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Research on the Impact of Rural Tourism on Farmer's Sustainable Livelihood and Coordinated Development (Case Study Jiwodu Village in Yangshuo, Guangxi)

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ABSTRACT: Rural tourism is considered a viable strategy for achieving sustainable rural economic development and poverty reduction, offering significant economic, social, cultural, and ecological benefits. However, as an external force, rural tourism disrupts the livelihood capital and strategies of farmers, significantly influencing their sustainable livelihoods. This paper uses the sustainable livelihood analysis framework from a micro perspective to assess rural tourism's impact on farmers' livelihoods, particularly in Jiwodu Village, Guangxi, China. By categorizing farmers based on the proportion of rural tourism income in their total household income—Tourism-related, Tourism-dominated, and Tourism-exclusive livelihoods—the study constructs a farmer livelihood capital scale, employs a participatory assessment method, and compares changes in the five major livelihood capitals before and after rural tourism development, exploring farmers' perceptions of its impact.

KEYWORDS: *Sustainable development, rural tourism, Poverty reduction, Livelihoods, Livelihood capital.*

INTRODUCTION

Rural tourism emerged as a global trend in the late 1970s and 1980s, evolving significantly over the past two decades. It has become a vital strategy for supplementing agricultural income and fostering economic growth in rural regions. In developing countries, rural tourism helps mitigate agricultural decline, adjust rural industries, and boost farmers' income. For instance, Madeira leverages its natural resources, cultural traditions, and signature events like fireworks shows to enhance tourism revenue, while Romania integrates local wine production with rural tourism for sustainable development. In China, rural tourism has lifted impoverished areas by improving traditional crafts and local specialties, positively impacting industrial structure and income.

However, challenges persist. Rural tourism in China has exposed issues like environmental pollution, while regions in Africa and Northern Ireland face problems related to climate change and socio-cultural impacts. The Sustainable Livelihoods (SL) framework has gained attention as a method for addressing these challenges, emphasizing the importance of integrating tourism with agricultural practices to enhance farmers' livelihoods. Yet, concerns remain about the effectiveness of tourism in providing sustainable livelihoods, as seen in Iran and other regions.

Research on the Impact of Rural Tourism on Farmer's Sustainable Livelihood and Coordinated Development (Case Study Jiwodu Village in Yangshuo, Guangxi)

This study seeks to deepen the understanding of rural tourism's impact on farmers' livelihoods, exploring key factors for the coordinated development of rural tourism and sustainable livelihoods. It aims to broaden research by analyzing typical cases, thereby enhancing the depth of knowledge on this critical issue.

LITERATURE REVIEW

Rural tourism research

Rural tourism research spans three key areas: agricultural development, stakeholder analysis, and destination impact (Ivona, A., 2021). Internationally, rural tourism, distinct from agricultural tourism, often correlates with agricultural decline (Liu Lu, 2020). While it can offer new livelihoods and enhance rural culture through initiatives like wine and olive oil tourism (Long, H., 2022; Pulido-Fernández, J. I., 2019), it also faces challenges. Stakeholders include consumers, enterprises, community residents, and governments. Enterprises drive tourism growth but require external support for sustainability (P Christou., 2019). Community residents' integration and government support are crucial yet sometimes problematic, affecting traditional structures and resources (An Chuanyan, 2020). The impact of rural tourism is mixed; it can boost economic benefits but may also lead to cultural and ecological changes (KX Li, 2018; Jiang, Q., 2021; Wijijayanti, T., 2020; Randelli, F., 2019; Csurgó, B., 2022).

Research on Sustainable Livelihoods in Tourist Destinations

Rural tourism's dual impact involves promoting economic development while disrupting traditional livelihoods. Research highlights how tourism affects livelihood strategies, often shifting farmers from traditional to cash economies due to economic benefits and land loss (Wang Xiaoxuan, 2023; Li Wenrui, 2023; Dai Yangui, 2022). It generally enhances livelihood capital but may harm natural resources (Wang Ping, 2023; Li Cong, 2021). Despite increased income and improved living conditions, disparities may widen (Xie Shuangyu, 2023). Additionally, tourism-related pressures and environmental impacts can threaten sustainable livelihoods (Ma, B., 2019)

RESEARCH METHODOLOGY

Participants / Subject / Population and Sample

This study focuses on Jiwodu Village in Yangshuo County, Guilin, China, situated in the Yulong River National Tourism Resort. The village, named for its mountain-surrounded appearance resembling a chicken coop, has rich tourism resources and excellent transportation links. With 160 households and 603 residents, over 200 villagers work in tourism, particularly in bamboo rafting, homestays, and farmhouses, making tourism the main income source with a per capita net income of 18,000 yuan. Prior to rural tourism, villagers depended on a singular livelihood, primarily agriculture, with most of the adult workforce migrating for jobs, leading to high vulnerability (Liu Ning, 2021). The rise of tourism diversified income sources, significantly increasing farmers' earnings (Wu Kongsen, 2020). By 2023, the village welcomed over 200,000 tourists, raising the per capita disposable income to over 35,000 yuan. Researchers conducted 70 interviews during fieldwork, ensuring data quality through daily reviews and

eliminating inconsistencies, ultimately retaining 64 valid interviews, achieving about 91% efficiency. The data were systematically categorized and cross-checked in Excel to guarantee accuracy and completeness.

Instruments

The questionnaire assessing the impact of rural tourism on farmers' sustainable livelihoods in Jiwodu Village is divided into two segments: livelihood strategies and livelihood capital. With rural tourism in Jiwodu Village gaining momentum around 2012, data from 2013 and 2023 were analyzed to evaluate its effect on the farmers' sustainable livelihoods. The categorization of livelihood strategies in Jiwodu Village is based on the percentage of income derived from rural tourism relative to the total annual family income. Specifically, a tourism-related livelihood (TRL) constitutes 0%-40% of a family's total income, a tourism-dominated livelihood (TDL) constitutes 40%-80%, and a tourism-exclusive livelihood (TEL) constitutes 80%-100% (Bires, Zemenu. 2020).

