



Ecotourism Management with Community Participation in Nam Et-Phou Louey National Park of Lao People's Democratic Republic

Sounantha Chounlamany¹, Koblap Areesrisom¹, Weena Nilawonk¹, Raphassorn Kongtanajaruanun², Narin Taokaenchan¹, and Pawinee Areesrisom^{1*}

¹ Resources Management and Development, Faculty of Agricultural Production, Maejo University, Chiangmai Province, Thailand 50290

² Division of Economics, Faculty of Economics, Maejo University, Chiangmai Province, Thailand 50290

Corresponding Author: areesrisom30@gmail.com

Abstract

The objectives of this research were to study the following: 1) characteristics of basic personal, economic, and social data; 2) the potential of ecotourism sites and the ecotourism management model; 3) factors affecting the ecotourism management model with community participation, and 4) problems, obstacles, and suggestions about ecotourism management with community participation. The sample used in the study comprised 289 people living and working in the Nam Et-Phou Louey National Park. Data were collected through interviews and analyzed using descriptive statistics (percentage, mean, and standard deviation) as well as inferential statistics (multiple regression analysis) to identify factors affecting the ecotourism management model with community participation. The study found that 56.4% of respondents were male, with an average age of 38.85 years old and a primary education level of 37.7%. The majority of respondents were marital status at 81.3% and engaged in agriculture at 67.5%, with an average income of 1,011,863 Kips/ month. Moreover, most of them had resided in the community for over 20 years old at 60.9%. Nearly half of the tourists visiting Nam Et-Phou Louey National Park came with their families or relatives (46%). Most of the tourists expressed a high level of satisfaction with the Nam Et-Phou Louey National Park at 93.8% and most of them would indicate a willingness to revisit Nam Et-Phou Louey National Park at 95.2%. Furthermore, most of them have given the overall level of ecotourism potential in all aspects at a high level of agreement with a total average of 3.84. In terms of the ecotourism management model, they agreed at a high level on five aspects, namely, the nature of Nam Et-Phou Louey National Park; the Economic and Social aspect, the Arts and culture aspect, the physical aspect, and educating and creating awareness of the value of tourism. For the factors affecting the ecotourism management model with the community participation of Nam Et-Phou Louey National Park, it showed that the independent variables affecting the ecotourism management

model with community participation were age, domicile, occupation, and education level. Regarding problems and obstacles, it revealed that most of them had problems with transportation (boats are small, buses are not safe, and roads are narrow). Traveling to parks during the rainy and dry seasons, there is restricted entry to the park making tourists who travel waste the opportunity to enter the park, and facility problems such as phone signal, wireless network signal, the number of accommodations, restaurants, and facilities not enough for the number of tourists, including water available in the park area. Most respondents recommended that transportation should be improved to ensure safety. It also proposes that the relevant agency staff search for funding sources to improve access routes to Nam Et-Phou Louey National Park for convenient and safe travel, and proposes to organize village officials to take turns to take care of Nam Et-Phou Louey National Park to provide timely assistance to tourists in trouble. In addition, there should be an increase in the capacity of tourist services. There is a public relations point that facilitates tourists including clearly defining the duration and number of people who will use the service in order not to cause inconvenience to tourists.

Keywords: Ecotourism, Community Participation, Nam Et-Phou Louey National Park, Lao People's Democratic Republic

Introduction

Lao People's Democratic Republic (Lao PDR) is an area rich in nature. It is culturally diverse and interesting. The tourism services sector is one of the revenue-generating industries. It creates employment opportunities and promotes other related service fields such as the food business, hotels, spas, organizing meetings, selling local products, car rental services, and so on. These are expanding concurrently. The tourism industry of Lao PDR is interesting and has potential because there are tourist attractions that can respond to the needs of tourists in many forms, beautiful and plentiful natural attractions, interesting historical sights, and a variety of cultural attractions. Lao PDR has ethnic groups with unique ways of life, customs, languages, and clothing. The main groups of tourists traveling to Lao PDR can be divided into (1) foreign tourists who traveled to many countries after retirement. Most of them traveled from Europe for vacations and they were interested in learning about culture and history; (2) middle-aged independent tourists, mostly from the United Kingdom, Australia, and the United States, and foreigners working in ASEAN countries which is popular to travel as a couple or as a family; (3) middle-aged and older Thai tourists were interested in religious tourism, paying homage to the Buddha image, and making merit; (4) Korean tourists, most of them traveled in groups like to travel related to culture and nature and golf; (5) Chinese tourists, most of them come to travel in

the capital city of Vientiane, Vang Vieng, and Luang Prabang. They loved a relaxing massage and purchased goods in the night market; and (6) a group of MICE tourists from Hong Kong, Malaysia, or Singapore, who often traveled to tourist areas related to historical sites and world heritage sites after the meeting was over (Embassy in Vientiane, 2022).

