

# Local attitudes toward conservation and tourism around Xuan Son national park



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**Abstract** It is increasingly viewed that the support of local communities is an essential element of biodiversity conservation, and benefits from protected areas are one of the reasons for their support. It is common to make a prediction that protected areas provide benefits, and the development of tourism is a common means that supplies such benefits. Although some studies exploring the link between the benefits of tourism and support for conservation have been done recently, their results still need to be argued more. This study, therefore, aimed to examine the ecotourism perception of local communities and the influence of ecotourism benefits on local people's support for the conservation of Xuan Son National Park, Phu Tho Province, Vietnam. Xuan Son National Park is also a tourism destination, that is not far from Hanoi capital, where eco-tourism is increasingly popular and local attitudes toward conservation and protected area tourism have not been researched. This research was based on a primary survey and secondary data collection. There were two methods that were applied for primary-data collection, and they were household surveys and observations. The results revealed positive attitudes toward tourism and conservation (67.8%), and it is also recognized that the park is essential for local tourism (91%). There was a significant difference between those dependent upon tourism and those not, and those dependent upon tourism were likely to have positive attitudes ( $t_{19,348} = -2.425, p < 0.05$ ). Overall, this study revealed that benefits from eco-tourism have positive impacts on conservation attitudes.

**Keywords:** local attitudes, conservation, protected areas, tourism, eco-tourism

## 1. Introduction

"National parks are the areas established to protect natural biodiversity along with its underlying ecological structure and supporting environmental processes and to promote education and recreation" (Dudley 2008). In Vietnam, national parks are recognized as "a kind of special-use forest, playing an important role in the nation, having common functions of a special-use forest and possibly any of the following main functions: natural conservation and nature reserve; species/habitat conservation; landscape protection; historical sites and the provision of recreation and tourism" (GoV - Government of Vietnam 2010).

It was acknowledged that protected areas were the cornerstone of biological conservation. Although the exploitation of local communities adjacent to protected areas was not usually considered adequately, it was increasingly known that local communities should obtain benefits when they participate in conservation activity (Ghimire and Pimbert, 1997). In addition, protected areas should play a significant role in creating necessary revenue for conservation as well as contributing to the improvement of financial income to local communities (Belete and Assefa 2005; Goodwin, 1996; Sundufu et al 2012). Ecotourism with the participation of local residents was one way to address this issue. According to Sundufu et al (2012), tourism is one of the most common uses of protected areas (Sundufu et al 2012). It is believed that protected areas in developing countries are increasingly popular ecotourism destinations (Goodwin, 1996). However, local communities had little or no careful consideration for their needs or desires from protected areas, although the communities were previously located in and/or nearby. Thus, it was critical to have a mutually supportive relationship between protected areas and nearby communities to achieve the success of conservation efforts in the long term (Sundufu et al 2012), and local communities could improve their financial incomes through conservation and ecotourism.

A number of recent studies have examined the issue of local residents' attitudes and perceptions toward conservation and tourism development (Abeli 2017; Baker et al 2020; Eslami et al 2019; Harun et al 2018; Ochieng et al 2021; Stojković et al 2020). Their results generally showed either positive or negative attitudes depending on cultural and geographical circumstances (Pham and Kayat 2011; Stojković et al 2020; Walpole and Goodwin 2001), opportunity costs associated with



protection and benefits that local residents received (Abeli 2017; Fiagbomeh 2013; Pham and Kayat 2011; Sundufu et al 2012). Some studies showed that those supporting conservation benefited from tourism, while others showed lower support than expected by those benefiting from tourism. Thus, there are still arguments about the drivers of attitudes toward conservation.

