

A Holistic Educational Agritourism Framework: Integrating SWOT–QSPM And Community Based Tourism

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ABSTRACT

Inland agrarian villages in Indonesia face the dual challenges of agricultural commodity price volatility and the absence of alternative income mechanisms. This condition makes communities structurally vulnerable to market fluctuations. Rural tourism literature in Indonesia rarely includes an integrated framework that simultaneously addresses seasonal factors, community empowerment, and experiential learning within a SWOT–QSPM analytical structure. This study designs a sustainable educational agrotourism model for Pancasila Sukoreno Village, Jember, by integrating the principles of Community-Based Tourism (CBT), Seasonal Adaptation, and Experiential Learning. This study uses a descriptive-qualitative approach involving 20 informants selected purposively from six stakeholder groups. The researchers collected data through in-depth interviews, participant observation, and two rounds of Focus Group Discussions (FGDs). The researchers assessed internal and external strategic factors using the SWOT matrix, then prioritized them using the Quantitative Strategic Planning Matrix (QSPM) through a stakeholder-based Attractiveness Assessment. Four alternative strategies were evaluated. The S–O strategy, namely the Development of Experiential Edutourism Packages, obtained a TAS of 4.84. The S–T strategy of Seasonal Product Diversification achieved a TAS of 4.97 after adjustment. The W–O strategy of Digital and Management Training achieved a TAS of 4.32. The W–T strategy of Basic Infrastructure Development achieved a TAS of 4.32. The resulting model operationalizes three interdependent pillars. The experiential edutourism pillar is based on orange and guava cultivation. The seasonal adaptability pillar is realized through value-added product processing and cultural programming. The community

governance strengthening pillar is realized through synergy between Pokdarwis, BUMDes, and Karang Taruna. Data confirms the potential of agrotourism to stabilize income. Orange prices fluctuated sharply between IDR 2,500–IDR 8,000/kg during the 2022–2024 period. Furthermore, before the intervention, only 6% of community members participated in organized tourism activities. This research supports the achievement of SDGs 1 (No Poverty), 8 (Decent Work and Economic Growth), and 13 (Addressing Climate Change).

Keywords: *Pancasila Village, Diversification, QSPM, Tour Package, Tourism Education.*

INTRODUCTION

Indonesia's agritourism sector is experiencing rapid growth, driven by the country's natural resources and cultural diversity. However, many agricultural villages are structurally dependent on a single commodity cycle. Food security is a key program of the Indonesian government and serves as a strategic pillar of national resilience. This program is supported by the Asta Cita Program, with a 2025 funding allocation of IDR 139.4 trillion (Pupuk Indonesia, 2025). Encouraging the involvement of the younger generation is key to the regeneration and future development of the agricultural sector (Anwarudin et al., 2018), while village funds can support the further development of this agritourism sector (Soseco et al., 2025).

Globally, various studies on sustainable rural development emphasize community participation as a key factor in the

success of successful managers who are able to attract an average of 820 tourists per year (Arynova et al., 2025). Previous research has identified ten factors influencing the sustainability of rural tourism villages in Indonesia, encompassing economic, social, and environmental dimensions (Utami et al., 2023). Community-Based Tourism (CBT) has gained significant theoretical and empirical traction as a mechanism for equitable benefit sharing (Lee & Jan, 2019; Ngo & Creutz, 2022). However, a gap between the ideals of CBT and its operational reality persists. The literature highlights the challenges in simultaneously achieving stable operations and equitable benefit sharing (Guerrero-Moreno & Oliveira-Junior, 2024). The integration of experiential learning into rural tourism has emerged as a strategy to enhance visitor satisfaction and educational value (Kolb, 1984; Ballantyne & Packer, 2011). When combined with seasonal adaptation, this experiential approach can substantially strengthen rural tourism resilience (Filimonau & De Coteau, 2020).

East Java Province holds a strategic position in the development of educational agrotourism due to its rich agricultural resources and active community involvement (Hidayat et al., 2023; Tristanto et al., 2022; Zaman et al., 2022). Jember Regency is a prominent region in the agricultural sector. The agriculture, forestry, and fisheries sector in Jember Regency achieved a Location Quotient (LQ) of 2.596 in 2020-2024. This value confirms that agriculture is a leading economic sector (PPID Kabupaten Jember, 2025).

Pancasila Sukoreno Village is a prime example of a typical agrarian village with unique potential. Its leading commodities (somali oranges and crystal guavas) are cultivated under agro-climatic conditions that produce premium quality. Farmers face severe price volatility, but field data indicates that the selling price of oranges at the farm level fluctuated between IDR 2,500 and IDR 8,000 per kilogram during the 2022–2024 period. This price volatility aligns with structural findings regarding commodity price spillover effects in East Java (Sembiring et al., 2013).

Empirical evidence from small-farm economies further justifies the strategic imperative for income diversification in Sukoreno Village. Research on farm-level diversification strategies demonstrates that small farms achieve significantly higher household income when they pursue dual diversification strategies combining on-farm and off-farm income sources rather than relying on a single strategy (Chavas & Nauges, 2020). Moreover, the same evidence indicates that key socio-economic factors including the

operator's education level, age, financial condition, and farm location are critical determinants shaping farmers' capacity and willingness to diversify their income. These findings directly contextualize the conditions observed in Sukoreno Village, where limited educational attainment (68% of the adult population having only junior high school education) and the concentration of income from a single commodity cycle create structural vulnerability that agrotourism development is well positioned to address.

Two additional field conditions reinforce the urgency and relevance of this research. First, the village's leading commodities generate limited value addition at the farm gate, as produce is almost entirely sold raw to middlemen rather than processed or packaged into higher-value products. Second, Pancasila Sukoreno Village already receives informal educational visits from several government and academic institutions specifically because it hosts five officially recognized religions and five houses of worship within a single village territory, an existing organic demand that has not yet been converted into structured, revenue-generating tourism activity. These conditions jointly justify the need for a concrete, economically measurable value-added strategy delivered through tourism.

Researchers identified six interrelated challenges during the initial fieldwork: (1) the community has limited knowledge of agrotourism management, (2) the village has inadequate tourism infrastructure, (3) the village does not yet have a standardized tourism product, (4) the community has limited access to funding and technology, (5) managers have not optimally integrated agrotourism with educational programs, and (6) managers have not optimized digital marketing. These challenges reflect barriers to the digital transformation of tourism at the national level (Sibuea, 2025). Only 6% of adult community members reported active participation in organized tourism activities before this research was conducted. This situation emphasizes the urgency of a structured empowerment approach.

