

Local Community Assessment on the Economic, Environmental and Social Aspects of Ecotourism in Lobo, Philippines

Asia Pacific Journal of Multidisciplinary Research
Vol. 3 No. 4, 132-139
November 2015 Part III
P-ISSN 2350-7756
E-ISSN 2350-8442
www.apjmr.com

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Date Received: September 27, 2015; Date Revised: October 28, 2015

Abstract – *This study assessed the economic, environmental and social aspects of ecotourism in Lobo, Batangas, Philippines. Lobo is situated in the Verde Island Passage, the “center of the center of marine biodiversity” in the world. Lobo is also home to scenic beaches with spectacular dive spots and fish sanctuaries; mountain ranges with the endangered tree specie, the Philippine teak or *Tectona philippinensis*; and the 120-year old Malabrigo Lighthouse, which is overlooking Verde Island. The assessment was made by 394 residents of 18 barangays or local communities within the ecotourism areas, who are selected through stratified-proportional random sampling. The study is descriptive in nature and a survey questionnaire was the instrument used in data gathering. Results show that ecotourism in Lobo is economically, viable, environmentally sound and socially acceptable. However, the local government of Lobo and the tourism industry should be constantly cautious in every aspect of ecotourism development to assure its sustainability in the long run. In addition, residents of the local communities should also be always vigilant on the protection of the Lobo environment and conservation of its natural resources outweighing whatever economic benefits they may be offered by industries, tourism or any else.*

Keywords – *community assessment, economic aspect, ecotourism, environmental aspect, Lobo, social aspect, sustainable development*

INTRODUCTION

Being one of the largest industries in the world, global tourism is being used by governments, especially of developing countries, as agent for development [1]. However, many local communities expressed their concerns that although mass tourism brings economic growth, it also caused detrimental effects to the environment and the society. Thus, a sustainable form of tourism, the so-called ecotourism, was conceived.

Ecotourism is related to natural, cultural and adventure tourism but there are subtle differences that make ecotourism distinct; it is most often characterized as a sustainable development tool. In its truest form, ecotourism is travel to natural and cultural areas that supports conservation and biodiversity, improves the lives of the local people and supports

their educational programs, and includes some form of education for visitors [2].

The International Ecotourism Society defines it as *responsible travel to natural areas that conserves the environment and sustains the well-being of the local people* [3]. Ecotourism is officially defined in the Philippines as *a form of sustainable tourism within a natural and cultural heritage area where community participation, protection and management of natural resources, culture and indigenous knowledge and practices, environmental education and ethics as well as economic benefits are fostered and pursued for the enrichment of host communities and satisfaction of visitors* [4].

Ecotourism, under whatever definition, is an instigator of change. It forged new relationships between people and environment and among people of

different cultures and ways of life. Tourists want a change from their routine and wish to search out different experiences which are available in ecotourism areas. Residents living near potential ecotourism destinations desire to enhance life opportunities and see ecotourism as a way to improve their standards of living. Environmentalists yearn for the protection and conservation of the ecosystem. Hence, compromise must be sought among the legitimate aspirations of different people [5].

Ecotourism not only incorporates the natural and cultural resources of an area, but also the communities that surround these assets. Most communities view ecotourism as a sustainable development tool that could increase cultural pride and bring economic revenue to the local areas with little degradation to, or disturbance of, natural resources [2]. In addition to providing beneficial experiences for tourists, sustainable ecotourism must be economically viable, environmentally appropriate and socio-culturally acceptable [5]. In ecotourism, the economy, environment and society are all involved and of equal importance.

The National Ecotourism Strategy (NES) views ecotourism as a direct response to real needs and circumstances in the Philippines. It aims to position the country as a globally competitive ecotourism destination. According to NES, ecotourism rests on the following pillars: sustainable management of natural and cultural resources, environmental education and conservation awareness, empowerment of local communities, and development of products that will satisfy visitor needs [6].

