

THE ROLE OF LIVELIHOOD CAPITAL IN INCREASING COMMUNITY INCOME THROUGH SUSTAINABLE RURAL TOURISM DEVELOPMENT IN KAMPOENG LAMA TOURISM VILLAGE

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ABSTRACT

Kampoeng Lama Tourism Village has considerable cultural, natural, and agricultural tourism potential, yet its tourism performance has fluctuated and increasing tourist visits have not been followed by optimal improvements in community income. This condition highlights the need to strengthen livelihood capital and develop rural tourism capable of generating sustainable economic benefits for local communities. This research investigates how human, financial, and social capital contribute to sustainable rural tourism development and community income, while also examining tourism development as a mediating variable. A mixed methods approach was employed using surveys of local tourism business actors, tourism village managers, and village government representatives through random sampling, complemented by in-depth interviews and field observations. Quantitative data were analyzed using PLS-SEM with SmartPLS. The measurement model confirmed that all constructs met validity and reliability criteria. Human capital ($\beta=0.290$; $p<0.001$), financial capital ($\beta=0.248$; $p=0.001$), and social capital ($\beta=0.248$; $p<0.001$) had positive and significant effects on tourism development. Tourism development had the strongest effect on community income ($\beta=0.550$; $p<0.001$) and significantly mediated the effects of all three livelihood capitals on income. The model accounted for 31.5% of the variation in tourism development and 47.1% in community income. The findings indicate that livelihood capital should be integrated with tourism product innovation, destination management, infrastructure improvement, market access, and inclusive community participation to generate sustainable economic benefits.

Keywords: *Livelihood capital, rural tourism development, community income, tourism village, community-based tourism.*

INTRODUCTION

The development of rural tourism in Indonesia has great potential to increase community income, especially in villages rich in culture, nature, and agricultural activities. One of them is Kampoeng Lama Tourism Village. Located in Denai Lama, Pantai Labu, Deli Serdang, North Sumatra, this village has strong potential for the development of culture and nature based tourism, supported by 5 tourist spots managed by BUMDes Sastro. Attractions such as Sanggar Tari Lingkaran, Malay music performances, Agrowisata Paloh Naga, KAMU Traditional Market, and traditional games showcase the diverse potential that can be developed for sustainable tourism (Kemenpar, 2025).



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However, the performance of Kampoeng Lama Tourism Village has shown quite sharp fluctuations over the past 4 years. In 2021, this village was categorized as an Advanced Tourism Village and made it into the top 100 nominations for the Anugerah Desa Wisata Indonesia (ADWI). However, in the following years, it experienced a significant decline, with 2022 being classified as a Developing Tourism Village and only making it into the top 300 nominations for ADWI. In 2023, it improved again to become an Advanced Tourism Village with a ranking in the top 75 nominations for ADWI, but in 2024, it drastically dropped to a Pioneer Tourism Village and did not make it into the ADWI nominations at all (Kemenpar, 2025). This decline in achievement indicates challenges in tourism management and community capacity in the management of Kampoeng Lama Tourism Village, particularly related to the capacity of the community as the main actors in the tourism ecosystem.

The issue can be examined through the perspective of livelihood capital, which includes human capital, social capital and financial capital as key assets for the community in developing tourism activities (Basnet, 2021). In the context of Kampoeng Lama Tourism Village, the effectiveness of these assets is particularly important because the increasing trend in tourist visits has not been accompanied by a proportional improvement in community income. The average household income remains at approximately Rp1,875,594 per month, considerably below the Deli Serdang minimum wage of Rp3,505,076, while the open unemployment rate reached 4.5% in the second semester of 2025 (BPS Sumut, 2025). At the destination level, tourism development also remains constrained by relatively stagnant tourism products, limited visitor capacity and inadequate supporting facilities, particularly parking infrastructure. These conditions indicate that the existing tourism potential has not yet been optimally transformed into broader and sustainable economic benefits for the local community.

This disparity suggests that the community's livelihood capital has not yet been optimally transformed into resources that support sustainable tourism development. Strengthening livelihood capital therefore requires practical mechanisms, including improving human capital through tourism-related skills and service capacity, strengthening financial capital through access to financing for productive tourism businesses and supporting facilities, and reinforcing social capital through stakeholder coordination, joint product development, collaborative marketing, and inclusive community participation. By linking these forms of capital directly to tourism development activities, community resources can be more effectively transformed into sustainable economic opportunities and improved community income. The challenge aligns with SDG 8 and Asta Cita 3, which emphasize employment creation, economic empowerment, and sustainable tourism development (Gavi, 2025 ; Indonesia, 2024). Theoretically, the Sustainable Livelihood Framework (SLF) identifies human capital: knowledge and skills, social capital: networks and trust and financial capital: savings and access to credit as key livelihood assets that shape sustainable livelihood strategies (Huang et al., 2021). In the context of rural tourism, these assets provide communities with the capabilities and resources needed to participate in and benefit from tourism

development.