Before the outbreak of Covid-19 in 2019, foreign tourists traveling to Lao PDR increased by 14.44 percent compared to the year 2018, being the largest number of Thai tourists, 2,160,300 people, an increase of 11.94 percent. The second is China, 1,022,727 people, an increase of 26.92 percent, and the third is Vietnam, 924,875 people, an increase of 6.60 percent (tourist statistics data for the period Jan. - Sep. 2019) able to generate income for Lao PDR 934 million US dollars, representing 5.14 percent of GDP (Socio-Economic News, 2022). Factors affecting an increase in tourists because Lao PDR has an area located in the center of the Mekong sub-region. Many highways connect with many countries including a waterway and an air connection point to various countries such as China, Vietnam, Thailand, and Cambodia. Tourists who travel to Southeast Asia in the form of a combined destination often travel to Lao PDR. In addition, the government accelerated the implementation of a five-year Lao PDR tourism development plan (2021-2025) to prepare and facilitate the preparation of travel information, accommodation, improvement of tourist attractions and services in various provinces, publicizing travel measures in Lao PDR through social media and turn the currency depreciation crisis into an opportunity to attract foreign tourists because foreign currency can be exchanged more Kips and spend more worthwhile than before (Embassy in Vientiane, 2022).

Nam Et-Phou Louey National Park Conservation Area is located in the northeast of Lao PDR and is the largest protected area in the country (410,720 hectares) covering ten districts in three provinces: Hua Phan, Luang Prabang and Xieng Khouang, which is a protected area with steep mountainous terrain. The height ranges from 336 to 2,257 meters. Nam Et-Phou Louey National Park is outstanding for its diverse wildlife biodiversity and there are also many endangered species such as tigers, leopards, golden cats, white-cheeked gibbons, northern langurs, wild bears, otters, hornbills, endemic civets, and many other species of monkeys. There are a total of nineteen carnivorous species, including six wild cat species, approximately 50 species of mammals, and 299 bird species (Duckworth et al., 1999; Davidson, 1998; Ling, 1999; Johnson, 2012). In residential areas within or adjacent to Nam Et-Phou Louey National Park, there are more than 30,000 villagers from 98 communities. It has a long history of human settlement in which the villagers depend on natural resources as the main means of living to strike a balance in protecting biodiversity and community needs in the area.

Ecotourism activities in Nam Et-Phou Louey National Park were developed to provide alternative career opportunities for local people and help to create a direct link between nature

conservation and ecotourism promotion for the villagers to earn income from tourists and help to support local people to conserve forests and protect endangered wildlife. Ecotourism is achieved through the participation of an active community and financial incentives linking conservation mechanisms. The main aim of the tourism model is 1) to generate extra income for the local people linked with nature conservation, 2) to generate sustainable funding for conservation area management, and 3) to raise awareness of local people and tourists about the importance of wildlife conservation (Nam Et- Phou Louey National Protected Area and Wildlife Conservation Society Laos, 2018). The objectives of this article were to study characteristics of basic personal, economic, and social data, the potential of ecotourism sites and the ecotourism management model, factors affecting the ecotourism management model through community participation, and problems, obstacles, and suggestions about ecotourism management with community participation.

Equipment and Methods/ Research Methods

This research used quantitative and qualitative research methods to study the ecotourism management model with community participation in Nam Et-Phou Louey National Park, Lao People's Democratic Republic with the research methods as follows:

Population and Sample

The population used in this study was people living and working in the Nam Et-Phou Louey National Park in which the samples were calculated by using the random method. Then, the sample size was determined according to Yamane's formula (1973) at a confidence level of 95% from all 882 people, a sample of 289 people. This research was conducted from October 2022 to April 2023.

Data Collection

Data sources collected for use in research can be divided into two types: 1) Secondary data which is a compilation of information from documents, research reports, the study of concepts, theories, and related research; and 2) primary data: a semi-structured interview was used for collecting research data with a total of 289 sets collected from people living and working in the Nam Et-Phou Louey National Park, including government officials, relevant government agencies on an individual basis.

