

Eco-tourism From Indigenous Knowledge for Creative Economy in the Mekong River Basin

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Abstract

The Mekong region is ethnically diverse, with valuable Indigenous knowledge that has become an important tool for fostering eco-tourism. This study aims to explore current situations, multi-stakeholder perspectives and development approaches for eco-tourism based on Indigenous knowledge for the creative economy in the Mekong region. The mixed-methods participatory action research was conducted in four Indigenous communities in A Luoi District in Central Vietnam. A qualitative design was implemented through focus group discussions and participatory rural appraisals with 20 key informants. These included 4 Indigenous leaders, 8 Indigenous community members, 4 local government officers and 4 Indigenous entrepreneurs from each village. A quantitative survey of 150 households was conducted to assess the SWOT dimensions of eco-tourism development. This study revealed the value of Indigenous communities and multi-stakeholder roles in strengthening both tangible and intangible Indigenous knowledge assets for eco-tourism in the Mekong region. The findings highlighted Indigenous people as active agents who shape tourism models grounded in cultural integrity and environmental sustainability rather than positioning them as passive beneficiaries. Significantly, the study illustrated the value of a multi-stakeholder approach. Indigenous communities alone cannot fully sustain eco-tourism systems without supportive partnerships. The findings not only promote economic resilience but also support the safeguarding of Indigenous knowledge and environmental integrity in the Mekong region.

Keywords: Creative Economy, Eco-tourism, Indigenous Knowledge, Sustainability.

Introduction

The Mekong Region is among the world's most vulnerable regions to climate impacts because a large share of the population and economic activities depend on natural resources, wetlands and freshwater in the agricultural, fishing and tourism sectors (1). As Mekong countries have been transitioning from agrarian to industrial and service economies, they have also created several social and environmental issues for Indigenous communities. Socio-ecological problems affecting Indigenous communities across the local, national and regional levels of the Mekong Region include flooding, drowning, pollution, ecosystem degradation and climate change (1, 2). The livelihoods of Indigenous people in the Mekong Region are well studied due to their vulnerability (3-5). These studies particularly focus on exploring Indigenous livelihoods. However, limited collaboration between Indigenous communities and other key stakeholders reduces the efficiency of policy and project implementation (6). Moreover, several studies also show Indigenous communities' low capacity to adapt to

environmental risks and poor collaboration between different stakeholders, leading to increased vulnerability of Indigenous communities (7, 8).

These economic and environmental concerns highlight the need to develop sustainable economic development in indigenous communities. However, many indigenous communities have failed to implement sustainable economic development due to a combination of factors such as lack of financial support, poor infrastructure and insufficient management skills (9). Moreover, Western science and technology have increasingly replaced many practical aspects of Indigenous knowledge, creating a risk that valuable knowledge systems in the Mekong region may be lost. Many of these areas have historically remained geographically and socially distant from scientific institutions, resulting in limited documentation and systematic study. As a result, locally embedded Indigenous knowledge developed through long-term interaction with specific ecological, social and economic conditions

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remains underrepresented in formal research. It is therefore essential to move beyond the dominant privileging of Western scientific frameworks to sustain, study and apply Indigenous knowledge that is uniquely adapted to local contexts and capable of addressing economic, social and environmental challenges. Furthermore, technical and cultural knowledge needs to be integrated into a coherent system, as a complementary body of expertise, that is appropriate for and capable of informing decisions regarding the Indigenous communities' social and economic development. Indigenous knowledge is unique knowledge generated and transmitted by the community over time to adapt to the environment (10). It is generated through a systematic process of examining the local context and repeatedly adapting solutions to fit technological, economic and environmental conditions (11). Indigenous knowledge has holistic perspectives on ecosystems that are passed from generation to generation, informing activities such as conservation, education and tourism that sustain the Mekong environment and its communities. Indigenous knowledge gives a competitive advantage to local communities in the Mekong Region because it holds valuable attributes and is difficult to reproduce. Many studies show that Indigenous innovation is an important strategy for eco-tourism that benefitting the economy and supporting environmental sustainability (12, 13). Eco-tourism is travel to uncontaminated natural areas with the objectives of enjoying the scenery and learning about the present cultural manifestations in the local areas. Numerous scholars endorse that eco-tourism offers a win-win situation since it improves the environment and offers opportunities for businesses to get a competitive advantage (14, 15). Nevertheless, eco-tourism development often depends on public authorities and does not extend its contribution to other key stakeholders such as the Indigenous communities, academia and the private sector. Moreover, Indigenous knowledge systems, especially those related to cultural heritage, are regularly treated as supplementary rather than foundational. Consequently, there is limited empirical evidence on eco-tourism that incorporates Indigenous knowledge and multi-stakeholder engagement (16). Therefore, this study aims to explore current situations, multi-

stakeholder perspectives and development approaches for eco-tourism from Indigenous knowledge for the creative economy in the Mekong Region.