Nugraha et al. (2021) also examined how social capital contributes to agrotourism development. Chen et al. (2018) examined the impact of tourism on livelihoods, while Shui et al. (2022) analyzed how livelihood capital enhances tourism participation. Siregar et al. (2024) also investigated the resilience of tourist villages during the pandemic. Although these studies provide significant contributions, there are critical gaps that have yet to be addressed. First, most previous studies have only focused on one type of capital, for example, either social capital or financial capital separately, rather than integrating them within a simultaneous analysis framework. Second, these studies generally examine the direct relationship between capital and income, without exploring the mediating role of sustainable rural tourism development as a transformation pathway. Third, the predominantly quantitative approach used is insufficient to capture social dynamics, implementation barriers, and specific cultural contexts in the field, especially in Indonesian tourist villages experiencing performance volatility like Kampoeng Lama.

This study investigates how livelihood capital contributes to sustainable rural tourism development and community income in Kampoeng Lama Tourism Village, with particular attention to the mediating function of tourism development. It also evaluates the existing conditions of livelihood capital among local residents and analyzes the relationships between human, financial, and social capital, tourism development, and community income. The findings are intended to inform policy strategies for more effective utilization of livelihood resources, sustainable tourism advancement, and enhanced community welfare.

RESEARCH METHOD

An explanatory sequential mixed-methods approach was adopted, beginning with quantitative analysis as the main analytical phase and proceeding to qualitative inquiry to interpret and contextualize the resulting findings. This design was selected to examine statistically the relationships among livelihood capital, sustainable rural tourism development, and community income while also providing contextual understanding of the social dynamics, supporting factors and barriers underlying those relationships in Kampoeng Lama Tourism Village. The study is categorized as multivariate research because it simultaneously analyzes human capital, financial capital, and social capital in relation to sustainable rural tourism development and community income (Dugard et al., 2022).

In the quantitative phase, data were collected through questionnaires administered to local tourism business actors, tourism village managers, and village government representatives in Kampoeng Lama Tourism Village. Respondents were selected using a random sampling technique, with a total of 150 respondents consisting of local tourism business actors, tourism village managers and village government representatives, thereby meeting the minimum sample size requirement (Wu & Thompson, 2020). The questionnaire measured five main constructs: The questionnaire consisted of 29 indicators, comprising seven indicators for Human Capital (X_1), five for Financial Capital

(X₂), four for Social Capital (X₃), seven for Sustainable Rural Tourism Development (Z) and six for Increase in Community Income (Y). The quantitative phase assessed the direct relationships of human, financial, and social capital with tourism development and community income, while also testing the mediating effect of sustainable rural tourism development.

Quantitative data analysis was conducted using SmartPLS to estimate the PLS-SEM model. The evaluation procedure involved two sequential steps. The measurement model (outer model) was examined through indicator loadings, composite reliability, and AVE, while discriminant validity was assessed using the HTMT. The structural model/inner model was subsequently examined based on the coefficient of determination (R²), effect size (f²), path coefficients, t-statistics, and p-values. Direct effect testing was used to assess the relationships among the research variables, while indirect-effect testing examined the mediating role of sustainable rural tourism development.

Following the quantitative analysis, in depth interviews were conducted as a qualitative follow up phase. These interviews involved 10 informants, comprising local tourism operators, tourism village managers and village government representatives. Informants were chosen according to their direct participation in tourism related activities, direct experience with tourism village management or development knowledge of the community's livelihood conditions to explain the quantitative findings. The qualitative phase explored aspects that could not be fully captured through numerical data, particularly community participation, cooperation among tourism actors, access to resources, tourism management practices and practical barriers to tourism development.

The findings from both research components were brought together during the interpretation phase. The statistical results from PLS SEM provided evidence regarding the direction, strength and significance of relationships among the research variables, while evidence obtained from interviews was used to explain and contextualize those relationships. By integrating statistical findings with contextual insights, the study gained a broader understanding of the relationship between livelihood capital, sustainable rural tourism development, and community income.

RESULTS AND DISCUSSION

Results

The following structural model illustrates the direction and strength of the relationships between livelihood capital, consisting of human capital, financial capital, and social capital, with sustainable rural tourism development and community income improvement. Figure 1 illustrates the structural model estimated using PLS-SEM.

