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Sustainable Rural Development in Osing Traditional Village, Banyuwangi Regency: A Perspective from the Sustainable Livelihood Approach

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ABSTRACT

Sustainable development balances economic growth, social inclusion, and environmental preservation to promote long-term community welfare. This study examines rural development in Osing Traditional Village, Banyuwangi Regency, using the Sustainable Livelihood Approach (SLA) to identify key assets, vulnerabilities, and sustainability strategies. Employing a quantitative descriptive method, the study integrates pentagonal asset analysis, vulnerability assessment, and SWOT analysis with data collected through surveys and interviews. Findings reveal that natural capital is the dominant asset (value: 9.75), supported by social and physical capital. However, vulnerabilities such as fertilizer scarcity, rising input costs, and agricultural land conversion pose significant threats to sustainability. This study addresses a critical research gap by analyzing asset interactions in a rapidly transforming, tourism-dependent village, offering novel insights into the integration of cultural preservation, economic development, and risk mitigation. Beyond the case study, it contributes to the theoretical discourse on sustainable rural development and provides actionable policy recommendations. These include agricultural land protection, improved financial access, and community-driven initiatives to ensure long-term prosperity without compromising ecological integrity.

Keywords: *Development Strategy; Pentagonal Assets; Sustainable Development; Tourist Villages; Vulnerability*

1. Introduction

Sustainable development has become a central discourse in rural development policies, particularly in regions reliant on natural resources and cultural heritage for economic growth. The concept emphasizes a balance between economic progress, environmental conservation, and social inclusivity to ensure long-term prosperity for local communities (Su et al., 2021). In developing countries, sustainable rural development is closely linked to poverty alleviation, food security, and community resilience (Kumar et al., 2023). The rapid expansion of the tourism industry, particularly community-based tourism, has played a significant role in enhancing rural economies by leveraging local assets such as natural landscapes, cultural traditions, and indigenous knowledge systems (Adi & Mulyadi, 2019). However, achieving sustainable development requires a holistic approach that integrates multiple dimensions, including human capital, financial resources, infrastructure, and governance mechanisms.

In Indonesia, rural tourism has been promoted as a key strategy to accelerate economic growth in peripheral regions while safeguarding traditional livelihoods and cultural identity. Banyuwangi Regency, located in East Java, has emerged as a model for tourism-driven rural development, with initiatives supporting micro, small, and medium enterprises (MSMEs), local artisans, and agritourism ventures (Woyesa & Kumar, 2021). Among its flagship projects is the development of the Osing Kemiren Traditional Village, a cultural tourism destination showcasing the customs and heritage of the Osing Indigenous community. This village is characterized by its strong social capital, well-preserved traditions, and reliance on nature-based tourism, including agricultural activities and ecotourism attractions. However, the increasing commercialization of rural landscapes and the shift from agriculture to tourism-related industries have raised concerns about land-use sustainability, economic disparities, and dependency on external investments (Arifin & Ardhiansyah, 2020). While tourism has generated new employment opportunities, it has also led to significant structural transformations, including the conversion of agricultural land into commercial zones, the decline of farming as a primary livelihood, and increased vulnerability due to fluctuating visitor numbers. These dynamics necessitate an evidence-based approach to understanding the impact of tourism on rural livelihoods and formulating strategies that align with the principles of sustainable livelihood development.

One of the critical challenges facing Osing Kemiren Traditional Village is the deterioration of agricultural sustainability due to shifts in land use and the increasing difficulty of accessing essential farming inputs. Studies indicate that 5--20% of agricultural land in the village has been converted into restaurants, cafes, and tourism facilities, leading to a decline in food production and employment opportunities in the agricultural sector (Setiawan, 2021). Additionally, the scarcity of subsidized fertilizers and rising prices of non-subsidized alternatives have exacerbated economic difficulties for local farmers, who are heavily reliant on rice cultivation (Putra, 2023). While government policies on fertilizer subsidies aim to support agricultural productivity, limitations in distribution mechanisms have resulted in uneven access, disproportionately affecting small-scale farmers (Mayestika & Sirine, 2023). These vulnerabilities underscore the need for a strategic, multi-dimensional approach that enhances economic resilience while ensuring environmental sustainability and cultural preservation.

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A widely recognized framework for analyzing rural development dynamics is the Sustainable Livelihood Approach (SLA), which provides a comprehensive understanding of how rural communities manage and utilize their assets to maintain and improve their well-being (DFID, 1999). SLA emphasizes five key assets---human, social, natural, physical, and financial capital---each of which plays a crucial role in determining livelihood sustainability (Su et al., 2021). Studies applying SLA to rural development have demonstrated that communities with strong social and natural capital are better equipped to adapt to economic transitions and external pressures (Wondimu et al., 2022). In tourism-dependent villages, the integration of natural capital (land, water, biodiversity) with cultural heritage-based economic activities has been identified as a viable strategy for balancing economic growth with sustainability (Arifin & Ardhiansyah, 2020). However, inequalities in access to financial capital, weak institutional support, and external market influences can undermine local resilience, making it imperative to adopt context-specific policies that empower rural communities.