Theoretical Framework

This study integrates the Resource-Based Theory (RBT) and SWOT analysis in a harmonizing way to explore eco-tourism based on Indigenous knowledge in the Mekong Region. Resource-based theory proposes that resources in the Mekong region, such as Indigenous knowledge, are valuable, rare and difficult to imitate (17, 18). These resources can provide the groundwork for developing eco-tourism that can lead to a competitive advantage over time. The SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis is a theoretical framework to investigate the potential for eco-tourism in the A Luoi district. Strengths are both internal and external factors that highlight the strong points of eco-tourism. Weaknesses are factors that stop eco-tourism from performing at its optimum level. Opportunities are favorable external factors that could give eco-tourism a competitive advantage. Threats are factors that have the potential to harm eco-tourism (19).

Methodology

Research Sites

A Luoi District is located approximately 70 kilometers west-southwest of Hue City in Central Vietnam (approximate GPS coordinates 16.167°N 107.333°E). It is a mountainous district situated between the A Chau Valley and the border with Salavan and Sekong provinces of Lao PDR. Approximately 40,000 people are scattered across one town and 20 communities in and around extensive high-altitude natural forests, which constitute the district's dominant ecosystem type. A Luoi is endowed with rich biodiversity, diverse wildlife and well-preserved natural landscapes that form a strong ecological foundation for eco-tourism development.

The district is also characterized by exceptional cultural diversity, with 35 ethnic groups residing in the area, including the Ta Oi, Co Tu and Bru-Van Kieu peoples. The Ta Oi are the most populous group and play a central role in shaping A Luoi's cultural identity. Their ways of life are deeply intertwined with surrounding forest ecosystems, which function not only as sources of livelihood

but also as foundations of spiritual belief and cultural practice. Unique cultural expressions such as traditional stilt houses, the Dzeng weaving tradition and the ceremonial use of gongs reflect a deep relationship between nature and Indigenous knowledge. These practices continue to be transmitted across generations, contributing to the district's cultural richness and offering potential for Indigenous knowledge-based eco-tourism. The selection of A Luoi as the research site is due to its holding diverse forms of natural, cultural and social capital favorable to eco-tourism. In addition, the local government has articulated a clear vision for eco-tourism as a strategy for cultural preservation and sustainable development. Beyond these site-specific characteristics, A Luoi is symbolic of many upland districts in Central Vietnam and the wider Mekong countries that share similar challenges.

Research Design

The mixed methods participatory action research aims to explore current situations, multi-stakeholder perspectives and development approaches for eco-tourism from Indigenous knowledge for the creative economy in A Luoi district in Central Vietnam. By integrating qualitative methods such as focus groups and participatory rural appraisals with quantitative data from household surveys, the research captures both lived experiences and measurable outcomes related to eco-tourism. This approach supports environmental stewardship and empowers Indigenous people and other stakeholders to participate in economic and environmental issues. This is an innovative approach where multi-stakeholders can be free to discuss, learn and share to find effective solutions for implementing an efficient model of eco-tourism.

Qualitative Design

Focus group discussions and participatory rural appraisals were conducted with 20 key informants, including 4 Indigenous leaders from A Luoi, Hong Kim, Hong Ha and A Roang communities, who provided perspectives on community governance, 8 Indigenous community members who contributed local knowledge and experiences, 4 local government officers who discussed policy and regulatory frameworks and 4 Indigenous entrepreneurs who shared insights on business and innovation. The selection of a multi-

stakeholder approach was applied to capture a broad yet contextually grounded range of experiences relevant to Indigenous knowledge-based eco-tourism development. Focus group discussions and participatory rural appraisals facilitated collective reflection and comparison of multi-stakeholders' perspectives. All outputs were documented through field notes and analyzed using thematic analysis, beginning with open coding and followed by the development of cross-cutting themes. Triangulation was achieved through the integration of multiple methods for comparison across stakeholder groups among the four villages to enhance the credibility and trustworthiness of the findings.

Quantitative Design

The household survey was conducted with 150 households in 2021. The distribution of the sample size consists of 4 communities, including 42 households in Hong Kim, 37 households in Hong Ha, 31 households in A Roang and 40 households in A Luoi. The household survey was an important step in identifying the SWOT matrix, including the strengths, weaknesses, opportunities and threats in eco-tourism based on Indigenous knowledge. The study used a 7-point Likert scale to measure strengths, weaknesses, opportunities and threats in eco-tourism development based on Indigenous knowledge. The original questionnaire had 28 items, but only 22 items in the revised version had an Item Objective Congruence (IOC) higher than 0.6. Revisions included refining item wording for clarity, removing redundant items and positioning questions more explicitly in line with the research objectives. The pilot study checked the reliability of the survey with a sample of 50 Indigenous people. The reviews were completed by 5 experts in the field of Indigenous knowledge and eco-tourism, while a pilot test was conducted to provide a reliability analysis.

Results

Qualitative Research Results

Current Situation of Eco-tourism based on Indigenous Knowledge

The analysis of qualitative data revealed strengths, weaknesses, opportunities and threats (SWOT) of eco-tourism based on Indigenous knowledge for the creative economy in A Luoi district in Central Vietnam, as shown in Figure 1.