The concept of Seasonal Adaptation is a pillar in this research. This pillar seeks to shift farmers' mindsets from transactional commodity sales towards income diversification through agrotourism. Rural tourism has proven capable of providing a variety of livelihood streams. These livelihood streams include tourism-related and tourism-exclusive income. This livelihood stream increases overall financial resilience and reduces poverty (YinE et al., 2024).

The rural tourism literature has extensively explored Community-Based Tourism (CBT) models from the perspective of community empowerment and visitor experience mapping. However, these models often lack quantifiable, quantitative strategy optimization tools (Gutierrez, 2023; Rong-Da Liang et al., 2023). In contrast, SWOT-QSPM analysis is increasingly being applied in the formulation of macro-scale sustainable tourism strategies, such as in tourism in the Chilika wetlands and the Kashmir Valley region (Jeelani & Shah, 2024; Samal & Dash, 2025). However, a gap in publications remains on the specific integration of SWOT-QSPM analysis and CBT principles into a single rural educational agrotourism framework. Most previous studies have been narrative case reviews of single commodities such as coffee and tea, or focused on purely technical agrarian feasibility without incorporating community tourism governance (Khaokhrueamuang & Jolliffe, 2026; Akbari et al., 2024). Furthermore, the broader tourism literature has increasingly adopted contemporary paradigms that move beyond the conventional sustainability framework. These paradigms include regenerative, responsible, climate-resilient, educational, and sustainable rural tourism, actively restoring natural, cultural, and social capital while building destination resilience to climate and economic shocks (Duarte et al., 2024; Bellato & Pollock, 2023; Dhama & Anil, 2025). Therefore, this study aims to design an integrative Holistic Educational Agritourism Framework for Pancasila Sukoreno Village to fill this gap.

The novelty of this study lies in the integration of five components into a single, empirically validated agrotourism model: (1) a SWOT-QSPM analysis is used to identify and prioritize strategic interventions; (2) a Community-Based Tourism (CBT) framework positions local institutions as the primary governance agents; (3) Seasonal Adaptation enables year-round economic stability; (4) Experiential Learning enhances education and visitor satisfaction; and (5) explicit Sustainable Development (SDG) alignment translates strategic priorities into measurable community, environmental, and economic outcomes. No prior study, to the authors' knowledge, has combined these five components within a single rural educational agrotourism framework validated through a 20-informant, two-round FGD process. This model offers a replicable blueprint for other agrarian villages in Indonesia facing similar challenges and supports the achievement of SDGs 1 (No Poverty), 8 (Decent Work

and Economic Growth), and 13 (Addressing Climate Change).

THEORETICAL FRAMEWORK AND CONCEPTUAL MODEL

2.1 Community-Based Tourism (CBT)

Community-Based Tourism (CBT) is defined as a form of tourism in which local communities retain substantial control and involvement over its development and management (Lee & Jan, 2019). Empirical evidence suggests that CBT contributes to sustainable development when three conditions are met: (a) inclusive institutional structures facilitate collective decision-making; (b) equitable benefit-sharing mechanisms improve community well-being equitably; and (c) preserving cultural authenticity strengthens local community identity in a sustainable manner (Ngo & Creutz, 2022). Tourism awareness groups (Pokdarwis), village-owned enterprises (BUMDes), and farmer groups (Gapoktan) form the formal institutional architecture that governs CBT.

2.2 Seasonality Adaptation

Seasonality in rural tourism refers to the temporal concentration of tourist flows and agricultural production cycles, creating economic vulnerability for communities dependent on peak-season income (Butler, 2001). Seasonal adaptation encompasses deliberate strategies to diversify programs across the agricultural calendar, including value-added product development, cultural tourism, and educational workshops during off-peak periods. Filimonau and De Coteau (2020) and Piggott-McKellar et al. (2019) argue and frame seasonal management and seasonal diversification as part of destination resilience and proactive climate change adaptation at the community level.

2.3 Experiential Learning

Experiential learning in tourism, rooted in Kolb's (1984) experiential learning cycle, consisting of concrete experience, reflective observation, abstract conceptualization, and active experimentation, transforms passive sightseeing into active knowledge construction. Visitors engage in cultivation, harvesting, and post-harvest processing as situated learning activities that generate meaning beyond mere economic transactions.

Ballantyne and Packer (2011) demonstrated that visitor engagement with direct, place-specific environmental experiences results in deeper learning outcomes and higher

satisfaction than mere interpretive displays (information boards). Pine and Gilmore's (1998) experience economy framework supports the view that transforming commodities (e.g., oranges, guavas) into memorable, participatory experiences creates a premium value that justifies higher prices and supports product differentiation.

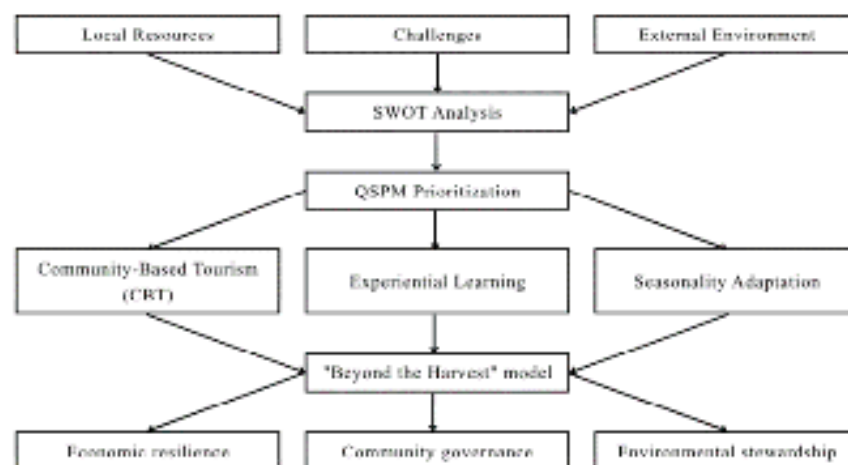
2.4 Sustainable Rural Tourism and Resilience

Sustainable rural tourism integrates economic viability, social equity, and ecological management as mutually reinforcing development goals (Hall et al., 2015). Resilience indicates the capacity of a rural tourism system to absorb shocks from climate, economic, or epidemiological sources while maintaining its core functions and adapting to a new equilibrium (Filimonau & De Coteau, 2020). Recent literature in the Journal of Sustainable Tourism (Suriyankietkaew et al., 2025) and Tourism Management (Lee & Jan, 2019) emphasizes that

community empowerment and institutional governance are essential foundations for achieving resilience in agritourism settings.