Although beach-based tourism remains typical in the Philippines, ecotourism has been gaining attention for the past few years. Local governments are increasingly recognizing ecotourism as a means for achieving their objectives [6]. Local studies were also being done to assess ecotourism in some areas. For instance, a paper assessed the environmental, economic and socio-cultural aspects of ecotourism in Mt. Maculot and outlines the direction for sustainable development [7] while another paper estimated the value of the recreational benefits from Mt. Pulag National Park that can be used to determine ecotourism marketing for the park and to generate efficient tourism fee collection [8]. Related to these, though not a study on ecotourism, is a paper on communication resource mapping for coastal resources management of Malabrigo, Lobo, Batangas

that proposed communication needs of the stakeholders to promote environmental protection, biodiversity conservation and sustainable livelihood [9].

In the preparation of the NES, the natural resource base of the Philippines has been analyzed in terms of its potential and significance for ecotourism. With more than 7,000 islands, the Philippines is the world's second largest archipelago. The Philippines, Malaysia, Indonesia, Borneo and Papua New Guinea forms the Coral Triangle, the most diverse marine habitat of the tropics [6].

It is also in the Philippines where the so-called *center of the center of marine shorefish biodiversity* can be found. Such is the Verde Island Passage Corridor that occupies more than 1.14 million hectares between the provinces of Batangas, Oriental Mindoro, Occidental Mindoro, Marinduque and Romblon. It hosts the greatest number of shorefish species in the world and more than half of the country's documented fish species as well as many globally threatened species can be found here. It was named after an island in Batangas City, the Verde Island. It is also an important area for shipping, fishing, tourism and other economic activities [10].

Lobo is a coastal municipality in the Verde Island Passage and is a tourist destination in the Province of Batangas. The town has protected mangrove forests and fish sanctuaries [11]. The coastal parts of Lobo namely, Fabrica, Masaguitsit, Olo-olo, Malabrigo, Soloc and Sawang become haven for scuba divers, surfers and tourists, both locals and foreigners alike. Other tourist attractions in the area are the Ulopong Falls in Sawang and the *Tulay na Busog* in Nagtoctoc, which has a giant footprint on the mountain behind the river [12].

The Submarine Garden is another famous attraction in Lobo. Historical accounts show that wreckage of two Japanese warships sank in Sawang on the last days of World War II in 1945. The wreckage can hardly be seen now, instead, a submarine-shaped formation of corals has emerged. The Submarine Garden is now a declared fish sanctuary [13].

Lobo is also the home of a 120-year old *Faro de Punta de Malabrigo* (Malabrigo Lighthouse), which is overlooking Verde Island and Mindoro and a suitable place for photography sessions [12].

The beautiful mountains of Lobo, including Mt. Banoi, Mt. Lobo with Nagpatong Peak and Bangkalan

Peak, Mt. Tibig, Mt. Naguiling, and Mt. Tilos, also attract mountain tourists. The mountains are alive with forests and wildlife and offer the scenic views of Lobo mountain ranges, the southern coast of Batangas, the northern coast of Mindoro, and the Verde Island in the middle of Batangas and Mindoro [14]. The endangered tree specie *Tectona philippinensis* (Philippine teak), locally known as *malabayabas*, can also be found in the forests of Lobo [15].

Ecotourism is usually considered as a contributing factor to the conservation of natural resources and, at the same time, to the socio-economic development of the community within or near the ecological area to be protected. The present study deals with the economic, environmental and social aspects of ecotourism.

The economic aspect of ecotourism concerns about how the community will economically benefit from ecotourism operations. In the economics-dominated world, the profitability of an ecotourism development has to be considered cautiously [16]. This may be proceeds for the companies, jobs for the residents or revenues for the government. Indeed, the generation of income for local communities is one of the primary benefits of ecotourism. New jobs are created and the economy is diversified allowing for greater entrepreneurial activity [17].

