

Agro-Tourism and Community Development in Papua: Local Perspectives on Economic Opportunities

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ABSTRACT

This study explores the intersection of agriculture and tourism in Papua, Indonesia, focusing on the potential of agro-tourism as a driver of sustainable economic development. While much of Indonesia's agro-tourism research has concentrated on Bali and Java, little is known about how Papuan communities perceive the integration of farming, food heritage, and tourism. Drawing on twelve in-depth interviews with farmers, local entrepreneurs, and community leaders, this study adopts a qualitative, narrative-based approach to examine opportunities and constraints in developing agro-tourism. The findings reveal that tourism provides new economic pathways for farmers through the commercialization of coffee, cacao, and sago-based products, as well as cultural food experiences. At the same time, challenges such as limited infrastructure, market access, and policy support constrain the sector's growth. Importantly, participants highlighted the cultural significance of agriculture in Papuan identity, suggesting that agro-tourism offers not only economic benefits but also a means of preserving heritage and strengthening community pride. This study contributes to the literature by extending agro-tourism debates into Papua's under-researched context and provides practical insights for policymakers and NGOs seeking to foster inclusive and culturally grounded tourism development in eastern Indonesia.

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INTRODUCTION

Tourism has become a central pillar of Indonesia's national development strategy, positioned as both a generator of foreign exchange and a mechanism for regional development (Dewayani et al., 2023; Gani et al., 2023; Hardi et al., 2023). In particular, agro-tourism has gained prominence as a way to diversify rural livelihoods, promote cultural heritage, and link agricultural practices with visitor experiences (Wijaya et al., 2024). Agro-tourism initiatives such as rice terraces in Bali, coffee tours in Java, and fruit-based tourism in Sumatra have been promoted as models of sustainable tourism that integrate economic, social, and environmental objectives. Yet, the potential of agro tourism remains underexplored in Papua, despite the region's rich agricultural diversity, ranging from coffee and cacao cultivation to sago, taro, and sweet potatoes, which are central to Papuan cultural identity and subsistence systems.

Papua occupies a unique position within Indonesia's tourism landscape. Globally renowned for its marine biodiversity in Raja Ampat and cultural richness across its highlands, the province is often associated with eco-tourism and adventure tourism (Vogt, 2017). However, agriculture remains the backbone of local livelihoods, and its integration into tourism presents both opportunities and challenges. Agro-tourism in Papua could generate income for smallholder farmers, promote indigenous food heritage, and create new markets for local products. At the same time, infrastructural limitations, geographic isolation, and underdeveloped policy support have constrained the sector's growth (Carpenter, 2016). These tensions raise important questions about how local communities envision the role of agro tourism in fostering sustainable economic development.

Existing studies on agro-tourism in Indonesia are largely concentrated in Bali and Java, where tourism infrastructure is well established and agricultural landscapes are more accessible to international and domestic visitors (Pitana & Diarta, 2009; Sunaryo & Soewondo, 2024). These studies often emphasize economic benefits, tourist satisfaction, or destination competitiveness, but they seldom address contexts where tourism is emerging

under conditions of infrastructural fragility and socio-political complexity. Papua has been largely absent from this discourse, with most research focusing instead on eco-tourism or conservation-based tourism. As a result, the potential of agro tourism as a vehicle for economic empowerment and cultural preservation in Papua remains poorly understood.

This study seeks to address this gap by investigating how local communities in Papua perceive and experience the integration of agriculture and tourism. By foregrounding the narratives of farmers, entrepreneurs, and community leaders, it examines both the opportunities such as new markets, increased income, and cultural pride and the constraints, including lack of infrastructure, limited policy support, and unequal market access. A qualitative, narrative-based approach is employed to capture the lived experiences and subjective meanings that shape community perspectives, ensuring that Papuan voices are central to the analysis.

The study makes three key contributions. Theoretically, it extends the literature on agro-tourism and sustainable development into an under-researched context, showing how tourism interacts with agriculture in a frontier region of Indonesia. Empirically, it provides rare insights into Papuan perspectives, highlighting how local actors negotiate the promises and limitations of agro tourism. Practically, the findings offer guidance for policymakers, NGOs, and development agencies seeking to design inclusive tourism strategies that are grounded in local culture and livelihoods. By situating agro tourism within Papua's socio-economic and cultural realities, this study underscores its potential as a pathway toward more equitable and sustainable regional development.