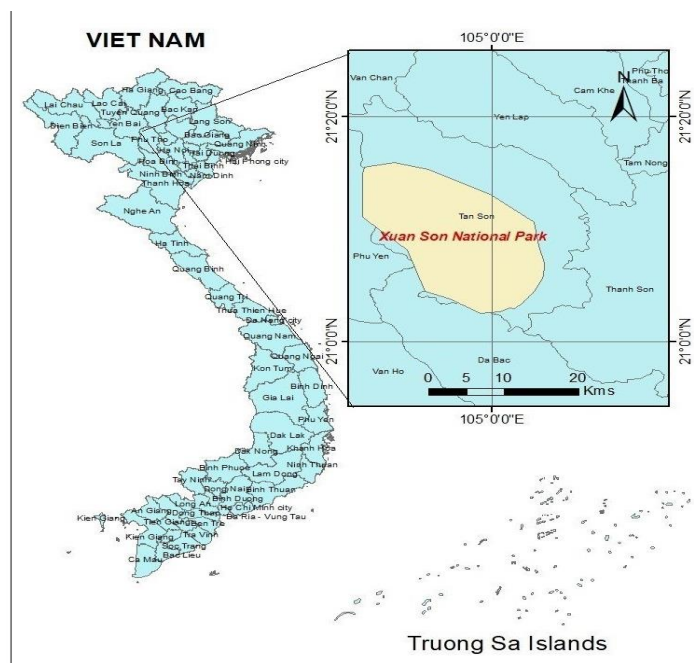
Earlier studies have found that mixed feelings toward tourism and attitudes were influenced by local people’s socioeconomic aspects. Napal and Weber (1995) found that most respondents had positive feelings toward conservation, but it was unlikely that all of them would appreciate the conservation efforts of park authorities. The socioeconomic aspects of the local people affecting their conservation attitudes varied (Nepal and Weber, 1995). The results of the study conducted by Walpole and Goodwin (2001) found that the distribution of tourism benefits caused mixed feelings (Walpole and Goodwin 2001). Sundufu et al (2012) have shown that respondents had an overall positive perception toward ecotourism, although respondents’ mixed feelings were the results of the distribution of benefits from ecotourism (Sundufu et al 2012). Abeli (2017) identified that the distribution of ecotourism benefits was substantially different among study villages (Abeli 2017). Some study villages’ respondents thought that ecotourism had positive impacts on their communities, such as creating jobs, employing a significant proportion of youths, and increasing medical and educational opportunities, while respondents in other study villages strongly felt that ecotourism did not lead to their communities’ economic benefits at all. In addition, many respondents did not acknowledge the contribution of ecotourism to their communities (Abeli 2017).

Similar to other protected areas in Vietnam, the growing development activities of communities located around the border of Xuan Son National Park have caused increasing pressure on this area. In addition, the unique characteristics of Xuan Son National Park cause difficulties in conservation and management, including a national park managed by provincial authorities, residential communities located in the center of the park, and a transboundary park. This study, therefore, aimed to examine the ecotourism perception of local communities and the influence of ecotourism benefits on local people’s support for the conservation of Xuan Son National Park, Phu Tho Province, Vietnam. In addition, studying the attitude of residents toward tourism and conservation, the contribution of tourism benefits, the relationship between tourism benefits and tourism, and conversation attitudes provides further understanding regarding local people’s needs for authorities, especially the managers of Xuan Son National Park.

**2. Materials and Methods**

**2.1. Study area**

The origin of Xuan Son National Park is a nature reserve that was established in 1986 and upgraded to a national park in 2002 under the decision of Prime Minister No. 49/2002/QĐ-TTG (GoV - Government of Vietnam 2002). Its location is in the western part of Xuan Son district, in the extreme southeastern mountains of Hoang Lien, and in the Red River watershed. The park’s area is approximately 15,048 hectares in the transboundary area of three provinces: Hoa Binh, Son La and Phu Tho. The north is next to Thu Cuc commune, Tan Son district, Phu Tho province; the east is next to Tan Phu commune, Tan Son district, Phu Tho Province; the south is next to Da Bac district, Hoa Binh province; and the west is next to Phu Yen district, Son La province (Figure 1).



