Hue University Journal of Science: Agriculture and Rural Development
pISSN: 2588-1191; eISSN: 2615-9708
Vol. 129, No. 3C, 2020; 10.26459/hueunijard.v129i3C.5812

ROLES OF ECOTOURISM IN HOUSEHOLD INCOME IMPROVEMENT AND NATURAL RESOURCES PROTECTION IN TAM GIANG LAGOON OF QUANG LOI COMMUNE, QUANG DIEN DISTRICT, THUA THIEN HUE PROVINCE

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Abstract: This study was conducted to reinforce the hypothesis that ecotourism in Quang Loi commune's lagoon created differences in income and lagoon resource protection of different beneficiary groups. Data was collected through secondary sources, 3 key informant interviews and interviews of 62 households in three household groups: tourism service, fishing, and aquaculture households. The results reveal that ecotourism services in Quang Loi commune started in 2010 and thrive since 2017, relying on the advantages of the local natural resources. Local community organized and provided tourism services such as: sightseeing on the lagoon, fishing experience, dining and accommodation, and some other services. By joining such services, labors in ecotourism service households earned 39.07 million VND/ year, which significant contributed to improve household's income. Ecotourism service households, therefore, had higher income than that of fishing group and aquaculture group (85.15 compared to 72.29 and 60 million VND, respectively; p value < 0.05). The lagoon environmental protection activities such as: lagoon night patrol, waste collection, propaganda and advocating for lagoon environmental protection, etc. were paid more attention by the local community since the development of ecotourism. Similarly, there was a significant higher participation time of tourism service households in the above activities in comparison with the rest groups (p value < 0.05). The lagoon environment and resources was assessed to be improved by local residents. This result implicates that ecotourism development is a suitable strategy to improve the local people's livelihood and Tam Giang lagoon resources protection currently.

Key words: Ecotourism; Tam Giang lagoon; Tourism service

1 Introduction

Ecotourism is a relatively new concept but it has quickly attracted the attention of many people, from many different fields. Until now, the concept of ecotourism is still understood under many different angles and names. A generally accepted definition of ecotourism is that ecotourism is a type of nature-based tourism that supports conservation activities and ecologically sustainable management [3, 8].

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Submitted: December 19, 2020; Revised: January 18, 2021; Accepted: March 10, 2021

Most studies have shown that ecotourism plays an important role in creating more economic benefits for the community. As a service provider, ecotourism involves different activities such as opening restaurants, operating family inns, selling goods to the tourist and offering transportation rental services [12, 20]. Some others work as porter, taxi driver, translator, and tourist guide [9, 10]. Beyond direct job creation, ecotourism contributes on the development of required infrastructures such as buildings, roads, parks, hotels and airports, etc. which is a resultant job creation in tourism that extends beyond the service and hospitality sectors [14]. Roe and Elliott found that through ecotourism poor people use natural resources in a number of ways that help them to diversify their livelihoods such as trading (e.g. wood, wild fruits), supplying inputs (e.g. for craft making), and for formal or informal employment [17]. By the way, ecotourism contributes to creating jobs and diversity income for communities in and around the area where ecotourism activities are taking place [2, 6, 8, 12], and reduces the rate of migration to urban areas [11].

Previous research frequently argued that ecotourism is a component of green economy and has a great role in natural resource protection [1]. It is believed that employment in ecotourism operations increases people's awareness of the importance of conservation [9, 19, 21] and local people generally held positive attitudes toward the environment in the protected areas [13, 21, 23]. Therefore, ecotourism is spurred as a strategy to promote the involvement of local people on conservation activities. Also, ecotourism development is considered as a solution to stem the activities that undermine conservation, such as forest degradation, expanding agricultural frontiers, illegal hunting, logging, firewood collection, and uncontrolled burning [15].

Tam Giang lagoon is located in Tam Giang – Cau Hai lagoon system with an area of around 52km^2. The lagoon stretches for about 24 km in a Northwest-Southeast direction from O Lau estuary to Huong river estuary, on four districts of Phong Dien, Quang Dien, Phu Vang and Huong Tra town of Thua Thien-Hue province. Tam Giang lagoon is a large lagoon in Vietnam, accounting for about 11% of the country's coastal lagoon area. It provides very abundant and rich aquatic resources for the fishery communities living in the area [4]. However, with increasing fishing pressure, aquatic resources in the lagoon system are becoming scarce, which raises the need to sustainably and effectively protect and exploit the lagoon resources.