The SWOT–QSPM analysis sequence is an established strategic planning framework (David, 2016). Through this framework, SWOT analysis produces alternative qualitative strategies which are then assessed quantitatively by QSPM. This integration has demonstrated its utility in facilitating evidence-based and participatory prioritization in tourism research in rural Iranian destinations (Rafiee, 2024), while broader bibliometric evidence confirms a growing body of community-based ecotourism research internationally (Guerrero-Moreno & Oliveira-Junior, 2024). QSPM is especially valuable in rural contexts because resource limitations prevent implementation of all strategies simultaneously.

2.6 Conceptual Framework



[Figure 1. Conceptual Framework – SWOT–QSPM, CBT, Seasonality Adaptation, and Experiential Learning Integration] Source: Authors' conceptualization (2025)

Figure 1 presents the integrative conceptual model underlying this research. This model assumes CBT, Seasonal Adaptation, and Experiential Learning as interconnected dimensions within a single sustainable agrotourism system. A SWOT–QSPM analysis serves as a diagnostic mechanism to identify which pillars require immediate resource allocation. Multidimensional outcomes of economic resilience (SDGs 1 & 8), environmental management (SDGs 13 & 15), and community empowerment (Village SDGs) are collectively generated by these pillars. This model utilizes Resource-Based Theory (RBT) to frame Sukoreno Village's unique agro-

climatic resources, social capital, and cultural heritage as strategic foundations for a valuable, rare, and difficult-to-imitate competitive advantage.

METHOD

3.1 Research Design and Location

This study uses a descriptive-qualitative approach with an exploratory design. The purpose of this design is to deeply understand the complexity of the challenges and potential of agrotourism development from the perspective of the local community. This study took place in Pancasila Sukoreno Village, Umbulsari District, Jember Regency,

East Java Province, with an implementation period of April to October 2025. This study determined the location purposively. This selection was based on three main considerations: the potential for superior horticultural agrotourism (orange and crystal guava), its characteristics as a typical East Java agricultural village, and the active support of local multi-stakeholder institutions (Pokdarwis, BUMDes, Gapoktan, and Karang Taruna).

3.2 Informant Profile and Sampling

This study selected 20 informants using purposive sampling based on predetermined inclusion criteria. This step aimed to ensure the relevance, representativeness, and depth of information. The complete distribution of informants by group, selection criteria, number, data collection method, and their specific roles in the SWOT–QSPM process is shown in Table 1.

Table 1. Distribution and Profile of Research Informants

No.	Informant Group	Inclusion Criteria	Number	Data Collection Method	Role in FGD/QSPM
1	Pokdarwis (Tourism Awareness Group)	Active chairperson with a minimum two-year tenure; primary decision-maker for tourism group programs	2	In-depth interviews, observation, FGD	AS (Attractiveness Score) assessment in QSPM, primary strategic informant
2	Village management officials / pengelola desa (Village Head, Village Secretary, Section Heads)	Active position; knowledgeable about the village's socioeconomic conditions	3	In-depth interviews, document review	Secondary data validation, external weight providers
3	Karang Taruna (Youth Organization)	Active member; aged 17–30 years; involved in village programs	4	FGD, participant observation	Representation of youth perspective in CBT (Community-Based Tourism)
4	Gapoktan (Siam Orange & Crystal Guava Farmer Group Association)	Min. 5 years of experience farming the featured commodities (Siam orange and crystal guava)	5	In-depth interviews, observation, FGD	Key informants for SWOT weighting & scoring
5	Kelompok Agama & Tokoh Adat (Faith-based and Customary Community Representatives)	Recognized religious/community leader representing one of the five faiths practiced in the village, or a recognized customary leader (tokoh adat) with knowledge of village heritage sites and history	4	FGD, participant observation	Representation of the village's multi-faith heritage, tolerance narrative, and customary/historical knowledge of heritage sites
6	BUMDes (Village-Owned Enterprise) management	Active management staff; knowledgeable about village-owned enterprise revenue and asset governance	2	In-depth interviews	Institutional governance and revenue-distribution validation
TOTAL			20		

Source: Field Research (2025)

The 20 informants deliberately span six institutional categories Pokdarwis leadership, village management, Karang Taruna, Gapoktan, the faith-based and customary community groups, and BUMDes so that the SWOT–QSPM findings are cross-validated across every governance actor named in the proposed three-pillar model, including the village's multi-faith and customary identity and its village-owned enterprise, consistent with the triangulation procedure described in Section 3.4.

3.3 Data Collection Techniques

This study employed three primary data collection techniques. Participant observation was conducted through a series of repeated field visits. These visits focused on direct observation of agricultural activities, infrastructure

mapping using the Participatory Rural Appraisal (PRA) instrument, and photographic documentation. In-depth interviews utilized a semi-structured guide. This instrument provided informants with the flexibility to describe their lived experiences without neglecting all SWOT dimensions covered.

This study conducted two rounds of Focus Group Discussions (FGDs): the first round served to collaboratively validate the SWOT factors and establish initial weights. The second round refined and validated the final QSPM scores and strategic priorities. This study collected secondary data (2019–2024) from village planning documents, agricultural statistics from the Jember Regency Statistics Agency (BPS), commodity price records

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from the Jember Regency Agriculture Office, and peer-reviewed academic databases.

3.4 Analytical Procedure

This research conducted data analysis through five sequential stages:

1. Pre-research and Initial Observations: This stage included a literature review, stakeholder mapping, and research instrument development.
2. Data Collection: This stage involved conducting in-depth (individual) interviews, participant observation, collecting secondary data, and developing a PRA map.
3. Inductive Open Coding and Thematic Categorization: This stage began with open-coding of interview transcripts using NVivo software. Next, axial coding was conducted to establish relationships between categories, followed by selective coding to isolate core themes aligned with the SWOT dimensions (Strauss & Corbin, 1998). The researcher confirmed the data by returning the initial codes to three key informants for validation.
4. SWOT Analysis and Weighting: This stage began with the presentation of the initial findings in the Round 1 Focus Group Discussion (FGD). Next, participants assessed each factor using a weighting system on a scale of 0 to 1 (with a cumulative total of 1) to represent the relative impact of each component on agrotourism sustainability. Participants assigned a rating on a scale of 1–4 to each factor based on its current performance. The researcher calculated the weighted score using the formula:

$$\text{Score} = \text{Weight} \times \text{Rating}.$$

5. QSPM Development and Validation: The researcher presented four alternative strategies (S–O, S–T, W–O, W–T) resulting from the combined SWOT quadrants to stakeholders in the Round 2 Focus Group Discussion (FGD). Each factor-strategy pair was assessed using an Attractiveness Score (AS): 1=not attractive; to 4=very attractive. The final Total Attractiveness Score (TAS) was obtained using the following calculation formula:

$$\text{TAS} = \text{AS} \times \text{Factor Weight}$$

The final TAS score represents the aggregate decision of all 20 informants. Inter-rater agreement was then assessed using the concordance percentage (70% threshold). Data triangulation was achieved by comparing interview findings, focus group discussions (FGD) results, and secondary data. Model validation was conducted by presenting the final framework to the

community and stakeholders in a separate plenary session.