However, the increase in income does not necessarily translate into sustainable ecotourism. Thus, another main aim of ecotourism is the protection and conservation of the environment [17]. Certainly, the development of ecotourism can increase public support and the amount of funding for nature conservation [18]. Yet, as a result of lack of environmental consciousness and ecological knowledge among tourism stakeholders, unsustainable development issues appear in ecotourism [19]. This can degrade the ecotourism area and will make the area unattractive for tourism in the long run [16]. Hence, research on ecotourism must focus on determining ways to incorporate communities into conservation and ecotourism development [17].

Social acceptability of ecotourism, particularly by local communities, can also influence its sustainability [16]. During the development of ecotourism, communities should be involved to get their consent and support. Sustainability can be achieved by simultaneously providing economic benefits and environmental education to communities and as a result, they will be empowered to take on stewardship of their natural resources [17].

Some characteristics of the respondents, namely sex, age and educational attainment are also considered in the present study. These are seen to act as determining factors on the divergence of ecotourism assessment in terms of its economic, environmental and social impacts to their communities.

OBJECTIVES OF THE STUDY

The main objective of this study is to assess the economic, environmental and social aspects of ecotourism in Lobo, Batangas, Philippines as perceived by the residents in ecotourism areas. To add consequential interpretation of the assessments, the respondents were grouped according to some profile or characteristics to determine if there are significant differences among the assessments of the different groups. Accordingly, the null hypothesis is generally stated as follows: There is no significant difference on the assessments of the respondents when they are grouped according to sex, age and educational attainment.

METHODS

The present study employs descriptive design – survey approach of research. The data gathering instrument used is a questionnaire formulated by the researchers and validated by research faculty of a state university and tourism industry experts of Batangas. The questionnaire was pilot-tested to 30 respondents from Lobo, Batangas who are currently studying or working in Batangas City. The reliability analysis of the gathered data resulted to an acceptable coefficient or Cronbach's alpha equal to .7875.

The actual data gathering for the study was conducted in 18 barangays (villages) of Lobo within the vicinity of ecotourism areas and which has a total population of 25,393. The actual study had 394 respondents. This number of respondents (sample size) was determined using the so-called Slovin's formula: $n = N / (1 + .05^2 N)$, where n is the sample size and N is the population size, with the supposition that close to 50% of the population can be reliable respondents for the study and using 95% coefficient or level of confidence. To ensure representation from each of the 18 barangays, stratified-proportional random sampling was used. [add]

The SPSS was used in the analysis of the data collected through survey. The percentage was computed for each group of respondents. The mean

was determined for each indicator in the economic, environmental and social aspect of ecotourism and the assessments were interpreted using the scale: 1.00-1.49 (Strongly Disagree); 1.50-2.49 (Disagree); 2.50-3.49 (Agree); and 3.50-4.00 (Strongly Agree). Independent samples t-test was used to determine significant differences between the assessments of male and female respondents; and one-way ANOVA, to determine significant differences among the assessments when grouped according to age and educational attainment.

RESULTS AND DISCUSSION

Table 1. Number of Respondents per Category

Profile	Frequency	Percent
<i>Sex</i>		
Male	206	52.3
Female	188	47.7
<i>Age</i>		
18-29 years old	184	46.7
30-39 years old	100	25.4
40-49 years old	68	17.3
50-59 years old	29	7.4
60 years old and above	13	3.3
<i>Educational Attainment</i>		
Elementary	27	6.9
High School	205	52.0
Technical -Vocational	29	7.4
College	127	32.2
Masters	6	1.5
Total	394	100.0

Table 1 presents the number of respondents for each profile category and the corresponding percent. It shows that majority of the respondents are male, young adults (18 to 39 years old) and high school graduates. College education is not so popular in Lobo considering that there are only few academic courses, mainly agricultural, offered in a small extension campus of a state university. Those who wanted to pursue other degree courses needed to go to colleges and universities in Batangas City.

