

ASSESSING THE POTENTIAL OF COMMUNITY-BASED ECOTOURISM TOWARD SUSTAINABLE DEVELOPMENT: A CASE STUDY IN TUA CHUA KARST PLATEAU – DIEN BIEN – VIET NAM

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Abstract: Tua Chua Karst Plateau - a living area of the Mong ethnic group with spectacular natural landscapes, cool weather, and unique indigenous cultural values. They are all prerequisites for tourism development. This study aims to evaluate the potential of community-based ecotourism development in the Tua Chua Karst Plateau. This research uses the AHP method. Evaluation criteria include (i) uniqueness of natural landscape, (ii) indigenous cultural value, (iii) stakeholder engagement, (iv) local tourism development policy, (v) quality of infrastructure, (vi) quality of tourism facilities, (vii) accessibility, (viii) connectivity. The evaluation system includes eight criteria that have classified tourism resources according to each resource point and identified suitable internal and external potentials to exploit the geological value of the plateau and preserve indigenous culture. Results of this study reveal that the indigenous cultural values, the participation of local communities, and the uniqueness of the natural landscape have an important impact on the development of ecotourism. Tua Chua Karst Plateau has great potential for community-based ecotourism development with 14 tourist resource sites, of which 8 are highly appreciated.

Key words: rocky plateau, community-based ecotourism, tourism model, AHP methodology, local community participation

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INTRODUCTION

Ecotourism is a form of tourism developed from the challenges of negative impacts on the natural environment in the early twentieth century. The born of ecotourism has affirmed its mission when linking countries and international organizations around the world to spread knowledge, promote conservation, communication, and sustainable development in tourism. The term "ecotourism" first appeared in the 80s, it expresses the world's recognition type of tourism that is responsible for the natural and social environment and sustainable ecological development. The ecotourism model is a solution to help reduce pressure on national parks and protected areas, and it is also a tool for sustainable forest management and protection (Lien, 2018). Ecotourism is considered a strategy for sustainable development (Whelan, 1991), Groom et al. (2006) identified the potential of ecotourism in the relationship between biodiversity conservation, natural environment protection, and the demands of the development of local communities in rural areas (Ashley and Garland, 1994; Theron, 1995). In particular, it is necessary to mention the role of ecotourism in improving the quality of life for local people, restoring the pride of indigenous people in cultural heritage, develop motivation for the community in protecting natural resources (Brandon, 1993). Some studies suggest that ecotourism development is also associated with indigenous communities. In fact, in the natural area, there are indigenous communities present. Therefore, there is a contradiction between ecotourism development in unspoiled natural areas and this area is the traditional homeland of indigenous communities (Coria and Calfucura, 2012).

Indigenous people's territories are often far from developed areas, which also maintain pristine or vulnerable ecosystems. In addition, indigenous communities always consider the natural ecosystem part of their daily life and culture, forming indigenous knowledge, living on nature, and protecting wildlife for generations. Since then, it forms the principles of ecotourism development, and ecotourism has been created with the identity of the indigenous community. The principles of ecotourism development are also established to ensure tourism activities in protected areas: environmental protection and ecosystem maintenance, conservation and exploitation of indigenous cultural values, environmental education activities, and participation of the local community. With an upholding perspective on the role of local communities in sustainable tourism development in ecologically sensitive areas, the studies have introduced the term "community-based ecotourism" and clarified the difference between this type of tourism and other types of nature-based ecotourism. With community-based ecotourism, most indigenous people consider themselves a part of nature. The material and spiritual life of indigenous people adapts to the changes of nature, which is "traditional ecological knowledge," i.e., "a

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cumulative body of knowledge, practice, and belief, evolving by adaptive processes and handed down through generations by cultural transmission, about the relationship of living beings with one another and with their environment (Berkes et al., 2000). Currently, the community's participation in ecotourism development in ecological areas is limited, passive, and primarily owned by tourism businesses outside the community. The benefits shared with the community are negligible. Meanwhile, the term "community-based ecotourism" implies going beyond the above limitations so that the community can participate more actively and proactively. At least some community members must be engaged in tourism-related economic activities, and part or all of the tourism businesses must be owned and managed by the community (Kiss, 2004; Coria and Calfucura, 2012). This is one of the factors that distinguishes community-based ecotourism from other types of nature-based tourism.