LITERATURE REVIEW

Agro-Tourism and Sustainable Development

Agro-tourism, broadly defined as tourism activities directly linked to agricultural production and rural life, has gained global prominence as a tool for sustainable development. It offers visitors opportunities to engage with farming practices, local food systems, and rural landscapes while providing farmers with supplementary income and new markets (Barbieri & Mshenga, 2008). Across Europe, North America, and Asia, agro-tourism has been promoted as a strategy to revitalize rural economies, particularly in regions facing agricultural decline or limited diversification (Phillip et al., 2010). Its relevance extends beyond economic benefits, as it can also foster cross-cultural understanding and valorize traditional farming practices as heritage.

From a development perspective, agro-tourism contributes to multiple dimensions of sustainability. Economically, it diversifies rural livelihoods and reduces dependence on monocropping or unstable commodity markets (Torres & Momsen, 2011). Socially, it provides opportunities for cultural exchange and the preservation of traditional practices, such as indigenous farming techniques and culinary heritage. Environmentally, agro-tourism can encourage sustainable resource management by linking conservation with visitor education, although critics note that commercialization may also lead to overexploitation (Lane & Kastenholz, 2015). Thus, the integration of agriculture and tourism requires careful management to balance economic gains with cultural and ecological sustainability.

Theoretically, agro-tourism is often situated within the sustainable livelihoods framework, which emphasizes how households combine assets, capabilities, and activities to achieve long-term well-being (Scoones, 1998). By integrating farming and tourism, households can strengthen resilience against economic shocks while maintaining cultural practices. Similarly, the community-based tourism (CBT) approach highlights the importance of local participation, collective benefit sharing, and empowerment in tourism development (Goodwin et al., 2009). Agro-tourism, when embedded in CBT principles, can ensure that communities retain control over resources, that benefits are equitably distributed, and that tourism development aligns with local values and aspirations.

Taken together, global experiences suggest that agro-tourism holds significant potential as a sustainable development strategy by simultaneously addressing economic, cultural, and environmental objectives. However, its success depends on local context, governance structures, and the extent to which community agency is prioritized in tourism planning. These lessons are particularly relevant for regions such as Papua, where agriculture remains central to livelihoods and where tourism is emerging as a potential pathway for inclusive economic development.

Agro-Tourism in Indonesia

In Indonesia, agro-tourism has emerged as an important component of rural and tourism development strategies, particularly in regions with strong agricultural traditions. Government initiatives since the early 2000s have explicitly promoted agro-tourism as a means to diversify the national tourism portfolio, strengthen rural economies, and align with the Sustainable Development Goals (SDGs) (Sunaryo & Soewondo, 2024). Agro-tourism has been defined in the Indonesian policy context as the integration of farming, cultural heritage, and tourism services that simultaneously enhance agricultural productivity and provide unique visitor experiences (Pitana & Diarta, 2009).

The most well-documented examples of agro-tourism are found in Bali and Java, where agricultural landscapes are already strongly embedded in tourism promotion. In Bali, rice terraces such as Tegallalang have become iconic attractions, combining scenic landscapes with cultural practices tied to the Subak irrigation system, which is recognized as a UNESCO heritage site (Vipriyanti et al., 2024). Coffee and cocoa plantations have also been developed as tourism destinations, offering guided tours, tasting sessions, and educational experiences for domestic and international visitors (Handayani, 2016). In Java, tea plantations in West Java and fruit gardens in East Java provide further examples of how agricultural landscapes are commodified for tourism, often supported by private–public partnerships (Ristiawan et al., 2024).

Empirical research on Indonesian agro-tourism highlights multiple benefits. Studies suggest that agro-tourism can generate supplementary income for farmers, preserve traditional agricultural knowledge, and promote environmental awareness among tourists (Wijaya et al., 2024). However, challenges remain. Critics argue that many agro-tourism projects are driven by external stakeholders, resulting in limited community participation and uneven benefit distribution (Cole, 2007). There are also risks of over-commercialization, where agricultural landscapes are reoriented primarily for tourist consumption rather than sustaining local food systems (Hampton & Jeyacheya, 2020).