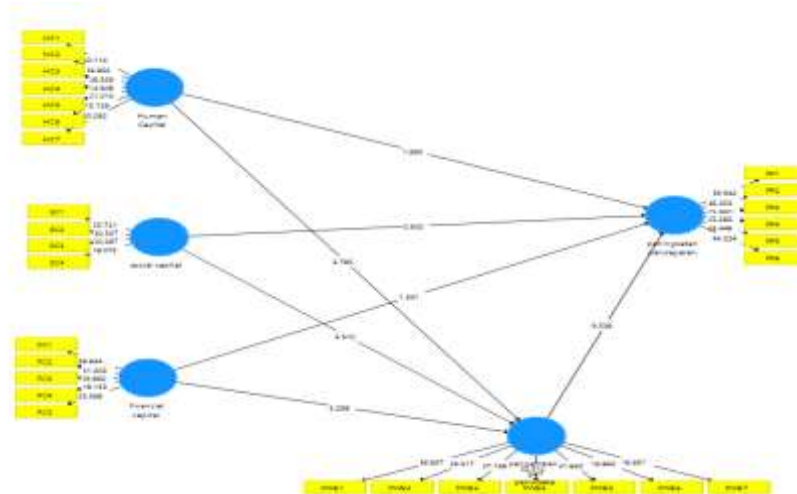


Figure 1. PLS Structural Model

The PLS-SEM evaluation followed a two-step procedure. The first step focused on the measurement model (outer model), which was assessed using indicator loadings, composite reliability, average variance extracted (AVE), and the Heterotrait-Monotrait ratio (HTMT). The second step examined the structural model (inner model) through R^2 and f^2 values, followed by hypothesis testing based on path coefficients, t-statistics, and p-values (Hair et al., 2019). Indicator loadings were examined first as part of the measurement model assessment. Table 1 presents the loading values obtained for each construct.

Table 1. Outer Loading Test

Indicator	Human Capital (X ₁)	Financial Capital (X ₂)	Social Capital (X ₃)	Tourism Development (Z)	Increase Income (Y)
FC1		0,834			
FC2		0,853			
FC3		0,832			
FC4		0,803			
FC5		0,802			
HC1	0,782				
HC2	0,832				
HC3	0,806				
HC4	0,746				
HC5	0,787				
HC6	0,705				
HC7	0,808				
SC1			0,822		
SC2			0,876		
SC3			0,812		
SC4			0,773		

II1		0,856
II2		0,873
II3		0,832
II4		0,799
II5		0,852
II6		0,877
TD1	0,871	
TD2	0,829	
TD3	0,859	
TD4	0,852	
TD5	0,825	
TD6	0,770	
TD7	0,732	

The outer loading assessment yielded the following results, all indicators on the Human Capital (X_1), Financial Capital (X_2), Social Capital (X_3), Tourism Development (Z) and Increase Income (Y) variables have outer loading values above 0.70. These findings confirm that the indicators satisfy the requirements for convergent validity and adequately represent their respective constructs (Hair et al., 2019). After confirming the convergent validity through indicator loading values, the reliability of each construct was evaluated using Composite Reliability. Table 2 reports the outcomes of the construct reliability assessment.

Table 2. Reliability Test

Variable	Composite Reliability
Human Capital (X_1)	0,916
Financial Capital (X_2)	0,914
Social Capital (X_3)	0,892
Increase Income (Y)	0,939
Tourism Development (Z)	0,935

The composite reliability scores for all constructs surpassed the 0.70 benchmark, demonstrating adequate consistency among the indicators used to measure each construct (Hair et al., 2019). Convergent validity was evaluated by examining the Average Variance Extracted (AVE) for each construct, with the corresponding results reported in Table 3.

Table 3. Average Variance Extracted (AVE) Test

Variable	Average Variance Extracted (AVE)
Human Capital (X_1)	0,611
Financial Capital (X_2)	0,680
Social Capital (X_3)	0,675
Increase Income (Y)	0,720
Tourism Development (Z)	0,674

Based on the results of AVE test, The AVE scores for every construct exceeded 0.50, indicating that each construct accounted for more than half of the variance in its indicators and satisfied the requirement for convergent validity (Hair et al., 2019). In addition to convergent validity, discriminant validity was assessed using the Heterotrait Monotrait Ratio (HTMT). The results of the HTMT analysis are presented in Table 4.