Table 2 presents the respondents' assessment as regards economic aspect of ecotourism in Lobo. Residents of Lobo had expressed their strong agreement on all statements or economic indicators presented to them as indicated by mean of higher than 3.50, the highest being on the fact that Lobo ecotourism provides more income for drivers and operators of transportation services and lower means on the establishment of souvenir shops and provision of livelihood programs funded from the donations of tourists.

Table 2. Economic Aspect of Lobo Ecotourism

Indicators	Mean
1. Provides employment for local residents in services like accommodation and tour guiding	3.58
2. Generates more taxes for the municipality	3.57
3. Creates business opportunities within the municipality	3.62
4. Provides avenues for fund raising projects that may help in the economic development of the area	3.61
5. Develops more flexible employment conditions by creating small businesses that may help the local residents	3.61
6. Provides livelihood programs from the donations of tourists	3.55
7. Promotes establishment of souvenir shops	3.54
8. Provides more income for drivers and operators of the transportation services with the coming of tourists	3.68
9. Promotes new set of products and services to tourists	3.64
10. Boosts the local economy by providing lodging or accommodations to tourists	3.62
Composite	3.60

Results imply that the local communities accept the ecotourism development in Lobo for its economic viability. They see ecotourism as an avenue for better standards of living of the residents and progress of their rural municipality.

Table 3. Environmental Aspect of Lobo Ecotourism

Indicators	Mean
1. Preserves the ecosystem	3.62
2. Maintains and protects the natural resources through implementing standard rules and regulations such as prohibition of fishing in protected areas, littering, sand quarrying and coral reef destruction	3.69
3. Do not pose a threat to Lobo's natural resources such as beaches and coral reefs	3.69
4. Implements programs or projects for proper waste management for local residents and tourists in the municipality	3.70
5. Provides the tourists fun, relaxing, or invigorating vacation experience without harming the environment	3.70
6. Offers environmental activities like planting trees and clean-up programs	3.69
7. Encourages the local residents to use environmental friendly materials like paper bags instead of plastic	3.69
8. Contributes to the preservation of the environment, and more generally, promote the preservation of nature	3.68

Table 3. (cont.) Environmental Aspect of Lobo Ecotourism

Indicators	Mean
9. Uses its flora and its wildlife, and more generally its biodiversity as attractions	3.77
10. Contributes in the protection of endangered species in the area	3.64
Composite	3.69

Table 3 presents the respondents' assessment as regards environmental aspect of ecotourism in Lobo. Regarding the indicators for environmental aspect, residents of Lobo also expressed their strong agreement as indicated by mean of higher than 3.50. They had given the highest mean assessment on the circumstances that Lobo ecotourism *uses biodiversity as attractions* and lower means on the *preservation of ecosystem* and on the *protection of endangered species*.

Results indicate that ecotourism is also being embraced by the residents of Lobo as a means for the protection of their environment and conservation of their natural resources. Lobo, being very rich in biodiversity, necessitates its own community to be environmentally conscious and protectors.

Table 4. Social Aspect of Lobo Ecotourism

Indicators	Mean
1. Involves the local community in planning and decision-making	3.52
2. Promotes local experiences through learning about activities such as trekking, hiking, diving, snorkelling, and fishing	3.60
3. Promotes local experiences through learning about the physical attributes of place within the local community	3.61
4. Builds a sense of pride and ownership for residents	3.70
5. Builds healthier communities by encouraging local culture, food, and recreation choices	3.63
6. Promotes the sustainability of ecotourism attractions in the municipality through the participation of residents in programs such as development of artificial coral reef and <i>bantay-dagat</i> (deputized coast guard)	3.74
7. Gives opportunity to the local community to interact with people of diverse cultural backgrounds	3.62
8. Encourages respect between tourists and residents	3.62
9. Creates a welcoming atmosphere for visitors	3.69
10. Provides greater understanding of local cultural, social and environmental issues to residents and tourists	3.61
Composite	3.64

Table 4 presents the respondents' assessment as regards social aspect of ecotourism in Lobo. The residents of Lobo strongly agreed, as well, on all indicators presented to them for assessment concerning Lobo ecotourism in terms of social aspect, as indicated by mean of higher than 3.50. They had the highest mean assessment on the *promotion of the sustainability of ecotourism attractions through the participation of the residents in programs* and the lowest mean on the *involvement of the community in planning and decision-making*.