The criteria for assessing the potential of community-based ecotourism development are used as a tool to evaluate a tourist destination that is likely to develop community-based ecotourism identified as a control group condition to ensure the natural environment and ecosystems (Mamun and Mitra, 2012). Studies also show that the local community's participation and the indigenous community's willingness to host guests are essential factors influencing the exploitability of an ecotourism resource point (Lien, 2018; Theron, 1995; Masud et al., 2017). The difference in assessing the potential of ecotourism in general and community-based ecotourism is the active participation of local people in tourism activities.

The development of community-based ecotourism could be evaluated based on three criteria: natural landscapes, indigenous cultural values, and sustainability of resources (Dat, 2013). At the same time, assessing the potential of community-based ecotourism is also approached from a social perspective, requiring the participation of stakeholders such as businesses, local communities, local authorities, and tourists. Community-based ecotourism activities can develop when satisfying the demands of the stakeholders based on the role of tourism development policy (Jones, 2005). The cooperation between factors in ecotourism activities focused on community-based, collaboration is defined as the approach method of community-based ecotourism, where community empowerment is considered a key factor to develop community-based ecotourism (Stone, 2015). Assessment of growth potential community-based ecotourism needs to determine the role of natural resources (including forest resources) and indigenous factors are appreciated (Nega, 2019). To assess the potential for community-based ecotourism development relied on two groups of factors: endemic flora and fauna as well as indigenous cultural factors, this is an opportunity to develop this kind of tourism because it will attract tourists. In addition, local agricultural products such as poultry, honey, milk, coffee... handicrafts, custom, and the traditional culture of local people are also factors to attract visitors (Petros Menbere et al., 2017). In mountainous regions and rural areas, community-based ecotourism development also contributes to biodiversity conservation and free trade. Assessing the potential of community-based ecotourism in this area needs to pay attention to the livelihood factor of local people (Kry et al., 2020). In community-based ecotourism, local communities contribute to nature conservation, at the same time, tourism activities improve the livelihood life of people (Teshome et al., 2021). To experience the potential for community-based ecotourism sustainably also need to balance the interests of the parties involved: the local community, and tourists (Kibria et al., 2021). Therefore, to assess the potential for the community-based ecotourism resource-based, the value of local culture, the condition to make sure to serve tourists, the policy to develop tourism, ensure livelihood factors for local people, and the division of interests of the parties involved in tourism activities. This research carries out a potential assessment for community-based ecotourism development towards sustainable development in mountainous regions, therefore, evaluating the attractiveness of the resource, unique value of local culture, and willingness to engage in tourism activities of local people.

Thus, the potential assessment of community-based ecotourism needs to base on resources, indigenous cultural values, conditions to serve tourists, and tourism development policies. After assessing the potential for the community - base ecotourism development, in subsequent studies, the author proposes policy implications for local tourism development.

Characteristics of the study area

Tua Chua karst plateau belongs to Tua Chua district and is located in the northeast of Dien Bien province. The natural area is 68,414.88 hectares, population in 2020 is 61,017 people, with seven ethnic groups. The ethnic minorities account for over 95%, of which the majority is Mong people. Regarding tourism resources, the Tua Chua karst plateau has many conditions for tourism development. It is located at more than 1400m above sea level; 70% of the area is limestone mountains, layers of majesty Rugged rock, and the uniqueness of the natural landscape. The Karst terrain creates stunning caves such as Khau Chua La, Tham Khem, Hau Chua, Xa Nhe to attract tourists. In the south of the plateau, there is the Da River flowing. It makes the Tua Chua karst plateau not as dry as other plateau areas, creating more favorable living and farming conditions for local people. With the diverse natural conditions, the farming activities and indigenous culture of local people have unique features: soil cultivation on rock niches, the stones used in building construction, and stone roofs. In the south of the plateau, the Da River is running through, so the living habits of local people are associated with the river, creating the colors of indigenous culture for the rocky plateau, different from other highland arid resources. Local cuisine is an attractive cultural tourism resource, with local dishes: Mong Pe wine, indigenous black chicken, grilled fish, food from corn, upland rice, and so on, creating remarkable for the plateau.

RESEARCH METHOD

1. Synthetic assessment criteria selection

This research conducted in-depth interviews with 25 experts, using the AHP method to determine the weighting of criteria for assessing the potential of community-based ecotourism. At the same time, using the integrated assessment method of ecotourism resources and classifying resources, thereby identifying resource points with high potential for exploitation into tourism products. The general assessment of potential tourism development is multidimensional and

complex, which is influenced by various factors such as the attractiveness of the landscape, the value of indigenous culture, the capacity of the tourist destination, exploitability and accessibility of the destination, sustainability, infrastructure, and technical facilities, local readiness, economic efficiency. It would depend on each assessment, the type of tourism being evaluated, and the actual tourism development of the destination to choose different evaluation criteria. According to Dwyer and Kim (2003), the ability to exploit the potential of a tourist destination does not only depend on tourism resources but the compound impact of other complementary factors (Dwyer and Kim, 2003).