The classifications are as follows: (1) Tourism-related livelihood (TRL): This livelihood type is significantly influenced by tourism but also encompasses other economic activities that either support or are influenced by tourism. Examples include businesses like food suppliers for hotels, local artisans selling handicrafts, and transportation services utilized by tourists. (Examples: A farmer selling a portion of their crop to a tourist-frequented restaurant; a taxi driver serving numerous tourists.); (2) Tourism-dominated livelihood (TDL): This type of livelihood is primarily or almost entirely dependent on tourism, where individuals earn their main income from tourism-centric activities, such as working in hotels, restaurants, or as tour guides. (Examples: A tour guide earning entirely from tourism services; a souvenir shop owner whose customers are exclusively tourists.); (3) Tourism-exclusive livelihood (TEL): This livelihood is entirely reliant on tourism, with no other significant income sources available. Without tourism, such individuals or communities would have no livelihood. (Examples: An operator of a resort on a remote island catering solely to tourists; an owner of an adventure tourism business like scuba diving or paragliding in a remote tourist destination.)

Data Analysis

Incorporating insights from the UK Department for International Development's Sustainable Livelihood Analysis Framework (SLA) along with existing research on farmers' sustainable livelihoods, this paper identifies five categories of farmers' livelihood capital: human capital (H), natural capital (N), material capital (P), social capital (S), and financial capital (F). Wu Wei utilized this approach to examine the sustainable livelihoods of farmers in the Hainan and Yunnan provinces of China (Wu Wei, 2024).

Entropy Weight Method (EWM) Approach

The weights given to various indicators significantly influence the calculation of farmers' livelihood capital. To ensure an accurate and reliable measurement structure, this study employs the entropy weight method (EWM), an objective information weight model. The EWM is well-regarded and widely used because, unlike subjective weighting models, it reduces human bias in assigning indicator weights, thereby improving the objectivity of the evaluation results (Zhu, Y., 2020). For instance, Yan Xiaoyan, Luo Min, and others utilized the entropy weight method to establish a more precise evaluation system and model for rural tourism development, offering a way to quantify regional rural tourism development levels (Yan, X., 2023).

Weight Calculation steps

Weight calculation procedures using entropy methods include some systematic steps described by Xu Yang (Xu Yang, 2022). These measures are designed to ensure that each indicator is assessed fairly and accurately based on available data.

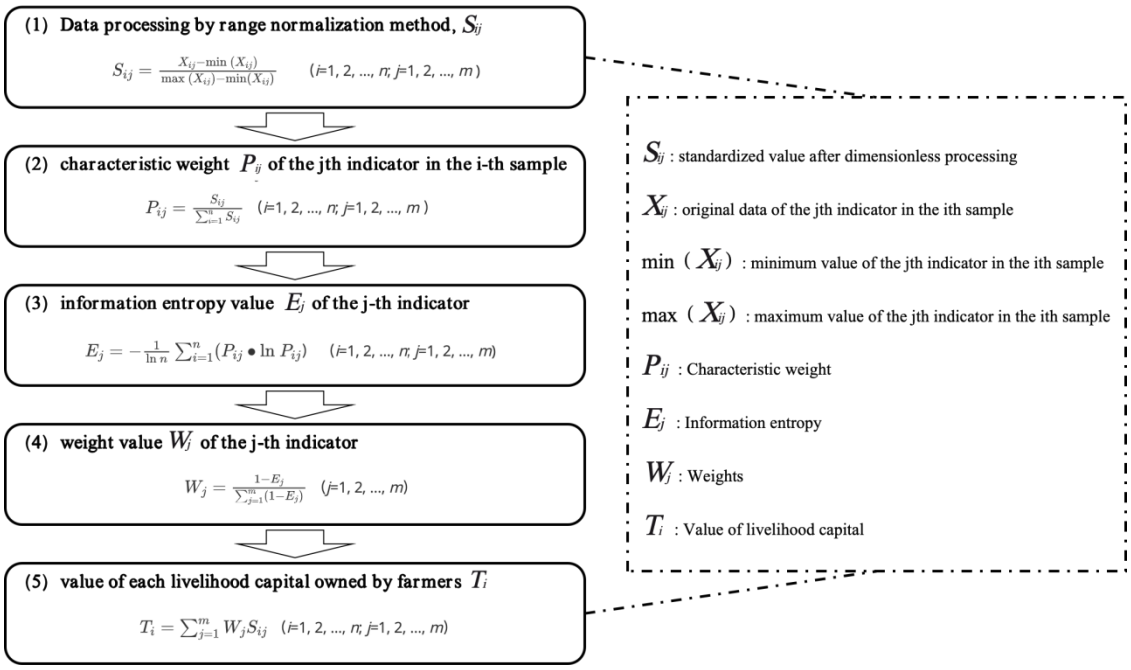

Figure 1.The study by Xu Yang et al

Source by : Researcher interview statistics (2024)

Use of SPSSAU for Data Analysis

This study utilizes SPSSAU software for data analysis. SPSSAU is an online data analysis tool that offers a wide range of functions and modules, making it suitable for various fields, including medical research (Qiu Yu Huang, 2023; Yu & Yang, 2024), education research (Liang, L., 2022; Boliang, L., 2023), chemical research (Wang, X., 2021), economic trend forecasting (Guan, X., 2021), and tourism research (Cao Penghui, 2023). For instance, in China, Wu Bing, Zhang Jiamin, and others used SPSSAU statistical software to analyze data and explore the interaction between rural tourism and residents' role identity and sustainable livelihoods (Wu Bing, 2023). Additionally, Lu Wanting employed the entropy method in conjunction with SPSSAU software to objectively weight rural tourism development indicators and evaluate the development levels of rural tourism in Huangpi, Wenjiang, and Lin'an counties (Lu Wanting, 2023). The SPSSAU software platform can be accessed at: https://spssau.com/index.html.

