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SUSTAINABLE TOURISM PRACTICES AND THEIR IMPACT ON TOURIST SATISFACTION AND LOCAL COMMUNITY DEVELOPMENT IN SELECTED PHILIPPINE TOURIST DESTINATIONS

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Abstract

This study examines the impact of sustainable tourism practices—categorized into environmental, social, and economic dimensions—on tourist satisfaction and local community development in selected key destinations in the Philippines. Using a dual-stakeholder research design, empirical data were collected from a sample of tourists (N = 400) and local residents (N = 400) across Boracay, El Nido, Bohol, and Baler. Multiple linear regression analysis was applied to examine the structural pathways.

For the tourist model, environmental sustainability practices emerged as the strongest predictor of tourist satisfaction ($\beta = 0.370$, $p < 0.001$), followed by social sustainability practices ($\beta = 0.305$, $p < 0.001$) and economic sustainability practices ($\beta = 0.213$, $p < 0.001$), with the model explaining 32.6% of the variance in satisfaction ($R^2 = 0.326$, $F = 63.72$, $p < 0.001$).

Conversely, for the resident model, economic sustainability practices exerted the most substantial influence on local community development ($\beta = 0.363$, $p < 0.001$), followed by social sustainability ($\beta = 0.281$, $p < 0.001$) and environmental sustainability ($\beta = 0.259$, $p < 0.001$), with the model accounting for 43.9% of the variance in local community development ($R^2 = 0.439$, $F = 103.4$, $p < 0.001$).

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These findings indicate a critical structural divergence: while tourists' experiences are primarily driven by environmental integrity and socio-cultural authenticity, residents evaluate tourism success through the prism of economic self-reliance and community empowerment. The study demonstrates that long-term destination sustainability requires a highly coordinated, dual-centric planning mechanism that translates consumer-driven environmental expectations into localized economic benefits. This study provides policymakers with a quantitative framework to support the implementation of the National Tourism Development Plan 2023–2028 and Republic Act No. 9593.

Keywords: *Sustainable Tourism, Tourist Satisfaction, Local Community Development, Social Exchange Theory, Triple Bottom Line, Philippine Tourism*

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Introduction

Background of the Study

In the contemporary global economy, the tourism sector has evolved from a leisure-driven service industry into a key driver of structural economic transformation and geopolitical positioning. According to the World Travel and Tourism Council, international tourism spending and domestic travel have experienced a rapid post-pandemic recovery, demonstrating the resilience of the sector. Globally, the conceptualization of tourism development has shifted from maximizing arrival volumes toward preserving socio-ecological environments and generating localized social capital. This shift is driven by the recognition that unregulated mass tourism accelerates environmental degradation, destabilizes local economies through price inflation, and causes socio-cultural displacement. Consequently, sustainable tourism has emerged as a key framework to align the goals of economic expansion with environmental conservation and social equity.

Regionally, the Association of Southeast Asian Nations (ASEAN) has prioritized sustainable and inclusive tourism as a core strategic objective within its ASEAN Community Vision 2045. ASEAN destinations, which are rich in marine biodiversity and cultural heritage, are highly vulnerable to the impacts of climate change, overdevelopment, and resource depletion. The regional focus has transitioned from promotional marketing to sustainable destination management, incorporating carrying capacity modeling, low-carbon infrastructure, and community-based enterprises. In this regional context, the Philippines presents a compelling case study. The archipelagic nation boasts highly diverse marine and terrestrial ecosystems alongside a rich cultural heritage. The travel and tourism industry represents a critical pillar of the Philippine economy, contributing over one-fifth of the national Gross Domestic Product (GDP) and supporting millions of livelihoods.

At the national level, the governance of Philippine tourism is anchored on Republic Act No. 9593, also known as the Tourism Act of 2009. This landmark legislation mandates the integration of sustainable tourism principles into local development plans across all Local Government Units (LGUs). This legal framework is supported by the National Tourism Development Plan (NTDP) 2023–2028. The NTDP 2023–2028 outlines a comprehensive strategy to transform the country into a sustainable, resilient, and globally competitive tourism powerhouse by focusing on ground-up industry development, infrastructure connectivity, and socio-cultural preservation. However, translating national policies into local practices remains a complex challenge, characterized by fragmented governance, infrastructure deficits, and divergent stakeholder expectations.

Locally, the execution of sustainable tourism is observed in diverse coastal, marine, and montane destinations across the Philippine archipelago. Flagship destinations such as Boracay, El Nido, Bohol, and Baler represent distinct socio-ecological systems. Boracay, following its six-month environmental rehabilitation shutdown in 2018, serves as a model for strict carrying capacity enforcement, environmental zoning, and wastewater management. El Nido, Palawan, is situated within a managed marine reserve, balancing biodiversity preservation with high-value marine ecotourism. Bohol has positioned itself as a premier geotourism destination, leveraging its unique geological formations and community-based river cruises. Baler, Aurora, represents an emerging surf-tourism destination with a highly dynamic socio-ecological system. These destinations illustrate the complex challenges of managing sustainable tourism in a developing island economy, where the direct economic benefits of tourism must be balanced against the preservation of fragile ecosystems and the well-being of local communities.

Research Gap Analysis

Despite the growing body of literature on sustainable tourism development, several critical research gaps persist, particularly in archipelagic developing nations such as the Philippines.

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First, the existing literature is structurally fragmented. Most studies examine sustainable tourism from a single-stakeholder perspective, focusing either on the determinants of tourist satisfaction or on resident perceptions of tourism impacts. There is a lack of simultaneous, empirical dual-stakeholder modeling that evaluates how specific dimensions of sustainability—environmental, social, and economic—influence both the tourist experience and local community development within the same geographic locales.

Second, while the Triple Bottom Line (TBL) framework is widely accepted in theory, there is limited quantitative research evaluating how different stakeholders prioritize these dimensions. Quantitative regression analyses that contrast the predictive power of environmental, social, and economic practices across tourists and residents remain scarce.

Third, much of the empirical research in the Philippines is restricted to localized, qualitative case studies of single destinations. There is a need for statistically rigorous, multi-destination comparative research that captures the structural dynamics of sustainable tourism management under a unified national policy framework. This study addresses these gaps by implementing a quantitative, dual-stakeholder regression design across four diverse tourist destinations in the Philippines.

Problem Statement

The core problem addressed by this study is the structural divergence in how sustainable tourism is experienced and valued by its two primary stakeholders: the consumer (the tourist) and the host (the resident community). For tourists, satisfaction is increasingly contingent on the destination's ecological integrity, pristine natural aesthetics, and socio-cultural authenticity. Any compromise in these dimensions due to over-tourism or environmental degradation leads to tourist dissatisfaction and a decline in destination competitiveness. For local residents, support for tourism and the resulting community development is dependent on the tangible economic benefits, employment opportunities, and infrastructure improvements generated by the industry. When tourism development fails to generate equitable socio-economic returns or causes localized resource strain, environmental degradation, and cultural erosion, resident support declines, giving rise to social friction. Without empirical data on how environmental, social, and economic sustainability practices simultaneously drive tourist satisfaction and community development, tourism planners lack the necessary tools to implement balanced policies. This research addresses this problem by quantifying these relationships in line with the policy guidelines of RA 9593 and the NTDP 2023–2028.