Data Analysis

This research used a ready-made statistical program for the analysis of social science research. The analysis of statistical data was divided as follows: 1) basic personal, economic, and social data of farmers and the potential of ecotourism with community participation in the Nam Et-Phou Louey National Park consists of eight aspects, namely the value of tourist

attractions, accessibility, facilities, environment, limitations in accommodating tourists, reputation, management, and community participation, a total of 40 items and an ecotourism management model with the community participation consists of seven aspects, physical characteristics, environmental quality preservation, economic and social, arts and culture, the nature of Nam Et-Phou Louey National Park in terms of safety for life and property, and in terms of educating and creating awareness of the value of tourism. Descriptive statistics were used: Percentage, Mean, and Standard Deviation. 2) For analyzing information about factors affecting the ecotourism management model with community participation, all seven aspects, thirty-six issues were used to assess the level of ecotourism management with community participation applied from Likert's estimation scale by defining the scores as follows: most agree with a score of 5, highly agree with a score of 4, moderately agree with a score of 3, less agree with a score of 2, and the least agree with a score of 1. Then, interpret the meaning by comparing each issue with the interpretation criteria. The average score is used as a criterion for interpreting the meaning as follows: A mean score between 4.21- 5.00 means having the most success. A mean score between 3.41-4.20 means very successful. A mean score between 2.61-3.40 means moderate success. A mean score between 1.81-2.60 means less success and a mean score between 1.00-1.80 means the least success. The analysis of factors affecting the development of the ecotourism management model with community participation by using inferential statistics is a Multiple Regression Analysis to find the relationship between the independent variables affect the dependent variables, and how much each independent variable affects the dependent variables Seven independent variables were selected, namely gender, age, domicile, marital status, occupation, monthly income (Kip/month), education level, and dependent variables were factors affecting the ecotourism management model with community participation in the Nam Et-Phou Louey National Park (average factor from seven aspects)

Research Results and Discussions

Basic personal, economic, and social status of respondents

The study found that half of the respondents were male (56.4%) with an average age of 38.85 years old. They had primary school education (37.7%). Most of them were married (81.3%), and most were engaged in agriculture (67.5%). They got an average of 1,011,863 Kip/month. Most of them lived in the community for more than 20 years (60.9%). Nearly half of them came with their family or relatives (46%). Most of the tourists preferred the Nam Et-Phou Louey National Park (93.8%) and most of them would return to the Nam Et-Phou Louey National Park (fat: 95.2).

The potential of the ecotourism sites with community participation at Nam Et-Phou Louey

A study found that most of the respondents gave a level of ecotourism potential with the community participation in the Nam Et-Phou Louey National Park, Lao People's Democratic Republic in all aspects were at a high level, a total mean was at 3.84 (S.D.=0.949). When considering each aspect, it found that farmers gave the highest level of ecotourism potential on the value of tourist attractions, a mean of 4.17 (S.D.=0.800), followed by management, a mean of 4.06 (S.D.=0.974), reputation with a mean of 3.97 (S.D.=0.977), community participation with a mean of 3.86 (S.D.=0.886), accessibility with a mean of 3.85 (S.D.=0.936), environment with a mean of 3.63 (S.D.=1.120), facilities with a mean of 3.60 (S.D.=0.850), and limitations in accommodating tourists with a mean of 3.56 (S.D. = 1.049), respectively (as shown in Table 1).

A study of the potential of ecotourism management with community participation in the Nam Et-Phou Louey National Park, Lao People's Democratic Republic found that most of the respondents gave the most level of ecotourism attractions in terms of the value of tourist attractions by participation between communities and various agencies in Nam Et-Phou Louey National Park to conserve, protect, and preserve the resources available in the community. It is something that can create a good image for tourist attractions and the community has cooperation with various agencies in Nam Et-Phou Louey National Park. There is publicity on the value of tourist attractions, which can create awareness for tourists or others. Another issue is the ecotourism management by personnel in the community who have duties for Nam Et-Phou Louey National Park know their duties. It does not cause repetitive work. There is good management to the standards of attraction including the continuous management policy in Nam Et-Phou Louey National Park. This is consistent with the research article of Pojana Sa-nguansri (2003) stating that the collaboration of all sectors is involved. There is a gradual development, so it takes time to learn how to work together in community tourism. There is an emphasis on contextual understanding of community problems and this process is an appropriate form to work on promoting and developing community tourism that can develop a tourism model along with enhancing knowledge, ability, and developing the strength of the community to work in tourism continuously and sustainably. If the community is ready, there are favorable factors to take on the role of tourism management, then various community leaders and leaders' representatives of various groups in the community such as youth groups, women's groups, savings groups, agricultural cooperative groups, etc., and those involved such as sub-district administrative organizations, forestry officials, teachers, school teachers, etc. join in a seminar to create a vision with community-based tourism, it is a synergy of creativity, coordinate everyone's ideas into one picture in managing community-based tourism. After that, the vision that has been set as a goal is the direction of the activities of community-based tourism in the