Farmers Living Capital Index System

Human capital (H) plays a crucial role in determining a family's poverty status, as it affects the family's capacity to acquire and utilize other forms of capital. Xu Yang highlighted three key indicators of human capital: "total family labor force," "education level of adult labor force," and "health status of labor force" to measure farmers' human livelihood capital (Xu Yang, 2022). Building on this, the study integrates tourism development and assesses human livelihood capital in rural tourism areas using four indicators: family size, number of family laborers, the highest education level of adult laborers, and tourism-related employment skills. Natural capital (N) refers to the natural resources at farmers' disposal, with cultivated land being the most significant. The

benefits of cultivated land depend on both its size and quality. Therefore, this study measures natural capital using three indicators: total cultivated land area, land quality, and the area of land acquisition. Physical capital (P) includes private physical assets owned by farmers (such as houses and production tools) and collective public physical assets (like roads and public spaces). The focus here is on private physical capital, which encompasses housing area, construction materials, production tools, and household equipment. Financial capital (F) relates to farmers' ability to generate funds independently, beyond just bank loans. This is measured using indicators such as annual per capita household income, access to formal loans, loans from relatives and friends, and receipt of free assistance. Social capital (S) encompasses both economic and social aspects (Xu Yang, 2022) and includes the social resources that farmers can access to achieve their livelihood objectives. Social capital is assessed through indicators like social connections, frequency of community or neighborhood assistance, skills training opportunities, and participation in cooperatives or associations.

After using the entropy method combined with SPSSAU software to calculate the data, the weights of various indicators were obtained, and the original indicators were adjusted according to the actual situation, and finally a rural tourism farmers' livelihood capital measurement index system was formed.

Table 1. The measurement index system and quantification method of farmers' livelihood capital in rural tourism areas

Category	Index	Code	Weight	Indicator explanation
Human Capital (H)	total family size	H1	0.0081	Actual total household population
	Number of family workers	H2	0.0074	14-17 years old=0.5
				18-59 years old=1
				60-70 years old=0.5
				Rest=0
	Do you have tourism-related skills?	H3	0.0637	Yes=1
				None=0
	Highest education level of adult labor force	H4	0.0060	Not educated=1
				Elementary school=2
				Junior high school=3
				High school/technical secondary school=4
				College/university and above=5
Natural capital (N)	cultivated area	N1	0.0599	Actual farmland area of the family (mu)
	Land area	N2	0.0123	Excellent=1

Category	Index	Code	Weight	Indicator explanation
				Normal=0.75
				Barren=0.5
	Land transfer area	N3	0.0010	The actual land area transferred by the family (mu)
Financial capital (F)	Household per capita annual income	F1	0.0295	Actual per capita annual household income (10,000 yuan)
	Can I obtain a loan from formal channels?	F2	0.0148	Can=1
				No=0
	Can you get a loan from friends and family?	F3	0.0144	Can=1
				No=0
	Have you received free financial assistance?	F4	0.0840	yes=1
				No=0
Physical capital (P)	Housing area	P1	0.0315	Actual house area (m2)
	Housing construction materials	P2	0.0263	Earth tile house and thatched house=0
				Brick house=0.25
				Brick-concrete house/wooden house=0.5
				Concrete room=1
	Area used for tourism operations	P3	0.0724	Actual area used for tourism business (m2)
	production tool	P4	0.1986	Large agricultural machinery=1
				Small and medium agricultural machinery=0.5
				Handmade traditional farm tools=0.25
				animal draft or none = 0
	Durable goods consumption quantity	P5	0.0116	There is 1 item=1
				There are two items = 2
				...
		S1	0.0832	Yes=1

Category	Index	Code	Weight	Indicator explanation
Social Capital (S)	Degree of social connection			None=0
	Amount of community or neighborhood support received	S2	0.0743	There is 1 item=1
				There are two items = 2
				...
	Desire to participate in rural tourism development	S3	0.0251	Very willing=1
				More willing=0.75
				Normal=0.5
				Not very welcome=0.25
				Not welcome at all=0
	Are there tourism skills training opportunities?	S4	0.0710	yes=1
				No=0
	Do you participate in cooperatives, associations or other organizations?	S5	0.1053	Yes=1
				No=0

Source: Researcher interview statistic (2024)

Model Review and Validation

Through comprehensive analysis, the proposed model will be tested for its validity and reliability, ensuring that the results obtained are reliable for decision-making in rural tourism development. By following this methodology, the research aims to make a significant contribution to the understanding and development of sustainable rural tourism.

RESULT

Overall changes in farmers' livelihood capital before and after the development of rural tourism

The total livelihood capital of farmers in Jiwodu Village rose from 4.48 to 11.69, a 7.21 increase, indicating overall growth. Social capital grew the most (317.69%), due to local government support and tourism development. Financial capital increased by 182.54%, with higher incomes and loan access. Material capital rose by 153.70% due to improved infrastructure. Natural capital grew by 81.65%, with preserved arable land despite infrastructure projects. Human capital saw a 66.98% increase, thanks to enhanced tourism skills training and increased local employment.

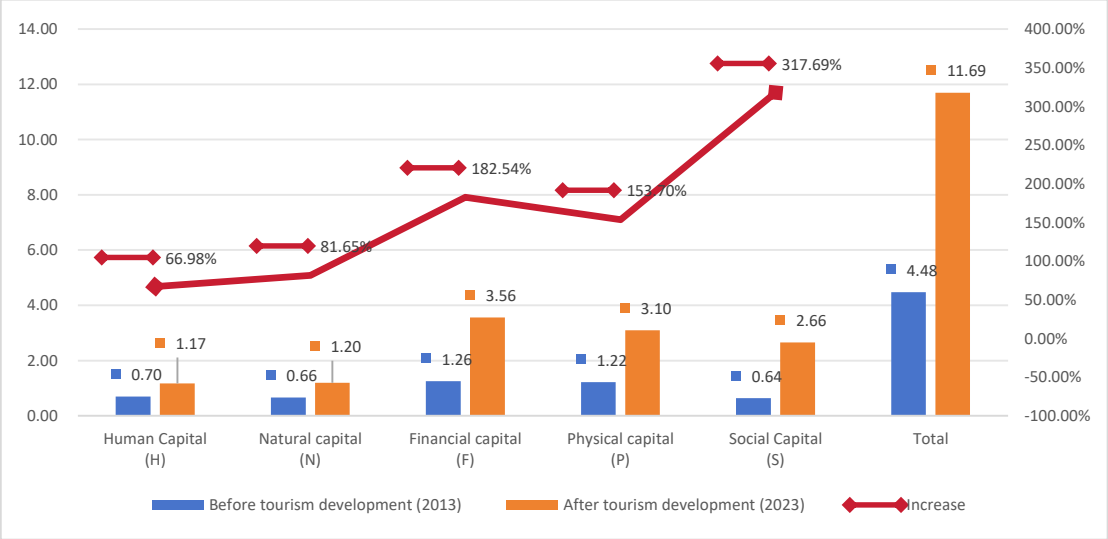

Figure 2. Comparison of farmers' livelihood capital before and after the development of rural tourism

Source: Researcher interview statistic (2024)

Changes in livelihood capital of different types of farmers before and after the development of rural tourism

The measured values for the five major livelihood capitals of various farmer types are displayed in Figure 4.3.3.3. There are notable differences among these values for different farmer types in Jiwodu Village. Generally, TDL and TEL farmers have similar livelihood capital values, which are higher than those of TRL farmers. This indicates that TDL and TEL farmers experience lower vulnerability and higher adaptability. Additionally, the values for the same farmer type show significant variation before and after rural tourism development, with all values showing an upward trend.