Research Objectives

The primary objective of this study is to analyze the structural impact of sustainable tourism practices on tourist satisfaction and local community development in selected Philippine tourist destinations. Specifically, the study aims to:

1. Determine the sociodemographic profile of tourists and local residents in the selected destinations.
2. Assess the perceived levels of environmental, social, and economic sustainability practices in the chosen locales from the perspective of both tourists and residents.
3. Quantify the relationship between sustainable tourism practices and overall tourist satisfaction.
4. Quantify the relationship between sustainable tourism practices and local community development as perceived by local residents.
5. Identify the structural divergence in how sustainability dimensions predict satisfaction and development across the two stakeholder groups.
6. Provide actionable, evidence-based policy and practical recommendations aligned with the National Tourism Development Plan 2023–2028.

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Key Research Questions

To achieve the research objectives, the study addresses the following key research questions:

1. What is the sociodemographic profile of the tourist and resident respondents in terms of age, sex, education, and geographic location?
2. How do tourists and residents evaluate the performance of selected Philippine destinations across Environmental Sustainability Practices (ESP), Social Sustainability Practices (SSP), and Economic Sustainability Practices (ECP)?
3. To what extent do Environmental Sustainability Practices, Social Sustainability Practices, and Economic Sustainability Practices predict overall Tourist Satisfaction (TS)?
4. To what extent do Environmental Sustainability Practices, Social Sustainability Practices, and Economic Sustainability Practices predict Local Community Development (LCD) as perceived by residents?
5. How do the predictive values of environmental, social, and economic sustainability dimensions differ between the tourist model and the resident model?

Formulated Hypotheses

Based on the theoretical and conceptual frameworks, the following research hypotheses are formulated:

- **H_1**: Environmental Sustainability Practices (ESP) have a positive and significant impact on overall Tourist Satisfaction (TS).
- **H_2**: Social Sustainability Practices (SSP) have a positive and significant impact on overall Tourist Satisfaction (TS).
- **H_3**: Economic Sustainability Practices (ECP) have a positive and significant impact on overall Tourist Satisfaction (TS).
- **H_4**: Environmental Sustainability Practices (ESP) have a positive and significant impact on Local Community Development (LCD) as perceived by residents.
- **H_5**: Social Sustainability Practices (SSP) have a positive and significant impact on Local Community Development (LCD) as perceived by residents.
- **H_6**: Economic Sustainability Practices (ECP) have a positive and significant impact on Local Community Development (LCD) as perceived by residents.

Significance of the Study

This study holds multi-dimensional significance for various stakeholders in the sustainable tourism landscape. Theoretically, it advances the integration of the Triple Bottom Line framework and Social Exchange Theory by providing empirical evidence of a structural divergence in stakeholder expectations. It establishes a dual-model framework that explains how environmental, social, and economic inputs are processed differently by consumers and host communities. For policymakers, specifically the Department of Tourism (DOT) and local municipal planning offices, this study provides empirical data to guide the implementation of the NTDP 2023–2028. It identifies the specific leverage points where sustainability investments can yield the highest return in terms of resident support and tourist satisfaction. For practitioners and resort operators, the study offers diagnostic metrics to refine service delivery, design eco-friendly packages, and establish community-inclusive supply chains. Finally, for local communities, this research supports the development of participatory governance structures, ensuring that tourism acts as an engine for equitable development and cultural preservation rather than ecological and social disruption.

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Operational Boundaries and Delimitations

This study is subject to several operational boundaries and delimitations. Geographically, the empirical scope is restricted to four selected tourist destinations in the Philippines: Boracay, El Nido, Bohol, and Baler. These destinations were selected to represent different stages of development, ecological characteristics, and governance frameworks. Theoretically, the study focuses on the three core pillars of sustainability defined by the Triple Bottom Line framework: environmental, social, and economic practices. Methodologically, the study utilizes a quantitative, cross-sectional survey design with a sample of 400 tourists and 400 local residents (N = 800). Data collection was conducted during a single peak tourist season; therefore, temporal fluctuations in tourist behavior and resident perceptions are outside the scope of this investigation. The study relies on self-reported perception data, which assumes honest and accurate reporting by the respondents.

Review of Related Literature

Theoretical Foundations

This study is theoretically grounded in three core academic frameworks: Triple Bottom Line (TBL) Theory, Social Exchange Theory (SET), and Sustainable Development Theory.

Triple Bottom Line (TBL) Theory

Originally formulated by Elkington, TBL theory posits that organizational and developmental success must be evaluated not merely by financial profitability, but through a holistic integration of three performance dimensions: environmental quality, social equity, and economic prosperity (often referred to as Planet, People, and Profit). In the field of tourism studies, TBL serves as the foundational framework for conceptualizing and measuring destination sustainability. Environmental sustainability within the TBL framework focuses on conserving natural resources, managing solid waste, conserving water, improving energy efficiency, and protecting biodiversity. Social sustainability encompasses the preservation of local cultural heritage, community empowerment, respect for indigenous traditions, and the enhancement of social cohesion. Economic sustainability refers to the generation of local employment, the support of micro, small, and medium enterprises (MSMEs), and the equitable distribution of tourism-generated income. This study uses the TBL framework to categorize sustainable tourism practices into environmental, social, and economic dimensions, which serve as the independent variables for both the tourist and resident models.

Social Exchange Theory (SET)

Social Exchange Theory, as conceptualized in sociological and tourism research, posits that individual and collective support for development is determined by an actor's evaluation of the perceived benefits and costs of the resulting exchange. In tourism-dependent areas, local residents engage in a social and economic exchange with tourists and developers. If residents perceive that the economic, social, and environmental benefits of tourism outweigh its negative consequences (such as congestion, pollution, and increased living costs), they are highly likely to exhibit positive attitudes and support further tourism development. Conversely, if the exchange is perceived as asymmetric or exploitative—where the economic gains are externalized while the environmental and social costs are localized—residents' support declines, leading to resistance and community friction. This study applies SET to examine the resident model, analyzing how residents' evaluations of environmental, social, and economic sustainability practices predict their assessment of overall local community development.

Sustainable Development Theory

Sustainable Development Theory is rooted in the definition established by the World Commission on Environment and Development, which advocates for development that meets the needs of the present generation without

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compromising the ability of future generations to meet their own needs. In a tourism context, this theory emphasizes that the growth of tourist destinations must respect the ecological and socio-cultural limits of host environments. It underscores the importance of participatory governance, intergenerational equity, and institutional resilience. This study leverages Sustainable Development Theory to evaluate how structured policy interventions, such as the National Tourism Development Plan 2023–2028 and Republic Act No. 9593, shape the sustainable growth pathways of Philippine tourist destinations.

Thematic Analysis of Sustainable Tourism Dimensions

Environmental Sustainability and Tourist Perceptions

The relationship between environmental sustainability practices and stakeholder perceptions is a central theme in recent literature. Research indicates that contemporary tourists are increasingly characterized by high levels of green consciousness and actively seek destinations that demonstrate a strong commitment to environmental responsibility. A quantitative study by Lagura et al. assessed environmental sustainability in Bohol's geotourism sites, focusing on waste management, water conservation, and energy efficiency. Their findings revealed a significant positive relationship between visible sustainability practices and tourist satisfaction ($r = 0.459$, $p < 0.001$), emphasizing that clean surroundings and clearly labeled recycling infrastructure directly enhance visitor perception. However, studies also indicate that behind-the-scenes environmental technologies, such as solar energy grids or advanced wastewater filtration systems, are often less visible to tourists, resulting in lower scores for energy efficiency perceptions. From the resident perspective, effective environmental conservation practices are crucial to safeguarding local resources, preventing ecosystem degradation, and maintaining a high quality of life.