**Figure 1** Map of Xuan Son National Park.



There is a diversity of species and vegetation types at Xuan Son National Park and buffer zone areas. In terms of fauna, 370 species belonging to 94 animal families were identified. In terms of flora, 1,259 vascular species of 185 families have been identified. Both the park's flora and fauna are strictly protected under the Law for Forestry of Vietnam.

Xuan Son National Park is different from other Vietnam national parks, as there are buffer zone areas in the center of the park, with some residential communities living there before the park was established, and it is also a provincial transboundary park. Nine buffer zone villages of 4 communes with 430,5 ha and 3043 residents are located in the center of the park. This is a challenge to natural resource management and conservation.

In recent years, almost 25,000 tourists have been recorded each year, and they are mostly domestic. Although the activity of tourism was organized with the participation of the park and local communities, this was just the early phase of tourism development. To increase the effectiveness of Xuan Son National Park's management and conservation activities, examining the local communities' perception of ecotourism and the influence of ecotourism benefits on local people's support for conservation of Xuan Son National Park is necessary.

## 2.2. Data Collection and Analysis

This research was based on a primary survey and secondary data collection. Two methods were applied for primary data collection: household surveys and observations. General observations have been conducted since 2019 during regular visits to the park. Household surveys were conducted to collect detailed data. Before going to the field, the sample size was determined based on the number of households in the buffer zone of the park. The sample size of 355 was determined with 5% reliability at a 95% confidence level (Arkin and Colton, 1963). 355 of 1059 households of nine villages were surveyed through structured questionnaires from January 2021 to March 2023. Nine villages of four communes were selected randomly for interviews. Nine random starting points were selected for the nine villages in which the survey was conducted. The alternation of male and female respondents was selected for the interview. The members of the research group conducted interviews.

Through household surveys, the respondents answered a series of demographic questions, and then they were asked about their participation in conservation and tourism in the local area and their attitudes toward tourism and conservation. Regarding the respondents' attitudes toward tourism conservation, a series of dichotomous (yes/no) questions were used. To examine the level of agreement, the study used a Likert scale ranging from 1 (definitely disagree) to 5 (definitely agree). There were three categories of questions in the questionnaire: (1) questions about the general attitudes of respondents toward tourism and conservation: fifteen questions about tourism and ten questions about conservation; (2) seven questions regarding the benefit distribution of tourism; and (3) three questions about the cultural impacts of tourism. There were some discussions between the research group, community representatives and local authorities regarding the local impacts of tourism before conducting the survey to select questions for the questionnaire. Observations were recorded in a notebook and photographic coverage. It was also a valuable source for judging and validating actual field situations.

Based on descriptive statistics, analysis was carried out using Statistical Package for Social Science (SPSS) ver 22. The chi-squared test was used to analyze relationships between dependence on tourism and questions about individual attitudes and between attitudes toward conservation and tourism.

## 3. Results and Discussion

### 3.1. Characteristics of the sample

The majority of respondents were farmers (93.2%), and the rest were skilled laborers and traders (6.8%). Almost all of the respondents were born within the study areas. Regarding gender structure, just more than half of the respondents were male (53.5%), while 46.5% were female. The findings showed that the literacy level among respondents was not very high. Nearly half of respondents attained primary school (43.1%), approximately a quarter (24.8%) acquired secondary school, and 14.1% of respondents had never been to school. However, only 13% acquired high school, and only 5.1% attained further education.

### 3.2. Experiences of tourism among the community

The majority of respondents (78.6%) believed that ecotourism did benefit them, and only 14.9% of respondents believed that the income from ecotourism was a part of their families' income. Significantly more respondents living in villages in the park were dependent upon ecotourism than those living in other buffer zone villages ( $\chi^2(1) = 21.95, p < 0.001$ ). The development of local ecotourism could be in the early stages, so the number of households participating in ecotourism is small.