Quang Loi commune is among the localities benefited from Tam Giang lagoon resources with available water surface area of approximately 900 hectares and many converging factors to develop ecotourism. In addition to its highly diversified fisheries resources, the lagoon area of Quảng Loi commune stands out with its mangrove ecosystem with a total area of about 70 hectares along with the Vung Me Aquatic Protection area of about 40 hectares [6, 16]. This is not only the habitat of aquatic species but also an interesting destination for visitors to experience in the trip to explore Tam Giang lagoon. Services, fishing experiences, dining and accommodation

are all offered by local residents. These services are being operated by the Tourism Service Group and local authority, with the participation of tour agencies, which have contributed to attracting more and more tourists over the past few years. In addition, visit the Ngu My Thanh fresco village, the lagoon floating market, the Con Toc wharf, the Tam Giang lagoon creature gallery, etc. has contributed to make Quang Loi commune lagoon ecotourism more attractive to tourists.

Ecotourism activities in Quang Loi commune are serving as a model of positive livelihood transformation, attracting the attention of local authorities and communities. However, up to now, there have been no specific assessments on the role and contributions of ecotourism to the local community, from which recommendations for the development and replication of this model to many other localities in Tam Giang lagoon can be made. This research project aims to provide ample science-based information on the contributions of ecotourism to natural resource protection and income improvement for people living along the Tam Giang lagoon. The research results will be an important reference source for communities in Tam Giang lagoon and stakeholders in convincing investment projects for ecotourism development in the lagoon.

2 Research method

2.1 Sampling

The sample was classified into 3 target groups: tourism service households (households with main income comes from tourism services but still maintaining fishery activities); fishing households (whose income mainly comes from fishing); and aquaculture households (whose income mainly comes from aquaculture). In which, all 24 households members of the Tourism Service Group were selected for interviews. A corresponding number of households for the aquaculture and fishing group was also randomly selected for interviews.

After assessing the quality of answered questionnaires, 20 questionnaires for tourism households and 21 questionnaires with complete answers for each group of fishing and aquaculture households were synthesized and analyzed in this study.

2.2 Data collection

Information and data were collected through secondary and primary sources. Secondary sources were reports related to local ecotourism performance, district and commune community ecotourism development projects, and so on. Primary data was collected through key informant interviews (2 commune officials and 1 village head) and household interviews using semi-structured questionnaires. The contents of the household interviews focused on people's participation in ecotourism activities, the role of ecotourism in household income and lagoon resource protection.

2.3 Data analysis

Information and data were coded and processed with SPSS software. The processed data included 2 basic groups: Descriptive statistics and statistical significance test (one-factor ANOVA analysis).

ANOVA test aims to test the two hypotheses of the study: i) There is a difference from average income between fishery combining tourism service households with fishery households and aquaculture households; ii) There is a difference in the degree of participation in lagoon resource protection activities between the fishery combining tourism service households and the 2 other household groups.

3 Results

3.1 Ecotourism in Tam Giang lagoon of Quang Loi commune

Ecotourism services in Quang Loi commune started in 2010 under the support of a livelihood development project funded by NGO, but not until 2017 did they truly thrive thanks to the introduction of tours and advertisement programs. Ecotourism has been attracting the participation of many stakeholders such as: Department of Tourism of Thua Thien province; People's Committee of Quang Dien district and Quang Loi commune; travel agencies; non-governmental projects and especially local communities.

State management agencies play the key role in planning, orienting the development of tourism activities (including cultural activities, lagoon resource protection, tourism services, etc.) and representing local people to connect with tourism companies and other stakeholders. In 2018, the People's Committee of Quang Loi Commune has issued decisions of establishing Community Tourism Management Board and Tourism Service Group to better manage and organize service activities in the area. Some NGO projects have assisted community in term of training local people, supporting livelihood conversion from fisheries to tourism services, etc.