next phase. Similarly, Thepparat Chanthaphan and Wiwat Rittima (2013) stated that community-based tourism is Tourism that takes into account the sustainability of the environment, society, and culture. There is a common direction of the people in the area, driven by the community, and operated by the community for the community, and the community has an ownership role and has the right to administer to create learning for visitors and interested people. They can learn through the management process of the community and community ownership. In addition, tourism can also be a development tool by creating conditions and creating opportunities for community organizations to play an important role in planning the direction of their community development; especially, in communities where tourism is likely to advance or who want to expose their communities to be known widely and to create a learning process about resource management planning and decentralized decision-making. It emphasizes the importance of managing the natural environment and using tourism as a tool for local development.

Table 1 Mean, Standard Deviation, and the potential level of ecotourism tourism with community participation in Nam Et-Phou Louey National Park, Lao People's Democratic Republic

(n=289)			
Potential level of ecotourism tourism	\bar{x}	S.D.	Potential level
1. Value of tourist attractions	4.17	0.800	High
2. Accessibility	3.85	0.936	High
3. Facilities	3.60	0.850	High
4. Environment	3.63	1.120	High
5. Limitations in accommodating tourists	3.56	1.049	High
6. Reputation	3.97	0.977	High
7. Management,	4.06	0.974	High
8. Community participation	3.86	0.886	High
Total	3.84	0.949	High

Ecotourism Management Model with Community Participation in Nam Et-Phou Louey National Park, Lao People's Democratic Republic

The study found that most of the respondents perceived the level of ecotourism management in all aspects at a very high level with a total mean of 3.64 (S.D.=1.051). When considering each aspect, it found that the highest mean level of ecotourism potential was in the aspect of nature of Nam Et-Phou Louey National Park with a mean of 4.18 (S.D.=0.986), followed by economic and social aspects with a mean of 4.09 (S.D.=0.909), arts and culture with a mean of 4.01 (S.D.=0.955), physical aspects with a mean of 3.85 (S.D.=0.985), for educating

and creating awareness of the value of tourism with a mean of 3.73 (S.D.=1.133), and an average of the potential level of ecotourism attraction with a moderate agrees, including for the safety of life and property with a mean of 2.82 (S.D.=1.197), and the environmental quality preservation with a mean of 2.82 (S.D.= 1.194) (as shown in Table 2).

The study showed that overall, the respondents have an ecotourism management model to be at a high level. When considering each aspect individually, it revealed that respondents had the highest mean of ecotourism management model in terms of Nam Et-Phou Louey National Park because most of the respondents are local people and have lived in the community for quite a long time. Therefore, they saw the uniqueness and abundance of Nam Et-Phou Louey National Park and they have pride and love for their country. In the natural aspects of Nam Et-Phou Louey National Park, tourists have given the same high level of opinions because of the beautiful scenery and the uniqueness of the Nam Et-Phou Louey National Park, followed by tourists' satisfaction in visiting Nam Et-Phou Louey National Park, that includes satisfaction with the service, management, cleanliness, and safety including the community is friendly to tourists. While in the matter of littering, respondents had less average than other aspects such as insufficient waste disposal points and litter warning signs, the design of the container should support and blend in with the environment, it also includes the subject of managing air quality. In some seasons, there may be dust and smoke that negatively affects the health of people in the community and tourists causing the period of that season, tourist attractions to be affected by climate and so on. This is consistent with the study of Pimrawee Rojrungsat (2010) found that the implementation of community-based tourism must understand the sense of community, and know the true heart of the community. The community must be involved in every process of work. Those involved in the operation must help to impress tourists because of the operation of community-based tourism public relations by speaking together to be the best marketing channel and most importantly. It is free of charge in carrying out the work, the working group must take into account principles of community-based tourism and must work within the appropriate framework for each community. Similarly, Fennell (1999) states that sustainable tourism development must be responsible for four basic factors as follows: 1) Tourism must have the least impact on the environment; 2) Tourism respects local culture; 3) Tourism must allow local people to receive benefit as much as possible; and 4) tourists must be satisfied with tourism activities.

