods and protect community resources.

**Challenges and Opportunities for Ecotourism Development.** Stakeholders identified various challenges and opportunities for ecotourism development in Barangay Tinorian. Challenges included limited infrastructure and access to basic services, lack of marketing and promotion, inadequate funding and investment, and competing interests for land and resources. However, participants also highlighted opportunities such as natural attractions, cultural heritage, and community resilience as strengths that could be leveraged for ecotourism development. Suggestions for overcoming challenges and capitalizing on opportunities

included developing ecotourism master plans, securing funding from government and private sources, and strengthening partnerships with stakeholders.

**Capacity Building and Institutional Support.** Participants underscored the importance of capacity building and institutional support for ecotourism development in Barangay Tinorian. Stakeholders emphasized the need for training programs, technical assistance, and mentorship to enhance the skills and knowledge of local residents involved in ecotourism initiatives. Suggestions for capacity-building initiatives included offering training in ecotourism management, sustainable practices, hospitality services, and entrepreneurship. Participants also called for greater support from government agencies, non-governmental organizations (NGOs), and development partners to provide funding, technical expertise, and policy support for ecotourism projects.

Figure 1. Key Themes



Based on the findings from the study, the following inputs can serve as a framework for the development of community-based ecotourism entrepreneurship along Tinorian River in Iloilo. These inputs emphasize the importance of integrating environmental conservation, business literacy, cultural heritage, and community engagement to create a sustainable and impactful ecotourism industry.

## 1. Capacity Building and Business Literacy Training

- 1.1. **Financial Management Training:** Provide comprehensive training on financial literacy, including budgeting, cash flow management, pricing strategies, and understanding financial documents like income statements and balance sheets. This will enable stakeholders to make informed financial decisions, manage costs, and maintain the financial viability of ecotourism ventures, particularly during off-peak seasons when cash flow might be limited.
- 1.2. **Entrepreneurial Skills Development:** Offer capacity-building workshops that focus on entrepreneurship, business planning, marketing strategies, and customer service. This is especially important for local residents who are interested in establishing small ecotourism enterprises (e.g., eco-lodges, guided tours, local food services). Entrepreneurial skills will empower community members to create and manage successful ecotourism businesses.
- 1.3. **Specialized Business Training:** Provide advanced training on more complex business concepts, such as capital budgeting, profit vs. cash flow management, and the financial impacts of non-financial practices like sustainability initiatives. This will help stakeholders make more strategic investment decisions and align their business operations with environmental conservation goals.

2. Environmental Education and Conservation Programs
  - 2.1. Environmental Conservation Awareness: Implement awareness campaigns and educational programs that focus on the importance of conserving the Tinorian River ecosystem, biodiversity, and natural resources. These programs should highlight the critical role of stakeholders in maintaining the health of the environment for both ecotourism and local livelihoods.
  - 2.2. Hands-On Conservation Training: Provide practical training on environmental management techniques such as waste management, sustainable fishing, water conservation, and reforestation. These skills will enable stakeholders to implement and integrate sustainable practices into their daily operations, ensuring that ecotourism activities do not harm the environment.
  - 2.3. Ecotourism Codes of Conduct: Develop and enforce ecotourism codes of conduct to guide visitors and businesses in practicing sustainable tourism. These guidelines should emphasize the protection of natural resources, respect for wildlife, and minimization of negative environmental impacts.
3. Integration of Cultural Heritage and Indigenous Knowledge
  - 3.1. Cultural Heritage Tourism: Promote the rich cultural heritage of the local communities along Tinorian River as a key aspect of ecotourism. Activities like traditional storytelling, craft-making, and festivals that showcase local customs and history can attract visitors while providing economic benefits to indigenous communities.
  - 3.2. Indigenous-Led Ecotourism Ventures: Support indigenous-led ecotourism initiatives by providing them with training, resources, and marketing support. This would ensure that local knowledge and cultural practices are respected and integrated into the tourism experience while providing direct economic benefits to indigenous people.
  - 3.3. Support for Local Artisans and Craftspeople: Develop platforms for local artisans to sell their products to tourists. This could include promoting traditional handicrafts, textiles, and food as part of the ecotourism experience. Encouraging the inclusion of these cultural elements will not only diversify the tourism offerings but also ensure that economic benefits reach more community members.
4. Development of Ecotourism Infrastructure
  - 4.1. Eco-Friendly Facilities: Invest in the development of infrastructure that supports ecotourism, such as eco-lodges, nature trails, and waste management facilities. All infrastructure should adhere to sustainable design principles, ensuring minimal environmental impact while enhancing the visitor experience.
  - 4.2. Sustainable Transport Solutions: Promote eco-friendly transportation options for tourists, such as bicycle rentals, walking tours, or boat rides powered by renewable energy. This would reduce the carbon footprint of tourism and align with the sustainability goals of the ecotourism industry.
  - 4.3. Signage and Visitor Interpretation Centers: Install informative signage along nature trails and visitor interpretation centers where tourists can learn about the local flora, fauna, and cultural significance of the area. These centers can also serve as a platform for educating tourists on the importance of environmental conservation and responsible tourism practices.
5. Community Engagement and Participation
  - 5.1. Inclusive Decision-Making: Ensure that local communities are actively involved in the planning, development, and management of ecotourism projects. This could be done through the establishment of community-based organizations that provide platforms for stakeholder input and consultation. Giving community members a voice in decision-making will foster a sense of ownership and stewardship over ecotourism initiatives.
  - 5.2. Formation of Ecotourism Cooperatives: Establish community-based ecotourism cooperatives that allow local residents to pool their resources, share profits equitably, and manage ecotourism ventures collectively. Cooperatives can also provide better access to funding, technical assistance, and marketing channels, enhancing the community's ability to scale up ecotourism enterprises.