Tua Chua karst plateau is diverse landscapes, including karst landscape, typical terraced fields of low mountains, river landscape, and unique indigenous cultural values. The potential to develop community-based eco-tourism is influenced by aesthetic and artistic value, cultural and historical value, scientific value, sustainability, and uniqueness (Huong and Hai, 2016). In addition, the accessibility, quality of infrastructure and local tourism development policy, and the indigenous community's readiness significantly affect the destination's exploitability.

Therefore, in this study, groups of criteria have been identified to show the internal and external potential of the destination (Huong and Hai, 2016): the uniqueness of the natural landscape, the indigenous cultural value, the accessibility, stakeholder engagement, infrastructure quality, destination scale, and local tourism development policies. For community-based eco-tourism, the participation of stakeholders (tourism businesses, local people, local authorities, tourists) and indigenous cultural values create the specific nature of this type of tourism (Figure 1).



Figure 1. Flowchart of the process of assessing tourism potential in Tua Chua rock plateau – Dien Bien – Viet Nam

The value of the criteria “uniqueness of the natural landscape”, “indigenous cultural value”, “stakeholder participation,” and “local tourism development policy” is divided into degrees: very high, high, medium, and low. The criterion “scale of tourist destination” given is an increased rating with the assumption that the larger the assessment scale of the tourist destination, the larger the scope of exploitation of natural and cultural tourism resources, which is convenient for organizing travel space. The criterion of “quality of infrastructure” is based on the field survey results and the statistics of the General Statistic Office of Dien Bien province. Accessibility represents the degree of convenience of infrastructure in tourism exploitation at each tourist resource point, which is an essential external factor determining the development of a tourist destination. A tourist destination has high internal potential, but complementary factors such as infrastructure or inaccessibility, the tourist destination only exist in the potential form (Dwyer and Kim, 2003; Huong and Hai, 2016). The criterion of “accessibility” is measured by the travel time from each tourist destination to the tourist facilities such as accommodation facilities, food and beverage establishments, service facilities, airports, and modes of transportation.

2. Determining the weight of the evaluation criteria method

To comprehensively assess the tourism potential of a destination, the level of contribution of each criterion and the convenience of each criterion in the particular destination are determined (Saaty, 1990). Therefore, this study determines the weights for the criteria in the potential ranking process and performs the composite assessment. There are many methods to determine weights: weights of factors based on expert opinion, weights of factors determined by regression analysis, weights of factors based on analysis of economic factors, and the weights of the factors are from the analysis of the triangular matrix (Huan, 2005), and the weights are determined by the Analytical Hierarchy Process method (AHP) (Saaty, 1990). The weights make a decisive contribution to determining the importance of the criteria in the evaluation; the criteria show a clear hierarchy and the level of influence on tourism development. AHP analysis method is used in this study to determine the weights of factors to evaluate the potential of community-based ecotourism of in Tua Chua Karst plateau because the AHP method helps research to determine factors, and arrange the criteria according to their level of importance, then find the most reasonable final decision. AHP was developed by Saaty (1990), and it was expanded to determine the weight of the evaluation criteria. To determine the weights for the criteria for assessing community-based ecotourism resources, the research team interviewed 25 experts in ecotourism to compare the importance of these criteria. The process of determining weights by the AHP method is as follows (Figure 2). For synthetic

assessment of tourism resources, there are some methods used such as the technical assessment method, Matrix assessment method, CBA-Cost Benefit Analysis method, CVM-6 Contingent Valuation Method, TCM-Travel Cost Method, The average of component scores method (Loi, 1992), or the geometric mean method (Dat, 2013), factor analysis to determine weights methods (Huan, 2005), multi - criteria analysis method (Yu et al., 2002). The multi-criteria analysis method is the most objective and comprehensive to assess the development potential of tourist destinations. The steps of the multi-criteria assessment are carried out from each criteria assessment to the synthetic assessment by formula following (Huan, 2005):