Strengths	Weaknesses
Policy Support on Eco-Tourism Diverse and unique Indigenous groups Peaceful space and cool climate Prices of Indigenous products and services Good supply chain	70km from the city center Lack of entertainment activities and modern spaces Limited funding for tourism development Poor transportation and infrastructure system Insufficient facilities, such as restaurants and hotels Communication skills with foreigners are limited
Opportunities	Threats
Connection with other district capitals Support from the state and international agencies The pilot project of smart tourism. Indigenous festivals and products are valued. Domestic tourism is increasing	Lack of quality human resources Low-density population Inequality of benefit sharing Competitors Emigration National disasters

Figure 1: Current Situation of Eco-tourism based on Indigenous Knowledge

Figure 1 indicated that eco-tourism based on Indigenous knowledge in A Luoi district had strong potential to support the creative economy because of policy support for eco-tourism, diverse and unique Indigenous groups, peaceful space and cool climate, favorable prices of Indigenous products and services and good supply chains. However, development was constrained by its remote location, 70km from the city center. In addition, it was constrained by a lack of entertainment activities and modern spaces. It was further restricted by limited funding for tourism development. Moreover, insufficient facilities, such as restaurants and hotels and limited communication skills with foreigners posed additional weaknesses. At the same time, opportunities exist through connections with other district capitals and through support from the state and international agencies. These opportunities are also reflected in a pilot project of smart tourism. The fact that indigenous festivals and products are valued and the trend that domestic tourism is increasing, further strengthen this position. Nevertheless, several threats remain. These include lack of quality human resources, low-density population, inequality of benefit sharing, competitors, emigration and natural disasters. All of these factors require strategic planning to ensure sustainable and comprehensive eco-tourism development.

Multi-stakeholder Perspectives on Eco-tourism based on Indigenous Knowledge

The results found multi-stakeholder perspectives on eco-tourism based on Indigenous Knowledge

include the perspectives of Indigenous leaders, Indigenous people, local government officers and Indigenous entrepreneurs, as follows:

Perspective of Indigenous Leaders

Many Indigenous leaders claim that eco-tourism is a new form of tourism in A Luoi. It combines the protection of natural and cultural sites and activities to advance the conditions of Indigenous knowledge and local communities. The key eco-tourism destinations, based on unique natural and cultural resources, include the A Nôr Ecological Community Tourism village, the Parle Spring Ecological Tourism site, the Roàng Hot Mineral Spring Tourism site, the Revolutionary Historical Tourism at A Biah Hill and Tien Cong Cave.

Indigenous leaders agree that A Luoi District possesses both tangible and intangible resources for eco-tourism. Strengthening these community resources is a pathway for sustainable development while preserving the identity of Indigenous communities. Eco-tourism can help protect these tangible assets by promoting sustainable livelihoods, generating income from homestays, traditional food production and craft markets, while reducing reliance on extractive activities such as logging or monoculture farming. As one of the Indigenous leaders mentioned, "A Luoi, home to ethnic groups such as the Tà Ôi, Cơ Tu and Bru-Vân Kiều, possesses rich tangible and intangible resources for eco-tourism including forests, waterfalls, rivers, traditional stilt houses, agricultural landscapes and biodiversity-rich ecosystems".

Equally important are intangible resources such as oral histories, festivals, weaving techniques and forest management practices. Eco-tourism can create space for intergenerational knowledge transfer and cultural revitalization by valuing these practices as living heritage rather than static displays. As another of the Indigenous leaders claimed, “Cultural performances, storytelling and traditional farming demonstrations for tourists can strengthen community pride and cultural continuity, particularly among Indigenous youth. Indigenous leaders further suggested the need for a clear plan for eco-tourism that aligns economic development with cultural preservation and environmental sustainability, while integrating technology where it is appropriate and accessible. At the community level, this includes developing Indigenous-led homestays that reflect traditional architecture, local materials and Indigenous ways of living, rather than standardized tourism models. Homestays are seen as a practical entry point for eco-tourism because they generate direct household income, create employment for women and youth and encourage the continued use of Indigenous knowledge related to food, crafts and hospitality. In parallel, communities emphasized designing eco-tourism programs, such as guided forest walks, ecological experiences, weaving workshops, traditional cooking and storytelling activities that allow visitors to learn about Indigenous culture and local ecosystems. These programs would be coordinated through a district-level eco-tourism roadmap that sets out zoning, carrying capacity, environmental safeguards, seasonal planning and benefit-sharing mechanisms, ensuring that tourism growth does not undermine cultural values or natural resources. Many indigenous leaders advised that successful eco-tourism development must be grounded in careful planning and targeted investment in basic infrastructure, particularly in remote and ethnic minority areas. They advocate for participatory planning, community ownership, equitable benefit-sharing and respect for customary institutions to ensure tourism supports resilience rather than exploitation. They emphasized that eco-tourism activities should be planned through participatory processes involving community leaders, ethnic committees, women and youth to ensure that tourism aligns with local values, cultural practices and environmental limits. Clear

planning helps identify suitable eco-tourism products, define roles and responsibilities within the community, manage visitor numbers and reduce potential risks such as cultural commodification or environmental degradation. As one of the Indigenous leaders mentioned, “Eco-tourism must be locally governed and culturally sensitive to avoid cultural erosion”.

Perspective of Indigenous People

Many Indigenous people highlighted the need to invest in essential infrastructure as a foundation for eco-tourism. This includes improving access roads, safe bridges, clean water supply, sanitation facilities, waste management systems, reliable electricity and internet connectivity. Indigenous people, therefore, stressed that infrastructure investment should go hand in hand with eco-tourism planning, reinforcing community resilience, improving quality of life for residents and ensuring that eco-tourism contributes to long-term, inclusive local development rather than short-term gains. An Indigenous man claimed, “Building eco-tourism homestay models to serve domestic and international tourists; repairing and upgrading exhibition houses, tourist information centers, tourist attractions and eco-tourism sites; implementing plans to plant native flowers at tourist spots in the area, as well as expanding and upgrading routes for tourist attractions”.