A long with that, travel companies have cooperated with local tourism management and operation agencies to form tours and bring tourists to Quang Loi commune. Some noticeable tours include: the community eco-tour "Tam Giang water wave" (in the first 9 months of 2018, welcomed 40 tourist groups, with about 1,000 tourists, including 46 foreigners); the tour "One day on Tam Giang lagoon" of An Thanh Company (welcomed 335 tourists, including 304 foreigners); the tour "Sunset on Tam Giang Lagoon" by Dai Bang Tourism and Advertising Communication Joint Stock Company (welcomed 14,000 visitors).

Households, with the support and cooperation of stakeholders, have transitioned from fisheries to tourism or expanded existing services such as cafe, dining and accommodation. Some

remarkable services are served by households include: Carrying travelers to visit the lagoon by boat; Boat and basket rental services for tourists to paddle (tourists from tours or solo travelers rent boat or basket to row themselves); Experimental services (travelers pay for fishing by fishing nets, traps, etc.); Vehicle rental service (travelers rent bicycle or motorbike to travel around the village and along the lagoon). Along with that, other activities have been paid more attention by the local community such as: lagoon environmental protection (mangrove planting, lagoon night patrol, waste collection); operating cultural activities and festivals for tourism; constructing a fresco village.

Ecotourism development has opened up opportunities to create more jobs and income for local people, and also contributed to protecting the lagoon resources in Quang Loi commune by reducing fishing pressure from local community. More importantly, when participating in ecotourism activities, local people gradually increase their awareness of waste collection on the lagoon and participate in activities such as mangrove planting, constructing and managing fisheries protected area,…. thereby creating a green, clean, and beautiful lagoon.

3.2 Human resources of households

Table 1 describes the human resources of households in different groups. The lowest education level of household heads was in fishing households (5.86 years in school), followed by tourism service group and aquaculture group (7.4 and 7.67 years, respectively). Average age of household head in fishing group was much higher than that of the other groups (53.14 years old in comparison with 48.9 and 46.52 years old of tourism service and aquaculture group, respectively). High values of standard deviations of household head age in three group indicate the much difference in age among household heads in same group.

Table 1. Human resource characteristics of household groups

Characteristic	Tourism service household		Fishing household		Aquaculture household		Total	
	Mean	Std.	Mean	Std.	Mean	Std.	Mean	Std.
Education of household head (year in school)	7.40	2.35	5.86	2.67	7.67	2.18	6.97	2.50
Age of household head (age)	48.90	11.16	53.14	12.92	46.52	5.71	49.53	10.58
Households size (people)	4.40	1.98	4.38	1.43	4.14	1.15	4.31	1.53
Labor size (people)	2.60	1.60	2.67	0.73	2.14	1.06	2.47	1.18
Labor work at locality (people)	2.25	0.64	2.43	0.68	1.95	0.67	2.21	0.68

Note: Std. - Standard deviation

Source: Household survey, 2020

The household size was 4.31 members (±1.53 members), and more than half of them were main labor (2.47 ±1.18 people), who were mainly working at the locality (2.21±0.68 people). This result reflected that the household's labor force was relatively abundant and mainly relied on on-site jobs related to fisheries.

3.3 The participation of community in Tam Giang lagoon ecotourism

Table 2 reports the percentage of households participated in services and activities that promote the ecotourism development. Generally, tourism service households had better participation the tourism services and activities than the other groups.

The highest proportion of household participation was in environmental protection activities such as mangrove planting, waste collection, patrol and protect lagoon resources, etc. (about 79.03% of total households). It also witnessed a significant proportion of households took part in activities that contributed to promote ecotourism development in the study area, as cultural activities and festivals (46.77%), public works (37.10), fresco village construction (30.65%). It was noteworthy that ecotourism service households had higher participated proportion on the mentioned activities. This was in line with findings of Tessema et al. and

Table 2. The proportion of households participated in ecotourism (%)