Table 2. Comparative analysis of livelihood capital of different farmers

		Human Capital (H)	Natural capital (N)	Financial capital (F)	Physical capital (P)	Social Capital (S)	Total
TRL	Before tourism development (2013)	0.21	0.21	0.56	0.37	0.13	1.48
	After tourism development (2023)	0.34	0.26	0.94	0.83	0.72	3.09
TDL	Before tourism development (2013)	0.23	0.24	0.39	0.37	0.15	1.38
	After tourism development (2023)	0.39	0.39	1.19	1.04	0.95	3.96
TEL	Before tourism development (2013)	0.26	0.21	0.31	0.48	0.35	1.61
	After tourism development (2023)	0.44	0.55	1.43	1.23	0.99	4.64

Source: Researcher interview statistics (2024)

Farmers' Human Capital

The survey indicates that TEL farmers, both before and after tourism development, have numerous family members and laborers. They also manage homestays and farmhouses, providing essential materials for these operations. Their families are well-

educated and possess tourism service skills, making their human capital the highest (Sun Wanqing, 2023). In contrast, Yang Jin and Qin Min's study on rural revitalization in Huanglongxian Village, Nanjing, shows that farmers grow tea alongside operating farmhouses to enhance tourism and sales (Yang Jin, 2022). TRL and TDL farmers, however, have fewer family members and often work outside the village in the off-season. They have not expanded their homes to accommodate more tourists, leading to lower tourism income. Their families generally have lower education levels, primarily junior high and high school, which limits their economic and tourism development (Zhang Guanghai, 2024).

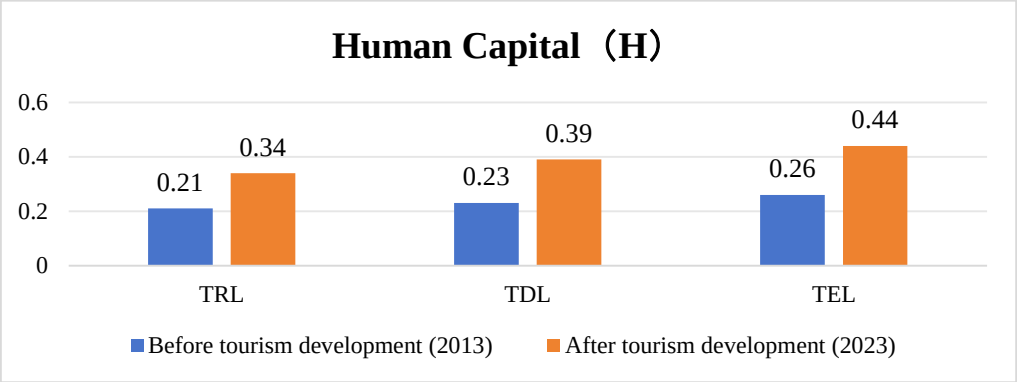

Figure 3. Comparison of farmers' human capital before and after the development of rural tourism

Source: Researcher interview statistics (2024)

Farmers' Natural Capital

This paper evaluates natural capital using the agricultural land owned by farmers. The natural capital gap for TRL farmers before and after tourism development is relatively small, whereas TDL and TEL farmers exhibit a larger gap. Despite some damage to local natural capital from urbanization and rural tourism (Chen Xiaohua, 2022; Yu Fawen, 2020), the significant scale of specialty crop planting and its role as a stable income source (Meng Ziyu, 2023) has minimized the difference in natural capital storage. Specialty crops help maintain family food self-sufficiency and support farm operations, while also increasing farmers' income.

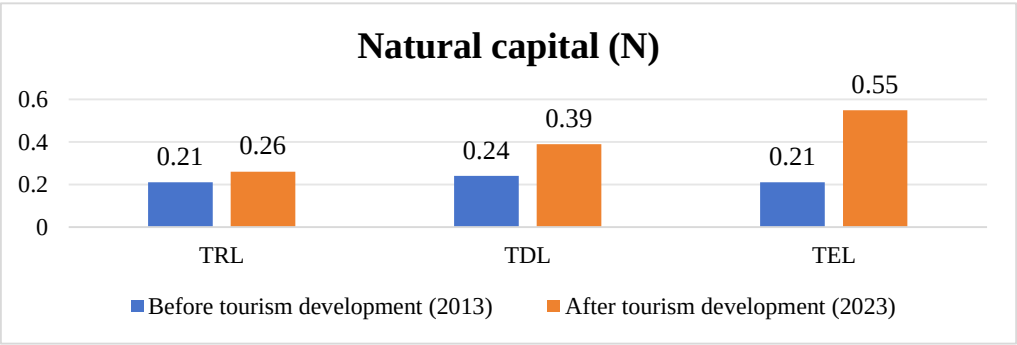

Figure 4. Comparison of farmers' natural capital before and after rural tourism development

Source: Researcher interview statistic (2024)

Farmers' Financial Capital

The primary factor in assessing farmers' financial capital is their per capita income (Guo Lipeng, 2022). Before rural tourism development, TRL farmers in Jiwodu Village had the highest financial capital value at 0.56, compared to 0.39 for TDL

farmers and 0.31 for TEL farmers. This was largely due to TRL farmers being predominantly poor and receiving free financial aid (Huang Keji, 2021). Post-tourism development, financial capital values increased for all farmer types, with TEL farmers now having the highest value at 1.43. The expansion of homestays and farm stays, which attracts more tourists and requires significant investment, contributed to this increase. Farmers often secure loans for these ventures (YANG, Z., 2023) and receive government incentives (Zhang Huiming, 2021), leading to higher financial capital values (Song Huiqi, 2021). This indicates that rural tourism has significantly impacted farmers' financial capital in Jiwodu Village.