Tabel 4. Heterotrait Monotrait Ratio (HTMT) Test

Variable	Human Capital (X ₁)	Financial Capital (X ₂)	Tourism Development (Z)	Increase Income (Y)	Social Capital (X ₃)
Human Capital (X ₁)					
Financial Capital (X ₂)	0,301				
Tourism Development (Z)	0,459	0,449			
Increase Income (Y)	0,435	0,420	0,727		
Social Capital (X ₃)	0,320	0,394	0,473	0,412	

The table indicates that all constructs examined in this study model Human Capital, Financial Capital, Social Capital, Tourism Development and Increase Income and have met the criteria for discriminant validity based on the HTMT test, as all ratio values are below the threshold value of 0.90 (Hair et al., 2019). After evaluating the measurement model, the explanatory capacity of the structural model was evaluated using the R² statistic, with the corresponding results reported in Table 5.

Table 5. R-Squared Test

Variable	R Square Adjusted
Tourism Development (Z)	0,315
Increase Income (Y)	0,471

The Adjusted R Square value shows that the model is able to explain 31.5% of the variation in Tourism Development and 47.1% of the variation in Increase Income. Based on the criteria of (Hair et al., 2019), Tourism Development approaches the moderate category, while increase income falls within the moderate category. The f² values were used to assess the effect sizes of the exogenous constructs on the endogenous constructs, with the results reported in Table 6.

Table 6. F-Square Test

Variable	Tourism Development (Z)	Increase Income (Y)
Human Capital (X ₁)	0,111	0,024
Financial Capital (X ₂)	0,078	0,016
Social Capital (X ₃)	0,077	0,007
Tourism Development (Z)		0,395

The effect size estimates (f²) indicate that Human Capital, Financial Capital, and Social Capital each have a relatively small effect on Tourism Development, with Human

Capital being the largest contributor (0.111). Meanwhile, Tourism Development has the strongest influence on increase income with an F-Square value of 0.395.

Tourism Development has become the most dominant variable in increasing revenue. Meanwhile, Human Capital, Financial Capital, and Social Capital tend to have an indirect influence through the strengthening of the tourism sector. These findings emphasize the importance of examining the strength of influence of each variable in the PLS SEM model (Hair et al., 2019). Hypothesis testing was conducted by examining the direct effects between constructs through path coefficients, t-statistics, and p-values. Table 7 summarizes the findings of the direct effect analysis.

Table 7. Direct Effect Test

Variable	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Human Capital (X ₁) -> Tourism Development (Z)	0,290	0,289	0,077	3,785	0,000
Human Capital (X ₁) -> Increase Income (Y)	0,124	0,132	0,063	1,969	0,050
Financial Capital (X ₂) -> Tourism Development (Z)	0,248	0,253	0,075	3,298	0,001
Financial Capital (X ₂) -> Increase Income (Y)	0,103	0,103	0,067	1,541	0,124
Social Capital (X ₃) -> Tourism Development (Z)	0,248	0,246	0,071	3,510	0,000
Social Capital (X ₃) -> Increase Income (Y)	0,067	0,066	0,075	0,900	0,369
Tourism Development (Z) -> Increase Income (Y)	0,550	0,547	0,058	9,538	0,000

The direct effect results presented in Table 7 show that the significance of the relationships between constructs was assessed based on the statistical significance is established when the t-statistic exceeds 1.96 and the p-value is less than 0.05 (Hair et al., 2019). The results indicate that Human Capital (X₁) has a positive and significant effect on Tourism Development (Z). Human Capital also has a positive effect on Increase Income (Y) and meets the significance threshold. Furthermore, Financial Capital (X₂) has a positive and significant effect on Tourism Development (Z), while its direct effect on Increase Income (Y) is positive but not significant. Therefore, the hypotheses regarding the effects of Human Capital on Tourism Development and Increase Income, as well as

Financial Capital on Tourism Development, are supported, whereas the direct effect of Financial Capital on Increase Income is not supported.

Furthermore, Social Capital (X_3) has a positive and significant effect on Tourism Development (Z), while its direct effect on Increase Income (Y) is positive but not significant. Tourism Development (Z) has a positive and significant effect on Increase Income (Y). Therefore, the hypotheses regarding the effects of Social Capital on Tourism Development and Tourism Development on Increase Income are supported, whereas the direct effect of Social Capital on Increase Income is not supported.

The mediation function of Tourism Development was assessed by analyzing indirect effects, with the findings summarized in Table 8.

Table 8. Indirect Effect Test

Variable	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Human Capital (X_1) -> Tourism Development (Z) -> Increase Income (Y)	0,159	0,158	0,046	3,437	0,001
Financial Capital (X_2) -> Tourism Development (Z) -> Increase Income (Y)	0,136	0,139	0,044	3,074	0,002
Social Capital (X_3) -> Tourism Development (Z) -> Increase Income (Y)	0,136	0,135	0,043	3,162	0,002

Table 8 reports the mediation analysis, indicating that Tourism Development (Z) serves as a significant mediator of the effects of Human Capital (X_1), Financial Capital (X_2), and Social Capital (X_3) on Increase Income (Y). A mediation effect was considered statistically significant when the t-statistic exceeded 1.96 and the corresponding p-value was less than 0.05. The results indicate that all mediation paths meet the significance criteria. Therefore, all mediation hypotheses are supported.