### 3.3. Attitudes toward conservation

This study showed that the percentage of respondents supporting conservation was moderately high, and 68.7% of them agreed that “it is necessary to protect Xuan Son National Park”. The majority of respondents (91%) also answered that “local ecotourism is related to Xuan Son National Park and the park causes tourism”. Thus, it can be accepted that there is a link between local ecotourism and the existence of the park (Table 1).

**Table 1** Respondents’ attitudes toward conservation.

| Variable   | Attitude | Frequency | Percent |
|--|----------|-----------|---------|
| It is necessary to protect Xuan Son National Park  | Positive | 244       | 68.7    |
|  | Negative | 111       | 31.3    |
|  | Total    | 355       | 100     |
| Local ecotourism is related to Xuan Son National Park and tourists come here because of the park | Positive | 323       | 91      |
|  | Negative | 32        | 9       |
|  | Total    | 355       | 100     |

Compared with the results of some other studies, there was a similarity in the points of view of local people toward conservation, but the level of approval of the park was lower. Sundufu et al (2012) and Walpole and Goodwin (2001) identified that there was very high support for conservation from respondents and a tight connection between tourism and conservation (Sundufu et al 2012; Walpole and Goodwin 2001). Black and Cobbinah (2018), Sundufu et al (2012), Udaya Sekhar (2003), and Walpole and Goodwin (2001) also showed that local people recognized the link between tourism and conservation. The respondents acknowledged the importance of protected areas, which encouraged the visitation of tourists, and protected areas had an important role in supporting local livelihoods through tourism (Black and Cobbinah 2018; Sundufu et al 2012; Udaya Sekhar 2003; Walpole and Goodwin 2001). Walpole and Goodwin (2001) identified that the majority believed that the park should be protected by the government and that the park played an important role in the development of local tourism (Walpole and Goodwin 2001).

Studies of local people’s attitudes toward conservation have been conducted in various locations and national parks worldwide and showed that people’s attitudes toward protected areas were decided by a number of factors, including regulations governing the national parks, respondents’ environmental awareness, knowledge of the park, prior experiences, or even personal conditions. Xuan Son National Park was upgraded from a nature reserve that was established in 1986 with 9 buffer zone villages of 4 communes in the center of the park. Local people accessed natural resources, such as flora, fauna, and forestland, before establishing the reserve. However, their prior access is restricted under the Law for Forestry of Vietnam. This might lead to their approval of the park not being very high.

#### 3.4. Attitudes toward tourism

In general, the attitude of respondents was positive about local ecotourism. Most respondents identified that they would be happy if their children worked in the tourism industry (91.3%) and saw more tourists (87.9%). Few respondents had a negative attitude toward tourism. Just approximately one-fifth believed that tourism caused damage to their culture, eroding traditional customs (21.4%), and the same number found that tourists’ clothes and behavior annoyed them. In terms of tourism benefits, the distribution resulted in mixed feelings. Nearly two-thirds of respondents thought that tourism brought benefits to the whole community (63.1%). A few respondents believed that local tourism just benefited outsiders, but the number of respondents who felt that tourism only benefits the rich was slightly high. These figures were 18.9% and 32%, respectively. This was perhaps due to the rich having more resources to invest in local tourism. However, most did not agree that tourism increased their families’ income (85.1%), and only 4.8% of the respondents felt that their families’ income was dependent on tourism. In addition, more than two-thirds of the sample (74.3%) thought that the increase in goods prices was due to tourism (Table 2).

The study’s benefit distribution partly agrees with the results of some previous studies. The analyses of Walpole and Goodwin (2001) about economic distribution and their study (2000) about local attitudes toward conservation and tourism around Komondo National Park showed that few local people thought tourism brought benefits to them, although they had generally positive attitudes toward tourism (Walpole and Goodwin 2000, 2001).