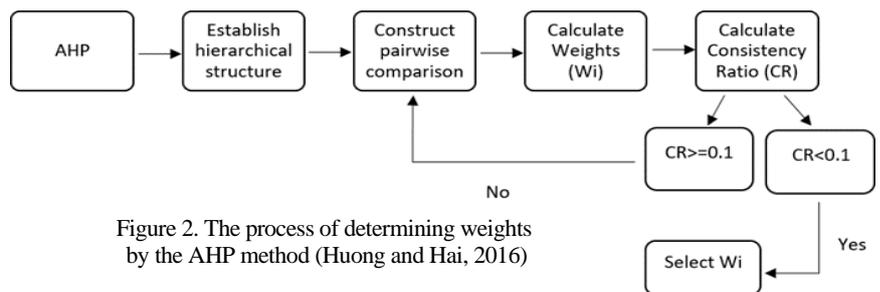


Figure 2. The process of determining weights by the AHP method (Huong and Hai, 2016)

$$S = \sum_{i=1}^n (W_i * X_i) \quad (1)$$

$i=1$ In there:

S: the composite evaluation index

W_i: the weight of the *ith* evaluation criterion

X_i: the evaluation index of the *ith* indicator

3. Classification of rating results in the synthetic assessment of tourism resource

Once the resource synthetic assessment index has been determined, the resource classification should be carried out. The rating score represents the attractiveness of the resource (the uniqueness of the natural landscape) at the following levels: very high (S1), high (S2), medium (S3), and low (S4) (table 1). The gap in each rating level is calculated according to the formula (Huan, 2005; 25):

$$\Delta S = (S_{max} - S_{min}) / M \quad (2)$$

In there:

ΔS : score gap between rating index;

S_{max} : highest synthetic rating index;

S_{min} : lowest synthetic rating index;

M : number level of assessment ($M=5$).

RESULT AND DISCUSSION

1. Results of weights according to the AHP analysis method

The study carried out in-depth interviews with 20 experts on ecotourism who know well about the Karst plateau area. The interview results were used to determine the weights for the criteria for assessing the potential for community-based eco-tourism of the Tua Chua Karst plateau by the AHP method. The indicators show the internal potential to play a vital role in determining local tourism development. The external potential shows the impacts on tourism development,

in which quality of infrastructure and the quality of facilities have more impact. Specifically, as follows: The criteria of indigenous cultural values occupy the most substantial impact on the development of tourist destinations with a weight of 0.16 (16%), the criteria of the uniqueness of the natural landscape and the participation of local people weight of 0.14 (14%), the criteria of local tourism development policy weight 0.13 (13%). In the group of potential external criteria, accessibility plays a vital role with a weight of 0.09, followed by quality of accommodation with a weight of 0.07 (Table 2).

Table 2. The average weight of criteria for assessing potential community-based ecotourism

Criteria	Average Weight
The uniqueness of the natural landscape	0.14
Indigenous cultural value	0.16
Stakeholder engagement	0.14
Local tourism development policy	0.13
Quality of infrastructure	0.06
Quality of facilities for tourism	0.07
Accessibility	0.09
Connectivity	0.05

The potential development of community-based ecotourism is governed by internal and external factors, thereby formulating a community-based ecotourism development policy suitable to each resource, and the level of impact is expressed in the following equation (Huong, 2016): $Y = Y1 + Y2$ (3)

In there: $Y1 = 0,14 * X1 + 0,16 * X2 + 0,14 * X3 + 0,13 * X4$ (4); $Y2 = 0,06 * X5 + 0,07 * X6 + 0,09 * X7 + 0,05 * X8$ (5)

Combining both internal and external potentials, and based on the total evaluation score, resource points can be divided into 4 groups as follows (Table 3, Table 4): 1. High internal and external potential; 2. High internal potential and average external potential; 3. Average internal potential and average external potential; 4. Medium internal potential and low external potential. At the same time, the study also determines the exploitation level of each resource point based on the results of synthetic assessment and classification according to the table below.

2. Results of synthetic assessment potential of community-based ecotourism in Tua Chua Karst plateau - Dien Bien – Vietnam

The assessment results of the potential for community-based ecotourism in Tua Chua Karst plateau show that internal potentials play a decisive role (ratings range from 2.9 to 4.6 points), and external potential has a lower level of impact (rated

Table 1. Assessment indicators of potential community-based ecotourism in Tua Chua Karst plateau - Dien Bien – Vietnam (Source: Synthetic to Dat, 2013; Huong and Hai, 2016; Huan, 2005)