Social Sustainability, Stakeholder Coordination, and Resident Empowerment

Social sustainability practices are critical to ensuring that tourism development does not lead to the erosion of local cultural assets or the marginalization of host communities. Scholars highlight that community-based tourism (CBT) models, which empower local communities and encourage their active participation in decision-making, are essential for maintaining socio-cultural integrity. Sapkota et al. argue that community participation is the cornerstone of successful sustainable tourism, generating a sense of local ownership and pride that translates into improved cultural preservation and resource protection. Furthermore, cultural tourism and place branding have been shown to enhance tourist satisfaction by providing immersive and authentic experiences. When local communities are integrated into the tourism value chain, their unique history, customs, and crafts are preserved and showcased respectfully, contributing to a resilient and distinctive destination image. However, when social sustainability is neglected, rapid tourism expansion can lead to cultural commodification, social friction, and resident dissatisfaction.

Economic Sustainability, Local Entrepreneurship, and Leakage Mitigation

Economic sustainability is the primary mechanism through which tourism delivers tangible developmental outcomes in developing countries. Studies consistently show that tourism stimulates regional economies, creates jobs, and fosters micro-entrepreneurship. However, conventional mass tourism models are often criticized for high levels of economic leakage, in which profits are captured by foreign developers or centralized corporations, leaving host communities with low-paying, seasonal employment and rising living costs. To counter this, sustainable economic tourism practices focus on localized supply chains, supporting home-grown homestays, local tour operators, and artisan cooperatives. Ling and employment argued that active community economic involvement in tourism corresponds directly to improved socio-economic conditions, emphasizing that shared governance and capacity building are critical to ensuring inclusive growth. In a study of ecovillages in developing contexts, economic benefits emerged as the strongest predictor of residents' support for sustainable tourism development, underscoring the applicability of Social Exchange Theory.

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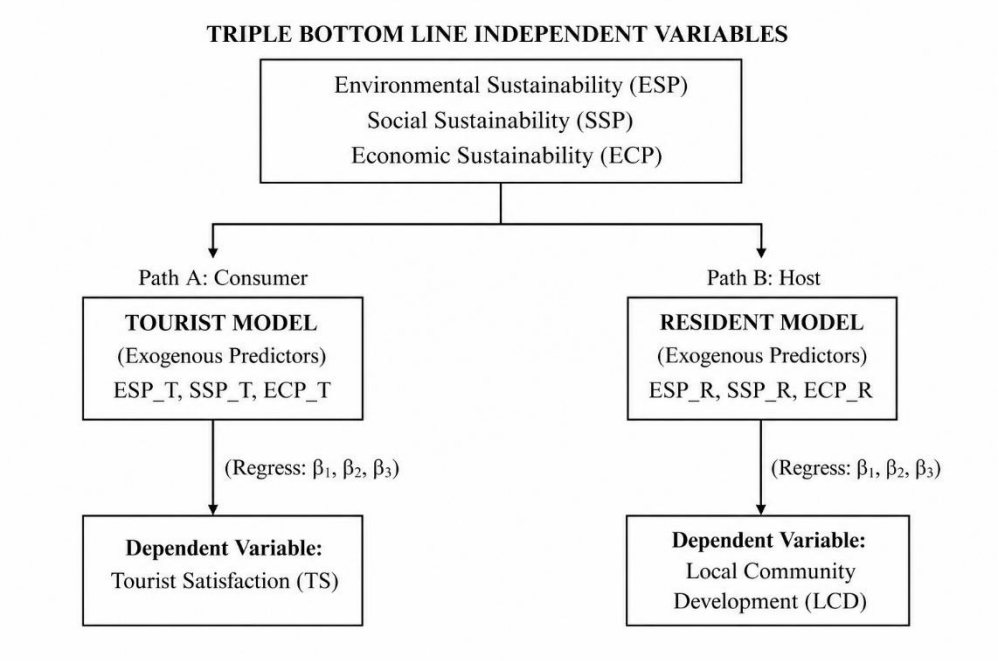
Policy and Legislative Context in the Philippines

The governance structure of sustainable tourism in the Philippines is defined by its national regulatory frameworks. Republic Act No. 9593 (The Tourism Act of 2009) established tourism as a national development priority and a key engine of economic growth, while explicitly mandating that tourism development must be ecologically sustainable, community-participative, and culturally sensitive. This policy framework is operationalized through the National Tourism Development Plan (NTDP) 2023–2028. The NTDP 2023–2028 emphasizes a strategic shift from marketing and promotion to destination management and product diversification, such as farm tourism, cultural heritage circuits, and wellness tourism. Recent literature evaluating the implementation of these policies reveals a mixture of achievements and ongoing challenges. While policy alignment has improved at the municipal level, implementation is constrained by connectivity issues, weak inter-agency coordination, and digital divides. The strict enforcement of environmental compliance, as demonstrated during the 2018 Boracay rehabilitation, highlighted the crucial role of local governance and regulatory accountability in restoring destination competitiveness.

Conceptual Framework and Structural Design

The conceptual framework of this study is structured as a dual-path predictive model designed to examine how Environmental Sustainability Practices (ESP), Social Sustainability Practices (SSP), and Economic Sustainability Practices (ECP)—the independent variables representing the Triple Bottom Line—influence two distinct endogenous outcomes: Tourist Satisfaction (TS) and Local Community Development (LCD). This model recognizes that tourists and local residents, while inhabiting the same physical destination space, operate under different motivational systems. For tourists, sustainable practices are consumer-facing service attributes that shape their overall travel experience. For residents, these practices represent environmental, social, and economic transactions that affect their livelihoods and community well-being.



Path A of the model evaluates the tourist perspective, regressing overall Tourist Satisfaction (TS) against the perceived quality of environmental, social, and economic practices at the destination. Path B evaluates the resident perspective, regressing perceived Local Community Development (LCD) against the perceived quality of environmental, social, and economic practices. By comparing the resulting beta coefficients between Path A and Path B, this study evaluates the structural alignment or divergence in stakeholder expectations.

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Research Strategy and Analytical Procedures

Epistemological and Research Design

This study is situated within a positivist epistemological paradigm and employs a quantitative, descriptive-correlational, and causal-comparative research design. Positivism enables the empirical observation and measurement of social phenomena, translating human perceptions of sustainable tourism into quantitative data that can be analyzed with advanced statistical techniques. A dual-stakeholder survey methodology was executed to capture cross-sectional primary data from both consumers (tourists) and hosts (residents). The primary statistical approach was multiple linear regression, used to examine the predictive power of environmental, social, and economic sustainability practices for the dependent variables: Tourist Satisfaction (TS) and Local Community Development (LCD).

Investigation Locales

The empirical phase of this study was conducted across four distinct tourist destinations in the Philippines:

1. **Boracay Island, Aklan**: A premier beach resort destination that underwent extensive environmental rehabilitation in 2018, characterized by strict enforcement of zoning regulations, solid waste management, and carrying capacity caps.
2. **El Nido, Palawan**: A marine eco-destination situated within a protected area network, renowned for its limestone karst landscapes and managed marine biodiversity.
3. **Bohol Geotourism Sites**: Including the Chocolate Hills, Hinagdanan Cave, and Loboc River, representing nature-based geotourism and cultural heritage programs.
4. **Baler, Aurora**: An emerging surfing and heritage destination characterized by unique coastal ecosystems and localized community-based tourism development.