#### 3.5. Relationships between tourism benefits and tourism attitudes

Responses to seven out of twelve questions regarding tourism attitudes revealed significant differences between those dependent upon tourism and those not, and the remaining five questions showed no significant difference (Table 3). For six of these, the respondents who were more likely to give a positive answer were dependent on ecotourism. Only for the question regarding tourism only benefits rich people were those benefiting from tourism more likely to answer negatively and feel that tourism brings more benefits to the rich.

The study showed that its results were similar to those of some other studies in terms of the link between benefits and attitudes of tourism. Walpole and Goodwin (2001) and Sundufu et al (2012) recognized a relationship between benefits

and attitudes of tourism, and this relationship relied upon tourism dependence. There were significantly different attitudes between those dependent on tourism and those not. Those receiving tourism benefits are more likely to have positive answers (Sundufu et al 2012; Walpole and Goodwin 2000, 2001). This could argue that those who do not receive direct financial benefits from tourism will display more negative attitudes. However, this study’s results showed that people benefiting from tourism considered tourism to bring more benefits to the rich. This perhaps proved that tourism was just at the early stage in the process of development and that only households with better economic conditions could invest in tourism and that their tourism-related incomes were easy to understand.

**Table 2** Respondents’ attitudes toward tourism.

| Variable   | Attitude | Frequency | Percent |
|--|----------|-----------|---------|
| I would be happy to see more tourists here                             | Agree    | 312       | 87.9    |
|  | Disagree | 43        | 12.1    |
| I would be happy if my children work in the tourism industry           | Agree    | 324       | 91.3    |
|  | Disagree | 31        | 8.7     |
| My family has more money because of tourism                            | Agree    | 53        | 19.4    |
|  | Disagree | 302       | 85.1    |
| My family's income depends on tourism                                  | Agree    | 17        | 4.8     |
|  | Disagree | 338       | 95.2    |
| Tourism benefits the whole community                                   | Agree    | 224       | 63.1    |
|  | Disagree | 131       | 36.9    |
| Tourism has an important role to increase budget for managing the park | Agree    | 244       | 68.7    |
|  | Disagree | 111       | 31.3    |
| Tourism has an important role to increase local governments' budget    | Agree    | 101       | 28.5    |
|  | Disagree | 254       | 71.5    |
| Traditional culture has an important role in attracting tourists       | Agree    | 177       | 49.9    |
|  | Disagree | 178       | 50.1    |
| Only outsiders benefit from tourism here                               | Agree    | 67        | 18.9    |
|  | Disagree | 288       | 81.1    |
| Tourism only benefits rich people                                      | Agree    | 110       | 32      |
|  | Disagree | 245       | 69      |
| Tourism has caused prices to rise                                      | Agree    | 246       | 74.3    |
|  | Disagree | 85        | 25.7    |
| I do not like the way that tourists dress and behave                   | Agree    | 76        | 21.4    |
|  | Disagree | 279       | 78.6    |
| Tourism is damaging our culture  | Agree    | 76        | 21.4    |
|  | Disagree | 279       | 78.6    |

**Table 3** Responses to statements regarding tourism by those who were dependent and not dependent on tourism for family income.

| Statement  | Agreement with statement (%) |                       |                          |
|--|------------------------------|-----------------------|--------------------------|
|  | Tourism Dependent            | Not tourism dependent | Chi-squared significance |
| My family has more money because of tourism                            | 82.4                         | 11,5                  | <0.001                   |
| Tourism benefits whole community                                       | 76.5                         | 61.8                  | 0.224                    |
| Tourism has an important role to increase budget for managing the park | 100                          | 67.2                  | <0.05                    |
| Tourism has an important role to increase local governments' budget    | 58.8                         | 26.9                  | <0.05                    |
| I would be happy to see more tourists here                             | 84.2                         | 87.6                  | 0.528                    |
| I would be happy if my children work in tourism industry               | 94.1                         | 91.1                  | 0.760                    |
| Local tourism relates to the park                                      | 88.2                         | 87.0                  | 0.881                    |
| Traditional culture has an important role in attracting tourists       | 76.5                         | 45.9                  | <0.05                    |
| Only outsiders benefit from tourism here                               | 0                            | 19.8                  | <0.05                    |
| Tourism only benefits rich people                                      | 64.7                         | 29.3                  | <0.05                    |
| Tourism has caused prices to rise                                      | 47.1                         | 75.4                  | <0.05                    |
| Tourism is damaging our culture  | 5.9                          | 22.2                  | 0.11                     |