No.	Activity	Tourism service household	Fishing household	Aquaculture household	Total
1.	Carrying travelers to visit the lagoon by boat and basket	80.00	0.00	0.00	25.81
2.	Boat and basket rental service	60.00	0.00	0.00	19.35
3.	Dining services (serving tourists on boat or at the restaurant)	30.00	0.00	0.00	9.68
4.	Fishing experimental services (fishing by fishing nets, traps, etc.)	25.00	00.00	0.00	8.06
5.	Vehicle rental service (bicycle, motorbike)	5.00	0.00	0.00	1.61
6.	Participating in public works for tourism	55.00	33.33	23.81	37.10
7.	Participate in environmental protection activities	85.00	80.95	71.43	79.03
8.	Participate in cultural activities and festivals for tourism	55.00	47.62	38.10	46.77
9.	Participate in fresco village construction	50.00	28.57	14.29	30.65
10.	Other activities	5.00	0.00	0.00	1.67

Source: Household survey, 2020

Snyman [23] with the explanation that by involvement in ecotourism, local people are improved their awareness, and as a result, they are often more responsible for protecting and improving their surroundings for ecotourism development.

Ecotourism services which serve travelers in Tam Giang lagoon of Quang Loi commune were only provided by ecotourism service households. The most prominent service with the highest proportion of households participating was boating and boat rental service with participation rates of 80% and 60%, respectively. These services were easy to develop by households thanks to high demand for tourists and low investment costs (households could make use the existing fishing baskets and boats). Meanwhile, other services had a lower participation rate (less than 30%) because of its high requirement of investment and labor force (dinning services) or its low returns.

3.4 The role of ecotourism in household income improvement

The role of ecotourism in household income is showed in its contribution on labor income and household income structure. Table 3 reports the contribution of ecotourism services on total working days and income of labors in ecotourism service households. In average, a labor worked 184.25 (±54.99) days in ecotourism sector. The monthly income of a labor was estimated at around 5.02 (±2.33) million VND, equivalent to around 39.07 (±31.02) million VND a year. Around 78% of total yearly income of labors came from their participation in ecotourism services.

The difference in annual income among household groups is presented in table 4. Generally, annual income of tourism service households was much higher than that of fishing and aquaculture households. Tourism service households earned 85.15 million VND (±29.26 million VND) per years, meanwhile, the figures for aquaculture households and fishing households were 72.29 and 60.00 million VND, respectively. This difference came from income source of ecotourism service which accounted for 60% of the income structure ecotourism service households.

Table 3. Characteristics of tourism service labor income in 2019 (n = 28)

No.	Characteristic	Mean	Std.
1.	Number of working day in ecotourism services (day)	184.25	54.99
2.	Average income/month of labor (million VND)	5.02	2.33
3.	Average income/year of labor (million VND)	39.07	31.02
4.	Ratio of income from services to total income /year of labor	78.14	14.15

Note: Std. - Standard deviation

Source: Household survey, 2020

Table 4. Household income of research groups (million VND/year)

Income source	Tourism service household		Fishing household		Aquaculture household		Total		*p* value
	Mean	Std.	Mean	Std.	Mean	Std.	Mean	Std.	
Tourism service	50.55$^{(a)}$	18.69	0.00$^{(b)}$	-	0.00$^{(b)}$	-	16.55	25.86	0.000***
Fishing	21.50$^{(a)}$	24.89	49.33$^{(b)}$	21.58	21.57$^{(a)}$	31.02	30.95	28.93	0.001***
Aquaculture	5.35$^{(a)}$	10.68	6.86$^{(a)}$	18.46	50.71$^{(b)}$	24.15	21.23	28.14	0.000***
Other sources	2.50	7.86	3.81	17.46	0.00	0.00	2.10	11.03	0.532
Total income	85.15$^{(a)}$	29.26	60.00$^{(b)}$	35.45	72.29$^{(b)}$	23.81	72.27	31.15	0.033***

Note: $^{(a), (b)}$ - Different letters represent the statistically significant differences between groups; ***: significant at 1% probability level, Std. - Standard deviation

Source: Household survey, 2020

There is no doubt that the lagoon ecotourism has brought opportunity to local labors and households to get better income in Quang Loi commune. This result was consistent with findings reported in the literature [1; 4; 9; 10; 22]. Accordingly, Sterm [22] and Clifton and Benson [4] found that, ecotourism provided local economic benefits by creating direct employment, rental of accommodation for visitors and the sale of food, and other local services. Meanwhile, Khanal [10] concluded that ecotourism has become an additional but important environmentally friendly source of income and better-paid jobs for local communities. Anup [1] also confirmed that ecotourism brought a lot of economic income for the local villagers. The contribution of ecotourism on household income was also confirmed by the tourism service households themselves in Quang Loi commune. Households in this groups believed that their income had increased significantly since they participated in tourism services. More importantly, they had additional income from tourism services but were still able to maintain income from fishing and aquaculture.