Discussion

The Condition of Community Livelihood Capital in Kampoeng Lama Tourism Village

The findings confirm that livelihood capital in Kampoeng Lama Tourism Village can be represented through three interrelated dimensions, namely human capital, financial capital, and social capital. The measurement model demonstrates that the indicators used to represent these constructs have adequate convergent validity and internal consistency. All outer loading values exceed 0.70, while the composite reliability values of Human

Capital, Financial Capital, and Social Capital are 0.916, 0.914, and 0.892, respectively. The AVE scores for all constructs were also above the recommended minimum value of 0.50. These results indicate that education, knowledge and skills, access to financial resources, and community networks constitute empirically distinguishable livelihood resources within the study context. Nevertheless, these findings from the measurement model do not necessarily indicate that the level of each livelihood capital is high or low because construct validity measures the quality of the measurement instrument rather than the absolute condition of the respondents' resources.

From a structural perspective, the three forms of livelihood capital show different relative contributions to tourism development. Human Capital records the highest effect size on Tourism Development ($f^2 = 0.111$), followed by Financial Capital ($f^2 = 0.078$) and Social Capital ($f^2 = 0.077$). Although all three effect sizes remain relatively small, this pattern suggests that human capabilities constitute the most prominent livelihood resource in converting community assets into tourism development. Knowledge, practical skills, service capabilities, and the capacity to adapt to tourism activities may therefore be particularly important in a rural destination where local residents act simultaneously as producers, service providers, and custodians of local tourism resources.

This finding aligns with the principles underlying the Sustainable Livelihood Framework, which views livelihood capital as a set of interrelated assets that households mobilize in developing livelihood strategies. Recent studies indicate that the contribution of each form of capital varies according to destination characteristics, livelihood strategies and the degree of tourism integration (Shui et al., 2022). Nugraha et al. (2021) demonstrate that community capitals and multistakeholder collaboration play important roles in strengthening resilience in Indonesian rural tourism, while Zhu & Liu (2026) show that the influence of livelihood capital differs according to livelihood strategies and levels of agro tourism integration. These findings suggest that the effectiveness of livelihood capital depends not only on the availability of resources but also on the capacity of communities to mobilize and combine them within tourism related activities.

The context of Kampoeng Lama reinforces this interpretation. The manuscript identifies fluctuations in tourism village performance, stagnant tourism products, limited visitor capacity, and inadequate supporting facilities despite an increasing trend in tourist visits. These conditions suggest that the existence of community resources alone has not yet guaranteed consistent destination performance. The central issue is therefore not merely whether livelihood capital exists, but whether human capabilities, financial resources, and social relationships can be coordinated and transformed into productive tourism activities.

Livelihood Capital as a Strategic Asset in Supporting Sustainable Rural Tourism Development

The structural model provides clear evidence that all three livelihood capital dimensions positively support Tourism Development. Human Capital has the strongest path coefficient ($\beta = 0.290$; $t = 3.785$; $p < 0.001$), followed by Financial Capital ($\beta =$

0.248; $t = 3.298$; $p = 0.001$) and Social Capital ($\beta = 0.248$; $t = 3.510$; $p < 0.001$). These findings indicate that improvements in skills and knowledge, access to financial resources, and stronger community relationships are associated with better tourism development in Kampoeng Lama. The results therefore support the argument that livelihood capital functions as a strategic asset rather than merely as household resources used for everyday subsistence. This pattern is consistent with recent evidence showing that community capital, stakeholder collaboration, and social networks are critical elements in strengthening rural tourism development and resilience (Nugraha et al., 2021 ; Prayitno et al., 2026).

Human Capital emerges as the strongest predictor of Tourism Development among the three livelihood capital dimensions. This finding supports recent evidence emphasizing the importance of skills, knowledge, and community capabilities in rural tourism. Nugraha et al. (2026) or example, demonstrate that community capitals and multistakeholder collaboration contribute to rural tourism resilience in Indonesia, while Shui et al. (2022) found that the availability of skilled household members significantly increased tourism participation. However, the contribution of human capital does not appear to be equally strong across all livelihood outcomes. Recent evidence from rural tourism communities in Indonesia indicates that human resources may have a limited direct effect on broader quality of life outcomes. This difference suggests that human capital may contribute more immediately to communities' ability to develop and participate in tourism than to final socioeconomic outcomes. In Kampoeng Lama, this interpretation is consistent with the present results, where Human Capital has a stronger effect on Tourism Development than on Community Income.