Despite the growing body of research on agro-tourism in Indonesia, the majority of studies focus on Java–Bali, regions with established tourism infrastructure and international visibility. Comparatively little is known about how agro-tourism develops in eastern Indonesia, where agriculture remains the backbone of livelihoods but tourism is less institutionalized. Provinces such as East Nusa Tenggara, Maluku, and Papua receive limited scholarly attention, despite their agricultural diversity and cultural richness. This gap in research overlooks the potential of agro-tourism to contribute to rural development and food heritage preservation in Indonesia's frontier regions.

In this context, Papua stands out as both an under-researched and underdeveloped site for agro-tourism. While eco-tourism in Raja Ampat and Lorentz National Park has attracted international interest, agriculture has yet to be systematically integrated into tourism development. Understanding how Papuan communities themselves perceive the intersection of farming and tourism is therefore critical for expanding agro-tourism research beyond the Java–Bali corridor and for addressing regional inequalities in tourism development across Indonesia.

Papua's Agricultural and Tourism Potential

Papua is one of Indonesia's most resource-rich provinces, known for its vast biodiversity, cultural diversity, and distinctive agricultural systems. Agriculture remains the backbone of rural livelihoods in Papua, where subsistence crops such as sweet potatoes, taro, and sago play a central role in daily life and cultural traditions (Rumbekwan et al., 2018). In addition to staple foods, Papua also produces high-value commodities such as coffee and cacao, which have gained increasing recognition in both domestic and international markets. These products carry strong cultural associations, with farming practices tied to indigenous knowledge systems that emphasize ecological balance and community sharing (Widjojo et al., 2019). Such characteristics make agriculture not only an economic activity but also a key element of Papuan identity and heritage.

Tourism in Papua, however, has historically been dominated by eco- and adventure tourism. Destinations such as Raja Ampat, Lorentz National Park, and the Baliem Valley attract visitors seeking natural beauty and cultural authenticity (Vogt, 2017). While these areas have positioned Papua on the global tourism map, they remain concentrated in specific pockets and are often managed through conservation frameworks rather than

integrated development approaches. Agriculture has largely remained peripheral to tourism initiatives, despite its potential to diversify tourism offerings and directly benefit rural households.

Integrating agriculture and tourism in Papua could provide significant opportunities for sustainable economic development. Agro-tourism can generate income diversification for farmers, enhance market access for local products, and promote food heritage through culinary tourism. Sago processing demonstrations, coffee farm visits in the highlands, and traditional cooking experiences could become central attractions for tourists seeking authentic, community-based encounters. At the same time, agro-tourism has the potential to strengthen cultural pride by valorizing indigenous farming practices and connecting them to tourism narratives of authenticity (Carpenter, 2016).

Yet, several constraints hinder the development of agro-tourism in Papua. Infrastructural challenges, such as poor transportation networks and limited facilities, restrict access to agricultural villages. Policy support has often focused on eco-tourism and large-scale conservation projects, leaving agriculture-tourism integration underdeveloped. Additionally, unequal power relations and the marginalization of indigenous voices in development planning remain critical issues (Hampton & Jeyacheya, 2020). Without meaningful participation, agro-tourism risks replicating patterns where external actors capture most benefits while local communities remain on the periphery.

These dynamics highlight that while Papua possesses immense agricultural and cultural potential for agro-tourism, its realization depends on addressing structural barriers and ensuring that local perspectives shape tourism development. This underscores the importance of qualitative research that foregrounds community narratives to understand both opportunities and constraints.

METHODOLOGY

This study employed a qualitative research design to explore how local communities in Papua perceive and experience the intersection of agriculture and tourism. A qualitative approach was chosen because the objective was to capture the lived experiences, narratives, and perspectives of farmers, entrepreneurs, and community leaders. Rather than quantifying outcomes, the study sought to understand meanings and interpretations that shape how agro-tourism is viewed as a pathway for economic development.