To address the socioeconomic and environmental challenges in Osing Kemiren Traditional Village, previous studies have proposed various strategies, including strengthening local MSMEs, promoting agro-tourism, and enhancing community governance mechanisms (Setiawan, 2021). Research on community-based tourism models suggests that involving local stakeholders in decision-making processes can lead to more equitable economic benefits and long-term sustainability (Ariani & Juraida, 2020). Additionally, investment in physical infrastructure, such as eco-friendly homestays, improved road networks, and sustainable waste management systems, has been identified as a key enabler of rural tourism development (Arifin & Ardhiansyah, 2020). Despite these insights, gaps remain in understanding how pentagonal assets interact in the context of rapid tourism expansion, particularly in villages experiencing land-use conflicts and economic diversification pressures.

An emerging body of research has also examined the role of governance, financial institutions, and policy interventions in shaping sustainable rural development outcomes. Studies indicate that financial capital constraints, including limited access to credit and investment opportunities, hinder rural entrepreneurs from scaling up their businesses and diversifying income sources (C. Zhang & Fang, 2020). Moreover, land tenure security and policy consistency play critical roles in ensuring that tourism expansion does not come at the expense of traditional agricultural livelihoods (Kunjuraman, 2024). While prior research has highlighted the importance of stakeholder collaboration and institutional frameworks, there remains a lack of empirical evidence on the effectiveness of specific policy interventions in mitigating the adverse impacts of tourism-driven economic transitions.

Given these considerations, this study aims to assess the sustainability of rural development in Osing Kemiren Traditional Village using the SLA framework, focusing on the interaction between pentagonal assets, vulnerability factors, and strategic development pathways. This research seeks to address key knowledge gaps by (1) evaluating the distribution and utilization of pentagonal assets within the village, (2) identifying primary vulnerabilities affecting economic and environmental sustainability, and (3) formulating targeted strategies based on SWOT analysis. The novelty of this study lies in its empirical examination of asset-based resilience mechanisms in a rapidly transforming rural tourism destination, providing actionable insights for policymakers, community leaders, and development practitioners.

By integrating quantitative descriptive assessments, this research contributes to a more nuanced understanding of how rural communities navigate socioeconomic transitions in the face of market fluctuations, policy shifts, and environmental constraints. The findings will offer practical recommendations for designing context-sensitive interventions that enhance economic

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resilience, strengthen community autonomy, and promote sustainable tourism governance. Ultimately, this study aspires to inform broader discussions on rural sustainability, demonstrating how indigenous knowledge, cultural assets, and community-driven initiatives can be leveraged to achieve long-term prosperity without compromising ecological integrity.

While Osing Village shares similarities with other tourism-driven rural economies globally, such as the coffee tourism villages in Ethiopia (Woyesa & Kumar, 2021) or the cultural tourism initiatives in Botswana (Molosi-France & Dipholo, 2020), its unique integration of agricultural heritage with cultural tourism sets it apart. Unlike many rural tourism destinations that experience complete shifts away from agriculture, Osing Village maintains a dual focus on farming and tourism, offering a unique case study in balancing economic diversification with traditional livelihoods. However, the literature lacks a comprehensive understanding of how such dual economies navigate vulnerabilities like land conversion and input scarcity, particularly in the context of rapid tourism growth. This study fills this gap by providing a detailed analysis of asset interactions and vulnerabilities in Osing Village, offering comparative insights for other rural economies undergoing similar transitions.

The central research problem addressed in this study is: How can rural communities like Osing Village achieve sustainable development amidst rapid tourism expansion, land-use conflicts, and economic vulnerabilities? By applying the SLA framework, this research not only identifies the key assets and vulnerabilities in Osing Village but also contributes to the broader theoretical discourse on sustainable rural development. Specifically, it highlights the importance of integrating cultural preservation with economic diversification, offering a model for other tourism-dependent rural areas facing similar challenges. The findings aim to inform policy interventions that support sustainable livelihoods, protect agricultural land, and promote community-driven tourism initiatives, ensuring long-term prosperity without compromising ecological and cultural integrity.