	Indicators	Rating scales	Point
Internal potential (Y1)	The uniqueness of the natural landscape (X1)	Very high	10
		High	7
		Average	4
		Low	1
	Indigenous cultural value (X2)	Very high	10
		High	7
		Average	4
		Low	1
	Stakeholder engagement (X3)	Very high	10
		High	7
		Average	4
		Low	1
Local tourism development policy (X4)	Excellent	10	
	Good	7	
	Medium	4	
	Poor	1	
External potential (Y2)	Quality of infrastructure (X5)	Excellent	10
		Good	7
		Medium	4
		Poor	1
	Quality of facilities for tourism (X6)	Excellent	10
		Good	7
		Medium	4
		Poor	1
	Connectivity (connection with other tourist destinations in the region) (X7)	Very high	10
		High	7
		Average	4
		Low	1
Accessibility (travel time from destination to the nearest accommodation, dining, airport, etc.) (X8)	>3 hours	10	
	2 - 3 hours	7	
	1 - <2 hours	4	
	0 - <1 hour	1	

Table 3. Hierarchizing the potential for community-based ecotourism development towards internal and external potentials

Hierarchy	Low	Medium	High
Internal potential	<2	2-<3	>3
External potential	<1	1-1.5	>1.5

Table 4. Classification of potential development of tourism

Index	Resource classification
>8	Very high exploitation ability
5- <8	High exploitation capacity
3-<5	Average exploitation Ability
<3	Low exploitation ability

scores range from 0.8 to 1.9 points). The evaluation results are shown in the following table (Table 5, Table 6). The results show that the resource sites with high internal and external potentials include: Ta Phin plateau landscape, Ta Phin ancient rock, De De Hu Terraces, Muong Dun ancient Bauhinia variegata forest, Xa Nhe market, Ta Sin Thang market, the Da River landscape along Huoi So, Son La hydroelectric lake. The tourist resource sites with high internal and medium external potentials include Son La hydroelectric lake, Kho Chua La Cave, Tham Khen Cave. Resource site with medium internal and low external potential is Pe Rang Ki Cave. The study shows that the exploitation capacity of tourist resources of community-based ecotourism is influenced by the uniqueness of the natural landscape, the local cultural values, stakeholder engagement, and destination accessibility. Tua Chua Karst Plateau has a majestic, wild landscape, along with unique indigenous cultural values of the Mong people, such as the tradition of cultivation on rock niches, unique cuisine (Mong Pe corn wine, Ban chicken, fish, etc.) They are the factors that need to focus on preserving, conserving, and exploiting to become the strength of tourism development of the locality. For community-based ecotourism, the Indigenous cultural value and the readiness of the local community have an important influence on the formation and development of this type. Because of the closure to natural, tourists' requirements on the facilities for tourism are not too high (accommodation, services), but they request high quality of experience.

Table 5. Results of the synthetic assessment of community-based ecotourism potential in Tua Chua Karst plateau (Source: Analysis results of the authors)

No	Resource	The average score of criteria								Potential (Y)	
		X1	X2	X3	X4	X5	X6	X7	X8	Y1 (Internal)	Y2 (External)
1	Hang Xa Nhe	0.959	0.928	0.833	0.7735	0.294	0.2695	0.4545	0.26	3.4935	1.278
2	Kho Chua La Cave	0.77	0.808	0.854	0.8515	0.312	0.2905	0.4275	0.2525	3.2835	1.2825
3	Pe Rang Ki Cave	0.497	0.608	0.518	0.5005	0.177	0.1855	0.3195	0.185	2.1235	0.867
4	Tham Khen Cave	0.875	0.952	0.791	0.715	0.294	0.3115	0.4545	0.26	3.333	1.32
5	Ta Phin plateau landscape	1.127	1.288	1.169	1.0465	0.438	0.3955	0.5895	0.335	4.6305	1.758
6	Ta Phin ancient rock	0.917	1.024	0.959	0.9295	0.411	0.3955	0.5355	0.3125	3.8295	1.6545
7	De De Hu Terraces	1.022	1.216	1.085	0.8905	0.375	0.3115	0.5085	0.3125	4.2135	1.5075
8	Vang Long Wall	0.371	0.832	0.749	1.0465	0.429	0.2275	0.3735	0.2525	2.9985	1.2825
9	Muong Dun ancient Bauhinia variegata forest	0.644	1.048	0.959	0.8125	0.357	0.3955	0.5625	0.335	3.4635	1.65
10	Sin Chai ancient tea	0.791	1.024	1.211	1.0465	0.411	0.2695	0.5085	0.305	4.0725	1.494
11	Xa Nhe market	0.686	1.312	1.19	1.0075	0.411	0.4795	0.6435	0.3425	4.1955	1.8765
12	Ta Sin Thang market	0.749	1.264	1.148	1.0075	0.411	0.469	0.657	0.35	4.1685	1.887
13	the Da River landscape along Huoi So	0.707	0.76	0.917	0.8905	0.348	0.4165	0.603	0.32	3.2745	1.6875
14	Son La hydroelectric lake	0.665	0.88	1.001	0.9685	0.447	0.5005	0.657	0.3425	3.5145	1.947