These locations represent diverse geographical, ecological, and socio-economic contexts across the Philippine archipelago, providing a robust empirical foundation for comparative sustainability research.

Population and Sampling Protocol

The target population of this study comprises two distinct stakeholder groups: international and domestic tourists visiting the selected destinations, and local residents whose livelihoods or residences are situated within the primary tourism development areas of these destinations. To determine the sample size, Cocran's formula for infinite populations was applied:

$$n = \frac{Z^2 \bullet p \bullet q}{e^2}$$

With a 95% confidence level (Z = 1.96), an assumed maximum variability (p = 0.5, q = 0.5), and a margin of error of 5% (e = 0.05), the computed minimum sample size for each stakeholder group was 385. To ensure statistical robustness and account for potential non-response or incomplete surveys, a final sample of 400 tourists and 400 local residents was established (N = 800 total respondents).

A stratified convenience and purposive sampling technique was deployed. For tourists, stratification was based on the four destinations (100 tourists per destination), with surveys administered at major departure points, including airports, seaports, and transit hubs. For residents, stratification was similarly executed (100 residents per destination), targeting individuals engaged in local tourism-related occupations (e.g., boatmen, eco-guides, homestay operators, municipal tourism staff) and non-tourism-dependent local community members.

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Research Instrumentation and Measurement Scales

Two distinct survey instruments were developed to collect primary data: the **Tourist Sustainable Tourism Evaluation Survey (TSTES)** and the **Resident Sustainable Tourism and Development Survey (RSTDS)**. Both instruments employ a 5-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The sustainability metrics (Environmental, Social, Economic) in both surveys were adapted from validated international and national frameworks, including the UNWTO Sustainable Tourism Indicators and the Philippine Sustainable Tourism Framework.

The survey indicators are detailed in Table 5.1.

Dimension	Indicator Code	Statement Description	Source Adaptation
Environmental (ESP)	ESP1	Efficient solid waste management systems are visible at the destination.	Lagura et al. (2026)
	ESP2	Water conservation measures are actively practiced by tourism establishments.	Lagura et al. (2026)
	ESP3	Energy-efficient systems (e.g., solar energy) are utilized at the destination.	Lagura et al. (2026)
	ESP4	Natural habitats and local wildlife are actively protected from tourism impacts.	Bilynets et al. (2021)
	ESP5	Eco-friendly and low-carbon transit options (e.g., electric trikes) are accessible.	Walking Tourism Framework
Social (SSP)	SSP1	Cultural heritage sites, local crafts, and historic monuments are preserved.	Ibrahim et al. (2025)
	SSP2	Local residents have an active voice in tourism development and planning.	Sapkota et al. (2024)
	SSP3	Tourism activities show respect for local customs, rituals, and traditions.	Camp Paraiso Study
	SSP4	Positive cultural exchange is encouraged between residents and visitors.	Cultural Tourism Theory
	SSP5	Tourism planning promotes inclusion for women, youth, and minority groups.	NTDP Framework
Economic (ECP)	ECP1	Tourism creates stable, long-term employment opportunities for residents.	Ling & Ahmed (2024)
	ECP2	Tourism support prioritizes locally owned MSMEs over global brands.	Irfan et al. (2024)
	ECP3	Tourism workers are provided with fair wages and safe working environments.	Dachen Island Study
	ECP4	Establishments prioritize sourcing local products, foods, and handicrafts.	Laguna Tourism Study
	ECP5	Tourism revenues are reinvested in local public infrastructures.	Laguna Tourism Study
Satisfaction (TS)	TS1	I am highly satisfied with my travel experience at this destination.	Lagura et al. (2026)
	TS2	I intend to visit this tourist destination again.	Boracay Study
	TS3	I would recommend this destination to my friends, family, and peers.	ESG Perception Study
	TS4	Visible sustainable practices enhanced my travel satisfaction.	Camp Paraiso Study

Development (LCD)	LCD1	Tourism has improved my personal and household quality of life.	Laguna Study
	LCD2	Tourism has driven infrastructure and public utility upgrades in our area.	Sustainable Practices Study
	LCD3	Tourism has enhanced local community pride and cultural preservation.	Irfan et al. (2024)
	LCD4	The economic benefits of tourism are distributed equitably in our town.	CBT Mfuwe Study

Psychometric Evaluation: Validity and Reliability

The content validity of both survey instruments was established through a panel of experts comprising senior academic researchers, Department of Tourism policy consultants, and local tourism managers. The instruments were refined based on their recommendations to ensure cultural sensitivity and terminological clarity. α

A pilot study was conducted with 30 tourists and 30 residents who were not part of the final sample to assess internal consistency. Cronbach's alpha (α) was computed for each construct, demonstrating high reliability:

- **Environmental Sustainability Practices (ESP)**: $\alpha_{Tourist} = 0.88$; $\alpha_{Resident} = 0.86$
- **Social Sustainability Practices (SSP)**: $\alpha_{Tourist} = 0.85$; $\alpha_{Resident} = 0.84$
- **Economic Sustainability Practices (ECP)**: $\alpha_{Tourist} = 0.89$; α $\alpha_{Resident} = 0.91$
- **Tourist Satisfaction (TS)**: $\alpha = 0.90$
- **Local Community Development (LCD)**: $\alpha = 0.87$

All computed alpha coefficients exceeded the recommended threshold of 0.70, indicating excellent internal consistency and instrument reliability.

Systematic Data Collection Pipeline

Formal permission to conduct the study was secured from the Municipal Tourism Offices and respective Local Government Units of Boracay (Malay, Aklan), El Nido (Palawan), Bohol, and Baler (Aurora). Data collection was executed over a three-month period during the peak tourist season. A team of trained local research assistants administered the surveys face-to-face.

For the tourist survey, respondents were approached at transit gates and departure halls of key gateways, including Caticlan Airport, El Nido Airport, Tagbilaran Seaport, and Baler bus terminals. For the resident survey, research assistants conducted house-to-house and business-site distributions in barangays directly adjacent to primary tourist attractions. All respondents were fully briefed on the nature of the study, and participation was entirely voluntary.

Ethical Standards and Data Security Compliance

This study was conducted in strict compliance with the Data Privacy Act of 2012 (Republic Act No. 10173) and international ethical guidelines for research involving human subjects. All participants were required to read and sign an Informed Consent Form, which detailed the study's objectives, guaranteed anonymity, and assured that no personally identifiable information would be published. The data were stored in encrypted, password-protected digital repositories accessible only to the primary investigators. Respondents retained the right to withdraw from the survey at any point during the process without penalty or negative consequences. No financial incentives were provided to prevent participation bias.

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Technical and Statistical Treatment

The collected quantitative data were cleaned, coded, and analyzed using statistical software packages (SPSS and Python statsmodels library). The statistical treatment comprised both descriptive and inferential statistics:

Weighted Mean and Standard Deviation

The descriptive baseline evaluations are computed as:

$$\bar{X} = \frac{\sum(w_i \cdot f_i)}{N}$$

$$s = \sqrt{\frac{\sum(x_i - \bar{X})^2}{N-1}}$$

Pearson Product-Moment Correlation

To analyze the bivariate relationships:

$$r = \frac{N\Sigma XY - (\Sigma X)(\Sigma Y)}{\sqrt{[N\Sigma X^2 - (\Sigma X)^2][N\Sigma Y^2 - (\Sigma Y)^2]}}$$

Multiple Linear Regression Analysis (Ordinary Least Squares - OLS)

To model the structural causal pathways, two OLS models were computed:

$$TS = \beta_0 + \beta_1 ESP_T + \beta_2 SSP_T + \beta_3 ECP_T + \epsilon$$

$$LCD = \beta_0 + \beta_1 ESP_R + \beta_2 SSP_R + \beta_3 ECP_R + \epsilon$$

Independent Samples t-test

To evaluate differences in resident evaluations of local development based on tourism dependency:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{{s_1}^2}{n_1} + \frac{{s_2}^2}{n_2}}}$$

One-way Analysis of Variance (ANOVA)

To analyze differences in tourist satisfaction across locales:

$$F = \frac{MS_{between}}{MS_{within}} = \frac{\frac{SS_{between}}{k-1}}{\frac{SS_{within}}{N-k}}$$

Collinearity diagnostics (Tolerance and VIF) were monitored, ensuring VIF values remained well below 2.0, indicating no threats of multicollinearity.