3.5 Research Ethics

This study adheres fully to the ethical standards of qualitative social research. Written informed consent was obtained from all 20 informants before the data collection phase. The researcher informed the participants of several crucial rights, including: (a) the right to voluntary participation; (b) the right to withdraw at any time without negative consequences; (c) the purpose of the study and the planned use of all research findings; and (d) the assurance of confidentiality of all their personal information. This report identifies all informants by group category rather than by their real names. The researcher stored all interview recordings on a password-protected institutional server. The Institute for Research and Community Service (LP2M) of the University of Jember funded this research under Internal Grant Agreement No. 2575/UN25.3.1/LT/2025.

RESULT

4.1 Contextual Profile and Quantitative Baseline

Pancasila Village is dominated by horticultural land, with the majority of the population subsisting as farmers. The Village Medium-Term Development Plan (Sukoreno Village Government, 2020) notes that 68% of the adult population in the area has only attained junior high school education. This limited educational attainment hampers the adoption of a complex tourism management system at the village level. Nevertheless, initial field surveys indicate strong social capital within the community. 89% of respondents expressed a willingness to participate in agrotourism development, while 76% were already familiar with the concept of educational tourism. These strategic findings are contextualized by three key quantitative indicators:

1. Commodity Price Volatility: During 2022–2024, the price of Siam oranges at the farm level fluctuated by up to 220%, ranging from a low of Rp2,500/kg during the peak harvest period (October–November) to Rp8,000/kg during the scarcity season (January–February). Crystal guava exhibited a narrower but still significant price range of Rp4,000–7,500/kg during the same period. These price fluctuations served as the primary empirical basis for the formulation of the Seasonal Adaptation pillar.
2. Tourist Visits: Prior to this research, Sukoreno Village received approximately 120–240 informal visitors per

year (primarily school groups visiting on an ad hoc basis) in the absence of a formal registration system, entrance tickets, or structured programs. The initial visit data serves as a baseline for contextualizing and measuring future growth.

3. **Community Participation Level:** A total of 6 % of adult community members (30 out of 490 adult community members) reported active involvement in institutionalized village economic activities, including the tourism sector. This figure is significantly below the average participation rate of 58% in successful rural CBT sites in Indonesia (Lee & Jan, 2019), underscoring the urgency of structured community empowerment.

Beyond agricultural resources, field documentation reveals that Pancasila Sukoreno Village possesses a notably diverse physical asset base. The village's agricultural landscape encompasses multiple horticultural varieties including siam oranges, crystal guava, red guava (merah), water guava (jambu air/klampok) in both red and green varieties, avocado, banana, dragon fruit, lemon, and various culinary crops (chili and cassava). This commodity diversity, confirmed through direct field observation, substantiates the viability of year-round agrotourism programming beyond the primary orange and crystal guava harvest cycles. Furthermore, the village contains an approximately 6,000 m² teak plantation comprising 634 teak trees with panoramic rice-field views, presenting an additional asset suitable for camping, outbound activities, and performing arts programs a resource category not previously captured in formal village planning documents.

The village's multi-faith identity is further evidenced by its built heritage landscape, which includes Masjid Baitur Rohman, Pura Swasty Dharma, Gereja Katolik Santa Theresia, Goa Maria Ratuning Karahayon, Monumen Pancasila, Sanggar Candi Busana, and two significant spiritual-cultural sites: Makam Mbah Putih and Tanah Reco/Tanah Punden. Collectively, these assets constitute a distinctive multi-faith cultural corridor with strong potential for heritage tourism programming. Evidence of existing external demand is documented through a pilgrimage tourism itinerary (Ziarah Porta Sancta, November 2025) organized by Gereja Katolik Maria Diangkat ke Surga, in which Sukoreno Village was explicitly listed as one of nine pilgrimage destinations across the Jember–Banyuwangi corridor. This external recognition confirms that Sukoreno already functions as an informal destination within regional religious tourism

networks, even prior to the establishment of a formal tourism management system.

In addition to the physical asset base, field data reveals the range of agritourism products that farmers in Sukoreno Village expressed willingness to offer to tourists. These include interaction with rural community members, indigenous cuisine experiences, visits to local historical cemeteries (Makam Mbah Putih and Tanah Reco), and engagement with the five officially recognized religions coexisting within the village. Farmers proposed a package price of IDR 50,000 per visit as an initial benchmark for these experiential offerings. These proposed products reflect farmers' primary motivations for participating in agritourism: income generation, the development of an alternative livelihood strategy, and the promotion of local educational values. These motivations closely align with findings from comparable small-farm agritourism studies (Pitrova et al., 2020; Wu et al., 2024), which indicate that farmers' diversification decisions are driven primarily by the need to stabilize household income rather than purely entrepreneurial ambition. Furthermore, village stakeholders identified the development of an aquaculture-based recreational fishing (pemancingan) component as a future goal that would extend diversification beyond agritourism, synergizing with the national food security (ketahanan pangan) agenda under the Asta Cita Program. However, a critical institutional constraint was also observed: internal alignment within Pokdarwis remains incomplete, as members' primary focus has been directed toward creating new visitor attractions rather than systematically leveraging the village's existing Pancasila identity as a core tourism asset. As a result, the proposed tour packages had not been operationally implemented at the time of this study. This gap underscores weakness W1 (limited human resource capacity) in the SWOT analysis and establishes a central rationale for the governance strengthening component of the proposed model.

4.2 Informant Voices: Qualitative Evidence

Verbatim quotes from informants across the six groups provide a clear picture of the strategic challenges and aspirations behind the SWOT analysis. The following representative quotes were collected during Round 1 FGDs and in-depth interviews (for which the original regional language texts were translated into standard Indonesian while retaining the original documents in the research archive).