Indigenous people also pointed out the need to create dedicated community spaces to display and promote handicrafts, traditional culinary products and cultural artifacts as part of a broader eco-tourism and cultural preservation strategy. These spaces are envisioned not only as marketplaces but also as living cultural hubs where visitors and community members can interact, learn and exchange knowledge. Display areas for handicrafts such as weaving, basketry, wood carving and beadwork would allow artisans, particularly women and elders, to showcase their skills, generate income and transmit techniques and cultural meanings to younger generations. Emphasis was placed on fair pricing, authenticity and community control to avoid exploitation or mass-produced imitations. As one of the Indigenous men mentioned, “Develop a plan to organize programs, activities and spaces for domestic and international tourists to visit and learn about culture, historical sites and tourist attractions in the district”.

Technology was viewed as a supporting tool rather than a driver of eco-tourism. When appropriate, communities proposed using digital platforms for basic marketing, online booking, mapping eco-tourism routes, climate and weather information and digital storytelling to document and transmit Indigenous knowledge. Importantly, they stressed that technology adoption should be inclusive, low-cost and accompanied by capacity-building, so that it strengthens community resilience without widening digital divides or eroding cultural authenticity. As one of the Indigenous men mentioned, “Develop different types of homestays and apply information technology in eco-tourism management and development (websites, Facebook, Zalo...) at tourist attractions. Install billboards and road signs at tourist attractions; publish brochures introducing tourism in A Luoi district; participate in fairs, conferences and exhibitions at all levels and at festivals organized by the province and country.

Perspective of Local Government

Many local government officers suggested a set of integrated approaches to strengthen and empower eco-tourism implementation, emphasizing that eco-tourism should be built upon both the tangible and intangible values of Indigenous knowledge systems. They highlighted that eco-tourism generates not only visible economic benefits such as income, employment and infrastructure development but also intangible benefits, including cultural revitalization, environmental stewardship, community pride and the preservation of Indigenous knowledge. Recognizing and valuing these intangible contributions was seen as essential for ensuring that eco-tourism policies respect Indigenous worldviews rather than treating culture and nature as commodities. As one local government officer mentioned, “Eco-tourism from Indigenous knowledge is not only about value in terms of money, but also value in terms of cultural heritage and pride for the community”.

The government officers also stressed the importance of capacity building for Indigenous communities, including training in eco-tourism management, hospitality skills, language use and digital tools. Strengthening local capacity was viewed as critical to enabling communities to lead eco-tourism initiatives, negotiate with external actors and retain greater control over benefits. At

the district level, government officers emphasized the need for collaborative planning with Indigenous groups and local stakeholders to design integrated eco-tourism packages that combine nature-based activities, traditional medicine and herbal knowledge, historical and cultural tourism and trekking routes into coherent, high-quality experiences rather than fragmented offerings. As a local government officer claimed, “Indigenous people are masters of their Indigenous knowledge, but they need capacity building in management, hospitality and digital technology”.

In addition, several local government officers highlighted the strategic value of regional and cross-border collaboration, particularly learning from neighboring Mekong countries such as Thailand and Cambodia, which have more established eco-tourism models involving eco-tourism, heritage trails and cross-country itineraries. Such collaboration could support knowledge exchange, joint marketing and the development of transboundary eco-tourism routes, potentially linking shared ecosystems, cultural landscapes and historical narratives across borders. As one local government officer noted, “Cross-border collaboration could help position eco-tourism not only as a local development tool, but as a platform for regional cooperation that strengthens Indigenous livelihoods, cultural identity and sustainable tourism in the Mekong sub-region”.

Many local government officers suggested setting a clear plan and vision to create a full tour connecting the mountainous, delta and lagoon regions and seeing it as a modern ecosystem, introducing new ideas from the circular economy into local tourism to ensure sustainable development as one local government officer mentioned, “Advising changes to the itinerary for a full tour in A Luoi: from 2 nights and 2 days with price of 750.000 VND per person (\$32), to 3 nights and 3 days by developing a modern street including restaurants, along with the Pacua homestay in A Tia Village, Hong Kim commune. This system aims to attract domestic and international travelers, replacing the traditional approach of local government and communities”. Many local government officers suggested fostering tourism skills associated with preserving traditional culture and providing vocational

training courses in the tourism industry, focusing on professional expertise, foreign languages, tourism management capacity and learning experiences on cultural and community tourism development in localities with developed tourism. As one of the local government officers mentioned a need for “Providing English courses in tourism while exchanging and improving the ability of tour guides in Indigenous languages”.

Perspective of Indigenous Entrepreneurs

Many Indigenous entrepreneurs from the local community highlighted the critical importance of digital skills and customer service capacity for strengthening eco-tourism initiatives and ensuring long-term sustainability. They emphasized that, as tourism markets become increasingly digital, local communities need practical skills in using social media, online booking platforms, digital marketing and basic photography and video skills to promote homestays, eco-tourism activities and cultural products. As one entrepreneur noted, “Enhancing skills and techniques in applying digital marketing and customer service is essential for reaching wider audiences, reducing dependence on intermediaries and allowing communities to present their culture and environment in their own voices”.