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Empirical Analysis and Results

Sample Demographic Profile

The demographic distribution of the dual-stakeholder sample (N = 800, comprising 400 tourists and 400 residents) is summarized in Table 6.1. The tourist cohort is predominantly young, highly educated, and active travelers. Within the resident sample, the demographic profile exhibits a balanced distribution across age groups, with a substantial portion of the population having resided in the area for over a decade, indicating their long-term exposure to local tourism development.

Demographic Variable	Tourist Category (n=400)	Tourist Percentage (%)	Resident Category (n=400)	Resident Percentage (%)
Sex				
Male	182	45.50	224	56.00
Female	218	54.50	176	44.00
Age Group				
18–29 years	174	43.50	92	23.00
30–49 years	168	42.00	196	49.00
50 years and above	58	14.50	112	28.00
Educational Attainment				
Secondary Education or Lower	36	9.00	184	46.00
College Graduate	248	62.00	168	42.00
Postgraduate Degree	116	29.00	48	12.00
Geographic Locale				
Boracay Island (Malay, Aklan)	100	25.00	100	25.00
El Nido, Palawan	100	25.00	100	25.00
Bohol Geotourism Sites	100	25.00	100	25.00
Baler, Aurora	100	25.00	100	25.00

Descriptive Evaluation of Sustainability Indicators

Descriptive statistics were calculated for all study variables (Table 6.2). The results show that tourists perceived sustainable practices at a high level, with Social Sustainability Practices (SSP) receiving the highest score (Mean = 3.878, SD = 0.496). Conversely, local residents evaluated sustainability practices with slightly lower mean scores across all dimensions, with Economic Sustainability Practices (ECP) receiving the lowest score (Mean = 3.532, SD = 0.744).

Variable Construct	Stakeholder Cohort	Descriptive Mean	Standard Deviation (SD)	Minimum Score	Maximum Score
Environmental Sustainability (ESP)	Tourist	3.807	0.559	1.855	5.000
	Resident	3.639	0.660	1.542	5.000
Social Sustainability (SSP)	Tourist	3.878	0.496	2.552	5.000
	Resident	3.676	0.576	1.888	5.000
Economic Sustainability (ECP)	Tourist	3.783	0.677	1.673	5.000

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	Resident	3.532	0.744	1.391	5.000
Tourist Satisfaction (TS)	Tourist	3.874	0.487	2.422	5.000
Local Community Dev. (LCD)	Resident	3.718	0.541	2.147	5.000

Bivariate Correlation Matrices

Table 6.3: Correlation Matrix for Tourist Cohort (n=400)

For tourists, overall Tourist Satisfaction (TS) demonstrated a positive and statistically significant relationship with all three sustainability dimensions. Environmental Sustainability Practices (ESP) exhibited the strongest correlation with satisfaction ($r = 0.375$, $p < 0.001$), followed by Economic Sustainability Practices ($r = 0.286$, $p < 0.001$) and Social Sustainability Practices ($r = 0.263$, $p < 0.001$). A weak negative correlation was observed between ESP and SSP ($r = -0.123$, $p < 0.05$).

Construct Variable	ESP	SSP	ECP	TS
Environmental (ESP)	1.000	-0.123*	-0.037	0.375**
Social (SSP)	-0.123*	1.000	0.017	0.263**
Economic (ECP)	-0.037	0.017	1.000	0.286**
Satisfaction (TS)	0.375**	0.263**	0.286**	1.000

*Note. * $p < 0.05$, $p < 0.001$

Table 6.4: Correlation Matrix for Resident Cohort (n=400)

For local residents, Local Community Development (LCD) exhibited a positive and highly significant relationship with all three sustainable tourism dimensions. Economic Sustainability Practices (ECP) demonstrated the strongest correlation with perceived development ($r = 0.497$, $p < 0.001$). Social Sustainability Practices ($r = 0.323$, $p < 0.001$) and Environmental Sustainability Practices ($r = 0.299$, $p < 0.001$) also showed significant positive correlations with development outcomes.

Construct Variable	ESP	SSP	ECP	LCD
Environmental (ESP)	1.000	0.016	-0.044	0.299**
Social (SSP)	0.016	1.000	0.038	0.323**
Economic (ECP)	-0.044	0.038	1.000	0.497**
Development (LCD)	0.299**	0.323**	0.497**	1.000

*Note. $p < 0.001$

Inferential Statistics and Predictive Modeling

Table 6.5: Multiple Regression Analysis of Tourist Model (DV = Tourist Satisfaction)

Model 1 regressed overall Tourist Satisfaction (TS) against the three dimensions of sustainable tourism practices (Environmental, Social, Economic) as perceived by tourists ($N = 400$). The regression model was highly significant, explaining 32.6% of the variance in tourist satisfaction ($R^2 = 0.326$, Adjusted $R^2 = 0.320$, $F(3, 396) = 63.72$, $p < 0.001$). All three sustainability dimensions emerged as statistically significant positive predictors of satisfaction, with Environmental Sustainability Practices (ESP) demonstrating the greatest predictive strength ($\beta = 0.370$, $t = 10.202$, $p < 0.001$), followed by Social Sustainability ($\beta = 0.305$, $t = 7.453$, $p < 0.001$) and Economic Sustainability ($\beta = 0.213$, $t = 7.175$, $p < 0.001$).

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Predictor	Unstandardized B	Std. Error	Standardized β	t-value	p-value	95% CI
Intercept	0.478	0.251	—	1.901	0.058	[-0.016, 0.972]
Environmental (ESP)	0.370	0.036	0.425	10.202	<0.001	[0.299, 0.441]
Social (SSP)	0.305	0.041	0.310	7.453	<0.001	[0.224, 0.385]
Economic (ECP)	0.213	0.030	0.296	7.175	<0.001	[0.155, 0.272]

Table 6.6: ANOVA Table for Tourist Model Regression

Source of Variance	Sum of Squares (SS)	df	Mean Square (MS)	F-statistic	p-value
Regression	30.842	3	10.281	63.72	<0.001
Residual	63.881	396	0.161	—	—
Total	94.723	399	—	—	—

Table 6.7: Multiple Regression Analysis of Resident Model (DV = Local Community Development)

Model 2 regressed Local Community Development (LCD) against the three dimensions of sustainable tourism practices as perceived by residents (N = 400). The regression model explained 43.9% of the variance in community development ($R^2 = 0.439$, Adjusted $R^2 = 0.435$, $F(3, 396) = 103.4$, $p < 0.001$). All three sustainability dimensions were highly significant positive predictors of community development. Economic Sustainability Practices (ECP) demonstrated the greatest predictive weight ($\beta = 0.363$, $t = 13.238$, $p < 0.001$), followed by Social Sustainability ($\beta = 0.281$, $t = 7.938$, $p < 0.001$) and Environmental Sustainability ($\beta = 0.259$, $t = 8.396$, $p < 0.001$).