Purposive sampling was used to identify participants engaged in agriculture and tourism-related activities. Selection criteria included smallholder farmers cultivating high-value crops (coffee, cacao, sago), women entrepreneurs in food and handicrafts, and community leaders or cooperative members involved in rural development. Snowball sampling was further employed to broaden participation through referrals. This strategy ensured diversity in perspectives across gender, occupation, and geographic setting (highlands, lowlands, and coastal regions).

Fieldwork was conducted between May and July 2024 in Jayapura, Wamena, and surrounding rural villages. A total of 12 semi-structured, in-depth interviews were conducted, each lasting between 60 and 90 minutes. Interviews were carried out in Bahasa Indonesia or local Papuan dialects with assistance from interpreters when needed. Questions focused on participants' experiences with agriculture, perceptions of tourism, opportunities for agro-tourism, cultural significance of farming practices, and constraints to development. With consent, interviews were audio-recorded and transcribed verbatim. Field notes and observations during farm visits and community meetings were also integrated into the dataset.

Participants represented a range of roles, from farmers to tourism entrepreneurs and community leaders. Codes were assigned to ensure confidentiality while enabling attribution of quotes in the Results section.

Table 1. Informant Profiles

Informant Code	Role / Occupation	Interview Date
P1	Coffee farmer (Central Highlands)	5 May 2024
P2	Cacao farmer (Jayapura area)	7 May 2024
P3	Sago harvester and processor (South Papua)	10 May 2024
P4	Village tourism cooperative leader (Wamena)	15 May 2024
P5	Women's group leader (culinary entrepreneur)	18 May 2024
P6	Market vendor selling agricultural products	20 May 2024

P7	Homestay owner (Jayapura rural area)	23 May 2024
P8	Coffee cooperative manager (Highlands)	27 May 2024
P9	Traditional food entrepreneur (sago products)	30 May 2024
P10	Local government tourism officer	5 June 2024
P11	Handicraft producer using agricultural fibers	10 June 2024
P12	Community elder and cultural leader	15 June 2024

Thematic analysis was employed following Braun & Clarke (2006) six-step framework. After repeated readings of the transcripts, initial codes were generated inductively to capture key patterns, such as “economic opportunities,” “market barriers,” and “cultural pride.” Codes were then grouped into themes that reflected broader dynamics, including empowerment, constraints, and cultural identity in agro tourism. NVivo software was used to assist in coding and to visualize connections between themes. Quotations from participants are presented in the Results section using pseudonymous codes (e.g., P1, P7), ensuring participants’ voices are central to the analysis.

Informed consent was obtained prior to each interview, with participants assured of confidentiality and the right to withdraw at any stage. Identifiers have been anonymized using codes. Cultural protocols were respected during fieldwork, including seeking permission from local elders before entering villages and conducting interviews.

RESULTS

The qualitative analysis of twelve interviews with farmers, entrepreneurs, cooperative leaders, and local officials in Papua revealed a set of interconnected themes that shape the relationship between agriculture and tourism. The findings highlight both opportunities and challenges in developing agro-tourism as a pathway for sustainable economic development. Four overarching themes emerged: Opportunities, Constraints, Community Agency, and Sustainability. Each theme is composed of several subthemes that reflect local experiences and perspectives.