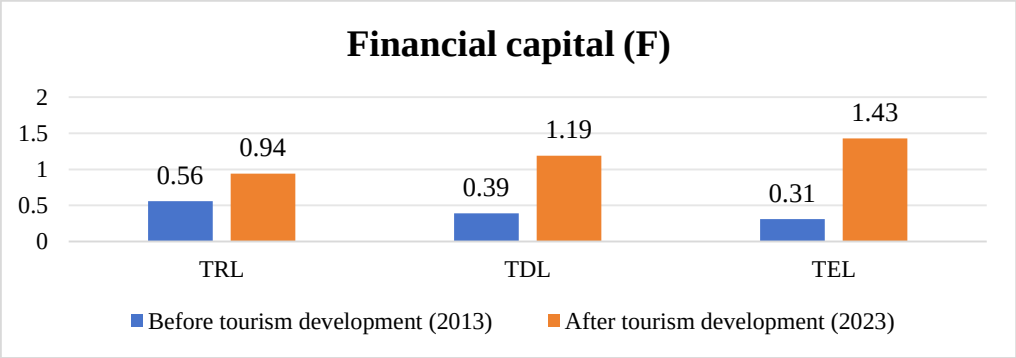

Figure 5.Comparison of farmers' financial capital before and after the development of rural tourism

Source: Researcher interview statistic (2024)

Farmers' Physical Capital

Physical capital reflects farmers' livelihood levels and helps sustain their well-being (Peng Wenlong, 2022). In Jiwodu Village, after tourism development, TEL farmers had the highest physical capital measurement at 1.23. The values for TEL, TDL, and TRL farmers all saw significant increases, indicating richer material assets. Government initiatives promoting rural environmental improvements and house renovations have led most farmers to upgrade their homes from single-story brick houses to 3-4-story villas (Luo Wenbin, 2023). Additionally, the growth in rural tourism has driven farmers to enhance and expand their homes for homestay and farmhouse businesses to accommodate more tourists, thus boosting their physical capital (Zhang Huiming, 2021).

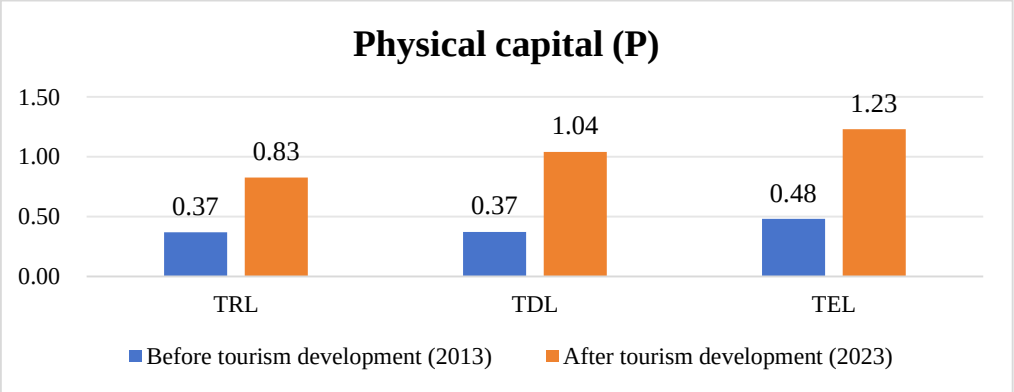

Figure 6.Comparison of farmers' physical capital before and after the development of rural tourism

Source: Researcher interview statistic (2024)

Farmers' Social Capital

Social capital refers to the network of social relationships that farmers use to achieve livelihood outcomes and goals (Dong Yanmin, 2023). Prior to tourism development, TEL farmers had the highest social capital measurement due to their connections with relatives and friends in government or enterprises, resulting in slightly higher values than TDL and TRL farmers. Post-tourism development, social capital values for all three farmer types in Jiwodu Village significantly increased. TEL farmers now have the highest social capital value at 0.99, followed by TDL and TRL farmers. The growth in rural tourism has led to increased interest in tourism and B&B activities. As these businesses expanded, some large-scale B&B and farmhouse owners began hiring other villagers (Mo Linli, 2022), fostering mutual assistance and creating opportunities for tourism skills training and cooperative participation (Wu Jilin, 2024), which greatly enhanced social capital for all farmer types.

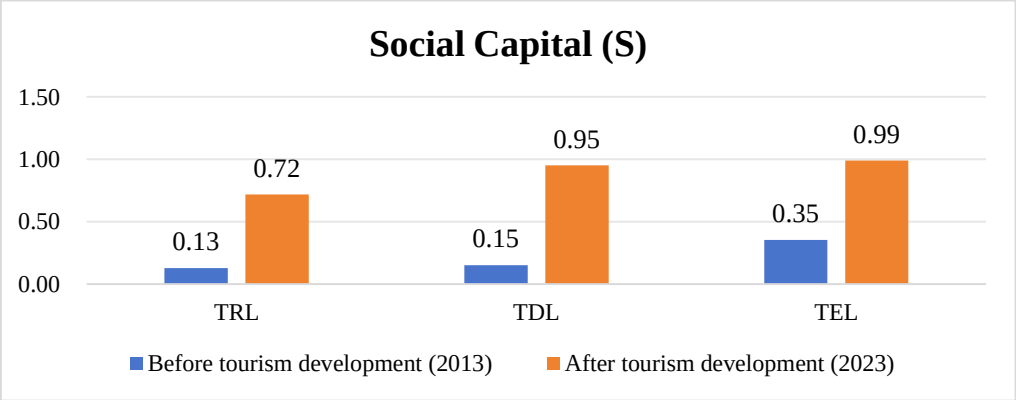

Figure 7. Comparison of farmers' social capital before and after the development of rural tourism

Source: Researcher interview statistics (2024)

DISCUSSION

The impact of rural tourism on the sustainable livelihood of farmers in Jiwodu Village

Changes in Working Methods: Prior to rural tourism, Jiwodu Village farmers relied primarily on agriculture and migrant work. With the rise of rural tourism and vegetable planting, along with the chicken industry, their livelihood environment and structure have greatly improved. There has been a noticeable shift from external work to increased participation in rural tourism, leading to diverse livelihood strategies that include agriculture, poultry, local work, and tourism management. Overall Improvement of Livelihoods: Rural tourism has significantly boosted the total livelihood capital in Jiwodu Village, increasing from 4.48 to 11.69. Physical capital saw the largest rise due to the expansion and enhancement of properties for B&B and farmhouse businesses, while natural capital experienced the smallest increase. Strengthening Resilience: Rural tourism has led to variations in livelihood capital among different farmer types in Jiwodu Village. TEL farmers have the highest livelihood capital at 4.64, followed by TDL at 3.96, and TRL at 3.03. The integration of rural tourism with agriculture has improved resilience against livelihood risks for farmers (Dong Yanmin, 2023; Mo Linli, 2022; Wu Jilin, 2024).