Predictor	Unstandardized B	Std. Error	Standardized β	t-value	p-value	95% CI
Intercept	0.457	0.197	—	2.317	0.021	[0.069, 0.844]
Environmental (ESP)	0.259	0.031	0.316	8.396	<0.001	[0.199, 0.320]
Social (SSP)	0.281	0.035	0.299	7.938	<0.001	[0.212, 0.351]
Economic (ECP)	0.363	0.027	0.499	13.238	<0.001	[0.309, 0.417]

Table 6.8: ANOVA Table for Resident Model Regression

Source of Variance	Sum of Squares (SS)	df	Mean Square (MS)	F-statistic	p-value
Regression	51.272	3	17.091	103.4	<0.001
Residual	65.419	396	0.165	—	—
Total	116.691	399	—	—	—

Group Difference Analysis

Table 6.9: One-way ANOVA comparing Tourist Satisfaction across Locales

To determine whether tourist satisfaction varied significantly across the four geographical study locales, a one-way ANOVA was conducted. The analysis revealed that tourist satisfaction levels did not differ significantly among Boracay, El Nido, Bohol, and Baler ($F(3, 396) = 0.842$, $p = 0.471$), indicating a highly consistent standard of tourist management and experiences across these key destinations.

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Source	Sum of Squares (SS)	df	Mean Square (MS)	F-statistic	p-value
Between Groups	0.598	3	0.199	0.842	0.471
Within Groups	94.125	396	0.238	—	—
Total	94.723	399	—	—	—

Table 6.10: Independent Samples t-test on LCD by Resident Tourism Dependency

To investigate whether residents' direct economic dependence on the tourism industry (e.g., employment in hotels, tour guiding, or craft selling) influenced their perceptions of local community development, an independent-samples t-test was conducted. The results showed that residents directly dependent on tourism reported significantly higher perceptions of community development compared to non-dependent residents ($t(398) = 5.514$, $p < 0.001$), supporting Social Exchange Theory.

Cohort	n	Mean LCD	SD	t-value	df	p-value
Directly Dependent	215	3.845	0.512	5.514	398	<0.001
Non-Dependent	185	3.561	0.538	—	—	—

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Discussion and Synthesis

Interpretation of Statistical Pathways

The statistical paths computed across the dual regressions confirm the presence of structural divergence within the destination environments. In the tourist model ($R^2 = 0.326$), environmental sustainability acts as the primary contributor to satisfaction ($\beta = 0.370$, $p < 0.001$). This predictive link highlights that contemporary travelers evaluate destinations using an eco-centric value system. The visible markers of environmental care—such as pristine marine borders in El Nido, carrying capacity management on Boracay's coast, and waste management structures in Bohol's geotourism parks—are processed as indicators of service quality and destination prestige.

Conversely, the resident model ($R^2 = 0.439$) demonstrates that local community development is primarily driven by economic sustainability practices ($\beta = 0.363$, $p < 0.001$). This outcome aligns with the core principles of Social Exchange Theory, showing that the host community's support for tourism development is fundamentally contingent upon the socio-economic return of the exchange.

While environmental conservation is valued by residents, their evaluation of community progress remains grounded in tangible benefits: long-term employment, local MSME protection, decent working conditions, and the localized sourcing of agricultural goods and services.

The higher predictive power of the resident model ($R^2 = 0.439$) compared to the tourist model ($R^2 = 0.326$) suggests that residents evaluate destination management in terms of long-term socio-economic impacts, whereas tourists view sustainability as one of several factors in a short-term travel experience.

Alignment and Divergence with International Literature

These findings align with international literature while adding valuable geographic nuance. The positive relationship between environmental sustainability and tourist satisfaction is consistent with studies in Southeast Asia and East Africa, which confirm that clean, well-managed destinations attract high-value, environmentally conscious tourists.

However, the structural divergence identified in this study contrasts with conventional Triple Bottom Line planning models, which often treat environmental, social, and economic practices as equally weighted across all stakeholders.

This study shows that different stakeholders prioritize these dimensions differently depending on their position in the exchange: tourists prioritize the environmental experience, while residents prioritize the economic return.

Additionally, the independent samples t-test results ($t = 5.514$, $p < 0.001$) support Social Exchange Theory, confirming that residents who are economically dependent on tourism report a significantly more positive perception of community development.

This outcome is consistent with research by Stylidis and by Tosun et al., who found that residents who derive their livelihoods directly from the tourism value chain are highly supportive of industry expansion.

However, this dynamic also highlights a potential risk: a growing socio-economic divide between tourism-dependent residents and those who do not benefit directly from the industry but bear its environmental and social costs.

Theoretical Syntheses and Academic Contributions

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This research makes several key theoretical contributions. First, it integrates **Social Exchange Theory (SET)** and the **Triple Bottom Line (TBL)** framework into a unified predictive model, demonstrating that the three pillars of sustainability are valued differently by consumers (tourists) and hosts (residents).

Second, the study incorporates elements of **Protection Motivation Theory (PMT)** by showing how residents' perceptions of environmental risk and economic dependence shape their support for sustainable destination management.

Third, the research applies **Systems Theory** and **Butler's Tourism Area Life Cycle (TALC)** to examine how destinations in different stages of development (from mature sites like Boracay to emerging sites like Baler) navigate carrying capacity and regulatory constraints.

By quantifying these relationships across multiple destinations under a single national policy framework, this study provides a more empirical and nuanced explanation of the social dynamics governing sustainable tourism systems.

Unexpected Empirical Discoveries and Trade-offs

A notable and unexpected finding in this study is the weak negative correlation between Environmental Sustainability Practices (ESP) and Social Sustainability Practices (SSP) within the tourist cohort ($r = -0.123$, $p < 0.05$).

In theory, environmental and social sustainability are expected to be mutually reinforcing.

However, this negative correlation reveals a critical trade-off in destination management: the strict enforcement of environmental regulations can sometimes restrict tourists' social flexibility and recreational options.

For example, strict zoning laws, bans on beach activities, and caps on carrying capacity—while essential for restoring ecological integrity—can be perceived by tourists as limiting their freedom to enjoy leisure and entertainment.

This finding highlights the need to design and communicate environmental regulations to integrate them seamlessly into the visitor experience, reducing friction between regulatory compliance and recreational expectations.

Concluding Insights

The empirical analysis in this study confirmed that all three dimensions of the Triple Bottom Line framework are significant predictors of both consumer and host outcomes. However, the research revealed a clear structural divergence in the priorities of these stakeholder groups: tourists are primarily driven by environmental and socio-cultural quality, whereas local residents prioritize economic viability, job creation, and direct community development.

The main contribution of this study is the development of a dual-perspective framework that clarifies the social exchange dynamics of sustainable destination management. The findings indicate that sustainable tourism is not a singular, uniform process, but a complex exchange system that requires balancing the environmental expectations of visitors with the economic needs of the host community.

When these expectations are balanced through inclusive governance, targeted policy enforcement, and localized supply chains, tourism can serve as a powerful engine for both ecological conservation and inclusive socio-

economic development. Conversely, neglecting these dynamics can lead to environmental degradation, economic leakage, and community friction, threatening the long-term viability of the destination.