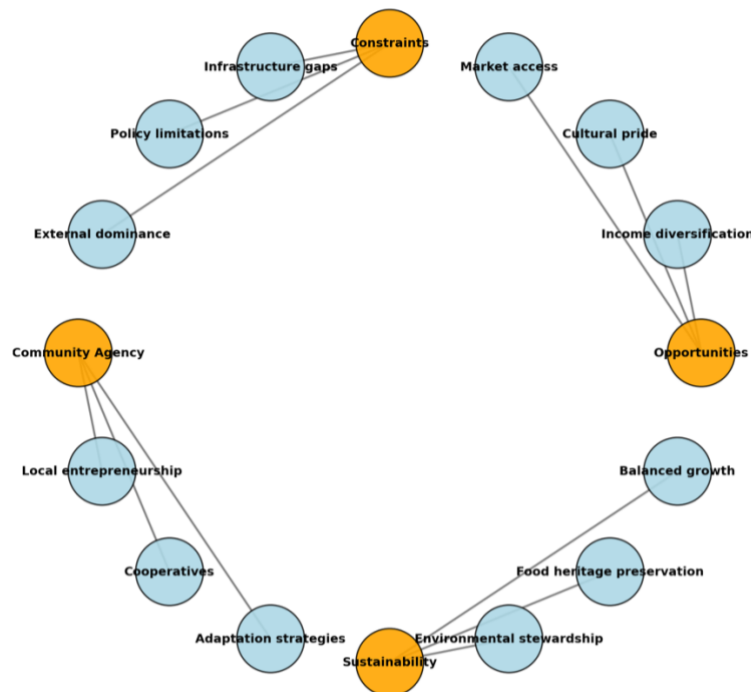


Figure 1. Network Analysis

Figure 1 presents a thematic map generated from the coding process, illustrating how these themes and subthemes are interlinked. Opportunities primarily involve income diversification, cultural pride, and expanded market access. Constraints revolve around infrastructural limitations, weak policy support, and the dominance of external actors in shaping development. Community agency is expressed through local entrepreneurship, cooperative initiatives, and adaptive strategies that enable farmers and households to engage with tourism despite challenges. Sustainability concerns focus on maintaining environmental stewardship, preserving indigenous food heritage, and balancing growth with cultural identity.

Together, the thematic map suggests that agro-tourism in Papua is a space of negotiation, where aspirations for economic development coexist with infrastructural barriers and cultural commitments. Rather than being linear, these themes overlap and intersect, underscoring the complexity of integrating agriculture and tourism in Papua's unique socio-economic and cultural landscape.

Opportunities

Participants consistently emphasized the potential of agro-tourism to create new opportunities for economic development in Papua. These opportunities were expressed primarily in terms of income diversification, expanded market access, and cultural pride. For many households, tourism was not perceived as a replacement for agriculture, but rather as a complementary pathway that could strengthen livelihoods while preserving traditional practices.

Income diversification was the most prominent benefit mentioned by farmers. Smallholder producers highlighted how agro-tourism activities such as offering coffee farm tours, selling cacao-based products, or demonstrating sago processing provided new income streams in addition to traditional agricultural markets. P1, a highland coffee farmer, explained: *"Before, I only sold coffee beans to traders. Now, when tourists visit, I can sell roasted coffee directly and they pay more. It helps me not to depend only on middlemen"* (P1, 5 May 2024). Similarly, P2, a cacao farmer near Jayapura, noted: *"Visitors like to see how chocolate is made. When they buy directly from us, the profit is higher than selling raw beans"* (P2, 7 May 2024). These accounts illustrate how tourism can provide added value to agricultural production by shortening value chains and increasing farmers' bargaining power.

Beyond economic gains, cultural pride was a recurring theme. Agro-tourism was described not only as a market opportunity but also to showcase Papuan traditions to outsiders. P5, a women's group leader engaged in culinary entrepreneurship, expressed: *"When we cook sago and show how to prepare it, tourists are amazed. They say it is unique. It makes us proud because what we eat every day becomes something special for others"* (P5, 18 May 2024). Similarly, P9, who produces sago-based food products, emphasized: *"Sago is part of our identity. If tourists can learn about it, they will respect our culture more. This is important for our children too"* (P9, 30 May 2024). These narratives suggest that tourism fosters recognition of agricultural heritage, reinforcing local identity and intergenerational cultural transmission.

Market access also emerged as an opportunity created by agro-tourism. Local entrepreneurs explained that tourism offered access to consumer markets that were otherwise difficult to reach due to geographic isolation and limited infrastructure. P7, a homestay owner, described how hosting tourists allowed her to sell farm produce directly: *"Guests want to eat local food. I serve vegetables from my garden and coffee from neighbors. It gives us a market without traveling far"* (P7, 23 May 2024). This reflects how tourism creates localized circuits of production and consumption, integrating agriculture into the visitor experience while reducing dependence on distant and volatile markets.

Overall, participants framed agro-tourism as a promising avenue to strengthen rural economies, celebrate cultural identity, and overcome isolation by connecting producers with consumers. While opportunities are not yet fully realized due to infrastructural and policy limitations, the narratives underscore strong community aspirations for agro-tourism as both an economic and cultural project.