2. Literature Review

2.1. Sustainable Development Concept

Sustainable development is a development approach that aims to meet the needs of the current generation without sacrificing the ability of future generations to meet their own needs (Tambe, 2022). This concept includes three main dimensions, namely economic, social, and environmental. Economically, development must improve people's welfare through inclusive and sustainable economic activities (Adi & Mulyadi, 2019). From a social perspective, development must create equality and strengthen social capital in the community (Ariani & Juraida, 2020). Meanwhile, the environmental aspect emphasizes the importance of preserving natural resources so that they can be used sustainably (Q. Zhang et al., 2019).

In the context of tourist villages, sustainable development is an important strategy to improve people's welfare without damaging the environment and local culture. A local wisdom-based approach to managing tourist villages can increase the economic competitiveness of the community and strengthen cultural identity (Arifin & Ardhiansyah, 2020). The implementation of sustainable development in culture-based tourist villages, such as that occurs in Osing Village, can have a positive impact on improving the community's economy through the tourism sector while maintaining environmental and social balance.

2.2. Sustainable Livelihood Approach (SLA) in Village Development

The Sustainable Livelihood Approach (SLA) was first introduced by the Department for International Development (DFID) as a method for understanding the factors that influence

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sustainable community livelihoods. SLA emphasizes that community livelihoods depend on five main types of capital or pentagonal assets, namely human capital, social capital, natural capital, physical capital, and financial capital (DFID, 1999).

Human capital includes skills, education, and health that support an individual's capacity to carry out a livelihood (Tambe, 2022). Social capital involves social networks, norms, and trust that enable individuals and communities to work together to achieve collective goals (Setiawan, 2021). Meanwhile, natural capital includes natural resources that can be utilized to support community livelihoods, such as agricultural land and ecotourism (Huang et al., 2022). Physical capital refers to infrastructure that supports economic activities, such as roads, transportation, and tourism facilities (Woyesa & Kumar, 2021). Finally, financial capital includes access to income, savings, and credit that enable communities to improve their welfare (Wondimu et al., 2022).

The SLA approach has been widely used in studies of village development and tourism village management. For example, the use of natural and social capital in developing tourism villages can create new economic opportunities for local communities (Molosi-France & Dipholo, 2020). In addition, the synergy between human, physical, and financial capital can accelerate the economic transformation of culture-based tourism villages (Putra, 2023). In the context of Osing Village, the use of natural capital in the form of culture-based ecotourism is one of the main strategies for achieving village sustainability.

2.3. Vulnerability in Sustainable Livelihoods

In SLA, vulnerability is grouped into three main categories, namely shocks, trends, and seasonality. Shocks can be natural disasters or policy changes that have a direct impact on people's lives. Trends refer to long-term changes, such as population growth and urbanization. Meanwhile, seasonal factors relate to fluctuations in people's income due to changes in seasons or economic cycles (DFID, 1999).

In Osing Village, one of the main forms of vulnerability is the scarcity of subsidized fertilizers and the increasing price of non-subsidized fertilizers, which have a significant impact on agricultural production (Setiawan, 2021). This has increased operational costs for farmers and reduced their yields. In addition, the conversion of agricultural land into tourist and commercial areas has reduced the amount of productive land, which can ultimately threaten local food security (Mayestika & Sirine, 2023).

Increasing fertilizer prices and uneven subsidy policies can worsen the conditions of small farmers (Adi & Mulyadi, 2019). Similar problems also occur in Osing Village, where farmers face challenges in maintaining their agricultural output due to rising prices of agricultural inputs. In the long term, this can exacerbate the community's dependence on the tourism sector, which is volatile and vulnerable to changes in global tourism policies or trends.

2.4. Sustainable Tourism Village Development Strategy

Based on the SWOT analysis, strategies that can be applied to develop Osing Village as a sustainable tourism village include strengthening the tourism sector, optimizing local capital, and increasing community capacity. The study highlighted that tourism villages that have strong natural and social capital can increase their competitiveness by implementing an aggressive growth strategy (Putra, 2023). This strategy is also relevant for Osing Village, which has advantages in culture-based ecotourism. Some of the main strategies that can be applied include: (1). Utilizing Natural Resources for Sustainable Tourism - The development of culture-based tourism and ecotourism must be carried out sustainably to maintain a balance between

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the economy, society, and the environment (Arifin & Ardhiansyah, 2020), (2). Strengthening Local MSMEs - Local products such as Osing coffee, traditional batik, and culinary specialties must be developed as tourist attractions that can increase community income (Mayestika & Sirine, 2023), (3). Tourism Infrastructure Improvement – Developing homestay facilities, improving road access, and optimizing parking areas can improve tourist comfort and extend the duration of their visits (Setiawan, 2021) and (4). Improving Collaboration with Stakeholders – Synergy between village governments, tourism actors, and the private sector can support sustainable development through investment in infrastructure and tourism product development (Wondimu et al., 2022).