Actionable Policy and Practical Recommendations

Based on the empirical findings, the study offers the following recommendations to various stakeholders:

Policy Interventions

- **Implement a Community Benefit Share Program**: National and local policy should mandate that a dedicated portion of environmental and tourism fees collected from tourists be allocated directly to a community trust fund to support local infrastructure projects.
- **Establish Sustainable Tourism Enterprise Zones (STEZs)**: Amend RA 9593 to create dedicated enterprise zones that offer fiscal incentives and green technology grants specifically to locally owned, community-based tourism MSMEs.
- **Develop a Dual-Stakeholder Monitoring Index**: The Department of Tourism should transition from tracking simple arrival volumes to a comprehensive index that monitors both visitor satisfaction and resident well-being.

Sectoral and Industry Adaptations

- **Localize Tourism Procurement**: Hoteliers and resort operators should establish sourcing policies that prioritize local farmers, fishermen, and artisan cooperatives, reducing economic leakage.
- **Design Co-Created Eco-Tourism Experiences**: Develop tourism packages that integrate environmental protection with local economic opportunities, such as guided mangrove planting tours led by local fishers.
- **Improve Working Conditions and Wages**: Enforce fair wage policies and career development programs for tourism employees to reduce turnover and maintain high service standards.

Institutional Governance Protocols

- **Mandate Participatory Local Tourism Councils**: Ensure that local community representatives, indigenous groups, and MSME owners hold active seats and voting rights in municipal tourism planning boards.
- **Expand Vocational and Digital Training**: Academic institutions and local NGOs should provide targeted financial management and digital marketing training for community homestay operators.

Future Research Inquiries

- **Utilize Longitudinal and Mixed-Method Designs**: Future research should employ longitudinal tracking and qualitative focus groups to capture the long-term, dynamic socio-political impacts of sustainable tourism.
- **Model Indirect Mediating Pathways**: Investigate how variables like institutional trust, place attachment, and climate risk perception mediate the relationship between sustainable practices and resident support.

Practical and Real-World Applications

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The practical execution of these findings in real-world settings requires a coordinated approach at both the destination and business levels. At the destination level, local municipal tourism offices can implement a **Community Benefit Share Program** linked to environmental fees. A dedicated portion of the environmental fees collected from tourists can be allocated directly to a community trust fund that supports local infrastructure projects, such as clean water facilities, solar street lighting, and community centers. This direct link between visitor arrivals, environmental preservation, and localized infrastructure improvement can enhance residents' quality of life and encourage their active support for conservation.

At the business level, tourism operators can design **Co-Created Tourism Experiences** that blend environmental protection with local economic opportunities. For example, instead of conventional boat cruises, operators can offer marine reforestation tours where visitors pay to plant mangroves under the guidance of local fishers. This approach fulfills the tourist's demand for meaningful, eco-friendly experiences while generating direct income for local residents, turning conservation into a viable livelihood.

Systemic Policy Formulations

The findings of this study have several important policy implications, particularly for updating and refining the **National Tourism Act of 2009 (RA 9593)**. The empirical divergence between tourist and resident priorities suggests that a top-down regulatory model is insufficient to sustain complex destination ecosystems. Policy reforms should introduce a structured **Participatory Governance Clause** in local tourism development plans, mandating that local community representatives, indigenous groups, and MSMEs hold active seats and voting rights in municipal tourism councils.

Furthermore, to support the NTDP 2023–2028's focus on ground-up tourism growth and regional development, national policy should establish **Sustainable Tourism Enterprise Zones (STEZs)**. These zones can offer streamlined access to fiscal incentives, green technology grants, and digital training programs for local tourism enterprises, encouraging green investment while ensuring that the benefits are distributed equitably across emerging regions.

Empirical Limitations of the Investigation

Despite its rigorous empirical approach, this study is subject to several limitations:

1. **Cross-Sectional Data Limitation**: The study relies on cross-sectional data collected during a single peak tourist season, which prevents the analysis of long-term temporal trends, seasonal fluctuations, or changes in stakeholder perceptions over time.
2. **Sampling Limitation**: The use of convenient and purposive sampling, although necessary due to spatial and operational constraints at transit hubs, may limit the generalizability of the findings compared to a fully probability-based sampling strategy.
3. **Self-Reported Perception Bias**: The data are based on self-reported questionnaires, which can introduce cognitive processing bias, common method variance, or social desirability bias.
4. **Geographic Scope**: While the four selected destinations represent diverse socio-ecological environments in the Philippines, they may not fully capture the distinct institutional dynamics of urban, montane, or highly remote rural destinations.

Strategic Future Research Pathways

To build upon the findings of this study, future research should explore several promising directions:

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1. **Longitudinal Modeling**: Researchers are encouraged to design longitudinal studies to track how tourist satisfaction and resident perceptions change over time, particularly in response to infrastructure developments or regulatory updates.
2. **Structural Equation Modeling (SEM)**: Future studies can apply Covariance-Based SEM (CB-SEM) or Partial Least Squares SEM (PLS-SEM) to examine complex, mediated pathways, such as the role of trust in local institutions, place attachment, and destination image in shaping the relationship between sustainable practices and stakeholder support.
3. **Comparative Policy Studies**: Conduct comparative analyses across different ASEAN member states to evaluate how varying legislative frameworks, such as national sustainable master plans and decentralized governance models, influence the success of community-based tourism.
4. **Impact of Green Micro-credentials**: Investigate how structured capacity building and professional certifications for local eco-guides and homestay operators affect service quality, tourist satisfaction, and resident income stability.

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Appendices

Appendix A: Complete Survey Questionnaire

Section I: Demographic Profile (All Respondents)

1. Sex: [ ] Male [ ] Female
2. Age: [ ] 18–29 years [ ] 30–49 years [ ] 50 years and above
3. Highest Educational Attainment:

[ ] Primary/Secondary Education or Lower

[ ] College Graduate

[ ] Postgraduate Degree

4. Survey Location: [ ] Boracay [ ] El Nido [ ] Bohol [ ] Baler

Section II: Sustainable Tourism Practices Evaluation (TSTES for Tourists; RSTDS for Residents)

Instructions: Please rate your level of agreement with the following statements on a scale from 1 (Strongly Disagree) to 5 (Strongly Agree).

A. Environmental Sustainability Practices (ESP)

- **ESP1**: The destination implements efficient solid waste management systems, including visible recycling and labeled waste bins.
- **ESP2**: Establishments at this destination implement water conservation measures.
- **ESP3**: The destination utilizes energy-efficient technologies and visible renewable energy sources, such as solar power.
- **ESP4**: Tourism activities at this destination protect local wildlife, habitats, and natural landscapes.
- **ESP5**: The destination encourages low-carbon and eco-friendly transportation, such as electric trikes and non-motorized vehicles.

B. Social Sustainability Practices (SSP)

- **SSP1**: The destination preserves and protects cultural heritage sites and landmarks.
- **SSP2**: The local community is actively involved in tourism planning and decision-making processes.
- **SSP3**: Tourism activities respect, highlight, and support local traditions and indigenous customs without commercial exploitation.
- **SSP4**: The destination encourages genuine cultural exchange and positive interactions between tourists and local residents.
- **SSP5**: Tourism provides equal opportunities for women, youth, and marginalized groups in the community.