Petani / Gapoktan (Farmers)

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“Panen raya iku malah bikin gak karu karuan, Mas. Soale harganya Rp 2.500 sekilo, hasilnya habis buat bayar buruh petik. Mungkin ada bantuan dari universitas untuk menyelesaikan terkait harga ini.” (Informan P-03, Gapoktan, Wawancara Mendalam, Mei 2025)

Translation: “The bumper harvest is really causing a mess, man. It's because the price is Rp 2,500 a kilo, and the proceeds are used to pay the pickers. Maybe the university can help resolve this price issue.” (Informant P-03, Gapoktan, In-Depth Interview, May 2025)

Perangkat Desa (Village Officials)

“Di sini itu unik Mbak. Islam, Kristen, Hindu, Buddha jadi satu desa, rukun. Bagusnya nggak ada konflik. Itu. Sudah turun-temurun sejak dulu. Itu yang membuat banyak yang berkunjung, belajar ke desa kami, desa Pancasila ini. Itu yang nggak ada di tempat lain.” (Informan PD-01, Kepala Desa, Wawancara Mendalam, April 2025)

Translation: “It's unique here, Miss. Muslims, Christians, Hindus, and Buddhists live in one village, living in harmony. The good thing is, there's no conflict. That's it. It's been passed down through generations. That's what attracts so many people to visit our village, this Pancasila village, to learn. That's something you don't find anywhere else.” (Informant PD-01, Village Head, In-Depth Interview, April 2025)

Pokdarwis (Tourism Awareness Group)

“Beberapa kali rombongan sekolah, pihak pemerintah desa studi banding ke sini. Kami ceritakan sejarah dan berkunjung ke tempat wisata lalu pulang.” (Informan PK-02, Ketua Pokdarwis, FGD Sesi 1, Juni 2025)

Translation: “Several times, school groups and village government officials have visited here for comparative

studies. We share history, visit tourist attractions, and then return home.” (Informant PK-02, Pokdarwis Chairman, FGD Session 1, June 2025)

Tokoh Adat (Customary Leader, Kelompok Agama & Tokoh Adat Group)

“Tanah Reco, Makam Mbah Putih ada sejarah gimana desa ini berdiri, gimana nenek moyang dulu hidup bersama.” (Informan PA-01, Tokoh Adat, Wawancara Mendalam, Mei 2025)

Translation: “Tanah Reco, Mbah Putih's Tomb, there is a history of how this village was founded, how our ancestors lived together.” (Informant PA-01, Customary Leader, In-Depth Interview, May 2025)

Karang Taruna (Youth Organisation)

“Kita anak-anak muda sini belum memiliki program, namun sudah ada beberapa sponsor dan CSR yang mendanai kegiatan seperti lomba, peringatan 17 Agustus.” (Informan KT-03, Karang Taruna, FGD Sesi 1, Juni 2025)

Translation: “We young people here don't have a program yet, but there are already several sponsors and CSRs that fund activities such as competitions and the August 17th commemoration.” (Informant KT-03, Karang Taruna, FGD Session 1, June 2025)

4.3 SWOT Analysis Results

This study successfully identified and formulated weights for 16 internal and external factors. Table 2 presents a complete internal and external factor evaluation matrix, along with weights (Wt), ratings, and weighted scores.

Table 2. SWOT Matrix with Weights and Scores Sustainable Educational Agrotourism, Sukoreno Village

Factor	Code	Description	Weight (Wt)	Rating	Score
STRENGTHS	S1	Diversity of leading horticultural commodities (Siam oranges & crystal guavas) with premium quality and eco-friendly practices	0.15	4	0.60
	S2	Eco-friendly farming practices & supportive agroclimate for organic products	0.10	4	0.40
	S3	Strong social capital: culture of mutual cooperation (gotong royong), high community enthusiasm, and Pancasila Village identity as a USP	0.12	3	0.36
	S4	Good accessibility from the city center of Jember (± 30 km, paved road access)	0.08	3	0.24
WEAKNESSES	W1	Limited human resource capacity in tourism management, finance, and digital marketing	0.12	1	0.12
	W2	Minimal tourism supporting infrastructure (sanitation, information boards, parking areas, homestays)	0.10	1	0.10

Factor	Code	Description	Weight (Wt)	Rating	Score
	W3	Lack of tourism product standardization; low utilization of digital technology for promotion	0.08	1	0.08
	W4	Economic dependence on price fluctuations of agricultural commodities (especially Siam oranges)	0.07	2	0.14
OPPORTUNITIES	O1	Growing global trend of educational and back-to-nature tourism post-pandemic	0.18	4	0.72
	O2	Local government support and potential partnerships with educational institutions (University of Jember)	0.10	3	0.30
	O3	Increasing market demand for organic products and quality local food	0.10	3	0.30
	O4	ICT development opens up channels for digital promotion and innovative tourism management	0.07	3	0.21
THREATS	T1	Intense competition among agritourism destinations in East Java (Malang, Batu, Pasuruan)	0.08	3	0.24
	T2	Impact of climate change on agricultural productivity (rainfall anomalies, crop failure)	0.14	4	0.56
	T3	Macroeconomic fluctuations & commodity price volatility affecting farmers' income	0.12	3	0.36
	T4	Risk of overtourism and degradation of cultural/environmental authenticity	0.08	2	0.16
TOTAL			1.69*		4.89

Notes: Rating scale: 1 = major weakness/threat; 2 = minor weakness/threat; 3 = minor strength/opportunity; 4 = major strength/opportunity. *Total weight for internal and external factors calculated separately (Internal = 0.82; External = 0.87; combined = 1.69).

Source: Primary data processed from FGD Round 1 (2025)

The village's competitive foundation lies in the quality and sustainability of its agricultural resources, as evidenced by its high internal asset scores for variables S1 (diversity of premium commodities, 0.60) and S2 (environmentally friendly agricultural practices, 0.40). Indicators W1 (limited human resource capacity) and W2 (infrastructure deficit) ranked lowest among the village's weaknesses. This position demonstrates that these two factors are the most pressing operational obstacles to be addressed. In the external matrix, variables O1 (educational tourism trends, 0.72) and T2 (impact of climate change, 0.56) scored the highest in their respective categories. This data reality

demonstrates that the macro environment simultaneously offers significant expansion opportunities and serious risks.

4.4 QSPM Results and Strategy Prioritisation

Table 3 presents the complete QSPM matrix. Four strategic alternatives derived from the SWOT quadrant analysis were evaluated: (1) S–O: Development of Experiential Edutourism Packages; (2) S–T: Seasonal Product Diversification and Climate Adaptation; (3) W–O: Digital Marketing and Community Management Training; (4) W–T: Basic Tourism Infrastructure Development.