Simultaneously, Indigenous entrepreneurs stressed the importance of understanding service standards expected by both domestic and international travelers. This includes basic hospitality practices, communication skills, hygiene and safety standards, responsiveness to guest needs and cultural sensitivity in hosting visitors from different backgrounds. As one Indigenous entrepreneur emphasized, the need for “Understanding the standards of domestic and international travelers- meeting these expectations can improve visitor satisfaction, build trust and encourage repeat visits”.

Indigenous entrepreneurs also highlighted the importance of strengthening the ability of the Indigenous community in eco-tourism. As one of the Indigenous entrepreneurs mentioned, “Providing training to at least four local ethnic minority tour guides at tourism destinations or villages; strengthening tourism associated with traditional cultural preservation, improving tourism skills such as foreign languages, management, planning and policies and taking part in provincial and out-of-province experience study programs”.

Together, these insights reflect a growing awareness among Indigenous entrepreneurs that it is necessary to ensure that eco-tourism remains Indigenous-led, competitive and respectful of Indigenous values.

Development Approaches of Eco-tourism based on Indigenous Knowledge

The findings found development approaches based on Indigenous Knowledge include preserving historical sites, improving the effectiveness of public management, enhancing zoning management, developing human resources, promoting eco-tourism and empowering Indigenous youth and women.

Preserving Historical Sites

Repair historical sites and support the restoration and development of traditional handicraft villages associated with local culture to serve tourists. Promote intangible cultural heritage, especially the strength of local cultural values and the participation of the local community associated with experiential tourism activities. Linking these historical sites with Indigenous narratives and local perspectives further enriches the tourism experience and grounds it in place-based memory, such as A Luoi Pine Hill, the A Nôr ecological community tourism village, Pârle Spring, Hong Ha homestay and Huong Danh homestay.

Improving the Effectiveness of Public Management

Launch information centers and tourist support hotlines from management teams to ensure safety for tourists. Build tourism information booths to update information on products, services, weather conditions and event schedules. Provide maps and guidance on what tourists should or should not do during eco-tourism. Ensure qualified service facilities, food hygiene and safety and service qualification. Develop initiatives that assume responsibility for monitoring, managing and safeguarding environmental protection standards at eco-tourism destinations.

Enhancing Zoning Management

Establish close cooperation with the Thừa Thiên Huế Department of Culture and Sports, the Thừa Thiên Huế Department of Tourism and other relevant agencies and departments, with the active involvement of professional consulting units to conduct field surveys and develop detailed tourism zoning plans. Throughout the planning and implementation process, zoning should ensure a

balanced integration of agricultural and forestry-based economic development with the preservation of Indigenous cultures, historical sites and ecological systems. At the same time, zoning management must prioritize environmental protection and safeguard the rights and benefits of local communities, thereby ensuring that tourism development contributes to long-term, inclusive and sustainable development.

Developing Human Resources

Cooperate with the Thua Thien Hue Tourism Promotion Center, provincial departments and branches to conduct training courses for the district and township on eco-tourism. Conduct short-term and long-term human resource training activities at tourism colleges. Build tourism promotion teams and professional tourism marketing capacity with foreign language qualifications to meet the requirements for provincial tourism development in the current context of international integration. Improve knowledge for the community and family tourism businesses and establish a tourism service style that meets comparable standards in successful eco-tourist places, such as those in Thailand, Cambodia, etc.

Promoting Eco-tourism

Advertise eco-tourism on the district website, Facebook, Zalo, Fanpage, Instagram and TikTok. Cooperate with press agencies associated with promoting tourism on the district tourism website

and provincial website to advertise A Luoi tourism to other districts and provinces. Focus on district tourism investment, promoting tourism advertising, linking tours, designing products, organizing cultural tourism events and connecting hubs between A Luoi tourism with other tourism centers, travel agencies and other districts to facilitate international and domestic tourists to access and consume district tourism products.

Empowering Indigenous Youth and Women

Enhance the role of young people, women and the Indigenous community in eco-tourism activities by developing an eco-tourism paradigm, creating attractive eco-tourism products, encouraging Indigenous people to participate in eco-tourism, contributing to increasing income, protecting eco-tourism resources and ensuring sustainable development.

Quantitative Results

The results of the SWOT examine Strengths, Weaknesses, Opportunities and Threats for eco-tourism based on Indigenous knowledge in A Luoi in Vietnam.

Strengths

The findings revealed five important strengths for Indigenous communities to boost eco-tourism based on Indigenous knowledge, as shown in Figure 2.