3. Research Methodology

This study employs a mixed-methods approach to assess the sustainability of rural development in Osing Kemiren Traditional Village, Banyuwangi Regency. The research design integrates pentagonal asset analysis, vulnerability analysis, and SWOT analysis to evaluate the utilization of human, social, natural, physical, and financial capital, identify key vulnerabilities, and formulate strategic recommendations for sustainable development. Below, we provide a detailed explanation of the methodology, including sample selection, data collection, validation processes, and measures to ensure reliability and validity.

3.1. Research Design and Justification for Mixed Methods

The study adopts a mixed-methods approach, combining quantitative and qualitative techniques to provide a comprehensive understanding of rural sustainability. Quantitative methods were chosen to objectively measure variables related to asset utilization, vulnerabilities, and strategic development pathways. In contrast, qualitative methods were used to capture local perceptions, cultural nuances, and governance dynamics. This approach is particularly suitable for assessing the sustainability of rural development, as it allows for the measurement of key indicators across different types of capital and vulnerability factors while also incorporating the voices and experiences of local stakeholders.

3.2. Sampling Process

A stratified random sampling technique was used to select respondents, ensuring representation across different socioeconomic groups within Osing Village. The village population of 2,569 people was divided into strata based on income levels, occupation, and access to resources. From these strata, 150 households were randomly selected, with a balanced representation of prosperous and underprivileged groups. Additionally, 20 key informants, including local farmers, tourism operators, community leaders, and government officials, were purposively selected for in-depth interviews to provide qualitative insights. This sampling approach ensures that the data reflects the diverse experiences and perspectives of the community, minimizing selection bias and enhancing the generalizability of the findings.

3.3. Data Collection

Data were collected through structured surveys, in-depth interviews, and focus group discussions (FGDs). The survey instruments were designed based on established frameworks from the Sustainable Livelihood Approach (SLA) and pre-tested with a pilot group of 20 respondents to ensure clarity, reliability, and relevance. The survey included Likert-scale questions (1–10) to measure the level of utilization of each type of capital (human, social,

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natural, physical, and financial) and to assess vulnerability factors such as fertilizer scarcity, land conversion, and tourism seasonality.

Qualitative data were collected through semi-structured interviews and FGDs to capture local perceptions of vulnerability, asset interdependence, and governance challenges. These discussions were particularly valuable in understanding how community members perceive the risks and opportunities associated with tourism expansion and agricultural sustainability. The qualitative data were transcribed and analyzed using thematic analysis to identify recurring themes and patterns.

3.4. Data Validation and Reliability

To ensure the validity and reliability of the data, several steps were taken : Pre-testing: The survey instruments were pre-tested with a small sample to identify and address any ambiguities or biases in the questions : (i). Triangulation: Data were cross-verified through multiple sources, including secondary data from government reports, academic studies, and stakeholder interviews. This triangulation process helped to validate the survey results and reduce potential biases (ii). Internal Consistency: The reliability of the survey instruments was assessed using Cronbach's alpha which yielded a score of 0.85, indicating high internal consistency and (iii). Takeholder Balance: To ensure balanced perspectives, interviews, and FGDs were conducted with a diverse group of stakeholders, including local farmers, tourism operators, and government officials. This approach helped to capture a comprehensive view of the challenges and opportunities facing the village.

3.5. Pentagonal Asset Analysis

The pentagonal asset analysis evaluates the five types of capital (human, social, natural, physical, and financial) using a Likert scale (1–10). Each capital type was assessed based on specific indicators: (i). Human Capital: Education level, skills, and access to health services; (ii). Social Capital: Strength of social networks, community participation, and trust levels, (iii). Natural Capital: Availability of agricultural land, water resources, and ecosystem sustainability, (iv). Physical Capital: Condition of infrastructure, including roads, electricity, and tourism facilities and (v). Financial Capital: Income levels, access to credit, and diversification of income sources.

3.6. Vulnerability Analysis

Vulnerability was assessed based on three categories: shocks (e.g., fertilizer scarcity, price fluctuations), trends (e.g., land conversion, urbanization), and seasonality (e.g., tourism fluctuations). Historical data from the past five years were analyzed to identify patterns and impacts on community livelihoods. Qualitative insights from interviews and FGDs were used to contextualize these vulnerabilities, particularly in terms of how local communities perceive and respond to economic and environmental risks.