Table 3. Quantitative Strategic Planning Matrix (QSPM) Sukoreno Village Agrotourism Development
 Strategy Alternatives: S–O = Edutourism Packages | S–T = Product Diversification | W–O = Training & Digital | W–T = Infrastructure

Key Factors	Code	Weight	AS	TAS (S-O)	AS	TAS (S-T)	AS	TAS (W-O)	AS	TAS (W-T)
STRENGTHS										
Commodity diversity	S1	0.15	4	0.60	3	0.45	2	0.30	2	0.30
Eco-friendly practices	S2	0.10	4	0.40	4	0.40	2	0.20	2	0.20
Social capital & mutual cooperation	S3	0.12	4	0.48	3	0.36	3	0.36	3	0.36

Key Factors	Code	Weight	AS	TAS (S-O)	AS	TAS (S-T)	AS	TAS (W-O)	AS	TAS (W-T)
Good accessibility	S4	0.08	3	0.24	2	0.16	2	0.16	3	0.24
WEAKNESSES										
Limited HR capacity	W1	0.12	2	0.24	2	0.24	4	0.48	3	0.36
Minimal infrastructure	W2	0.10	2	0.20	2	0.20	2	0.20	4	0.40
Weak digital promotion	W3	0.08	2	0.16	2	0.16	4	0.32	2	0.16
Commodity dependency	W4	0.07	2	0.14	4	0.28	2	0.14	2	0.14
OPPORTUNITIES										
Educational tourism trend	O1	0.18	4	0.72	3	0.54	3	0.54	2	0.36
Government support	O2	0.10	3	0.30	2	0.20	3	0.30	4	0.40
Demand for organic products	O3	0.10	3	0.30	4	0.40	2	0.20	2	0.20
ICT development	O4	0.07	2	0.14	2	0.14	4	0.28	2	0.14
THREATS										
Competition between destinations	T1	0.08	3	0.24	3	0.24	2	0.16	2	0.16
Climate change	T2	0.14	2	0.28	4	0.56	2	0.28	3	0.42
Commodity price fluctuations	T3	0.12	2	0.24	4	0.48	2	0.24	2	0.24
Overtourism risk	T4	0.08	2	0.16	2	0.16	2	0.16	3	0.24
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TOTAL ATTRACTIVENESS SCORE (TAS)				4.84		4.97		4.32		4.32
STRATEGY PRIORITY RANKING				Priority 1		Priority 2		Priority 3		Priority 4

Notes: AS = Attractiveness Score (1–4 scale: 1=not relevant; 2=somewhat attractive; 3=attractive; 4=highly attractive). TAS = AS × Weight. Final TAS is the sum of all weighted attractiveness scores per strategy alternative.

Source: Primary data processed from FGD Round 2 (2025)

4.5 Quantitative Strategy Rankings and Priorities

The strategic priority ranking based on the accumulated Total Attractiveness Score (TAS) is outlined as follows:

- S–T: The relevant parties implemented seasonal product diversification and climate adaptation as priority 1 with a TAS score of 4.97. Factors T2 (climate change, AS=4, TAS=0.56) and T3 (price fluctuation, AS=4, TAS=0.48) specifically drive this highest aggregate attractiveness. This strategy directly addresses the most acute structural risk, namely commodity price volatility.
- S–O: The management designated the development of experiential educational tourism packages as priority 2 with a TAS score of 4.84. O1 (educational tourism trends, AS=4, TAS=0.72) achieved the highest attractiveness, confirming a strong alignment between village resources and market demand.

- W–O: The management placed digital marketing and community management training as priority 3 with a TAS score of 4.32. Factors W1 (limited human resource capacity, AS=4, TAS=0.48) and O4 (ICT development, AS=4, TAS=0.28) demonstrated strong appeal in the analysis.
- W–T: The management identified basic tourism infrastructure development as priority 4 with a TAS score of 4.32. This strategy addresses factors W2 (inadequate infrastructure, AS=4, TAS=0.40) and T2 (climate change mitigation, AS=3, TAS=0.42) critically.

DISCUSSION

5.1 From SWOT–QSPM to a Sustainable Agrotourism Model

The QSPM results establish a diagnostic and prioritization mechanism for a stepwise integrative model. The sequencing of strategies based on TAS values establishes a coherent development logic that climate and price resilience (S–T) governance must precede or accompany product development (S–O). Managers will not be able to sustain experiential tourism offerings based on single-season commodities without parallel diversification. This sequence supports Filimonau and De Coteau's (2020) argument that managers should embed resilience structurally from the outset rather than retrofit it. Educational tourism packages become a viable primary offering to capture the growing global demand for educational and back-to-nature experiences (Spasova, 2024) once diversification provides an economic buffer. Stakeholders perceive climate and price risk mitigation as marginally more urgent than developing flagship tourism packages, based on the modestly higher TAS of the S–T strategy (4.97) relative to the S–O strategy (4.84). This finding reflects the pragmatic community logic within a sustainable livelihoods framework. Households must protect themselves from downside risks before investing in upside opportunities (YinE et al., 2024). Infrastructure investment and institutional capacity building (W–T and W–O, both with a TAS value of 4.32) should accompany product development simultaneously and not follow as an implication for development planners.

These findings are further interpreted through five established theoretical lenses beyond the SWOT–QSPM diagnostic mechanism. First, Community-Based Tourism Theory (Lee & Jan, 2019; Ngo & Creutz, 2022) explains why Pillar 3 positions Pokdarwis, BUMDes, and Gapoktan (Farmer Groups) rather than external operators as the primary governance agents. This theory predicts that community control over decision-making and benefit distribution is a prerequisite for equitable and sustainable tourism outcomes, directly corresponding to the 6% to 58% participation gap identified in this study. Second, the Triple Bottom Line Theory (Elkington, 1997) frames the three derived pillars of the QSPM as simultaneously pursuing economic, social, and environmental value, rather than treating economic viability as the sole criterion of success. Third, the Sustainable Livelihood Framework (Chambers & Conway, 1992) explains why the S–T strategy ranks highest on the TAS (4.97). Households facing commodity price shocks prioritize (rationally) diversifying their livelihood asset base (natural, financial, social, and human capital) before investing in the development of higher-risk

experience-based products, aligning with informants' framing of tourism as a buffer against harvest losses. Fourth, Sustainable Tourism Development Theory (Hall et al., 2015; Sharpley, 2020) positions this model within the shift in tourism toward ecological boundary integration and intergenerational equity, as evidenced by the explicit alignment with the SDGs.

Fifth, the Destination Competitiveness Theory and the Resource-Based Theory explain why Sukoreno has a strong competitive position against larger agrotourism destinations in Malang and Batu. This competitiveness stems from unique and difficult-to-imitate local assets, rather than from the scale of infrastructure. These five theoretical lenses guide the discussion beyond simply describing QSPM results to explaining why the three-pillar phasing will theoretically work.