ANOVA analysis results reveal that the difference in average income between the tourist service households and the other 2 groups was statistically significant (p value < 0.05). This finding was a reliable basis to accept the hypothesis that there is a difference in income between tourist service households compared to fishing households and aquaculture households. This finding was also in line with Hunt et al. [9] who indicated that ecotourism benefited tourism service households by providing the higher income for family members in comparison with their non-tourism neighbors in the study area. However, Hunt's findings did not use tests to test the significant difference of means of household income between the research groups.

3.5 Role of ecotourism in Tam Giang lagoon resource protection

The role of ecotourism in the lagoon resource protection can be seen through the participation of local people on natural conservation activities. Table 5 describes the involvement of households in groups in lagoon resource protection activities. It is clear that the participation intensity of ecotourism service households in natural protection activities was significant different from the other groups.

Waste collection was the most popular activity in the study area. On average, a household got involved in this activity for around 22.26 times (±10.23 times). Tourism service households showed their dominance in the number of participation times with 27.5 times (±11.04 times), much higher than that in the aquaculture group, 16.90 times and fishing group, 22.67 times (p value < 0.05). In other activities, tourism service households also show their better participation in comparison with the other groups. However, the participated time/year was relatively low, only fluctuating around 1–3 times/ year. The significant difference between tourism service households and the other groups found in number of time to join activities as: night patrol to protect the resource; propaganda and advocating for lagoon environmental protection; meeting and training on livelihood change.

Table 5. The participation of households on lagoon resource protection

Unit: time per year

Activity	Tourism service household		Fishing household		Aquaculture household		Total		*p* value
	Mean	Std.	Mean	Std.	Mean	Std.	Mean	Std.	
Night patrol to protect lagoon resources	2.20$^{(a)}$	1.79	1.52	2.40	0.71$^{(b)}$	0.96	1.47	1.89	0.039***
Planting and taking care of mangroves	0.40	0.52	0.24	0.54	0.48	0.81	0.31	0.64	0.330
Waste collection	27.50$^{(a)}$	11.04	22.62	9.82	16.90$^{(b)}$	7.00	22.26$^{(c)}$	10.23	0.003***
Propaganda and advocating for lagoon environmental protection	1.70$^{(a)}$	2.18	1.38	1.20	0.57$^{(b)}$	0.81	1.21	1.55	0.052*
Meeting and training on livelihood change (to tourism services)	0.90$^{(a)}$	0.72	0.48$^{(b)}$	0.68	0.52	0.60	0.63	0.68	0.094*
Contributing other resources to protect lagoon environment	0.55	0.69	0.57	0.60	0.67	0.73	0.60	0.66	0.839

Note: $^{(a), (b), (c)}$ - Different letters represent the statistically significant differences between groups; $^{*, ***}$; significant at 1% and 10% probability level, respectively; Std. - Standard deviation

Source: Household survey, 2020

The difference in participation level between ecotourism service households and the two other groups can be explained by Degang and Xiaoting [5] and Hunt [9]. Accordingly, ecotourism

was credited with helping to shift local attitudes toward positive perceptions of environmental protection and involving them on protecting the natural resource activities. Hunt et al. [9] also found that, ecotourism proactively promoted the conservation of nature, and offered increased access to information-related resources. In fact, in Quang Loi commune, the local residents were improved their understanding through training courses, consultation from stakeholders (local authority, tour managers, livelihood development project workers, etc.), and even through knowledgeable visitors. The low participation households in lagoon resource protection activities such as night patrol to protect of the lagoon resources; propagating and persuading fishermen not to exploit illegally, etc. mainly came from external factors. In 2019, Quang Loi commune and its villages organized the above activities because they had realized that lagoon resources became better protected thanks to the improved awareness of the local people. Besides, in a number of activities, instead of mobilizing the whole community to participate, they encouraged the rotating participation of households.