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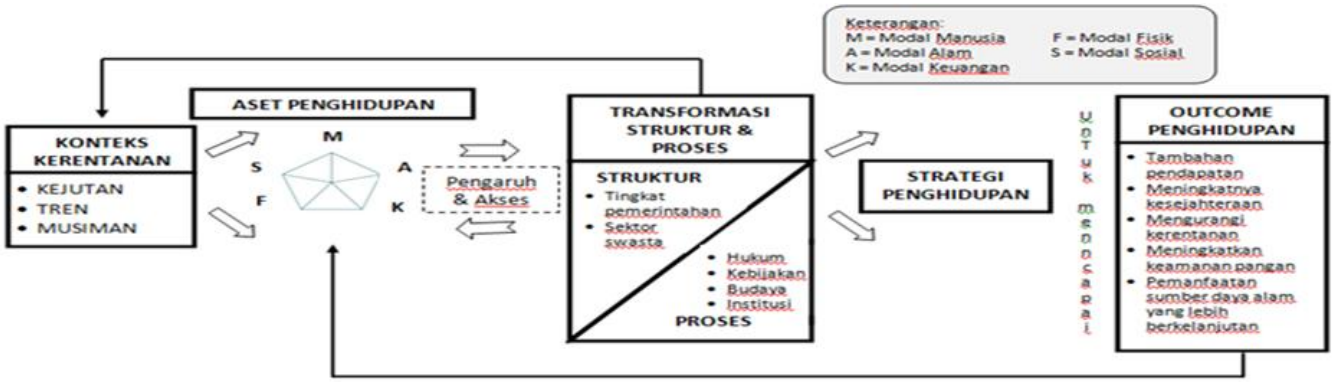

Figure 1. Sustainable Livelihood Approach Framework
Source: (Tambe, 2022)

3.7. SWOT Analysis

The SWOT analysis was conducted to identify the internal strengths and weaknesses, as well as external opportunities and threats, affecting the sustainability of Osing Village. The analysis was based on the Internal Factor Analysis Summary (IFAS) and External Factor Analysis Summary (EFAS) matrices, which were used to calculate the strategic position of the village. The results were visualized in a Cartesian diagram to determine the appropriate development strategy. Qualitative data from interviews and FGDs were integrated into the SWOT analysis to provide a more nuanced understanding of the village's strategic position.

3.8. Limitations of Asset-Based Models

While the pentagonal asset analysis provides a useful framework for assessing rural sustainability, it has certain limitations. For example, it tends to focus on tangible assets and may overlook intangible factors such as cultural values, governance quality, and institutional support. To address these limitations, the study incorporated qualitative insights from interviews and FGDs, which provided a deeper understanding of how local governance structures and community perceptions influence asset utilization and vulnerability. Additionally, the study acknowledges that asset-based models may not fully capture the long-term economic resilience of rural communities, particularly in the face of external shocks such as climate change or global market fluctuations.

3.9. Additional Metrics for Governance and Institutional Support

To complement the asset-based analysis, the study introduced additional metrics to evaluate governance and institutional support. These metrics included: (a). Policy Consistency: The extent to which local and national policies align to support sustainable rural development, (b). Community Participation: The level of community involvement in decision-making processes related to tourism and agriculture and (c). Institutional Capacity: The ability of local institutions to implement and monitor sustainable development initiatives.

4. Results

4.1. Pentagonal Asset Analysis

The pentagonal asset analysis reveals the distribution and utilization of five key types of capital in Osing Village: human, social, natural, physical, and financial. Each asset category was assessed using a Likert scale (1–10), with the following results :

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Table 1. Pentagonal Asset Analysis

Capital Type	Description
Human Capital	The average score for human capital was 6.0, indicating moderate levels of education, skills, and access to health services. While some community members possess skills relevant to tourism and agriculture, there is a notable gap in digital literacy and advanced business skills, which limits their ability to capitalize on economic opportunities in the tourism sector fully.
Social Capital	Social capital scored 8.5, reflecting strong community networks, high levels of trust, and active participation in cultural and communal activities. The cooperation system (gotong royong) and community-led tourism initiatives are key strengths. However, the increasing influence of external investors in tourism management poses a risk of social fragmentation.
Natural Capital	Natural capital scored the highest at 9.75, underscoring the village's rich agricultural land, water resources, and cultural heritage. These assets are the foundation of both the agricultural and tourism sectors. However, the conversion of agricultural land into tourist facilities (5–20% in the last five years) threatens the sustainability of natural capital, raising concerns about food security and environmental degradation.
Physical Capital	Physical capital scored 7.3, indicating relatively developed infrastructure, including roads, electricity, and basic tourism facilities. However, there are gaps in tourism-specific infrastructure, such as parking areas, public sanitation, and pedestrian paths, which hinder visitor comfort and the village's competitiveness as a tourist destination.
Financial Capital	Financial capital scored the lowest at 5.2, highlighting limited access to credit, low-income diversification, and dependence on seasonal tourism revenue. Many small-scale farmers and MSMEs struggle to access financial resources, exacerbating their vulnerability to economic shocks such as fluctuating tourist numbers and rising fertilizer prices.