Financial Capital has a significant positive effect on Tourism Development indicating that access to financial resources can facilitate tourism related investment, facilities, products and business activities. This finding is in line with earlier studies conducted by Li et al. (2024), who found that financial capital significantly influenced farmers' livelihood strategy choices in rural tourism areas. Nevertheless, the present study finds no significant direct effect of Financial Capital on Community Income. This finding aligns with Shui et al. (2022) who reported that financial capital did not significantly influence household tourism participation, and with more recent evidence from an Indonesian agritourism village showing that financial capital did not significantly affect sustainable livelihoods. Thus, the evidence across studies is mixed rather than uniform. The differences may reflect variations in destination characteristics, access to productive investment opportunities, and the outcomes being measured. In Kampoeng Lama, financial resources appear to generate economic value primarily when they are converted into productive tourism development rather than functioning as an independent source of higher household income.

The findings reveal a similarly differentiated role for Social Capital. Social Capital significantly supports Tourism Development, supporting Zhou et al. (2024) who showed that social networks, trust, and cultural identity shape residents' willingness to engage in tourism livelihoods. Prayitno et al. (2026) also report that social networks and perceived

community power play a significant role in enhancing adaptive capacity within tourism villages. These findings reinforce the argument that social capital becomes productive when it facilitates collective action and gives residents a meaningful role in destination development. In this study, The analysis did not identify a statistically significant direct relationship between Social Capital and Community Income. This result is comparable with Nugraha et al. (2026), who found that although social capital performed strongly within an Indonesian rural tourism setting, it did not have a direct association with community resilience. Rather than contradicting the importance of social capital, these findings suggest that its effects may be indirect and mechanism dependent. Networks, trust, and collective action can facilitate coordination and tourism participation, but they do not necessarily generate household income unless they are translated into marketable tourism activities, employment, or business opportunities. This distinction helps explain why Social Capital significantly strengthens Tourism Development in Kampoeng Lama while its direct economic effect remains limited.

However, the Adjusted R^2 value of Tourism Development is only 0.315. Thus, Human Capital, Financial Capital, and Social Capital collectively explain 31.5% of the variance in tourism development. The remaining variation indicates that tourism development is also influenced by factors outside the three forms of capital examined in this study. This finding is relevant to the conditions described in Kampoeng Lama, including infrastructure limitations, stagnant tourism products, and constraints on visitor capacity. It is also consistent with recent rural tourism literature emphasizing that sustainable development requires coordination between community resources, infrastructure, governance, market mechanisms, and stakeholder collaboration. According to Reina Usuga et al. (2024) collaborative governance plays a key role in facilitating coordination among stakeholders involved in rural tourism, while Nugraha et al. (2026) demonstrate the importance of multistakeholder collaboration in strengthening community capital and resilience.

The Influence of Livelihood Capital on Community Income Through Sustainable Rural Tourism Development

The results show a clear difference between the effect of livelihood capital on Tourism Development and its direct effect on Increase Income. Human Capital has a positive but relatively weak direct effect on income ($\beta = 0.124$; $t = 1.969$; $p = 0.050$). Financial Capital has a positive but statistically insignificant direct effect ($\beta = 0.103$; $t = 1.541$; $p = 0.124$), while Social Capital also has a positive but insignificant direct effect ($\beta = 0.067$; $t = 0.900$; $p = 0.369$). Their effect sizes on income are correspondingly small, at 0.024, 0.016, and 0.007. In contrast, Tourism Development has a substantially stronger effect on Increase Income ($\beta = 0.550$; $t = 9.538$; $p < 0.001$), with an f^2 value of 0.395. This makes Tourism Development the strongest determinant of increase income in the structural model.

These results provide an important explanation for the socioeconomic condition described in the introduction. The manuscript notes that increasing tourist visits have not

been accompanied by a proportional increase in average household income. The statistical results suggest that livelihood assets do not automatically translate into higher household earnings. Human knowledge, financial resources and social relationships need to be converted into tourism products, business activities, employment, market transactions, and services before they generate measurable economic returns. In other words, the economic value of livelihood capital depends on the existence of a functioning tourism system that allows households to use those resources productively.