Factors affecting the coordinated development of farmers' livelihoods in Jiwodu Village

Using the sustainable livelihood analysis framework, the impact of rural tourism on the coordinated development of farmers' sustainable livelihoods is examined across five aspects: human, natural, financial, material, and social capital. Overall,

human and natural capital show slower growth and require further improvement, which somewhat affects the stability of the coordinated and sustainable development of livelihoods.

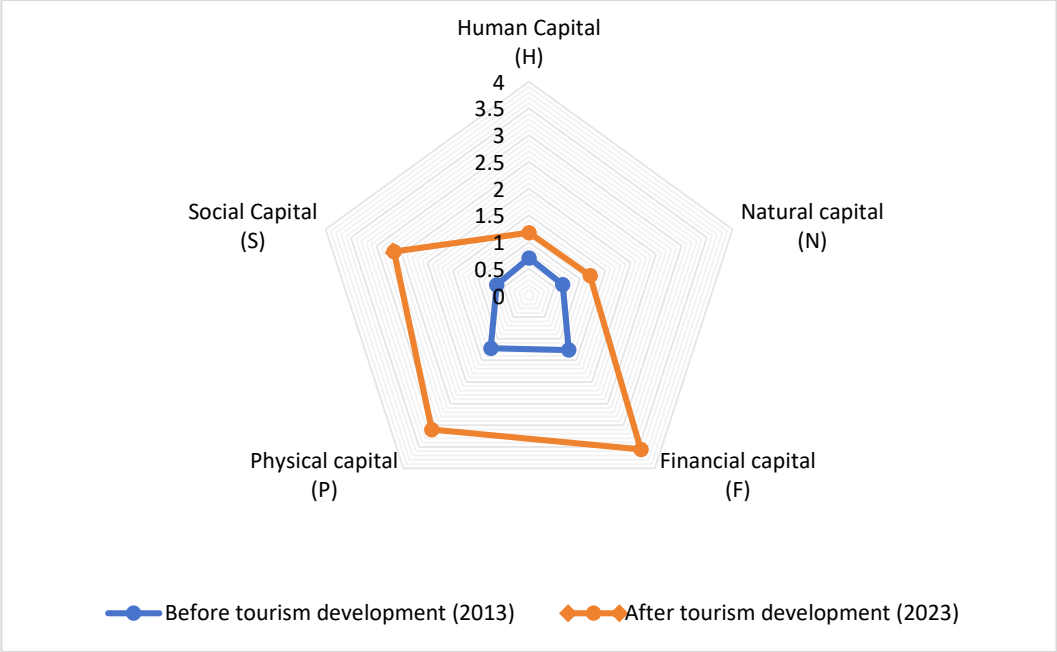

Figure 8. The distribution and trend of farmers' livelihood capital in Jiwodu Village

Source: Researcher interview statistic (2024)

Human Capital: Rural tourism development in Jiwodu Village requires farmers to acquire specific skills, such as tour guiding and hospitality, for industries like homestays and bamboo rafting. This necessitates training in areas such as language, customer service, and cultural knowledge, enhancing farmers' market competitiveness, employment prospects, and income. Such training, often provided by governments and NGOs, boosts both individual employability and the overall community (Dong Yanmin, 2023). Natural Capital: Tourism development in Jiwodu Village is guided by comprehensive planning aimed at preserving local natural resources and ecosystems. This approach, supported by environmental education and careful tourism planning, mitigates ecological damage and promotes sustainable resource use. It also raises environmental awareness among residents and fosters ecotourism, offering farmers opportunities to both protect the environment and pursue sustainable livelihoods (Mo Linli, 2022).

Financial Capital: The rise of rural tourism has introduced an additional income stream for farmers through services like accommodation, dining, and unique experiences such as bamboo rafting. This has enhanced their economic status and quality of life, leading to greater financial stability for their families (Wu Jilin, 2024). Material Capital: Tourism has significantly improved Jiwodu Village's infrastructure. The local government has supported upgrades to roads, communication networks, and sewage systems to accommodate tourist needs, which also benefits residents. Additionally, tourism has spurred the development of accommodations such as homestays and farmhouses, enhancing living conditions for farmers (Dong Yanmin, 2023). Social Capital: The growth of rural tourism has strengthened community cohesion in Jiwodu Village. It has fostered increased cooperation and

trust among villagers and led to the development of local crafts and foods, such as ethnic clothing and regional snacks. This has reinforced local cultural identity and promoted cultural heritage protection (Mo Linli, 2022).

CONCLUSION

The key novelties of this study are outlined as follows: (1) Significant Impact on Farmers' Livelihoods: This study demonstrates that rural tourism plays a crucial role in enhancing the sustainable livelihoods of farmers. It notably diversifies income sources and significantly boosts livelihood capital, particularly social capital, which saw an increase of 317.69%; (2) Evolution of Work Methods: The advancement of rural tourism has transformed agricultural work practices, leading to improved overall well-being for farmers and a reduction in economic vulnerability; (3) Challenges and Training Needs: This research identifies challenges such as land expropriation and the ecological impacts of tourism development. It underscores the necessity for targeted training and skills development to ensure the sustainability of tourism participation; (4) Emphasis on Sustainability: The findings highlight the importance of adopting a sustainable approach in rural tourism development to ensure that the benefits are enduring for farmers. This research offers valuable insights into how rural tourism can substantially enhance farmers' livelihoods while also addressing existing challenges to foster more effective and sustainable development.