The social acceptability of ecotourism in Lobo is also very evident as implied by the results of the community assessment. Community residents were not hostile to ecotourism development because they are involved and they see the social benefits that they may gain in addition to the economic benefits it provides.

Table 5. Overall Assessment on Lobo Ecotourism

Aspects	Mean
Economic	3.60
Environmental	3.69
Social	3.64
Overall	3.64

Table 5 presents the respondents' overall assessment on Lobo ecotourism, where it is very evident that Lobo residents were in strong agreement with all aspects of ecotourism presented to them for assessment with an overall mean of 3.64. This is an indication of the highest level of community acceptability for ecotourism development in Lobo. If this continued in the years to come ecotourism sustainability may likewise be attained.

Table 6. Differences on the Assessments when Grouped according to Sex

Aspect	Sex	Mean	t	p	Dec.	Int.
Economic	Male	3.62	.772	.440	FR	NS
	Female	3.59				
Environmental	Male	3.66	-1.834	.067	FR	NS
	Female	3.72				
Social	Male	3.66	1.505	.133	FR	NS
	Female	3.61				
Overall	Male	3.64	.203	.839	FR	NS
	Female	3.64				

Legend: Dec.-Decision; FR-Fail to Reject; Int.- Interpretation; NS-Not Significant

Table 6 shows the differences on the respondents' assessments when grouped according to sex. At .05

level of significance and as indicated by p-value of greater than .05, there is no significant difference between the assessments of males and females on Lobo ecotourism in all aspects. Equivalently saying, the assessments of males and females are almost the same, although the males have slightly higher assessment on economic and social aspects while the females have slightly higher assessment on environmental aspects. The study fails to reject the null hypothesis that there is no significant difference on the assessments of the respondents when grouped according to sex.

It is, however, a good indication on the ecotourism development in Lobo that males and females responded similarly and their assessments are both favourable. Ecotourism to be sustainable should, of course, address the particular needs of both sexes.

Table 7. Differences on the Assessments when Grouped according to Age

Aspect	Age	Mean	F	p	Dec.	Int.
Economic	18-29	3.61	3.154	.014	R	S
	30-39	3.54				
	40-49	3.58				
	50-59	3.77				
	60-up	3.78				
Environmental	18-29	3.70	1.736	.141	FR	NS
	30-39	3.61				
	40-49	3.71				
	50-59	3.74				
	60-up	3.77				
Social	18-29	3.64	.917	.454	FR	NS
	30-39	3.60				
	40-49	3.63				
	50-59	3.73				
	60-up	3.60				
Overall	18-29	3.65	2.128	.077	FR	NS
	30-39	3.58				
	40-49	3.64				
	50-59	3.75				
	60-up	3.72				

Legend: Dec.-Decision; R-Reject; FR-Fail to Reject; Int.- Interpretation; S-Significant; NS-Not Significant

Table 7 shows the differences on the respondents' assessments when grouped according to age. At .05 level of significance, the p-value of .014 indicates that there is significant difference on the assessments of economic aspect when the respondents are grouped according to age. As shown by mean per age-group, 50 years old and above had higher mean assessment than those below 50 years old. In this case, the null hypothesis that there is no significant difference on the respondents' assessments regarding economic

aspect of ecotourism in Lobo when grouped according to age is rejected.

It is understood that those younger than 50 years old had lower assessments on economic aspect of ecotourism since they are on their prime ages to go out of Lobo and seek better economic opportunities elsewhere while those 50 years old and above are more willing to spend the rest of their lives in Lobo and be contented on the economic opportunities that they may have in their residences, like the economic benefits that ecotourism may bring. But still, ecotourism developers should address the emerging concerns of the younger residents that they may also greatly benefit from ecotourism in the long run since they are also on the right age to be more engaged in entrepreneurial undertaking.