**3.6. Relationships between tourism benefits and attitudes and support for conservation**

Regarding the tourism attitude of local people, there was a significant difference between those supporting conservation and those not. For ten out of thirteen questions, the conversation of Xuan Son National Park was more likely supported by those having a positive attitude toward tourism. (Table 4). For the rest, they showed no significant difference. They were “My family's income depends on tourism”, “I would be happy if my children work in the tourism industry”, and “Local tourism relates to the park”. Those dependent on tourism for their income were more likely to support the





conservation of Xuan Son National Park ( $t_{19.348} = -2.425, p < 0.05$ ). These results suggest that those with a positive attitude toward tourism and benefits from tourism were more likely to support the conservation of Xuan Son National Park.

Earlier studies have determined that there is a link between attitudes toward tourism and support for conservation. However, tourism benefits do not always have a positive correlation with respondents' conservation attitudes. According to Walpole and Goodwin (2001) and Sundufu et al (2012), there is a relationship between attitudes toward tourism and conservation support. Respondents with a positive attitude toward tourism are more likely to support conservation. However, it was different from the relationship between tourism benefits and support for conservation. Respondents whose income came from tourism were significantly less likely to support conservation (Sundufu et al 2012; Walpole and Goodwin 2001). Udaya Sekhar (2003) determined that a positive correlation of the respondents' attitudes toward conservation was dependent on tangible benefits they obtained from protected areas (Udaya Sekhar 2003). Tomićević et al (2010) reported that the employment variable significantly influenced attitudes toward conservation and suggested that the benefits of employment were an incentive for people to be positively aware of conservation (Tomićević et al 2010). Kopnina et al (2022) concluded that communities were willing to dialog with local authorities about how successful conservation could be achieved through mutual benefit. The result also identified that it was different in answering questions about the link between tourism and conservation attitudes across two case-study areas. Those involved in tourism through employment and income were more likely to express positive attitudes toward conservation. Those engaged in tourism activities showed a significantly more positive attitude toward conservation than those who did not directly participate in tourism. The results also show the difference in attitudes toward conservation in terms of other sociodemographic variables (Kopnina et al 2022).

**Table 4** Responses to statements regarding tourism by those who were dependent and not dependent upon tourism for family income.

| Statement   | Agreement with statement (%) |                              |                          |
|---|------------------------------|------------------------------|--------------------------|
|   | Supported conservation       | Did not support conservation | Chi-squared significance |
| My family has more money because of tourism                         | 21.3                         | 0                            | <0.001                   |
| My family's income depends on tourism                               | 6.1                          | 1.8                          | 0.75                     |
| Tourism benefits the whole community                                | 77.0                         | 30.6                         | <0.001                   |
| Tourism has important role to increase budget for managing the park | 81.6                         | 40.5                         | <0.001                   |
| Tourism has important role to increase local governments' budget    | 36.9                         | 9.9                          | <0.001                   |
| I would be happy to see more tourists here                          | 90.2                         | 81.1                         | <0.05                    |
| I would be happy if my children work in the tourism industry        | 91.8                         | 90.1                         | 0.596                    |
| Local tourism relates to the park                                   | 86.9                         | 87.4                         | 0.896                    |
| Traditional culture has an important role in attracting tourists    | 43                           | 56.8                         | <0.05                    |
| Only outsiders benefit from tourism here                            | 13.9                         | 29.7                         | <0.001                   |
| Tourism only benefits rich people                                   | 22.1                         | 50.5                         | <0.001                   |
| Tourism has caused prices to rise                                   | 74.4                         | 81.1                         | <0.05                    |
| Tourism is damaging our culture                                     | 13.1                         | 39.6                         | <0.001                   |