Table 2 Mean, Standard Deviation, and the level of ecotourism management model with community participation in Nam Et-Phou Louey National Park, Lao People's Democratic

Republic

(n=289)

Level of ecotourism management model	\bar{x}	S.D.	Level of Model
1. Physical characteristics	3.85	0.985	High
2. Environmental quality preservation	2.82	1.194	Moderate
3. Economic and Social aspects	4.09	0.909	High
4. Arts and culture	4.01	0.955	High
5. Nature of Nam Et-Phou Louey National Park	4.18	0.986	High
6. Safety for life and property,	2.82	1.197	Moderate
7. Educating and creating awareness of the value of tourism	3.73	1.133	High
Total	3.64	1.051	High

Factors Affecting Ecotourism Management Model with Community Participation in Nam Et-Phou Louey National Park, Lao People's Democratic Republic

The result of Multiple Regression Analysis by adding all seven independent variables into the equation and then calculating with the “Enter” method found that the value of $F = 6.224$, Sig of $F = 0.0000$ indicates that there is at least one of the independent variables with Statistically significant correlation with the dependent variable (Factors Affecting Ecotourism Management Model with Community Participation in Nam Et-Phou Louey National Park). When considering the coefficient of multiple decision-making, it revealed that $R^2 = 0.366$ means that all independent variables explaining the variance of the dependent variable were 36.6%. Of the seven independent variables, four variables had a statistically significant effect on the dependent variable at the 0.05 level, namely, age, domicile, occupation, and education level (as shown in Table 3). It described the independent variables that are correlated statistically significantly with dependent variables: the ecotourism management model with community participation in Nam Et-Phou Louey National Park can be divided into seven aspects: 1) physical characteristics, 2) environmental quality preservation, 3) economic and social aspect, 4) arts and culture, 5) the nature of in Nam Et-Phou Louey National Park, 6) safety for life and property, and 7) Educating and creating awareness of the value of tourism. The analysis results can be described as follows.

1. Age: The age of respondents was between 31 - 40, representing 30.8 percent, indicating that most of the respondents are in middle age, which can provide information and facilitate tourists such as foreign tourists, people with disabilities, etc., which government agencies should support and encourage people in the community to love service and help tourists.

2. Domicile: most of the people living in Nam Et-Phou Louey National Park and be local people, live in the park area, have a love for their hometown, and cherish their arable area. As a result, learning in both arts and culture and creating awareness of the value of ecotourism is consistent with the study of Teerakarn Phokaew (2017) who studied "Participation in tourism management of Ban Bangrong Community, Paklok Sub-district, Thalang District, Phuket Province. The results showed that the community is in a period of adaptation to both social and political changes within the community. The tourism of the community is in a great recession. But the strength of the group is the strong mind to fight for the community with the management under the concept of "reserve the difference, seek the common points" for the sustainability of the community. The members are ready to learn the failure to develop and succeed again. The tourism management of Ban Bangrong still focuses on ecotourism based on nature, lifestyle, and culture as a dominant feature to promote tourism and guidelines for tourism development in the community. The tourists demand the development of infrastructures, solid waste management, the monkey management in the area. The most important thing is to build a common understanding of knowledge, strengthen the community, manage the learning together to have more understanding about tourism in the community, and develop awareness to love their community by promoting a new generation of youth to participate in the management of tourism.

3. Occupation: most of them were in agriculture, representing 67.5 percent, followed by civil service accounting for 10 percent because most of the respondents were in important areas of the Nian and Ma rivers, which are very suitable for agriculture. In addition to agriculture, water sources can also be used for public consumption, generating income and good quality of life, and well-being. When there is ecotourism, villagers earn more income from agriculture. This is consistent with a report by Nam Et- Phou Louey National Protected Area and Wildlife Conservation Society Laos (2018) stated that local participation can be regarded as the cornerstone of the Ecotourism Project in Nam Et-Phou Louey National Park. The benefits and incentives are effectively defined; the development of tourism increases local incomes and promotes environmentally friendly practices at the village level. In addition to nature conservation, the benefits directly derived from ecotourism programs are the cooperation of the local community in helping to conserve habitats. The benefits of ecotourism for communities in Nam Et-Phou Louey National Park through two main activities: providing alternative occupations with different groups of service providers and through wider community participation under the Ecotourism Benefits Fund (EBF) as follows: 1) alternative occupations through service provider groups; the ecotourism service group has been created in the four villages to create employment opportunities for the local people, ecotourism sites, walking trails,