REFERENCES

1) Ivona, A. (2021). Sustainability of rural tourism and promotion of local development. *Sustainability*, 13(16), 8854.
2) Liu, L. (2020) Research on rural tourism and spatial reconstruction from a multicultural perspective: A case study of Beigou Village in Huairou, Beijing. *Human Geography*, 38(4), 148-155.
3) Long, H., Ma, L., Zhang, Y., & Qu, L. (2022). Multifunctional rural development in China: Pattern, process and mechanism. *Habitat International*, 121, 102530.
4) Pulido-Fernández, J. I., Casado-Montilla, J., & Carrillo-Hidalgo, I. (2019). Introducing olive-oil tourism as a special interest tourism. *Heliyon*, 5(12).
5) Christou, P., & Sharpley, R. (2019). Philoxenia offered to tourists? A rural tourism perspective. *Tourism Management*, 72, 39-51.
6) An Chuanyan, Zhai Zhouyan, & Li Tongsheng. (2020). Characteristics of foreign rural tourism research in the past 10 years and its enlightenment to China—an analysis based on the literature included in Elsevier ScienceDirect. *Resource Science*, 42(5), 956-968.
7) Li, K. X., Jin, M., & Shi, W. (2018). Tourism as an important impetus to promoting economic growth: A critical review. *Tourism management perspectives*, 26, 135-142.
8) Jiang, Q. (2021). Analysis of Rural Tourism Demand Characteristics and Experience Differences Based on Association Rule Mining. *Wireless Communications and Mobile Computing* ,2021(1), 8742950.
9) Wijijayanti, T., Agustina, Y., Winarno, A., Istanti, L. N., & Dharma, B. A. (2020). Rural tourism: A local economic development. *Australasian Accounting, Business and Finance Journal*,14(1), 5-13.

10) Randelli, F., & Martellozzo, F. (2019). Is rural tourism-induced built-up growth a threat for the sustainability of rural areas? The case study of Tuscany. *Land Use Policy*, 86, 387-398.

11) Csurgó, B., & Smith, M. K. (2022). Cultural heritage, sense of place and tourism: An analysis of cultural ecosystem services in rural Hungary. *Sustainability* ,14(12), 7305.

12) Wang Xiaoxuan, & Hu Zijun. (2023). The impact of health shocks on the livelihood strategy changes of middle-aged and elderly farmers: Evidence from CHARLS panel data. *Journal of Yunnan Agricultural University (Social Sciences)*, 17(5), 144-153.

13) Li Wenrui, & Zhou Shujun. (2023). Changes in my country's agricultural production mode under the background of digital economy: Mechanism, contradiction and relief. *Journal of Xi'an Jiaotong University (Social Sciences)*, 43(1).

14) Dai Yangui, & Zhou Kai. (2022). Conceptual framework and comparative study of rural rights from the perspective of spatial justice. *Tropical Geography*, 42(8), 1314-1323.

15) Wang Ping, Liu Rui, Zhu Lixiang, & Li Na. (2023). Research on farmers' energy consumption combination choices under the dual carbon goals: Based on livelihood capital. *Journal of Ecology and Rural Environment*, 39(6), 691-698.

16) Li Cong, Gao Meng, Li Shuzhuo, & Lei Haobo. (2021). The impact of farmers' livelihood resilience on multidimensional poverty: Evidence from poverty alleviation relocation areas in Shaanxi. *China Population Resources & Environment*, 31(7).

17) Xie Shuangyu, Tian Wenli, Nie Lisha, & Qiao Huafang. (2023). A comparative study on the livelihood resilience of farmers with different livelihood strategy types in mountainous tourism areas: A case study of Enshi Prefecture. *Research of Soil & Water Conservation*, 30(5).

18) Ma, B., Cai, Z., Zheng, J., & Wen, Y. (2019). Conservation, ecotourism, poverty, and income inequality–A case study of nature reserves in Qinling, China. *World Development*, 115, 236-244.

19) Liu Ning. (2021). Analysis of livelihood risks and avoidance factors of small farmers in Hongsibao immigrant area, Ningxia. *Ningxia Engineering Technology* , 20(3).

20) Wu Kongsen, Rui Yang, Chen Jia, Zhang Liqiong, Yang Xinjun, & Zhang Baigang. (2020). Micro-scale study of rural transformation and development driven by tourism. *Progress in Geography* , 39(6).

21) Bires, Zemenu & Raj, Sahil. (2020). Tourism as a pathway to livelihood diversification: Evidence from biosphere reserves, Ethiopia. *Tourism Management. 81*. 104159. 10.1016/j.tourman.2020.104159.

22) Wu Wei, Liu Ruijin, He Changhui, Yang Lin, & Zhan Daru. (2024). Study on sustainable livelihood of farmers based on livelihood capital: A case study of the main natural rubber producing areas in Yunnan and Hainan. *Tropical Geography*, 44(4).

23) Zhu, Y., Tian, D., & Yan, F. (2020). Effectiveness of entropy weight method in decision-making. *Mathematical Problems in Engineering*, 2020(1), 3564835.

24) Yan, X., Luo, M., & Zhong, C. (2023). Evaluation of rural tourism development level based on entropy-weighted grey correlation analysis: the case of Jiangxi Province. *Grey Systems: Theory and Application*, 13(4), 677-700.

25) Xu Yang, & Bao Jigang. (2022). Impact analysis of the "Azheke Project" on farmers' livelihoods: based on the DFID sustainable livelihoods framework. *Tropical Geography*, 42(6), 867-877.

26) Qiuyu Huang, Weiqin Wu, Xingfang He, Yijun Deng, Yinyan Chen, & Wenzhengu. (2023). Application of ultrasound-guided medium-length catheter placement in intravenous treatment of patients with oral and maxillofacial tumors. *Journal of Sichuan University (Medical Sciences)*, 54(4), 777.

27) Yu, T., Yang, C., & Li, M. (2024). Comment on "Pathological complete response, category change, and prognostic significance of HER2-low breast cancer receiving neoadjuvant treatment: a multicenter analysis of 2489 cases". *British Journal of Cancer*, 130(6), 893-894.

28) LIANG, L., HUANG, W., HUANG, S., & WENG, D. (2022, December). Combining SPSSAU and WJX. CN Analysis to Study the Status Quo of Online and Offline Blended Teaching Model. *In 2nd International Conference on Internet, Education and Information Technology* (IEIT 2022) (pp. 379-389). Atlantis Press.