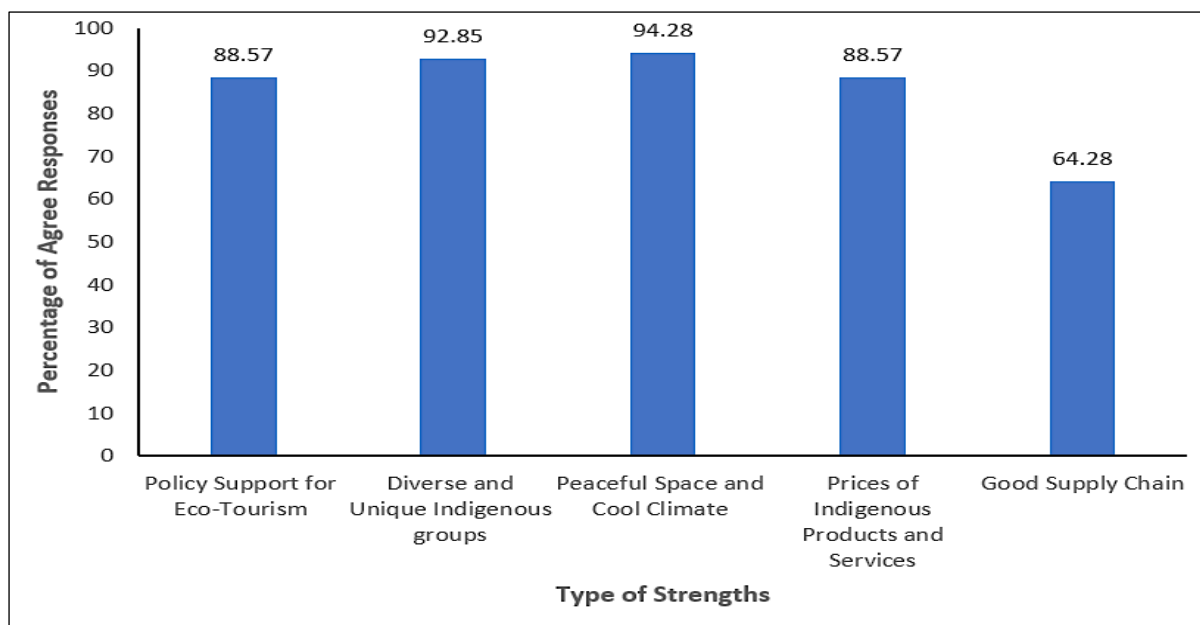


Figure 2: Strengths of Eco-tourism based on Indigenous Knowledge

Figure 2 indicates that a peaceful space and cool climate were perceived as the most significant

strengths supporting eco-tourism development in A Luoi district. These natural conditions enhance

the district's attractiveness as a destination for eco-tourism. The second-highest-rated strength was the presence of diverse and unique Indigenous groups. The cultural richness of Indigenous communities provides distinctive tourism experiences. Policy support for eco-tourism was also identified as a major strength. The affordability of Indigenous products and services was another important advantage. Reasonable prices make eco-tourism experiences accessible to

a wider range of domestic tourists while also encouraging visitors to purchase local handicrafts and services. In contrast, the local supply chain was perceived as the lowest-rated strength, although it remains an important supporting factor.

Weaknesses

The findings revealed six underlying weaknesses that have the potential to hinder eco-tourism, as shown in Figure 3.

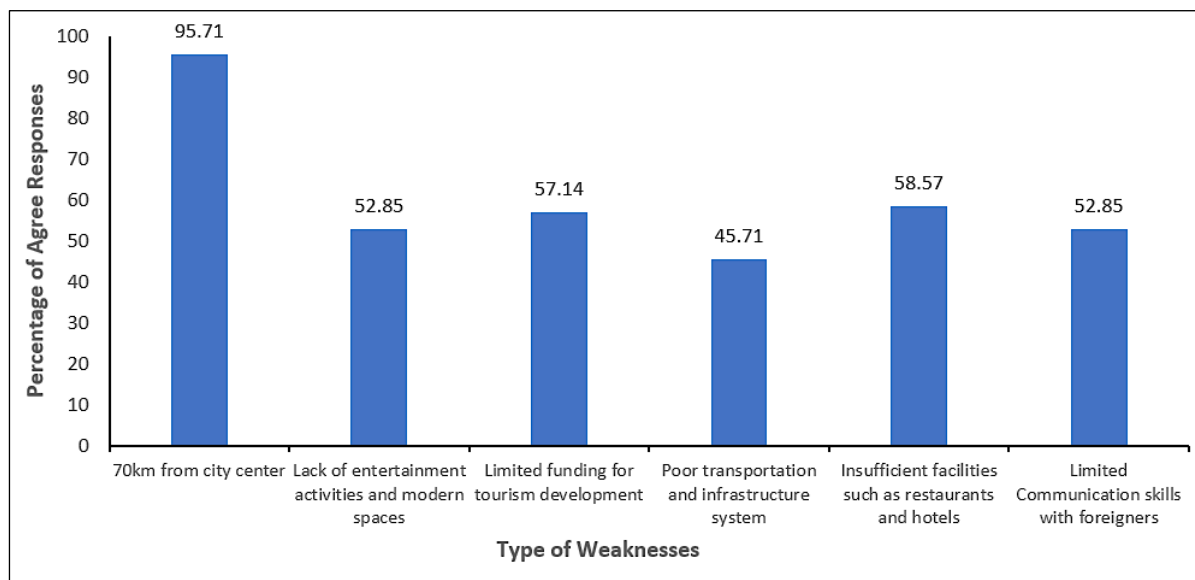


Figure 3: Weaknesses of Eco-tourism based on Indigenous Knowledge

Figure 3 showed that the distance of approximately 70 km from the city center was perceived as the most significant weakness affecting eco-tourism development in A Luoi district. The second major weakness was the insufficient availability of tourism facilities, such as restaurants, hotels and accommodation services. Limited funding for tourism development was also identified as a key barrier. In addition, the lack of entertainment activities and modern spaces reduces the diversity of tourism experiences. Limited communication skills with foreigners were also perceived as a significant weakness. Finally, poor transportation and infrastructure systems were also identified as a weakness.