and infrastructure are all developed and is now managed jointly by people from these ecotourism villages together with Nam Et-Phou Louey National Park officials. Most of the service group members are former rangers. Currently, they are engaged in tourism activities such as tour guides and boat drivers. In addition, the Women's services group also develops handicrafts, cooking, and cleaning services. 2) Community participation through the Ecotourist Benefits Fund (EBF) to allow local communities to conserve and share the benefits that obtained from Ecotourism brings to the area. The Ecotourism Benefit Fund (EBE) is introduced to tourists entering the Nam Et-Phou Louey National Park areas. All tourists participate in the tour and contribute to the Ecotourism Benefit Fund, which is included in the total tour price. A total of 26 ecotourism villages participated in the two tourism activities. In addition, to create a direct incentive for the conservation of Nam Et-Phou Louey National Park, there are activities for tourists giving a certain amount of money to every tourist who joins tour activities and can receive additional bonuses from activities to explore the diversity of wildlife. All tourists must fill out a wildlife survey form at the end of the trip for meeting rare animals regarded as important. All information gathered about the wildlife seen during the tour is recorded in an online database and integrated into the wildlife surveillance project of Nam Et-Phou Louey National Park to promote the conservation of rare wild animals.

4. Education level: the respondents had the most primary education, representing 37.7 percent, followed by secondary education, representing 23.2 percent because primary education was the basic level of general education. This is basic knowledge that is necessary and in Lao PDR, compulsory education does not charge tuition fees. For Lao PDR citizens aged 6 years and over, they must attend and complete the primary education curriculum. Therefore, the study period is 5 years. This gives respondents literacy and can work with government agency officials in Nam Et-Phou Louey National Park.

Table 3 Analysis of factors affecting the development of the ecotourism management model with community participation in Nam Et-Phou Louey National Park, Lao People's Democratic Republic (n=289)

Independent Variables	Dependent Variables		
	Development of the ecotourism management model		
	Coefficient (B)	t	Sig.
1. Gender	0.514	0.186	0.852
2. Age	0.297	2.791	0.006**
3. Domicile	10.929	2.090	0.038*
4. Marital status	-4.622	-1.315	0.190
5. Occupation	3.673	3.558	0.000**

6. Monthly income (Kib/month)	2.244E-8	0.019	0.985
7. Education Level	3.716	3.149	0.002*
R² = .568 (56.80%) F = 8.426 Sig. F = 0.000**			

Note: * There was a statistically significant correlation at the 0.05 level.

** There was a statistically significant correlation at the 0.01 level.

Problems, Obstacles, and Suggestions about ecotourism management with community participation in Nam Et-Phou Louey National Park

Study results of Problems, Obstacles, and Suggestions about ecotourism management with community participation in Nam Et-Phou Louey National Park, Lao People's Democratic Republic is as follows:

1) Accessibility to Nam Et-Phou Louey National Park: most of the respondents had problems with transportation routes, for example, boats were small, a few buses were insufficient for tourists, and old cars and unsafe. It also found that Nam Et-Phou Louey National Park had narrow and winding roads. The road surface is gravel and the road is potholes and cannot access the place in certain seasons such as the rainy season, including the general public cannot be accessed without permission from the National Park Service which is allowed only tourists. The cost of travel has a high service fee. Most of the obstacles are related to the seasons. The unpredictable situation affects the safety of guides and tourists. Recommendations in terms of accessibility to Nam Et-Phou Louey National Park. Most of the respondents suggested improvements to safer transportation. They also suggested that relevant officials or agencies looking for funding sources to improve access routes to accessibility to Nam Et-Phou Louey National Park for convenient and safe tourism and proposed to organize village staff to take care of accessibility to Nam Et-Phou Louey National Park to provide timely assistance to tourists in trouble.

2) Ease of access: problems are often encountered during the season. If entering during the rainy season, traveling by boat can be quite dangerous because there is a flood and in the dry season, traveling by boat must limit the number of tourists to no more than three people per boat due to the shallow water conditions causing traveling by boat is not able to move easily. However, it revealed that there were signal problems, such as telephone and wireless network signals, which were still inconvenient. The obstacles in this area are seasonal. On certain days, there is a limit on the number of tourists entering which may affect the feeling of tourists who do not receive services. The respondents had suggestions to increase the capacity of serving tourists. There is a public relations point to facilitate tourists including clearly defining the duration and number of people who will use the service in order not to cause inconvenience to tourists.