Benefits associated with the national park may be either direct or indirect, including offering jobs, services on local markets, and proceeds from tourism. Xuan Son National Park is in a remote region, so its existence contributes to human resource development, infrastructure development, growth of ecological farming and more job opportunities for residents. However, the existence prevents local people from accessing natural resources that are their prior dependence. The results of the study showed that those who gained benefits from tourism were more likely to support conservation, so if Xuan Son National Park was developed into a popular eco-tourist destination, it might become a local economic operator.

**4. Recommendations for planners and managers**

This study revealed that benefits from ecotourism had positive impacts on conservation attitudes, although respondents believed that tourism benefits were not equally distributed. Based on the results of the study, some recommendations can be made that may be useful for local planners and managers and broadly applicable to similar circumstances elsewhere.

To attain sustainable management toward conservation, it is necessary to build the essential capital for sustainable livelihoods with a participatory process in which ecotourism plays an essential part.

Eco-tourism could play a necessary part in sustainable development and integrated natural resource management in the buffer zones of Xuan Son National Park, especially the buffer zones in the center of the park. To develop ecotourism, it is necessary that planners and managers ensure that tourism benefits are distributed fairly and equally. This may be achieved by encouraging the participation of related parties, especially local communities, including the participation of management means, involvement of conservation activities, and more collaboration with managers.

Although attitudes were generally positive, they might change because the development of local tourism was at an early phase. Thus, ecological, economic, and cultural elements must be addressed.



## 5. Conclusions

Building positive relations with local people is one of the efforts of the management of a national park, and it is one of the decisive elements of the success of management. Therefore, identifying the local community's attitudes toward the park and understanding the factors determining these attitudes, as well as analyzing the social and economic benefits, are necessary for the park's operation. The major intention of this study was to examine local people's attitudes toward conservation and tourism, and the results of the research revealed patterns in local people's perceptions of conservation and ecotourism.

First, local people supporting the conservation of Xuan Son National Park were quite high, and it was also recognized that most residents believed that there was a link between the park and the presence of local ecotourism.

Second, the attitude of residents toward local ecotourism was positive. The majority of residents believed that ecotourism brought benefits to their whole community. However, some respondents still had negative attitudes toward tourism; for example, local tourism benefited outsiders, and the increase in goods prices was due to tourism.

Third, analyzing the relationship between tourism benefits and attitudes revealed significant differences between those dependent upon tourism and those not dependent on tourism for seven out of twelve questions. Local people who depended on ecotourism were more likely to give a positive answer. However, those benefiting from tourism felt that tourism brings more benefits to the rich.

Fourth, analyzing the relationship between tourism benefits and attitudes and support for conservation showed that those with a positive attitude toward tourism and benefits from tourism were more likely to support the conservation of Xuan Son National Park.

## 6. Limitations

It has been shown elsewhere that demographics can also affect attitudes toward tourism and conservation. Demographics were not included as a factor in the analysis of this study, so further research should include them.

## Acknowledgment

The authors wish to thank the staff of Xuan Son National Park and the residents living in buffer zone villages for their assistance in the field.

## Ethical considerations

I confirm that I have obtained all consent required by the applicable law to publish any personal details or images of patients, research subjects, or other individuals used. I agree to provide *Multidisciplinary Science Journal* with copies of the consent or evidence that such consent has been obtained if requested.

## Conflict of Interest

The authors declare no conflicts of interest.

## Funding

This research was partly funded by University of Transport and Communications (UTC) under grant number T2023-MT-001.

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