Constraints

While participants highlighted the opportunities created by agro-tourism, they also underscored a series of constraints that limit their full realization in Papua. These constraints primarily revolved around infrastructure

gaps, weak policy support, and external dominance in tourism development. Together, these barriers shape the uneven ways in which communities can access the benefits of agro-tourism.

Infrastructure gaps were the most frequently cited challenge. Participants explained that poor road access, limited electricity, and lack of basic facilities made it difficult for tourists to reach agricultural villages or for communities to host visitors comfortably. P3, a sago harvester in South Papua, noted: *“Tourists want to see sago processing, but our village is far, and the road is very bad. Sometimes they do not come because the journey is too long and difficult”* (P3, 10 May 2024). Similarly, P6, a market vendor, emphasized that without storage facilities and reliable transportation, the potential of selling agricultural products to tourists remains limited: *“Even if tourists want to buy vegetables or fruit, we cannot keep them fresh for long because we do not have cold storage”* (P6, 20 May 2024). These statements highlight how infrastructural fragility constrains both access and marketability.

Policy limitations were another key barrier identified by participants. Several informants suggested that government tourism initiatives in Papua focus predominantly on eco-tourism and conservation sites, neglecting the integration of agriculture. P10, a local government tourism officer, acknowledged this imbalance: *“The government programs are still centered on Raja Ampat and nature tourism. Agro-tourism is rarely included in planning, so there is no budget or training support for farmers”* (P10, 5 June 2024). This reflects a gap between national policy narratives of diversification and local realities, where agro-tourism is yet to be institutionalized as part of development strategies.

Finally, external dominance in tourism planning and marketing was viewed as a constraint that reduces local agency. Several participants expressed concern that outsiders whether private investors or external NGOs tend to control tourism narratives and profits. P12, a community elder, remarked: *“Often people from outside come and say they will help, but they decide everything. We only follow, and the money mostly goes to them”* (P12, 15 June 2024). Such experiences highlight the risk that agro-tourism could replicate broader patterns of resource extraction in Papua, where local communities are marginalized in decision-making and benefit distribution.

Taken together, these findings demonstrate that while agro-tourism holds significant promise for Papua, its potential is undermined by structural barriers. Infrastructure gaps restrict physical access, policy neglect limits institutional support, and external dominance undermines community ownership. These constraints illustrate the complex environment in which Papuan communities attempt to integrate agriculture and tourism, underscoring the need for development strategies that address systemic inequalities.

Community Agency

Despite infrastructural limitations and uneven policy support, participants emphasized their own agency in finding creative ways to engage with agro-tourism. This agency was expressed through local entrepreneurship, cooperative initiatives, and adaptation strategies, which enabled communities to exert control over tourism activities and maintain cultural integrity.

Local entrepreneurship emerged as a key pathway for asserting agency. Several farmers and women entrepreneurs described developing small-scale businesses that linked agricultural products directly to tourism experiences. P8, a coffee cooperative manager, explained: *“We started roasting coffee ourselves and selling it to tourists. Before, we only sold raw beans to traders. Now, we create our own brand and visitors can taste coffee at the farm”* (P8, 27 May 2024). P5, a women’s group leader, similarly noted that culinary entrepreneurship allowed women to take leadership roles: *“We prepare sago-based food for guests. It gives us not only income but also a chance to decide what to show about our culture”* (P5, 18 May 2024). These examples demonstrate how local entrepreneurship enables communities to reframe agriculture as both a livelihood and a cultural asset.

Cooperative structures also played a central role in strengthening collective participation. Farmers and small entrepreneurs emphasized that cooperatives provided opportunities to share resources, pool labor, and increase bargaining power. P4, a cooperative leader in Wamena, described: *“Alone, a farmer cannot host tourists, but as a group we can. We organize tours together and share the benefits”* (P4, 15 May 2024). By embedding agro-tourism within collective frameworks, communities were able to retain greater ownership and ensure that benefits circulated locally rather than being captured by external actors.

Finally, participants highlighted adaptation strategies that allowed them to navigate challenges while still engaging in agro-tourism. For example, P7, a homestay owner, explained how she adapted to infrastructural

limitations by providing simple but culturally grounded experiences: *"We cannot offer luxury facilities, but tourists like to stay in a traditional house and eat our food. They say it feels authentic"* (P7, 23 May 2024). Similarly, P9, a traditional food entrepreneur, emphasized flexibility in adjusting to market access issues: *"If tourists cannot come here, I bring my products to town during festivals. It is still part of agro-tourism because I explain how we make sago"* (P9, 30 May 2024). These narratives reflect resilience and creativity in finding ways to integrate agriculture into tourism despite structural constraints.