3) Facilities: respondents had issues with a lack of cell phone and wireless network signals, as well as the number of accommodations, restaurants, and facilities that are not enough for the number of tourists. The key point is the amount of water used is insufficient for use in the community near the Nam Et-Phou Louey National Park resulting in water shortage problems. There is no water available in the dry season. Obstacles in this area, most of the respondents mentioned the insufficient amount of water supply to sustain a living in the dry season. In terms of tourists, they refer to long distances and difficulties, including equipment or facilities that are not available for service. Respondents have suggested improving various signals such as mobile phone signals and internet signals. There should add more facilities for tourists to create an impression of services and tourist attractions, including continuous integration with government officials to organize tourism to suit different seasons effectively.

Conclusion

The results of the study on Ecotourism Management with Community Participation in Nam Et-Phou Louey National Park, Lao People's Democratic Republic, most of the respondents gave the ecotourism potential in all aspects at a high level with an average of 3.84. When considering each aspect, respondents had a high level of potential in all eight aspects, namely the value of tourist attractions, management, reputation, community participation, ease of access environment, facilities, and limitations in accommodating tourists. For the level of ecotourism management, all aspects were at a high level with an overall average of 3.64. When considering each aspect, respondents with a level of ecotourism management model agreed at a high level in five aspects, namely the nature of Nam Et-Phou Louey National Park, economic and social, arts and culture physical aspect, Educating and creating awareness of the value of tourism, and the level of ecotourism management was moderate in two aspects, namely environmental quality preservation and life and property safety. When taking the factors on the level of the ecotourism management model to analyze the multiple regression to determine the factors affecting the ecotourism management model with community participation in Nam Et-Phou Louey National Park, it revealed that independent variables affecting ecotourism management models with community participation, namely, factors related to age, domicile, occupation, and education level. As for problems, obstacles, and suggestions on ecotourism management with community participation in Nam Et-Phou Louey National Park, they can be divided into three issues: 1) accessibility to Nam Et-Phou Louey National Park, most of them have problems with transportation routes, for example, the boat is small. There are few buses, not enough for tourists, or the condition of the old buses is not safe, and so on. 2) Ease of access, for example, traveling by boat in the park area is dangerous during the rainy season. In the dry season, travel

by boat will be limited the number of tourists that are not more than three people per boat due to the shallow water conditions that make traveling by boat unable to move easily, and 3) Facilities such as telephone or wireless network signals including the number of accommodations, restaurants, and facilities not enough for the number of tourists, and water that can be used in the park. With suggestions for solving these problems, most of the respondents advised fixing and improving the transportation to be safe including proposing to relevant officials or agencies to find funding sources for improving access routes to Nam Et-Phou Louey National Park for convenient and safe tourism and proposing to organize village staff to take care of accessibility to Nam Et-Phou Louey National Park to provide timely assistance to tourists in trouble. In addition, there is a public relations point that facilitates tourists including clearly defining the duration and number of people who will use the service in order not to cause inconvenience to tourists.

Recommendations

Recommendations based on research results

The results of the study indicated that the respondents had ecotourism management with community participation in Nam Et-Phou Louey National Park, Lao People's Democratic Republic with awareness and recognize the impact of ecotourism management. Therefore, to raise the ecotourism management model with community participation to develop more. There should be improvements on key issues and the staff concerned to focus on the following issues:

1. Accessibility to Nam Et-Phou Louey National Park should be improved to be more secure, whether by boat, by road, or by building roads connecting villages because it will benefit the people in the community and also benefit the tourists. There are suggestions to find a source of funds to support improvements, open to the private sector to participate in the development of tourist attractions to be more efficient including providing staff to take turns taking care of Nam Et-Phou Louey National Park to be able to help when various situations arise. This will be able to solve the problem in time and there should be a special policy for entering the Nam Et-Phou Louey National Park. There is a special promotion for people living in Laos and people in the community in the Nam Et-Phou Louey National Park.

2. Ease of access is the aspect that respondents give the most feedback. In terms of road improvements and sea routes more efficient to increase the capacity of serving tourists. To set up a public relations point that facilitates tourists. Government officials should play a role in managing the station for the vehicle that will take tourists to the Nam Et-Phou Louey National Park. There should be an increasing number of bus trips with a clearly defined travel time and improve passenger ships to be efficient and safe for both tour guides and tourists. Moreover, passenger containment rules are in place for each season for safety.

3. Facilities because Nam Et-Phou Louey National Park is a remote area. There are limitations in terms of signals, respondents suggested that there should be improvements to various signals, whether it is a mobile phone signal or internet signal adding amenities to tourists to impress on services and attractions. Government agencies and communities work together to organize tourism to suit different seasons. There is a plan to deal with the problems that are expected to occur and improve care and guest service budgets accordingly to suggest that there be a source of funds to be used to further develop Nam Et-Phou Louey National Park to be more efficient.