4.2. Interdependencies Among Asset Categories

The analysis reveals significant interdependencies among the five asset categories. For example:

1) Natural and Social Capital: The village's strong social capital facilitates collective action in managing natural resources, such as communal farming and ecotourism initiatives. However, the commercialization of tourism risks undermining these social networks.
2) Human and Financial Capital: Limited human capital, particularly in digital and business skills, restricts the community's ability to access financial resources and diversify income sources. Strengthening human capital through education and training could enhance financial resilience.
3) Physical and Natural Capital: While physical infrastructure supports tourism, its expansion often comes at the expense of natural capital, as seen in the conversion of agricultural land. Sustainable infrastructure development is needed to balance these competing demands.

4.3. Vulnerability Analysis

The vulnerability analysis identifies three main categories of risks:

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1) Economic Shocks: Rising fertilizer prices and fluctuating tourist numbers have a direct impact on community income. The scarcity of subsidized fertilizers has increased production costs for farmers, while seasonal tourism creates income instability for those reliant on the sector.
2) Long-term Trends: The conversion of agricultural land into tourist facilities is a significant long-term trend, reducing the availability of productive land and threatening food security.
3) Seasonality: Tourism income is highly seasonal, with significant fluctuations between peak and off-peak periods. This seasonality exacerbates financial vulnerability, particularly for households dependent on tourism-related activities.

4.4. Qualitative Insights on Vulnerability

Qualitative data from interviews and focus group discussions (FGDs) provided deeper insights into how local communities perceive and respond to these vulnerabilities. For example:

1) Fertilizer Scarcity: Farmers expressed frustration over the inconsistent availability of subsidized fertilizers, which has forced them to rely on more expensive, non-subsidized alternatives. This has increased production costs and reduced profitability.
2) Land Conversion: Community members highlighted the tension between preserving agricultural land and expanding tourism infrastructure. While tourism offers economic opportunities, many fear that the loss of agricultural land will undermine food security and traditional livelihoods.
3) Tourism Seasonality: Tourism operators noted the challenges of managing income fluctuations, particularly during the off-peak season. Some have diversified their income sources by engaging in small-scale agriculture or handicraft production, but many remain heavily dependent on tourism.

4.5. SWOT Analysis

The calculation between the combination of internal and external indicators can be depicted in the chart diagram of the SWOT analysis strategy. This graph diagram will show the potential coordinates of SWOT analysis, which aims to find out the right strategy for the development of Desa Wisata Adat Osing Kemiren. The determination of the coordinate position of the SWOT analysis graph diagram can be calculated based on the reference from the calculation results of the IFAS and EFAS matrices as follows:

a. Internal factor analysis coordinates $= \frac{total\ strength\ score - total\ weakness\ score}{2} = \frac{3{,}05 - 0{,}59}{2} = 2{,}46$
b. Coordinates of analysis of external factors $= \frac{total\ opportunity\ score - total\ threat\ score}{2} = \frac{2{,}53 - 0{,}87}{2} = 1{,}66$

So the coordinate point (x,y) on the SWOT analysis cartesius diagram lies at (2.46; 1.66). The coordinate results obtained are in a position between the lines of strength and opportunity, which shows that the development position of Osing Kemiren Traditional Tourism Village is in quadrant I, namely aggressive strategy and progressive strategy.

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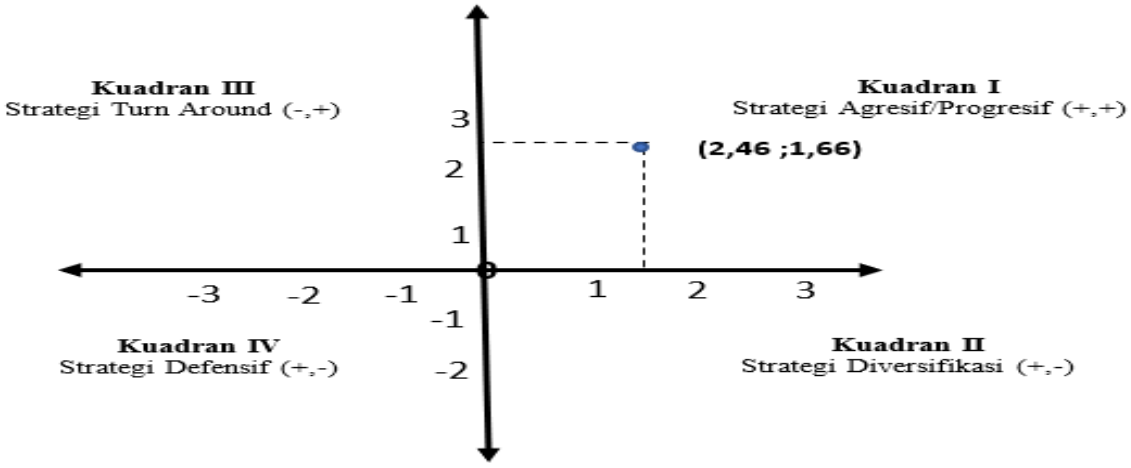