5.2 The "Beyond the Harvest" Model and Its Three Pillars

The integrative model operationalizes the QSPM findings through three interdependent pillars that correspond to each priority strategy:

- a. Pillar 1 (S–T) focuses on seasonal adaptation and product diversification within the integrative model. The development of non-seasonal value-added products and cultural tourism programming directly addresses the previously identified 220% farm-gate price volatility of Siam oranges by absorbing surplus harvest through the utilization of commodities such as fruit-based drinks, marmalades, and guava chips, as well as visits to Tanah Reco and Mbah Putih's Tomb during the off-season. As noted by informants, the management channeled the existing digital capacity of youth through coordinated content creation to support product marketing outside the harvest season. This pillar directly supports SDG 13 (Addressing Climate Change) by developing adaptive livelihood strategies. Field data further indicates that diversification potential extends beyond existing horticulture. An aquaculture-based recreational fishing (pemancingan) component has been identified as a viable early-stage diversification strategy that synergizes with the national food security (ketahanan pangan) agenda and can be integrated as a companion activity within existing orchard land through intercropping principles (tumpangsari). The richness of the village's horticultural portfolio further supports the design of programs that are not limited to just one harvest season because they include Siamese oranges, crystal guavas,

red guavas, water apples (klampok), avocados, bananas, dragon fruit, lemons, lemongrass, and galangal. This multi-commodity base provides the raw material for a broader range of value-added products and visitor experiences throughout the agricultural calendar. Institutional operationalization of these components would require close coordination among RT/RW networks, Pokdarwis, and BUMDes as primary governance actors, consistent with the CBT framework adopted in this study.

- b. Pillar 2 (S–O) emphasizes the development of experiential educational tourism as the next strategic step. The PUSAKA (Pick, Process, Educate) package transforms agricultural activities into participatory learning experiences based on Kolb's (1984) experiential learning cycle and Pine and Gilmore's (1998) experience economy. The management calibrated the half-day Jelajah PUSAKA package (estimated Rp100,000/visitor) and the 2D1N Resident Agropreneur package (estimated Rp500,000/participant) for the Jember educational tourism market, which is dominated by school groups and university field studies. Integrating historical narratives from the knowledge base of PA-01 traditional leaders into the tour itinerary increases the product's inimitability, consistent with the principles of Resource-Based Theory (RBT). The experiential portfolio is further expanded by an approximately 6,000 m² teak woodland asset comprising 634 teak trees with panoramic rice-field views, located within the village territory. This asset presents a distinct program layer suitable for overnight camping, team outbound activities, and open-air cultural performances program types that extend the average visitor length-of-stay and increase per-visitor revenue, consistent with Pine and Gilmore's (1998) experience economy principles. The inclusion of this asset in the 2D1N Resident Agropreneur package would substantially enrich the overnight visitor experience and differentiate Sukoreno's offering from competing agrotourism destinations in East Java. Additionally, the village's existing inclusion as a destination in the Ziarah Porta Sancta pilgrimage circuit (November 2025) demonstrates that external tourism demand already exists organically, and that the development of a structured multi-activity package would serve a visitor market that is already present but currently unmonetized.

- c. Pillar 3 (W–O, W–T) regulates community governance and institutional capacity in an integrated manner. This pillar operationalizes the CBT concept through the formal empowerment of Pokdarwis (tourism groups), BUMDes (village-owned enterprises), and Gapoktan (farmer's associations) based on references from Lee and Jan (2019) and Ngo and Creutz (2022). The involvement of these institutions as Community Sustainability Mechanisms ensures inclusive and accountable governance through collective management of tourist flows, revenue distribution, and seasonal program coordination. The gap between the village participation rate of 32% and the CBT benchmark of 58% (Lee & Jan, 2019) establishes concrete and measurable targets for future program evaluation.

5.3 Sustainable Development and SDG Alignment

This integrative model reduces the vulnerability of approximately 490 farming households to commodity price cycles, as documented in the SWOT analysis, through income diversification, a tangible contribution to SDGs 1 and 8. Climate adaptation strategies embedded in seasonal programming and the processed product development pillar comprehensively address SDG 13. The model's institutional architecture aligns with the Village SDGs framework's emphasis on participatory rural development (Suriyankietkaew et al., 2025) at the governance level.

This model contributes by demonstrating the operationalization of Resource-Based Theory (RBT) in a resource-constrained agrarian context to generate competitive advantages that are not only economic, but also socio-cultural and environmental. This research expands the scope of Resource-Based Theory (RBT) from its conventional corporate strategy origins into the realm of rural community development science by framing the values of tolerance, agro-climatic conditions, and social capital of the Sukoreno community as VRIN (valuable, rare, imperfectly imitable, non-substitutable) strategic assets.

5.4 Measurable Sustainability Indicators

This study proposes the following set of indicators to transform the sustainability claims in Section 5.3 from qualitative statements into measurable evaluation criteria. These indicators are structured around economic, social, and environmental dimensions and are benchmarked against the pre-intervention baseline established in Section 4.1:

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- A. Economic resilience: [1] Off-season value-added sales linked to tourism absorb excess harvest supply, thereby reducing the coefficient of variation in citrus and guava prices at the farm level; [2] Tourism-related activities contribute a minimum of 15% of household income within three years of implementation; [3] Annual visitor numbers are projected to increase from an informal base of 120–240 to 1,000 visitors through structured registration in Year 2.
- B. Community welfare and governance: [1] Community participation is targeted to increase from the current baseline of 32% to 58%, as per the CBT benchmark (Lee & Jan, 2019) within five years; [2] The collective management of the Tourism Awareness Group (Pokdarwis)/Village-Owned Enterprises (BUMDes) will centrally manage tourism revenue streams to minimize informal individual transactions; [3] Program managers will monitor the number of Karang Taruna members actively involved in digital

promotional activities against the current, limited and unfocused social media usage database.

- C. Environmental conservation: [1] Gapoktan monitors the proportion of participating farmers who maintain environmentally friendly cultivation practices (S2) through regular self-reporting; [2] Researchers measure the conservation status of approximately 6,000 m² of teak forest assets based on the number of surviving trees against the current database of 634 trees; (c) The level of adoption of intercropping principles serves as a proxy for land use intensification in the proposed aquaculture diversification component without triggering net habitat loss.

This study proposes these indicators as the monitoring database for the post-implementation longitudinal evaluation (Section 6.2) rather than as ex-post impact figures, in line with the pre-implementation timeline in Section 6.1.