29) Boliang, L., Qianqiang, Z., & Xiaofang, L. (2023, October). Research on the cultivation mechanism of young scientific and technological innovation talents in Shanghai for 2035. *In 3rd International Conference on Management Science and Software Engineering* (ICMSSE 2023) (pp. 1001-1014). Atlantis Press.

30) Wang, X., Wang, Y., Li, S., Liu, Y., & Zhu, B. (2021). Analysis of codon usage bias in the Platycarya chloroplast genome. *Tree Genetics and Molecular Breeding*, 11.

31) Guan, X., Ma, Q., & Sun, J. (2021). Analysis of economic forecast trend based on ARIMA method [J]. *Financial Engineering and Risk Management*, 4(2), 26-31.

32) Cao Penghui. (2023). Research on the development of rural tourism around small and medium-sized cities from the perspective of tourists: A case study of Ulanqab City. *Geographical Science Research*, 12, 169.

33) Wu Bing, Zhang Jiamin, Jia Rongrong, & Ma Ying. (2023). Research on the interactive mechanism of rural tourism promoting residents' role identity and sustainable livelihood: A case study of Yuanjia Village and Maweiyi in Xianyang City. *Journal of Southwest University (Natural Science Edition)*, 45(6), 125-139.

34) Lu, Wanting. (2023, November). Research on a tourism development level evaluation algorithm based on a combination of entropy weight method and fuzzy evaluation. *In Proceedings of the 2023 8th International Conference on Intelligent Information Processing* (pp. 126-133).

35) Sun Wanqing, Yu Xiaoling, Xu Kangning, & Yan Jiachen. (2023). Analysis of sustainable livelihoods of farmers in ethnic minority areas under the influence of rural tourism. *Hubei Agricultural Sciences*, 62(4), 253.

36) Yang Jin, Qin Minye, Feng Weizhou, Zhou Jinhui, Zhu Dan, & Fang Yao. (2022). Analysis of the characteristics and mechanism of local reconstruction of rural revitalization in the government-enterprise-village co-governance model: A case study of Huanglongxian Village in Nanjing.*Journal of South China Normal University* (Natural Science Edition)/Huanan Shifan Daxue Xuebao (Ziran Kexue Ban), 54(5).

37) Zhang Guanghai, Dong Yuelei, & Liu Erlian. (2024). A configurational path analysis of the impact of coordinated development of tourism resources on common prosperity in the new era. *Journal of Natural Resources*, 39(2), 259-273.

38) Chen Xiaohua, & Deng Weilong. (2022). A study on the development of traditional village tourism in my country and its impact. *Journal of Chaohu University*, 24(5), 111-117.

39) Yu Fawen, Huang Xin, & Yue Hui. (2020). High-quality development of rural tourism: connotation characteristics, key issues and countermeasures. *China Rural Economy*, 8, 27-39.

40) Meng Ziyu, Lu Yuan, Tang Chuanyong, & Lin Siyan. (2023). Measuring the resilience of farmers' livelihoods in underdeveloped mountainous areas: A case study of Fengshan County, Guangxi. *Mountain Research (10082786)*, 41(4).

41) Guo Lipeng, He Meiying, & Chen Shiya. (2022). The impact of farmers' livelihood capital on the adoption of different preferred technologies - an analysis based on the sustainable livelihood framework. *China Agricultural Resources and Zoning*.

42) Huang Keji, Zhang Chaozhi, & Wu Maoying. (2021). Are the residents of the heritage site happy? A case study based on different tourism poverty alleviation models. *Tourism Tribune/Lvyou Xuekan*, (11).

43) YANG, Z., ZHU, Q. J., LIU, C. Q., WANG, P. P., WANG, Q., & LIU, S. J. (2023). Vulnerability change and regulation of farmers' livelihood in corridor tourism areas under the goal of common prosperity. *JOURNAL OF NATURAL RESOURCES*, 38(2), 529-544.

44) Zhang Huiming, Yang Qingyuan, Su Kangchuan, Yin Wen, Wang Wenxin, & Zhang Rongrong. (2021). Research on the impact of rural homestay development on farmers' livelihood capital changes from the perspective of rural revitalization. *Journal of Southwest University (Natural Science Edition)*, 43(7), 11-21.

45) Song Huiqi, & Chen Youcheng. (2021). Research on the impact of farmers' participation in rural tourism management from the perspective of "capital-decision-making" based on the case study of Anxi County, Fujian. *Journal of Yunnan Agricultural University (Social Sciences)*, 15(2), 73-81.

46) Peng Wenlong, Lv Xiao, & Niu Shandong. (2022). On sustainable intensification of cultivated land use and farmers' livelihood transformation. *Transactions of the Chinese Society of Agricultural Engineering*, 38(4).

47) Luo Wenbin, Ding Dexiao, Chu Xuelian, Gao Yunhong, & Liu Yangjie. (2023). Evaluation and difference analysis of farmers' land multifunctional use in suburban rural tourism areas from the perspective of livelihood types. *Journal of Zhejiang University University (Science Edition)*, 50(5).

48) Zhang Huiming, Yang Qingyuan, Su Kangchuan, Yin Wen, Wang Wenxin, & Zhang Rongrong. (2021). Research on the impact of rural homestay development on the change of farmers' livelihood capital from the perspective of rural revitalization. *Journal of Southwest University (Natural Science Edition)*, 43(7), 11-21.

49) Dong Yanmin, & Yan Fengxian. (2023). Does livelihood capital suppress the relative poverty of rural residents' families? *Journal of China Agricultural University*, 28(6), 244-262.

50) Mo Linli, Yu Jiahua, Li Guanghui, & Xia Wei. (2022). Research on the measurement of residents' tourism empowerment in the development of rural homestays: A case study of Dawan Village, Jinzhai County, Anhui Province. *Journal of Yunnan Agricultural University (Social Science)*, 16(5), 81-89.

51) Wu Jilin, Xiao Yuchun, Liu Shuiliang, Zuo Jinyou, Yin Ningling, & Xie Wenhai. (2024). Evaluation of livelihood resilience and analysis of barrier factors of farmers in ethnic tourism villages: A case study of 10 villages in the Wuling Mountain area of Hunan and Hubei. *Economic Geography*, 44(1), 174-184.