The marginal direct effect of Human Capital indicates that skills and knowledge may provide some direct economic benefits, but the magnitude remains limited. Residents with stronger skills may have better employment or entrepreneurship opportunities, yet those capabilities become economically more valuable when tourism activities create sufficient market demand. The insignificant direct effect of Financial Capital indicates that access to savings, credit, or business capital does not automatically translate into higher household income. Financial resources appear to function more as enabling assets whose economic value depends on whether they are invested in productive tourism activities. Recent evidence supports this interpretation. Li et al. (2024) show that rural tourism development affects household livelihood capital and livelihood choices, Similarly Zhu & Liu (2026) dshow that the benefits derived from livelihood capital are influenced by the strategies households adopt to sustain their livelihoods and the degree of tourism integration. These findings indicate that financial capital is more likely to generate economic benefits when it is effectively connected to tourism businesses, market opportunities, and productive activities.

The insignificant direct relationship between Social Capital and Increase in Community Income should not be interpreted as evidence that social capital is unimportant. Rather, its significant relationship with Tourism Development indicates that networks, trust, and cooperation primarily perform an enabling function. Recent studies support this mechanism. Zhou et al. (2024) show that social networks, social trust and cultural identity influence residents' willingness to engage in tourism livelihoods, while Prayitno et al. (2026) show that community networks and residents' perceptions of their collective influence help strengthen the adaptive capacity of tourism villages. Social capital therefore creates economic value when collective relationships are translated into concrete tourism activities and opportunities.

The strong positive effect of Tourism Development on Community Income supports the broader argument that rural and community based tourism can generate economic opportunities for local households. Betseha et al. (2025) found that participation in community based tourism improved livelihood assets and was associated with lower multidimensional asset poverty, while Legatzke et al. (2025) emphasize tourism as an important source of local livelihood opportunities. Niu & Zhou (2025) similarly show that rural tourism can strengthen household livelihood resilience through livelihood factor mobility and diversification. These findings reinforce the present result that tourism development becomes economically meaningful when local communities are able to participate in, access and benefit from tourism related economic opportunities.

However, the economic contribution of tourism is not universally substantial. Evidence from community based tourism in West Kalimantan, Indonesia, found that tourism contributed only a small proportion of total household income, while other Indonesian evidence shows that tourism related development benefits can be distributed unevenly among community groups. These contrasting findings indicate that tourism development alone does not guarantee broad based income improvement. Its economic impact depends on the extent of local participation, ownership of tourism businesses, access to employment and markets and the ability of the destination to retain tourism expenditure within the local economy. In Kampoeng Lama, the relatively strong Tourism Development Income relationship therefore suggests that improving the tourism system is particularly important for transforming community resources into economic returns.

The Mediating Role of Sustainable Rural Tourism Development Between Livelihood Capital and Community Income

The mediation findings represent the primary theoretical contribution of this research. Tourism Development significantly mediates the relationship between all three forms of livelihood capital and Increase Income. The indirect effect of Human Capital through Tourism Development is $\beta = 0.159$ ($t = 3.437$; $p = 0.001$), which is greater than its direct effect on income ($\beta = 0.124$; $p = 0.050$). Financial Capital has a significant indirect effect of $\beta = 0.136$ ($t = 3.074$; $p = 0.002$), although its direct effect on income is not significant. Social Capital demonstrates the same pattern, with an indirect effect of $\beta = 0.136$ ($t = 3.162$; $p = 0.002$) and a nonsignificant direct effect on income. These results demonstrate that tourism development operates as a transformation mechanism that converts community livelihood assets into economic outcomes.

For Human Capital, the simultaneous positive indirect effect and borderline direct effect indicate that tourism development strengthens the pathway through which knowledge and skills generate income. Residents may obtain limited economic benefits directly from their capabilities, but those benefits become stronger when skills are incorporated into tourism products, entrepreneurship, destination management, visitor services, or other tourism related activities. For Financial Capital and Social Capital, the mediation mechanism is even more important because their direct relationships with income are not statistically significant. These two capitals therefore appear to generate economic value primarily when they contribute to tourism development.

This finding advances the application of the Sustainable Livelihood Framework in rural tourism studies. Livelihood capital should not be understood as an endpoint. It provides resources that households mobilize through livelihood strategies, while the outcome depends on the effectiveness of the activity through which those assets are used. In Kampoeng Lama, sustainable rural tourism development performs this intermediate function. Human capacity contributes knowledge and skills, financial capital provides economic resources, and social capital enables coordination. Tourism development then converts these assets into employment, business opportunities, visitor expenditure, product sales, and other economic activities that can increase household income.