Figure 2. SWOT Analysis Cartesian Diagram of Osing Traditional Village

In the context of shock vulnerability in Osing Kemiren Traditional Village, it began with the scarcity of subsidized fertilizers and soaring fertilizer prices. This scarcity occurred in 2022 and had a major impact on community work, especially on the quality, quantity of production, and agricultural operational costs in Osing Traditional Village. The quality and quantity of farmers' production is one of the main indicators because the majority of livelihoods in Kemiren Village are rice farmers. After all, a quarter of the land in Kemiren Village is rice fields. The issuance of policies or rules of the Minister of Agriculture Regulation Number 10 of 2022 concerning procedures for determining the allocation and highest retail prices of subsidized fertilizers in the agricultural sector. The majority of the Osing tribe community in Kemiren Village works as farmers who depend on their agricultural production, so the scarcity of subsidized fertilizers has a significant impact. With the scarcity of subsidized fertilizers and rising fertilizer prices, of course, if allowed to continue, it will lead to a more severe crisis in Kemiren Village.

The SWOT analysis was conducted to identify the internal strengths and weaknesses, as well as external opportunities and threats, affecting the sustainability of Osing Village. The analysis was based on the Internal Factor Analysis Summary (IFAS) and External Factor Analysis Summary (EFAS) matrices, which were used to calculate the strategic position of the village. The results were visualized in a Cartesian diagram to determine the appropriate development strategy.

Table 2. SWOT Analysis of Osing Traditional Village

Strengths	**Weaknesses**
1. Strong Natural and Social Capital: The village's rich natural resources and strong community networks are key assets for sustainable development. 2. Cultural Heritage: The unique cultural traditions of the Osing community attract tourists and provide a foundation for cultural tourism.	1. Limited Financial Capital: Many households and MSMEs struggle to access credit and diversify their income sources. 2. Infrastructure Gaps: Inadequate tourism infrastructure, such as parking and sanitation facilities, hinders the village's competitiveness as a tourist destination.
Opportunities	**Threats**
1. Growing Tourism Sector: The increasing	1. Land Conversion: The continued conversion

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popularity of cultural and ecotourism offers opportunities for economic growth.	of agricultural land into tourist facilities threatens food security and traditional livelihoods.
2. Government Support: Local and national government initiatives provide funding and policy support for rural development.	2. Over-Tourism: Rapid tourism growth could lead to environmental degradation and a decline in the quality of the visitor experience.

4.6. Governance and Institutional Support

The study introduced additional metrics to evaluate governance and institutional support based on qualitative data from interviews and FGDs. Key findings include:

1) Policy Consistency: Inconsistent policies, such as fluctuating fertilizer subsidies, undermine long-term planning and economic resilience
2) Community Participation: While community involvement in tourism management is relatively high, there is a need for greater participation in decision-making processes related to land use and infrastructure development.
3) Institutional Capacity: Local institutions have limited capacity to implement and monitor sustainable development initiatives, particularly in terms of environmental protection and waste management.

5. Discussion

The findings of this study highlight the importance of balancing economic growth with environmental and social sustainability in Osing Village. The strong natural and social capital serves as the village's primary assets, supporting cultural and nature-based tourism. This aligns with Woyesa & Kumar, who found that rural economies with abundant natural resources benefit significantly from ecotourism and agro-tourism (Woyesa & Kumar, 2021). However, the increasing dependence on tourism and land conversion for tourism facilities poses risks to long-term sustainability. These findings echo concerns raised by Arifin & Ardhiansyah, who observed that unregulated tourism-led development often results in environmental degradation and resource mismanagement (Arifin & Ardhiansyah, 2020).

A major concern identified in this study is the 5–20% conversion of agricultural land into tourist facilities over the past five years. While this reflects economic transformation, it also threatens food security and traditional livelihoods (Putra, 2023). The loss of agricultural land directly impacts the village's economic resilience, particularly given its low financial capital score (5.2), which indicates limited access to credit and income diversification. The reliance on tourism as the primary economic driver increases economic vulnerability, which aligns with findings from Molosi-France & Dipholo, showing that tourism-dependent rural communities often struggle with financial instability during off-peak seasons (Molosi-France & Dipholo, 2020). To mitigate these risks, this study suggests a more diversified approach, integrating agro-tourism and community-led tourism to preserve agricultural land and ensure a more equitable distribution of economic benefits.