Recommendations for future research

1. The study showed that respondents still had problems with factors affecting ecotourism management. In the matter of ease of access and facilities to study and find solutions to such problems. In the future, a participatory ecotourism management model should be developed. Government agencies or private agencies participate in the integration of the development of Nam Et-Phou Louey National Park.

2. The study revealed that the respondents had problems with the ecotourism management model on preserving the quality of the environment and safety for life and property to study and find solutions to such problems. In the future, there should be improvements in the ecotourism management model in terms of preserving the quality of the environment, such as solid waste management, and air quality management to be more efficient and the safety of life and property. Enough care staff should be provided and taken care of it thoroughly. There are disaster relief equipment and tools including first aid equipment, when an emergency arises, it can be solved in time.

3. Policies should be supported to promote the ecotourism management model by engaging the community with the government. There should be a study of local community groups or tourist groups in regions and other regions including studying the needs of tourist groups, providing opportunities for tourists to express their problems, and opinions about the service to improve further.

4. There should be a meeting of people in the community with government agencies involved to be aware of the problems that occur and jointly prevent and solve problems that will happen in the future for the community to participate in thinking and making decisions to cause more love and cherished.

Acknowledgment

The researcher would like to thank the respondents who live and work in the Nam Et-Phou Louey National Park area who provided information, including thanks to relevant government agencies such as the Department of Forestry, Department of Forest Inspection, Ministry of Agriculture and Forestry, Lao PDR, Provincial Agriculture and Forestry Office, Provincial Agriculture and Forestry Office, Nam Et-Phou Louey National Park Management Division, District Agriculture and Forestry Office, Wildlife Conservation Society Laos, teachers, and personnel of Resources Management and Development, Faculty of Agricultural Production, Maejo University, for information, advice, and support in this research.

References

- Davidson, P. 1998. A Wildlife and Habitat Survey of Nam Et Phou Louey National Biodiversity Conservation Areas, Houaphanh Province. WCS/CPAWM/Cooperative Program, Vientiane, Lao PDR.
- Duckworth, J. W., R. E. Salter, and K. Khounboline. 1999. Wildlife in Lao PDR: 1999 Status Report. The World Conservation Union (IUCN), Wildlife Conservation Society (WCS), and Centre for Protected Areas and Watershed Management (CPAWM), Vientiane, Lao PDR.
- Fennell, J. 1999. Contemporary Urban Planning. New Jersey: Prentice-Hall.
- Johnson, A. 2012. A Landscape Summary for the Nam Et-Phou Louey National Protected Area, Lao PDR. Pages 73-90 in T. C. H. Sunderland, J. Sayer, and H. Minh-Ha, editors. Evidence-based conservation: lessons from the lower Mekong. Earthscan, London.
- Ling, S. 1999. A biological system of prioritization for protected areas in the Lao PDR. CPAWM / Wildlife Conservation Society Cooperative Program, Department of Forestry, Ministry of Agriculture and Forestry, Vientiane, Lao PDR.
- Nam Et-Phou Louey National Protected Area and Wildlife Conservation Society Laos. 2018. Ecotourism In Nam Et - Phou Louey National Protected Area, Lao PDR.
- Pimrawee Rojrungsat, 2010. Community Tourism. Bangkok: Odeon Store.
- Royal Thai Embassy, Vientiane. 2022. Opportunities for the economic recovery of the Lao PDR, from the tourism sector. [Online]. <https://vientiane.thaiembassy.org/th/>. (30 June 2023).
- Social economic news. 2022. Economic and Social News, Lao PDR. [Online]. <http://www.sethakit-psx.la/detail10533.html>. (30 June 2023).
- Teerakarn Phokaew. 2017. Participation in tourism management of Ban Bangrong Community, Paklok Sub-district, Thalang District, Phuket Province. Ph.D. thesis: Master of Business Administration, Phuket: Phuket Rajabhat University.
- Thepparat Chanthaphan and Wiwat Rittima. 2013. Community-Based Tourism of Ban Khao Subdistrict, Ranot District, Songkhla Province, Hat Yai Academic Journal No. 4.
- Pojana Sa-nguansri. 2003. Community Tourism Management Guide. Bangkok: Tourism for Life and Nature Project.
- Yamane, T. 1973. Statistics: An Introductory Analysis. New York: 3. S.I. Harper International. P.886.