On the other hand, there is no significant difference on the assessment of environmental and social aspects and in overall assessment when the respondents are grouped according to age. This fails to reject the null hypothesis that there is no significant difference on the assessment regarding environmental and social aspects when grouped according to age. All age-groups had expressed favourable perception on environmental and social concerns, which is good for ecotourism development in Lobo as this should address the needs of the young, the middle-aged and the senior residents of the community.

Table 8. Differences on the Assessments when Grouped according to Educational Attainment

Aspect	Educational Attainment	Mean	F	p	Dec.	Int.
Economic	Elem.	3.55	1.995	.095	FR	NS
	High Sch.	3.65				
	Tech-Voc	3.61				
	College	3.54				
	Masters	3.62				
Environmental	Elem.	3.73	.539	.707	FR	NS
	High Sch.	3.67				
	Tech-Voc	3.76				
	College	3.68				
	Masters	3.63				
Social	Elem.	3.54	1.081	.365	FR	NS
	High Sch.	3.66				
	Tech-Voc	3.63				
	College	3.61				
	Masters	3.62				
Overall	Elem.	3.61	.756	.554	FR	NS
	High Sch.	3.66				
	Tech-Voc	3.67				
	College	3.61				
	Masters	3.62				

Legend: Dec.-Decision; FR-Fail to Reject; Int.- Interpretation; NS-Not Significant

Table 8 shows the differences on the respondents' assessments when grouped according to educational attainment. The p-values of all greater than .05, indicate that at .05 level of significance, there is no significant difference on the respondents' assessments on all aspects of ecotourism in Lobo when grouped according to educational attainment and hence, the null hypothesis is not rejected.

Simply put, the residents see that in ecotourism development they had equal opportunities for growth and had to give equal contributions for its sustainability, regardless of their educational attainment. In Lobo ecotourism, those with lower or basic education will not be left behind.

CONCLUSIONS

The findings of this study, which is based on the assessments of the residents of 18 local communities (barangays) in Lobo, give the impression that there is no problem in the ecotourism development in Lobo, Batangas, Philippines. In particular, the Lobo ecotourism is economically viable, environmentally sound and socially acceptable. If this phenomenon continued in more years to come, the ecotourism in the area will be sustainable and eventually perpetuated to give satisfaction and positive experiences for tourists and more benefits for the local communities and the municipal government.

If ecotourism in Lobo will continue to be economically viable, then the facilities and services required by most tourists can be provided by the community and the government. If the Lobo environment and its natural resources can be protected and conserved, then the ecotourism resource base will also be maintained and tourism continues. If Lobo ecotourism continued to be socially acceptable, then the local communities will keep on supporting and cooperatively working for more sustainable ecotourism development.

However, ecotourism in Lobo, which was conceived just a few years back, is still relatively young as compared to other ecotourism areas in the Philippines and in the world that are existing for decades or more than a decade now. In these early years, the local government and tourism industry developers in Lobo should be constantly cautious in every aspect of ecotourism development. The local communities of Lobo should also be regularly vigilant on the protection of their environment and conservation of its natural resources, and not giving

more importance on the economic benefits they may gain from industries, tourism or any else, if in return such may degrade or destroy the natural environment.

In addition, there are some limitations on this study. Inferences drawn here are based solely on the assumption that the data provided by the respondents are true. Other limitations include the use of cross sectional data instead of longitudinal data, the use of limited variables and indicators for measuring such variables, and even, the instrument used in gathering the data. These limitations, however, can suggest some directives for the conduct of similar studies. Future researchers may consider the utilization of data collected in a longer period using interview and observation, through immersion in the community, as instruments. They may also include in their studies the political aspect of ecotourism, the carrying capacity of ecotourism sites, and the threats to sustainable ecotourism, both human and natural.

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