Table 6. Result of potential of community-based ecotourism resources in Tua Chua Karst plateau (Source: Analysis results of the authors)

No	Resource	The average score of criteria								Total Score	Ranking of exploitation potential
		X1	X2	X3	X4	X5	X6	X7	X8		
1	Hang Xa Nhe	0.959	1.016	0.861	0.8385	0.312	0.3045	0.4545	0.26	3.4935	1.278
2	Kho Chua La Cave	0.77	0.808	0.854	0.8515	0.312	0.2905	0.4275	0.2525	3.2835	1.2825
3	Pe Rang Ki Cave	0.497	0.608	0.518	0.5005	0.177	0.1855	0.3195	0.185	2.1235	0.867
4	Tham Khen Cave	0.875	0.952	0.791	0.715	0.294	0.3115	0.4545	0.26	3.333	1.32
5	Ta Phin plateau landscape	1.127	1.288	1.169	1.0465	0.438	0.3955	0.5895	0.335	4.6305	1.758
6	Ta Phin ancient rock	0.917	1.024	0.959	0.9295	0.411	0.3955	0.5355	0.3125	3.8295	1.6545
7	De De Hu Terraces	1.022	1.216	1.085	0.8905	0.375	0.3115	0.5085	0.3125	4.2135	1.5075
8	Vang Long Wall	0.371	0.832	0.637	0.9256	0.315	0.2275	0.3735	0.2075	2.9985	1.2825
9	Muong Dun ancient Bauhinia variegata forest	0.644	1.048	0.959	0.8125	0.327	0.3955	0.522	0.275	3.4635	1.65
10	Sin Chai ancient tea	0.791	1.024	1.211	1.0465	0.411	0.2695	0.5085	0.305	4.0725	1.494
11	Xa Nhe market	0.686	1.312	1.19	1.0075	0.411	0.4795	0.6435	0.3425	4.1955	1.8765
12	Ta Sin Thang market	0.749	1.264	1.148	1.0075	0.411	0.469	0.657	0.35	4.1685	1.887
13	the Da River landscape along Huoi So	0.707	0.76	0.917	0.8905	0.348	0.4165	0.603	0.32	3.2745	1.6875
14	Son La hydroelectric lake	0.665	0.88	1.001	0.9685	0.447	0.5005	0.657	0.3425	3.5145	1.947

CONCLUSION

Thus, there are many factors that impact on the development of a tourist destination. Based on the geographical characteristics of the Tua Chua Karst Plateau area; consulting experts and assessment works, the topic has selected 8 criteria to assess the potential of community-based ecotourism at Tua Chua Karst Plateau. These criteria are divided into 2 groups: the internal potential group and the external potential group. The AHP weighting method shows that in the 8 selected criteria, the criteria showing the internal potential play a more important role than the criteria on the external potential. The results of the synthetic assessment for tourist destinations have shown that Tua Chua Karst Plateau is a potential area for the development of community-based eco-tourism with 14 tourist resource sites. In which eight tourist resource sites are evaluated as capable of exploiting tourism at a high level (Ta Phin plateau is the most capable of

exploiting site), and five tourist resource sites are evaluated as a medium level of exploitation. Although Tua Chua Karst Plateau has high internal potential in tourism, it still lacks a system of supporting infrastructure for tourism, and the quality of services and tourism marketing activities are not high. It leads to limited visits from tourists.

For tourism development, Tua Chua needs to be invested in the infrastructure system, promote tourism image, preserve traditional cultural values of ethnic minorities, and strengthen linkages with nearby tourist spots to increase the attractiveness and diversity of tourism types. This research carried out a community-based ecotourism potential assessment, thereby developing others studies in this area. On the basic potential analysis, it is necessary to assess the needs of tourists for community-based eco-tourism and target tourists, identify target markets, research community-based eco-tourism products, suggest tourism development models for the locality, contribute to the sustainable development of the local economy, hunger eradication and poverty alleviation for ethnic minorities in this region.

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