Opportunities

The findings illustrated five underlying opportunities that have the potential to create eco-tourism development, as shown in Figure 4. Figure 4 indicated that the growth of domestic tourism and support from the state and international agencies were perceived as the strongest opportunities for eco-tourism develop-

ment in A Luoi district. The connection with other district capitals was identified as the next important opportunity. The pilot project of smart tourism also signified a significant opportunity. Finally, the appreciation of Indigenous festivals and products was perceived as another valuable opportunity. These factors highlight potential opportunities for the development of eco-tourism.

Threats

The findings revealed six underlying threats that have the potential to delay eco-tourism, as shown in Figure 5.

Figure 5 showed that competition is the most significant threat. This is followed by natural disasters, which can disrupt livelihoods, damage infrastructure and undermine economic stability. Emigration also represents a major concern, as the outflow of young people reduces the available labor force. In addition, the lack of quality human resources can limit long-term development. Low population density further constrains economic and social activities. Finally, inequality in benefit sharing might create communal tensions and

weaken community participation. Together, these factors illustrated threats to the resilience and sustainability of eco-tourism.

Discussion

This study found that eco-tourism offers strengths, weaknesses, opportunities and threats to Indigenous communities in the Mekong countries, which align with the Resource-Based Theory and SWOT framework. Eco-tourism

from Indigenous knowledge for the creative economy presents many strengths and opportunities to reflect on the importance of sustainability and the prospects of development approaches that move local communities in a new direction. However, if Indigenous knowledge is not integrated into eco-tourism, these opportunities will be lost and significant threats will emerge (20).