Table 6 illustrates the household points of view on changing of lagoon environment since ecotourism thrived in the past 3 years. A 5-point Likert scale, ranging from "very bad" to "very good", was used for the assessment.

Households in all groups appreciated the positive changes in the lagoon environment. The highest evaluation score was the restriction of waste and environmental pollution in the lagoon (4.23/5), followed by the lagoon landscape improvement; the restriction of illegal fishing; and the development of seaweed and aquatic plants, mangroves, etc. with average scores were over 3.7. Meanwhile, the lower scores belonged to assessment on fishing and aquaculture results on the lagoon, with average evaluate scores under 3.5.

Table 6. Household assessment on the results of lagoon resource protection

Indicator	Mean	Std.
Lagoon landscape improvement	3.84	1.01
Restricting illegal fishing	3.82	1.00
Restricting waste and environmental pollution in the lagoon	4.23	0.66
Seaweed and aquatic plants development	3.77	0.95
Mangroves development	3.73	1.15
Exploited fishery production	3.34	0.70
Aquaculture on the lagoon	3.32	0.86

Note: Std. - Standard deviation

Source: Household survey, 2020

This finding was consistent with the above discussion when the people's active participation in resource protection activities contributed to the improvement of the lagoon environment in the study

area. However, households' opinions on the lagoon environmental improvement were still different, reflected in the high standard deviation of the mean score (around ±1.0). This can be explained by the fact that ecotourism only thrived in the past few years, so households had not really observed all positive effects of this type of tourism, leading to differences in given opinions.

4 Conclusion and recommendation

4.1 Conclusions

Ecotourism in Quang Loi commune started in 2010 and thrive since 2017, relying on the advantages of the local natural resources. The development of lagoon ecotourism has made an important contribution to the income of households. Local community organized and provided tourism services such as: sightseeing on the lagoon, fishing experience, dining and accommodation, and some other services. By joining such services, labors in ecotourism service households earned 39.07 million VND/ year, which significant contributed to improve household's income. Ecotourism service households, therefore, had higher income than that of fishing group and aquaculture group (85.15 compared to 72.29 and 60 million VND, respectively).

The statistical difference in the average income between household groups (p value < 0.05) was a basis to reject the hypothesis that there is no difference in income between tourism service household group and the other groups in the study area. In addition, some assessment results in the aspects of employment generation, increasing income of workers, etc. have contributed to prove that ecotourism had an important role in the change of income and livelihood of the local community.

The lagoon environmental protection activities such as: lagoon night patrol, waste collection, propaganda and advocating for lagoon environmental protection, etc. were paid more attention by the local community since the development of ecotourism. Ecotourism has also contributed to creating a change in awareness, leading to a change in the behavior of the community in the lagoon resource protection. There was a significant higher participation time of tourism service households in the above activities in comparison with the rest groups (p value < 0.05). The lagoon environment and resources was assessed to be improved by local residents.

4.2 Recommendations

From the positive impacts of ecotourism on community livelihoods and resource protection on Tam Giang lagoon, local authorities and people need to:

Tourism service households should maintain, expand, and improve their existing ecotourism services. Local authorities should encourage and adopt supporting policies to involve fishing and aquaculture households in tourism services to contribute to reducing pressure on lagoon resources.

Continue to organize and implement activities such as waste collection, night patrols to protect lagoon resources, plant and protect mangroves, etc. to engage people in the protection of lagoon resources. This is a decisive factor for the sustainable development of the community's livelihoods (including the livelihoods of the eco-tourism group of households) and the lagoon resources in the future.

Acknowledgements

This work was supported by the Asia-Pacific Network for global change research (APN) through the CBA2019-02MY-Hoang project.