5.5 Conceptual Model and Practical Implications

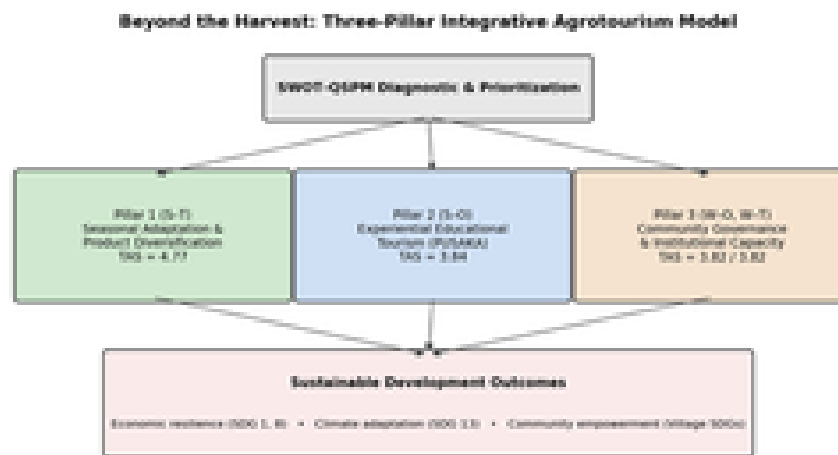


Figure 2. Conceptual Model of the "Beyond the Harvest" Three-Pillar Agrotourism Framework. Source: Authors' conceptualization (2026).

Figure 2 visualizes the contribution of the SWOT–QSPM diagnostic mechanism to the three interdependent pillars in Section 5.2, ultimately leading to measurable sustainable development outcomes. This conceptual model complements Figure 1 (Section 2.6) by translating the research's theoretical framework into a structure ready for implementation by stakeholders.

The proposed model has clear practical implications for each category of stakeholders in destination development:

- a. The model provides a sequence of investments based on the Total Attractiveness Score (TAS) ranking for

Local Governments (Village and Sub-district Governments) to directly inform Village Fund allocation decisions. This sequence prioritizes seasonal diversification infrastructure and basic tourism facilities before larger capital investments in flagship attractions.

- b. The model operationalizes a concrete governance mandate for Pokdarwis (Tourism Awareness Groups) through coordinating tourist flows, standardizing PUSAKA package pricing structures, and formalizing revenue distribution mechanisms with Village-Owned

Enterprises (BUMDes) and Gapoktan (Farmer Groups).

- c. c. The documented commodity portfolio, teak forest assets, and demand for the existing pilgrimage circuit (the Porta Sancta Pilgrimage) serve as the basis for due diligence for tourism operators and potential private sector partners for joint design of tour packages and investment assessment.
- d. d. The model provides ready-to-use experiential learning itineraries (the half-day Jelajah PUSAKA package and the 2-Day 1-Night Resident Agropreneur package) and a monitoring framework (Section 5.4) for educational institutions (particularly the University of Jember and regional schools) as a reference for future field study partnerships and student research placements.
- e. e. The model formalizes heritage sites and the narratives of other stakeholders (including five faith-based community groups and traditional leaders) as components of a collectively owned, revenue-generating tourism product. This step also addresses the institutional gap in Section 4.1 regarding the lack of utilization of Pancasila identity in the village.

CONCLUSION

This study designs and validates an integrative Sustainable Educational Agrotourism Model for Pancasila Sukoreno Village, Jember, based on an integrated SWOT analysis–QSPM, Community-Based Tourism (CBT), Seasonal Adaptation, and Experiential Learning principles. The QSPM analysis identified four priority strategies, with Seasonal Product Diversification (TAS = 4.97) and Experiential Edutourism Development (TAS = 4.84) at the top, with community management training and infrastructure development as essential, simultaneous foundations. Collectively, these strategies operationalize the three-pillar "Beyond the Harvest" model to address the root causes of agrotourism underdevelopment, including commodity price vulnerability, limited community governance capacity, and the lack of structured educational programming.

This model provides a dual contribution: expanding the theoretical scope of Resource-Based Theory (RBT) in rural community tourism development and providing a participatory framework empirically validated by the QSPM. This research provides practical contributions in the form of PUSAKA package design, concrete TAS value-based strategy sequencing, and community governance architecture through optimization of existing local

institutions. These theoretical and managerial contributions are, however, bounded by specific methodological and contextual limitations, which the following sections address alongside the corresponding agenda for future research.

This study openly acknowledges several methodological and contextual limitations. First, the study's limited scope to a single village limits the causal generalization of the findings to a broader context, although the model offers potential for replication through future multi-site comparative research. Second, the subjective nature of the QSPM Attractiveness Score assessments can still introduce individual biases that influence the weighting results, although this study mitigates this through a threshold of inter-rater agreement (concordance) of $\geq 70\%$. Third, the study's timeline prior to model implementation renders all outcome estimates (visitor numbers, revenue increases, participation rates) theoretical projections from comparative benchmarks rather than actual ex-post impact measurements. Fourth, the use of regional averages in secondary commodity price data limits the temporal resolution of the economic modeling in this study, although the data have good internal consistency, so collecting direct price data at the farm level would strengthen the accuracy of future analyses.

This study successfully identified four strategic avenues for a future research agenda. First, a longitudinal impact evaluation study post-implementation of the model will allow for rigorous measurement of changes in community participation levels, income diversification indices, and visitor satisfaction in the future. Second, a multi-village comparative study across East Java will test the replication rate of QSPM-based strategy sequencing under varying agro-climatic conditions and social capital. Third, future research should examine the gender dimension of CBT participation with a focus on women's roles in value-added product processing activities. Fourth, the important role of ICT identified in the QSPM results of this study demands special academic attention to digital transformation pathways for rural agrotourism, including through the implementation of platform cooperativism models and social media-based visitor management.

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DECLARATIONS

The authors declare that this research was conducted independently and objectively. There are no competing interests, whether financial, professional, or institutional, that could have influenced the research design, data collection process, analysis, or interpretation of the results. All findings presented in this article are solely based on empirical data obtained from the field.

ETHICAL APPROVAL

This research complied with institutional ethical standards for social and hospitality research. Prior to data collection, the research protocol, including the use of observation, in-depth interviews was reviewed and approved by the academic authority of the Diploma Travel Business, University of Jember.

Ethical considerations applied in this study included:

1. Protection of participants' identities,
2. Confidentiality of information related to management of tourism village
3. Restriction of data usage solely for academic and research purposes

INFORMED CONSENT

Informed consent was obtained from all participants before the research was conducted. Each informant received a detailed explanation regarding the objectives of the study, the data collection methods, the type of information requested, and the expected duration of participation. Participants were informed that their involvement was

entirely voluntary and that they could refuse to answer any question or withdraw from the study at any stage without any repercussions. Their involvement was voluntary, with the option to withdraw at any stage without any negative consequences.

DATA AVAILABILITY

The data underlying this study can be obtained from the corresponding author upon reasonable request, subject to ethical restrictions and confidentiality requirements.

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