- 5.3. Stakeholder Partnerships: Strengthen partnerships between local governments, NGOs, and private sector actors to support ecotourism development. These partnerships can provide technical expertise, funding, and marketing resources to ensure the success and sustainability of ecotourism projects.
6. Marketing and Promotion
  - 6.1. Destination Branding: Develop a strong branding strategy for Tinorian River as a unique ecotourism destination that emphasizes its natural beauty, cultural heritage, and commitment to sustainability. Effective branding and promotion will attract more visitors and position Tinorian as a model for community-based ecotourism in the Philippines.
  - 6.2. Online and Offline Marketing: Promote Tinorian River through a mix of digital marketing (social media, websites, travel blogs) and traditional marketing (brochures, eco-tourism fairs, partnerships with travel agencies). Developing an online presence is especially important for reaching eco-conscious travelers globally.
  - 6.3. Cultural and Environmental Events: Organize regular cultural and environmental events such as eco-festivals, river clean-up days, and nature walks that celebrate the unique ecological and cultural aspects of Tinorian River. These events can help draw attention to the area while promoting community engagement and conservation efforts.
7. Sustainability Monitoring and Evaluation
  - 7.1. Regular Environmental Assessments: Implement ongoing assessments of the Tinorian River ecosystem to monitor the impact of tourism activities and ensure that the natural environment is being protected. Data collected from these assessments can be used to adapt and improve ecotourism practices over time.
  - 7.2. Social and Economic Impact Monitoring: Establish systems for tracking the social and economic impacts of ecotourism on local communities. This will ensure that the benefits of ecotourism, such as job creation and income generation, are being distributed equitably and sustainably.
  - 7.3. Feedback Mechanisms: Create feedback mechanisms where both visitors and community members can provide suggestions for improving ecotourism practices. This can help identify potential areas for improvement and enhance the overall experience for tourists while ensuring community participation in the continuous development of ecotourism ventures.
8. Government and Institutional Support
  - 8.1. Policy and Regulatory Support: Advocate for the creation of policies and regulations that support community-based ecotourism in Tinorian River. This could include incentives for sustainable tourism practices, conservation tax credits, or subsidies for eco-friendly infrastructure development.
  - 8.2. Access to Funding and Resources: Facilitate access to government and NGO grants or microloans that can help local entrepreneurs develop and scale their ecotourism businesses. Financial support is essential for communities with limited resources to invest in sustainable ecotourism infrastructure and marketing.