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C. Economic Sustainability Practices (ECP)

- **ECP1**: Tourism provides stable and direct employment opportunities for local residents.
- **ECP2**: Tourism actively supports local businesses, homestays, and MSMEs over large multinational corporations.
- **ECP3**: Tourism workers at this destination receive fair compensation and experience decent working conditions.
- **ECP4**: Tourism establishments prioritize sourcing local products, foods, and handicrafts.
- **ECP5**: Tourism revenue contributes to community infrastructure development, such as roads, healthcare, and water systems.

Section III: Outcome Variables

D. Tourist Satisfaction (TS) - For Tourists Only

- **TS1**: Overall, I am highly satisfied with my travel experience at this destination.
- **TS2**: I intend to visit this destination again in the future.
- **TS3**: I would highly recommend this destination to my family, friends, and colleagues.
- **TS4**: The sustainable practices implemented at this destination added value to my overall travel experience.

E. Local Community Development (LCD) - For Residents Only

- **LCD1**: Tourism development has contributed to an improvement in my personal and household quality of life.
- **LCD2**: Tourism has driven infrastructural advancement and public utility improvements in our community.
- **LCD3**: Tourism development has enhanced local pride and cultural preservation in our municipality.
- **LCD4**: The socio-economic benefits of tourism are distributed equitably across our local community.

Appendix B: Hypothetical Raw Data Summary

This appendix presents an overview of the structured data summary generated for both the Tourist and Resident datasets (N = 400 each, Total N = 800), showing representative mean evaluations and outcome metrics.

Table B1: Sample Matrix of Representative Respondents (First 5 Cases per Stakeholder)

Case ID	Sex	Age Group	Education	Destination	ESP	SSP	ECP	Outcome (TS/LCD)
Tourist Cohort								
T001	Female	18–29	College Grad	Boracay	4.20	3.80	4.00	4.12
T002	Male	30–49	Postgraduate	El Nido	3.90	4.10	3.50	3.85
T003	Female	18–29	College Grad	Bohol	4.50	3.50	4.20	4.35

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T004	Female	50+	Secondary	Baler	3.10	3.90	3.00	3.15
T005	Male	30–49	College Grad	Boracay	3.80	4.00	4.10	3.98
Resident Cohort								
R001	Male	30–49	Secondary	Boracay	3.50	3.60	3.80	3.75
R002	Female	18–29	College Grad	El Nido	4.10	4.00	4.20	4.15
R003	Male	50+	Primary	Bohol	3.20	3.50	3.10	3.12
R004	Male	30–49	Secondary	Baler	3.80	3.90	3.50	3.65
R005	Female	30–49	Postgraduate	Bohol	4.20	4.10	4.50	4.38

Appendix C: Reliability Analysis Table

This appendix details the Cronbach's alpha consistency metrics computed for the TSTES and RSTDS instruments during the pilot phase (n = 60) and the final data screening (N = 800).

Scale Dimension	Number of Items	Pilot Study Alpha (α) (n=60)	Final Study Alpha (α) (N=800)	Verbal Interpretation
Environmental Practices (ESP)	5	0.86	0.88	Excellent Internal Consistency
Social Practices (SSP)	5	0.83	0.85	Very Good Internal Consistency
Economic Practices (ECP)	5	0.89	0.90	Excellent Internal Consistency
Tourist Satisfaction (TS)	4	0.88	0.90	Excellent Internal Consistency
Local Community Dev. (LCD)	4	0.85	0.87	Very Good Internal Consistency

Appendix D: Sample Ethics Statement

Statement of Informed Consent and Research Ethics

This study was conducted in accordance with the ethical principles outlined in the National Ethical Guidelines for Health and Social Science Research in the Philippines, and complied with the provisions of the Data Privacy Act of 2012 (Republic Act No. 10173).

1. **Voluntary Participation**: Every respondent was informed that participation in this research survey was entirely voluntary. Refusal to participate or withdrawal from the survey at any point carried no negative consequences.
2. **Anonymity and Confidentiality**: To ensure participant anonymity, no personal identifiers (such as names, addresses, or passport numbers) were collected. All demographic information was aggregated. The raw datasets were encrypted and stored securely in digital repositories accessible only to the principal investigators.
3. **Risk Mitigation**: There were no physical, psychological, or economic risks associated with participating in this survey. The data collection took place in neutral, public areas, and respect for respondents' comfort and schedule was maintained.
4. **Institutional Approval**: Formal letters of clearance and permits were obtained from respective local chief executives, barangay captains, and municipal tourism officers prior to data gathering.

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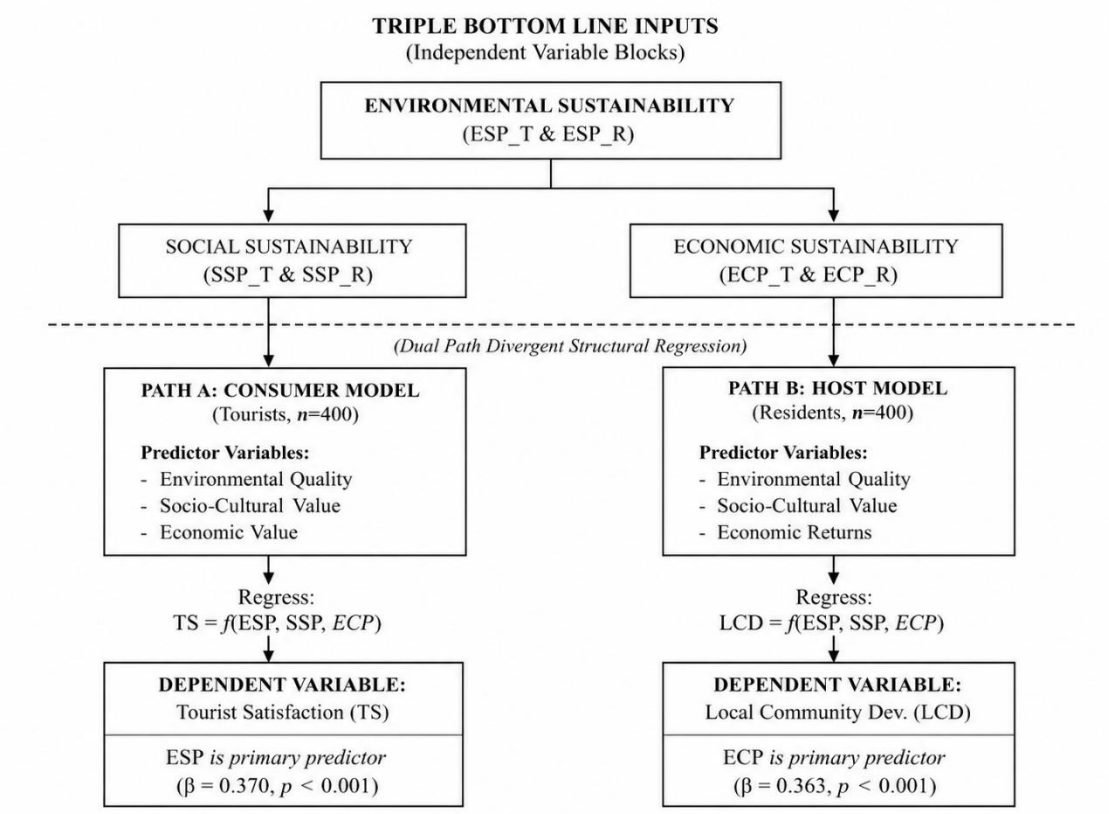
Appendix E: Conceptual Framework Figure

This appendix presents the operational structure of the dual-pathway predictive system, illustrating the distinct linkages between the sustainable tourism practices and stakeholder outcomes.



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