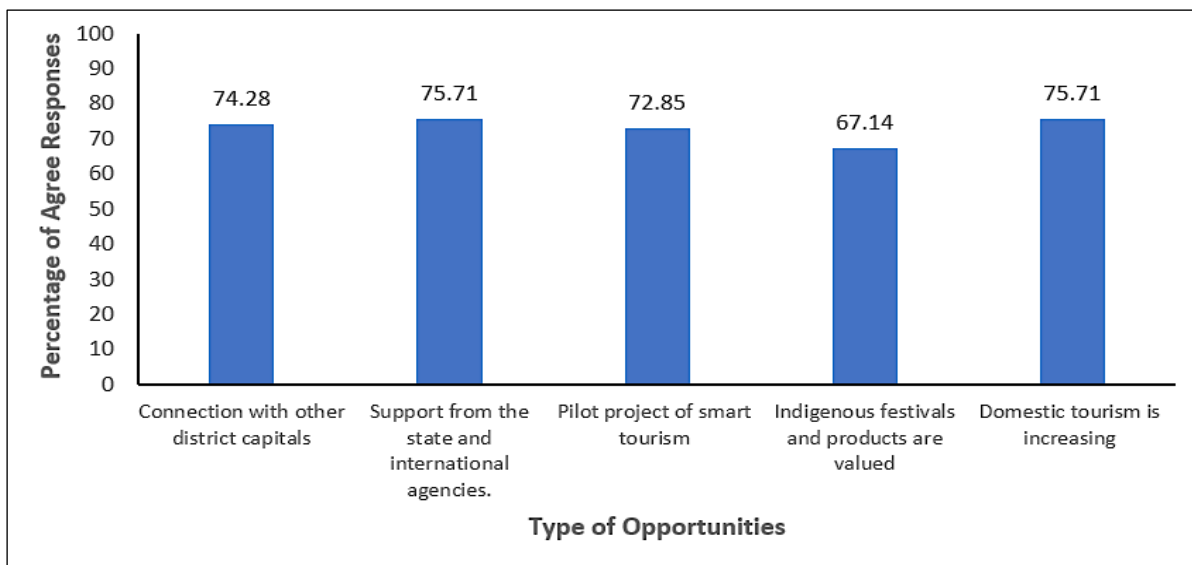


Figure 4: Opportunities of Eco-tourism based on Indigenous Knowledge

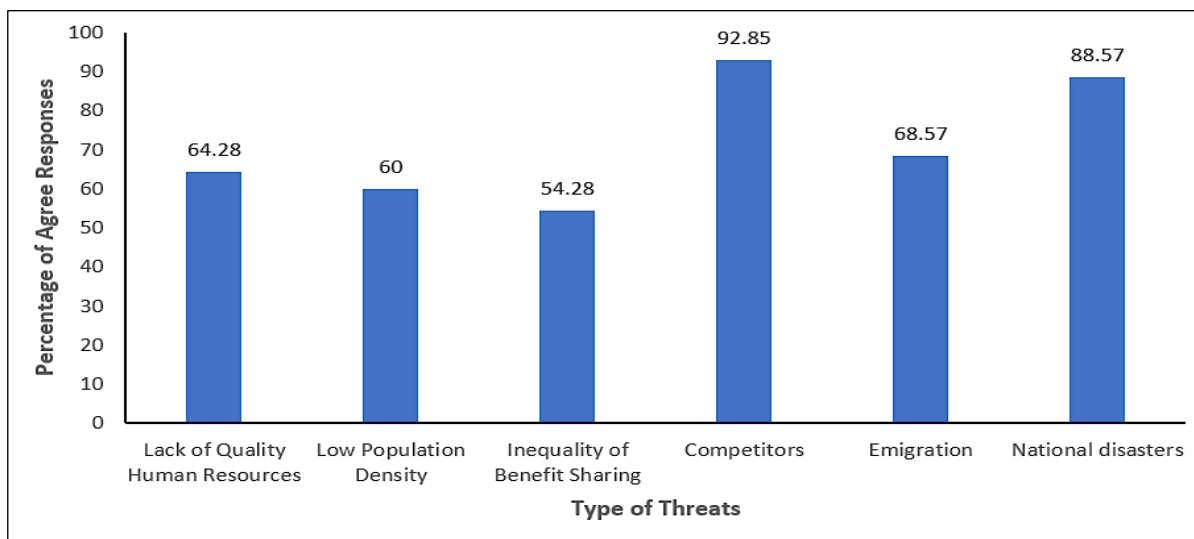


Figure 5: Threats of Eco-tourism based on Indigenous Knowledge

Hence, an eco-tourism that integrates cultural, economic, political and social influences that progresses towards enabling Indigenous knowledge and democratic participation within the Mekong region is required to overcome obstacles. Strategies to tackle these challenges must respond to protecting Indigenous knowledge

and local communities from further disturbance and ensuring their cultural heritage and sustainability. When Indigenous people share knowledge and participate in the management of eco-tourism activities, they maintain a sense of control over their environment and cultural identity (9). This study showed that both top-down

and bottom-up development approaches, with multi-stakeholder participation, can benefit Indigenous communities and create balance and sustainable development. This finding is supported by various studies that agree that multi-stakeholder engagement in eco-tourism is valuable as it brings various benefits to all stakeholders (21, 22).

Eco-tourism is a popular instrument for fostering the cultural, economic and social development of local communities. It is a form of tourism that acts as a counterbalance in the resolution of inequalities and environmental issues (23). This study found that the A Luoi district of Vietnam has a competitive edge in financial, natural, human and social capital to develop eco-tourism. Moreover, Indigenous people and other relevant stakeholders have deep knowledge of natural resource utilization, which are sources of eco-tourism that often drive the creative economy in the Mekong region. In this context, eco-tourism evolves in local contexts by applying, modifying and adapting Indigenous knowledge while requiring strong partnerships.

Furthermore, the governance of processes and the participation of multi-stakeholders are critically important (16). The government should promote the right of Indigenous communities to participate in planning and managing eco-tourism because Indigenous knowledge complements scientific knowledge in contexts of social and environmental change (24). This research examined how eco-tourism in the Mekong countries can be enhanced by better inclusion of Indigenous knowledge and encouraging communities to participate in managing tourism activities. The incorporation of Indigenous knowledge is a process of allowing active participation from indigenous communities in eco-tourism development whilst safeguarding cultural traditions and preserving the environment (25). This finding is aligned with a study by UNESCO on advancing an inclusive green economy through the participation of youth in the Greater Mekong, collaborating with existing local networks to promote the Sustainable Development Goals (26).

Conclusion

This study assessed the current state of eco-tourism development in the Mekong region by examining how existing local capacities influence

its growth. It highlights both the opportunities and constraints faced by communities, particularly those in rural and indigenous areas in A Luoi district in Central Vietnam. The study demonstrated the importance of incorporating multi-stakeholder perspectives, including Indigenous leaders, Indigenous community members, local government officers and Indigenous entrepreneurs, to ensure that eco-tourism development is contextually appropriate, socially equitable and environmentally sustainable. Furthermore, the study emphasized the value of participatory consultations that actively engage multi-stakeholders in decision-making. This inclusive approach empowered local stakeholders and supported equitable benefit sharing of eco-tourism in the Mekong region.

This study made key contributions, including advancing the understanding of how multi-stakeholder approaches strengthen eco-tourism development. It also provided a SWOT framework that can inform multi-stakeholders in designing comprehensive eco-tourism. The larger impacts of this study could be divided into social, economic and environmental dimensions. In which social impacts were to increase participation among Indigenous communities and other stakeholders, as well as improve human development. Economic impacts were to strengthen the development of eco-tourism in the indigenous communities. Environmental impacts were that indigenous communities can generate value-added products and services while maintaining environmental protection. The limitations of the research were geographically restricted to selected communities within the Mekong region, which may limit the generalizability of the findings. Future research should expand comparative studies across different Indigenous communities in the Mekong region.

Abbreviations

None.

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Author Contributions

Sudarat Tuntivivat: conceptualization, research design, writing, review, Dao Duy Minh: data

collection, analysis, writing, review. All authors approved the final version of the manuscript.

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Conflict of Interest

The authors declare no conflict of interest.

Data Availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Declaration of Artificial Intelligence (AI) Assistance

The authors acknowledge the use of generative AI tools for language refinement and formatting assistance only.

Ethical Approval

The ethical approval number SWUEC-217/2564E was obtained before collecting the data.

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