The integration of these inputs has substantially reinforced the strategic tourism development framework developed by Manalo and Pagayon (2022) et al. By focusing on critical pillars such as community engagement, environmental conservation, cultural preservation, and entrepreneurial capacity-building, this enhanced framework offers a holistic and sustainable approach to ecotourism. It not only promotes economic growth and livelihood opportunities for local communities but also fosters environmental stewardship and the preservation of cultural heritage.

Figure 2. Strategic Tourism Development Framework

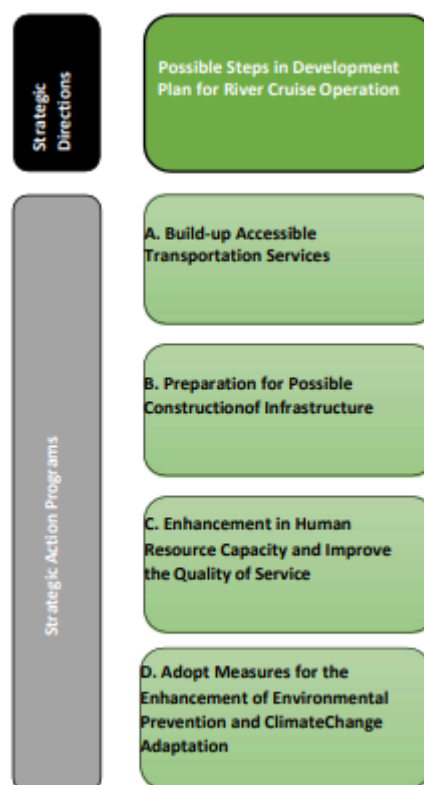


Figure 3. Strategic Direction Action Programs

(Source: Manalo and Pagayon, 2022)

#### 4. Conclusion and Implications

This study examined the knowledge, skills, and practices of stakeholders in Barangay Tinorian regarding community-based ecotourism (CBET), with a focus on business literacy, environmental conservation, green practices, and ecotourism development challenges and opportunities. The findings provide valuable insights into the stakeholders' current capabilities and highlight areas that require further development to ensure the sustainability and success of ecotourism initiatives.

**Business Literacy.** The assessment of business literacy among stakeholders revealed a moderately high understanding of key financial and managerial principles relevant to ecotourism. Stakeholders displayed a good grasp of financial statements, such as income statements and balance sheets, and understood the importance of financial metrics like cash flow, profit margins, and expense management. This foundational knowledge is crucial for maintaining the financial viability of ecotourism ventures, particularly given the seasonal nature of ecotourism demand, which can create liquidity challenges.

However, there were gaps in stakeholders' understanding of more nuanced financial concepts, such as the financial impact of non-financial practices (e.g., environmental conservation, waste management). Addressing this gap is essential, as ecotourism requires an integrated approach where environmental and financial sustainability are closely linked. Improving stakeholders' business acumen, particularly in

financial decision-making and strategic planning, will be critical for fostering sustainable tourism enterprises that can reinvest profits into conservation and community development.

**Environmental Conservation Knowledge.** The relatively low mean score (2.68) in environmental conservation knowledge among stakeholders suggests that while there is a foundational understanding of conservation principles, this knowledge needs further development. Stakeholders must deepen their comprehension of key conservation concepts, such as biodiversity protection, watershed management, and sustainable resource use, to ensure that ecotourism activities do not degrade the natural environment they seek to protect.

The findings suggest that targeted environmental education and awareness campaigns are needed to enhance stakeholders' understanding of the ecological impacts of tourism and the role they play in promoting conservation. By improving their knowledge of environmental laws, policies, and best practices, stakeholders can become more effective stewards of their natural resources and ensure that ecotourism contributes to long-term ecological sustainability.

**Green Practices.** The relatively low engagement in green practices (mean score of 1.6) reflects a significant gap between stakeholders' theoretical understanding of sustainable tourism and the practical implementation of green initiatives. While some preliminary conservation efforts, such as assessments of the river ecosystem, have been made, there is considerable room for improvement in integrating sustainable practices into daily operations.

This gap suggests that stakeholders require more hands-on training and experiential learning opportunities to translate their knowledge into actionable conservation measures. Capacity-building initiatives should focus on equipping stakeholders with the skills to implement green practices effectively, such as sustainable waste management, water conservation, and energy efficiency. Strengthening the adoption of green practices will be crucial for ensuring that ecotourism in Barangay Tinorian supports both environmental sustainability and community well-being.