Overall, the theme of community agency highlights that Papuan farmers and entrepreneurs are not passive recipients of external initiatives. Instead, they actively negotiate their participation, create entrepreneurial ventures, and organize collective structures that enhance local ownership. These practices suggest that even within a context marked by infrastructural and policy limitations, communities exercise agency to shape agro-tourism on their own terms.

Sustainability

In addition to economic opportunities and community initiatives, participants often framed agro-tourism in terms of its potential to promote sustainability. This sustainability was understood not only as environmental stewardship, but also as food heritage preservation and the importance of balancing economic growth with cultural values.

Environmental stewardship was described as a natural extension of agricultural practices embedded in indigenous knowledge. Farmers emphasized that agro-tourism could motivate communities to maintain ecological balance because the health of the land was directly tied to both agriculture and tourism appeal. P1, a highland coffee farmer, reflected: *"If the forest is damaged, the water is gone, and then the coffee will not grow. Tourists also want to see a green environment, so we must protect it"* (P1, 5 May 2024). Similarly, P3, who processes sago, explained: *"Sago grows in the swamp. If we destroy the swamp, we lose our food. Showing sago to tourists reminds us that we must care for it"* (P3, 10 May 2024). These accounts illustrate how agro-tourism can reinforce existing ecological values rather than impose new ones.

Food heritage preservation was also central to participants' narratives. Many interviewees highlighted that agro-tourism encouraged younger generations to value traditional crops and culinary practices. P9, a sago entrepreneur, remarked: *"Young people sometimes prefer rice or instant noodles. But when tourists come and ask about sago, they feel proud and want to learn. Agro-tourism makes our food important again"* (P9, 30 May 2024). P12, a community elder, emphasized that agro-tourism could serve as a cultural education tool: *"By showing our traditional gardens and cooking methods, we teach not only tourists but also our children. They learn that our food is our identity"* (P12, 15 June 2024). These insights highlight agro-tourism's role in reinforcing cultural continuity through food systems.

At the same time, participants stressed the need for balancing economic growth with cultural values. Several informants expressed concern that over-commercialization might erode authenticity or reduce agriculture to a spectacle for outsiders. P6, a market vendor, cautioned: *"It is good if we get more income, but we must not change everything just to please tourists. Our traditions must remain for us first"* (P6, 20 May 2024). Similarly, P8, a cooperative manager, explained: *"Tourism should help us improve our lives, but it must not control us. The culture and the land must still belong to the community"* (P8, 27 May 2024). These reflections indicate that sustainability for Papuan communities is not only ecological but also cultural, requiring careful negotiation between tourism opportunities and the preservation of local identity.

Taken together, this theme underscores that sustainability in the Papuan context is multidimensional. Agro-tourism is valued not only as a source of income but also as a means of protecting the environment, revitalizing indigenous food heritage, and ensuring that development aligns with cultural values. Rather than viewing sustainability as an external agenda, participants articulated it as deeply rooted in local ways of life, where farming, food, and land are inseparable from identity and community well-being.

DISCUSSION

This study examined how local communities in Papua perceive and experience the integration of agriculture and tourism. Four overarching themes emerged from the analysis: opportunities, constraints, community agency, and

sustainability. Together, these findings provide insights into how agro-tourism can function as both a development strategy and a cultural practice in Papua.

The findings demonstrate that agro-tourism creates important opportunities for income diversification, cultural pride, and expanded market access. Farmers and entrepreneurs reported that hosting tourists allowed them to bypass intermediaries, secure higher profits, and directly showcase local products such as coffee, cacao, and sago. These results are consistent with research in other contexts showing that agro-tourism enhances farmers' bargaining power and links agricultural products to premium markets (Barbieri & Mshenga, 2008; Torres & Momsen, 2011). In addition, participants emphasized that agro-tourism validated their cultural identity by elevating traditional foods and farming practices to sources of pride, echoing arguments that agro-tourism can reinforce cultural heritage alongside economic benefits (Lane & Kastenholz, 2015).