Governance challenges further complicate the sustainability of Osing Village. The study finds that local institutions cannot implement and enforce land-use regulations effectively, a challenge also noted by Hall & Page, who argued that weak institutional capacity often leads to ineffective policy implementation in rural settings (Hall & Page, 2014). Additionally, inconsistent government policies on land-use planning and financial subsidies exacerbate these governance issues (Scoones, 1998), reflecting similar challenges identified by Scoones. Addressing these governance gaps requires strengthening institutional frameworks, improving

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policy coherence between local and national levels, and increasing community participation in decision-making processes.

In terms of financial resilience, this study highlights the potential of microfinance institutions and cooperatives in providing rural entrepreneurs with access to credit and financial resources. This aligns with the findings by Tambe, who emphasized that community-based financial systems can enhance rural economic resilience by reducing dependence on external investors (Tambe, 2022). Furthermore, digital financial inclusion—such as expanding mobile banking and digital literacy programs—can empower MSMEs and small-scale farmers, a strategy supported by Wondimu et al., who found that financial technology plays a crucial role in improving rural economic diversification (Wondimu et al., 2022). However, the success of these financial strategies depends on strong local leadership, transparent governance, and active community participation, as also observed by Mayestika & Sirine Hani in their study on cooperative economic models in Indonesian rural areas (Mayestika & Sirine, 2023).

Finally, this study critiques the long-term sustainability of tourism-led development. It reinforces arguments by Sharpley & Telfer, who noted that excessive tourism reliance often creates economic vulnerabilities, increases social inequalities, and leads to environmental degradation (Sharpley & Telfer, 2015). A more holistic rural development strategy—integrating agriculture, handicrafts, and tourism—is necessary to ensure long-term resilience. While tourism remains a crucial economic driver, it should be complemented by other sectors to reduce dependency risks and enhance community-driven economic stability. This study's findings contribute to the broader discourse on sustainable rural development by emphasizing the importance of balancing tourism growth with agricultural preservation, governance improvements, and financial empowerment.

6. Conclusion

This study evaluates the sustainability of rural development in Osing Traditional Village, Banyuwangi Regency, through the Sustainable Livelihood Approach (SLA) and SWOT analysis. The findings indicate that natural and social capital are the village's primary assets, playing a crucial role in supporting both agriculture and tourism-based economic activities. The high natural capital score (9.75) reflects the abundance of agricultural land, water resources, and biodiversity, which are essential for food security and ecotourism. Additionally, strong social capital, as demonstrated through community participation and collective initiatives, enhances the resilience of local businesses and supports the sustainability of tourism-led economic growth. However, this study also highlights key vulnerabilities, including the conversion of 5–20% of agricultural land into tourism facilities, which threatens food production and employment opportunities in the agricultural sector. Furthermore, financial and human capital remain major constraints, as limited access to credit, low-income diversification, and gaps in digital and business-related skills reduce the economic competitiveness of local communities.

The SWOT analysis positions Osing Village in Quadrant I (Aggressive Strategy), suggesting that its development should focus on maximizing strengths while capitalizing on available opportunities. This study proposes three key development strategies: strengthening cultural and agro-tourism integration, empowering MSMEs to diversify income sources, and enhancing governance through improved stakeholder collaboration. Implementing these strategies can reduce economic dependence on seasonal tourism, improve land-use sustainability, and ensure that local communities retain economic benefits from tourism development. These findings contribute to the broader discourse on sustainable rural development, reinforcing prior research

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that emphasizes the importance of balancing economic expansion with environmental conservation and social inclusion. However, the results also highlight the need for stronger governance mechanisms to regulate land conversion, protect agricultural livelihoods, and support local businesses.

Despite its contributions, this study has several limitations. The cross-sectional nature of the research restricts its ability to capture long-term trends in land-use change and economic adaptation. Additionally, the reliance on survey-based data introduces potential respondent biases that may affect the accuracy of findings. Future research should employ longitudinal studies and mixed-method approaches to explore the dynamic interactions between rural livelihoods and tourism expansion. Furthermore, a deeper examination of land-use regulatory mechanisms and the effectiveness of community-based financial models is recommended to enhance policy interventions.

The sustainable development of Osing Village requires an integrated strategy that combines economic diversification, land-use management, and community participation. Strengthening policy interventions, improving rural financial access, and fostering inclusive economic development are essential to achieving long-term prosperity while preserving ecological integrity and cultural heritage. By implementing targeted strategies that align with sustainability principles, Osing Village can serve as a model for harmonizing tourism and agriculture in rural development contexts.

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8. Declaration of Conflicting Interests

The authors have declared no potential conflicts of interest regarding this article's research, authorship, and/or publication.

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