**Skills and Attitudes.** Stakeholders exhibited a high level of technical skills (mean score of 4.35) necessary for ecotourism implementation, including visitor management, hospitality, and environmental conservation techniques. However, further refinement and specialization in these skills, particularly in biodiversity conservation and eco-tourist interpretation, could enhance the overall quality of ecotourism services.

The positive attitudes toward environmental conservation (mean score of 3.79) suggest that stakeholders are motivated to contribute to sustainable tourism efforts. This readiness to embrace ecotourism as a means of conservation and cultural preservation provides a strong foundation for future initiatives. The challenge will be to sustain this positive momentum and ensure that these favorable attitudes are supported by the necessary skills and knowledge to translate into effective action.

**Thematic Insights on Ecotourism Development.** Stakeholders emphasized the importance of inclusive decision-making and community involvement in ecotourism planning. Greater engagement of local communities, including indigenous groups, is needed to foster ownership and ensure that ecotourism initiatives are both culturally sensitive and socially sustainable.

There was strong consensus on the need to prioritize environmental conservation to safeguard the natural resources that are central to ecotourism. Stakeholders suggested initiatives like reforestation, biodiversity protection, and the development of ecotourism codes of conduct to ensure that tourism activities do not harm the environment.



Stakeholders identified cultural preservation as a key aspect of ecotourism development. Promoting heritage tourism by showcasing local traditions, arts, and crafts will enhance the cultural value of ecotourism, while also providing livelihood opportunities for local artisans and cultural practitioners.

Ecotourism is seen as a potential driver of socioeconomic development, offering income generation and job creation for local communities. However, there is a need for capacity-building in entrepreneurship and ecotourism management to ensure that local residents can fully capitalize on these opportunities.

Stakeholders highlighted infrastructure deficiencies, limited marketing efforts, and competing land uses as major challenges for ecotourism development. However, they also pointed to the region's natural beauty and cultural heritage as key assets that could be leveraged for sustainable tourism growth.

There is a clear need for capacity-building programs that enhance the skills and knowledge of local stakeholders in both environmental management and business operations. Institutional support from government agencies, NGOs, and private sector partners will be crucial for the successful development of ecotourism in the region.

The study's findings carry several important implications for the future development of community-based ecotourism in Barangay Tinorian and similar contexts:

- a. **Educational Interventions.** Given the gaps in both environmental conservation knowledge and business literacy, there is a pressing need for educational programs that target these areas. Providing stakeholders with more comprehensive training on financial management, conservation laws, and sustainable tourism practices will empower them to manage ecotourism enterprises more effectively and sustainably.
- b. **Capacity Building and Skills Development.** Enhancing stakeholders' skills through capacity-building initiatives is essential for improving the quality and sustainability of ecotourism operations. Technical training in biodiversity conservation, eco-tourist interpretation, and sustainable business practices will equip stakeholders with the tools they need to succeed.
- c. **Strengthening Green Practices.** Bridging the gap between knowledge and action is critical for the long-term sustainability of ecotourism. Practical training programs focused on green practices, such as sustainable waste management and eco-friendly infrastructure development, will encourage stakeholders to implement environmentally responsible practices in their daily operations.
- d. **Institutional and Policy Support.** To overcome the challenges identified, including infrastructure deficiencies and limited marketing, greater institutional support is needed. This could take the form of government funding for ecotourism infrastructure, partnerships with NGOs for capacity-building, and the establishment of policy frameworks that incentivize sustainable tourism practices.
- e. **Integration of Cultural Heritage.** Developing ecotourism initiatives that integrate cultural heritage and promote indigenous-led tourism ventures could enhance the authenticity of the tourist experience while providing economic benefits to local communities. Such initiatives should prioritize cultural sensitivity and community participation to ensure that tourism development aligns with local values and traditions.
- f. **Community Empowerment.** Ecotourism offers significant potential to empower local communities by providing livelihood opportunities and fostering a sense of stewardship over natural and cultural resources. Efforts should be made to engage communities in the planning and implementation of ecotourism projects, ensuring that they have a stake in the success of these ventures and share equitably in the benefits.

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