Reference

1. Anup, K. C., Rijal K. and Sapkota R. P. (2015), Role of ecotourism in environmental conservation and socioeconomic development in Annapurna conservation area, Nepal, *International Journal of Sustainable Development & World Ecology*, 22(3), 251–258.
2. Aryal C. and Maharjan K. K. (2018), Assessment of Ecotourism Potential of Koshi Tappu Wildlife Reserve, Eastern Nepal, *Journal of Tourism & Adventure*, 1(1), 48–67.
3. Bansal S. P. and Kumar J. (2011), Ecotourism for Community Development: A Stakeholder's Perspective in Great Himalayan National Park, *International Journal of Social Ecology and Sustainable Development*, 2(2), 31–40.
4. Clifton J. and Benson A. (2006), Planning for Sustainable Ecotourism: The Case for Research Ecotourism in Developing Country Destinations, *Journal of Sustainable Tourism*, 14(3), 238–254.
5. Degang W. and Xiaoting H. (2006), Coincidence and Upgrade: A Typical Case Study of Rural Ecotourism Development, *Chinese Journal of Population Resources and Environment*, 4(1), 45–53.
6. Department of Capture Fisheries and Resources Protection of Thua Thien Hue province (2019), Report on the Implementation of Aquatic Protected Area Management in 2019 and the Plan for 2020, Thua Thien Hue.
7. Nguyen Hong Giap (2002), Travel Economics (Book), Young Press, Ho Chi Minh City.
8. Le Van Hoai (2017), Solutions to develop ecotourism in Ke Go lake nature reserve, Ha Tinh province, *Journal of Science, Hue University*, 126 (5D), 205–218.
9. Hunt C. A., William H. D., Laura D. and Martha H. (2015), Can ecotourism deliver real economic, social, and environmental benefits? A study of the Osa Peninsula, Costa Rica. Journal of Sustainable Tourism. 23(3), 339–357.

10. Khanal L. (2019), Contribution of Ecotourism on household income: A study from Buffer zone of Shivapuri Nagarjun National Park, Nepal, *North American Academic Research*, 2(12), 220–231.
11. Kiper T. (2013), Role of Ecotourism in Sustainable Development (Book chapter), Namık Kemal University, Turkey.
12. Linsheng, Z., Buckley, R., & Ting, X. (2007), Chinese perspectives on tourism eco-certification, *Annals of Tourism Research*, 34(3), 808–811.
13. Mehta, J.N., & Heinen, J.T. (2001), Does community-based conservation shape favorable attitudes among locals? An empirical study from Nepal, *Environmental Management*, 28(2), 165–177.
14. Mitchell, J., & Ashley, C. (2010), *Tourism and poverty reduction: Pathways to prosperity*, London: Earthscan.
15. Muchapondwa, E. (2003), *The Economics of Community-Based Wildlife Conservation in Zimbabwe*, Ph.D. Thesis, Goteborg University, Goteborg, Sweden.
16. People's Committee of Quang Loi Commune (2019), Quang Loi socio-economic report 2019.
17. Roe, D. and Elliott, J. (2006), Pro-poor conservation: The elusive win-win for conservation and poverty reduction? *Policy Matters*, 14, 53–63.
18. Schellhorn M. (2010), Development for Whom? Social Justice and the Business of Ecotourism. *Journal of Sustainable Tourism*, 18(1), 115–135.
19. Shibia, M.G. (2010), Determinants of attitudes and perceptions on resource use and management of Marsabit National Reserve, Kenya, Journal of Human Ecology, 30(1), 55–62.
20. Shoo R. A. and Songorwa A. N. (2013), Contribution of ecotourism to nature conservation and improvement of livelihoods around Amani nature reserve, Tanzania, *Journal of Ecotourism*, 12(2), 75–89.
21. Snyman, S. (2014), The impact of ecotourism employment on rural household incomes and social welfare in six southern African countries, Tourism and Hospitality Research, 14(1–2), 37–52.
22. Stem, C., Lassoie, J., Lee, D., and Deshler, D. (2003), How "eco" is ecotourism? A comparative case study of ecotourism in Costa Rica, *Journal of Sustainable Tourism*, 11(4), 322–347.
23. Tessema, M.E., Ahsenafi, Z.T., Lilieholm, R.J., & Leader-Williams, N. (2007), *Community attitudes to wildlife conservation in Ethiopia. In S. Weber and D. Harmon (Eds.)*, Proceedings of the 2007 George Wright Society Conference "Protected areas in a changing world", 287–292, Hancock, MI: The George Wright Society.