At the same time, the study highlights how structural barriers constrain agro-tourism's development in Papua. Poor infrastructure, weak institutional support, and external dominance in tourism governance were recurring challenges. These findings align with Cole (2007) critique of community-based tourism in Indonesia, which often suffers from uneven benefit distribution and dependency on external actors. In Papua, these barriers are amplified by geographic isolation and political marginalization, which limit community access to tourism markets. This underscores the need for policy frameworks that extend beyond eco-tourism and explicitly integrate agriculture into tourism planning.

Despite these constraints, Papuan communities displayed strong agency in shaping agro-tourism on their own terms. Through entrepreneurship, cooperatives, and adaptive strategies, participants demonstrated resilience in creating opportunities even within structurally constrained environments. This reflects the principles of the sustainable livelihoods approach (Scoones, 1998), which emphasizes households' capacity to mobilize resources and diversify activities to enhance well-being. The findings also resonate with community-based tourism literature, which stresses local participation and benefit-sharing as central to sustainable tourism (Goodwin et al., 2009). However, the Papuan case highlights that agency is not merely about economic survival but also about protecting cultural identity, as participants emphasized retaining control over traditions and narratives in the face of external pressures.

Sustainability emerged not only as an environmental concern but also as a cultural imperative. Participants described agro-tourism as a means of protecting forests, maintaining food systems, and ensuring intergenerational cultural transmission. These insights support scholars who argue that sustainability in indigenous contexts is inherently multidimensional, encompassing ecological, cultural, and spiritual dimensions (Hall & Richards, 2000). Importantly, participants warned against over-commercialization, suggesting that tourism should enhance rather than dilute local traditions. This contributes to postcolonial perspectives in tourism studies, which emphasize the need to respect indigenous epistemologies and avoid imposing external definitions of sustainability (Wilson & Myhill, 2012).

Theoretically, this study extends the agro-tourism literature by situating it in a marginalized, under-researched region of Indonesia. While previous studies in Bali and Java highlight agro-tourism's economic potential, the Papuan case demonstrates that opportunities are tempered by structural inequalities and cultural considerations. Empirically, the findings foreground Papuan voices, offering grounded insights into how agro-tourism is understood and practiced locally. Practically, the results suggest that tourism policy in Papua must address infrastructural deficits, integrate agriculture into tourism frameworks, and empower local cooperatives. Development agencies and NGOs should prioritize capacity building that supports entrepreneurship, enhances market access, and safeguards cultural identity.

CONCLUSION

This study has explored how communities in Papua perceive and experience the integration of agriculture and tourism, focusing on the opportunities, constraints, agency, and sustainability dimensions of agro-tourism. The findings revealed that agro-tourism provides important opportunities for income diversification, cultural pride, and market access. At the same time, infrastructural deficits, limited policy support, and the dominance of external actors constrain its development. Importantly, the study showed that Papuan communities exercise significant agency by creating entrepreneurial ventures, forming cooperatives, and developing adaptive

strategies. Sustainability was also framed as both an ecological and cultural practice, underscoring the centrality of food heritage and traditional knowledge in tourism development.

Theoretically, this study contributes to debates on agro-tourism and sustainable development by extending analysis to a marginalized, under-researched region of Indonesia. Empirically, it foregrounds local voices, demonstrating how indigenous perspectives shape the integration of agriculture and tourism. Practically, it suggests that tourism policy in Papua must prioritize infrastructure, strengthen institutional support for agro-tourism, and ensure that community agency remains central in planning.

This research is not without limitations. The sample size was relatively small and geographically limited, which may restrict generalizability. Future studies could expand to other Papuan regions, adopt longitudinal designs, or explore comparative cases across eastern Indonesia to deepen understanding of agro-tourism's potential for equitable development.

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Conflict of Interest

The author(s) declare no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Data Availability

The qualitative data underlying this study consist of interview transcripts and field notes collected in Papua between May and July 2024. To protect participants' confidentiality, the full dataset is not publicly available. De-identified excerpts relevant to the analysis may be made available upon reasonable request to the corresponding author.

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