The significant indirect effects further indicate that Sustainable Rural Tourism Development functions as a transformation mechanism rather than merely as an additional outcome of livelihood capital. This interpretation is supported by Niu & Zhou (2025) reported that rural tourism shapes household livelihood resilience through mechanisms such as the movement of livelihood factors and the diversification of livelihood strategies and by Zhu & Liu (2026), who demonstrate that the effects of livelihood capital vary according to livelihood strategies and the level of agro tourism integration. Nevertheless, other studies report more direct relationships between livelihood capital and livelihood strategies. Li et al. (2024) for instance, found significant effects of financial, social and human capital on farmers' livelihood choices. The difference may arise because livelihood strategy selection and household income represent different stages of the livelihood process. The present findings suggest that in Kampoeng Lama, possessing livelihood assets alone is insufficient to produce higher income; these assets must first be mobilized through tourism development. This distinction strengthens the mediating interpretation and provides a more specific explanation of how livelihood capital is converted into economic outcomes.

The mediation results also help explain why an increase in tourist arrivals alone has not been sufficient to substantially improve household income in Kampoeng Lama. Visitor numbers represent demand potential, but economic benefits depend on whether the destination provides products, services, enterprises, employment, and local spending channels capable of retaining tourism expenditure within the village economy. The limitations previously identified in tourism products, capacity, and supporting infrastructure can weaken this conversion process. Consequently, interventions aimed at strengthening livelihood capital should be directly connected to tourism development activities. Skills development should correspond to actual tourism products and market needs. Financial support should finance productive tourism businesses and facilities. Social capital should be used to strengthen coordination, joint product development, marketing, and inclusive participation.

Empirically, this research applies the Sustainable Livelihood Framework to rural tourism by examining sustainable rural tourism development as an intermediary pathway linking livelihood capital to community income. Research grounded in the Sustainable Livelihood Framework has largely focused on how livelihood capital influences participation in tourism activities, livelihood strategies, resilience or household outcomes, often focusing on direct relationships or on particular forms of capital (Huang et al., 2025 ; Niu & Zhou, 2025 ; Shui et al., 2022 ; Zhu & Liu, 2026). In contrast, this study integrates human, financial, and social capital within a single model and examines how these assets generate economic outcomes indirectly through sustainable rural tourism development. The findings therefore extend the application of the SLF by showing that livelihood assets alone may be insufficient to improve community income unless they are effectively mobilized through tourism development activities.

This study also contributes contextually and methodologically by examining this mechanism in an Indonesian tourism village characterized by fluctuating tourism

performance and limited translation of increasing tourist visits into community income. The explanatory sequential mixed methods approach also provides additional context for interpreting the PLS-SEM findings with qualitative evidence on community participation, resource access, stakeholder cooperation, and tourism management barriers. Thus, the contribution of this study is not limited to identifying statistical relationships among livelihood capitals and economic outcomes, but also provides a contextual explanation of how and why sustainable rural tourism development functions as the pathway through which community resources are converted into economic benefits.

Beyond the specific context of Kampoeng Lama, these findings may also be relevant to other rural tourism destinations where local communities possess human, financial, and social resources but face difficulties in converting those assets into sustainable economic benefits. Recent studies have emphasized that rural tourism development requires not only the availability of local livelihood assets but also effective governance mechanisms, community participation, innovation, and market integration to ensure that tourism benefits are captured by local communities (Su et al., 2022 ; Scheyvens & Watt, 2021). The results suggest that strengthening livelihood capital alone may be insufficient unless it is accompanied by effective tourism product development, destination management, market access, stakeholder collaboration, and opportunities for meaningful local participation. Similar findings have been reported in rural tourism contexts, where institutional support, collaborative networks, and community empowerment influence the extent to which tourism development contributes to local economic improvement (Liu et al., 2023 ; Rasoolimanesh et al., 2022). This mechanism may therefore provide a useful analytical perspective for rural tourism destinations in other developing regions that experience similar challenges, such as fluctuating tourism performance, limited local value capture, and uneven community benefits. Nevertheless, the transferability of these findings depends on variations in governance structures, cultural contexts, market dynamics, and the level of tourism development in each destination.

CONCLUSION

This study concludes that the livelihood capital conditions in Kampoeng Lama Tourism Village demonstrate the importance of human, financial, and social resources as strategic assets in supporting sustainable rural tourism development. The findings show that Human Capital, Financial Capital, and Social Capital significantly contribute to Tourism Development, while their direct effects on community income vary across dimensions. Human Capital has a significant direct effect on Increase Income, whereas Financial Capital and Social Capital do not show significant direct effects. Furthermore, Sustainable Rural Tourism Development significantly mediates the relationship between livelihood capital and community income, indicating that tourism development serves as an important pathway for transforming local resources into economic benefits for the community. This study contributes to understanding the role of livelihood capital in

sustainable rural tourism development and provides a framework for examining how local resources can generate community economic benefits in different rural tourism contexts.

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