

## **Ecotourism Knowledge among the Local Communities of Lata Jarum, Pahang**

Er Ah Choy and Nurul Bariah Mat Lazim  
Faculty of Social Sciences and Humanities,  
School of Social Development and Environmental Studies, Universiti Kebangsaan Malaysia,  
43600 Bangi, Selangor, Darul Ehsan, Malaysia

---

**Abstract:** Ecotourism is nature-based tourism and if well-managed can contribute to the maintenance of the preservation and conservation of nature and wildlife. One of the underpinning principles of ecotourism is the involvement of the local communities. This study aims to examine, the relationship between the demographic factors and the knowledge of ecotourism amongst the local communities of Lata Jarum, Raub Pahang. The research methods used in this study are secondary data analysis and field survey which employs personal interview with a semi-structured questionnaire. The sample consists of 59 respondents from Kampung Peruas, 108 respondents from Kampung Pamas Kulat, 49 respondents from Kampung Pamah Rawas and 32 respondents from Kampung Sungai Yol. Results from the correlation analysis between the demographic factors and ecotourism knowledge show that gender, age, race and level of education have relationships with knowledge about ecotourism amongst the local communities of Mukim Ulu Dong, Lata Jarum and Pahang. The significant relationship between gender and ecotourism knowledge is a weak positive. However, a weak negative significant relationship exists between age and level of education with ecotourism knowledge. Race on the other hand, has a moderate positive significant relationship with ecotourism knowledge. This study has policy implications in terms of enhancing the involvement of local communities, as a key stakeholder in ecotourism development. Human capital development of local communities is a key building-block in fulfilling one of the precepts of ecotourism.

**Key words:** Demographics, age, gender, race, level of education, local communities, ecotourism knowledge, Orang Asli (indigenous people)

---

### **INTRODUCTION**

Ecotourism revolves around the exploration of nature with the aim of enjoying and appreciating nature and culture (Weaver, 2001). It should have a low impact on the environment and at the same time make a positive contribution to the well-being of the local people. This means ecotourism refers to activities that facilitate tourists in becoming closer to nature, being engaged, entertained and feeling the excitement in learning, visiting and discovering something new based on nature. Concurrently, the low impact of ecotourism should lead to sustainability, as well as enabling the participation of local communities in positive socio-economic activities (Scheyvens, 1999; Ross and Wall, 1999; Weaver, 2001).

The ecotourism sector is a rapidly growing sector in developing countries. This sector not only enhances the local economy but also contributes to the country's

economic growth. This development has also changed the facade of tourist attractions in terms of changes in tourist movement mainly from developed countries to developing countries. This is due to the fact that developing countries have unique natural environments which have yet to be threatened by the process of rapid development.

Furthermore, ecotourism minimizes the negative effects through the focus on low-impact construction, the limited number of tourists and conservation of interaction with the flora and fauna, as well as the natural human population (Er, 2001a). Ecotourism is a powerful tool to enjoy economic, socio-cultural and environmental benefits if effectively implemented through close cooperation between the government, local communities and the private sectors (Er, 2001b). This means ecotourism is a nature-based tourism and it is expected that this kind of tourism will be able to contribute to the maintenance of nature and wildlife preservation and conservation. In order to ensure that nature continues to be safeguarded,

---

**Corresponding Author:** Er Ah Choy, Faculty of Social Sciences and Humanities,  
School of Social Development and Environmental Studies, Universiti Kebangsaan Malaysia, 43600 Bangi,  
Selangor, Darul Ehsan, Malaysia

resources for ecotourism should be developed in a controlled manner to minimize the impact on the environment.

Ecotourism principles help the tourism industry to achieve its goals and should be supported in its implementation by the relevant stakeholders, i.e., tour operators, travel agencies and the local communities. Eagles (1996) has formulated the principles of ecotourism and they are as follow:

- Ecotourism essentially leads to the conservation of nature and local economic benefits
- Ecotourism operators both of the public and private sectors must have environmental strategies and skilled staff
- Economic development of tourism should be perceptive to the local community's culture and development sensitivity
- Ecotourism should be implemented to benefit the local population both in terms of social, economic and the ecological systems
- Dissemination of information and services of high quality are important
- Good planning and management is essential to ensure success in the long term
- Ecotourism and environmental protection requires the development of a strong management structure to address the widespread and rampant clearing of sensitive areas

Local ecological knowledge refers to ecological knowledge, as natural resources including knowledge of the local community in an ecotourism destination. This concept can also be combined with scientific knowledge that is learned based on knowledge, observation and the experience of the community derived from the environment. This study aims to examine, the relationship between the demographic factors and knowledge of ecotourism among the local communities in Lata Jarum, Raub Pahang.

### MATERIALS AND METHODS

This study covers the research methods, postulations of research hypotheses and data analysis technique.

**Research methods:** This study employed the survey method through personal interview with the local communities based on a set of semi-structured questionnaire. The questionnaire contained 2 variants, mainly close-ended and a minority of open-ended questions. The use of close-ended questions was intended to facilitate the respondents to answer these questions, additionally it can save the respondents and

**Table 1: Number of houses for the 4 villages**

Villages	Population (No. of houses)	Sample (No. of houses)
Peruas	70	59
Pamah Kulat	150	108
Pamas Rawas	55	49
Sungai Yol	42	36
Total	317	252

Tok Empat (village head) Kampung Peruas, Tok Empat (village head) Kampung Pamah Kulat, Tok Empat (village head) Kampung Pamah Rawas and Department of Orang Asli or indigenous people affairs (JHEOA) of Raub

the researcher's time. In contrast, the open-ended questions allow the respondents to give their views on any matter being investigated. The questions for the survey were modified based on previous studies by Er, Scheyvens (1999), Partiw, Tosun and Mowforth and Munt (1998). In addition, measurement of responses based on the Likert scale was also used. According to Resis Likert (Chua, 2006) data collected through the Likert scale are higher in their reliability compared with other scales. There are several scale measurements for the Likert scale which range from 1-3, 1-5, 1-7 and 1-9. This study, however used the 5 response options to measure the items constructed.

Table 1 shows the population and the sample number of houses for the 4 villages. Sampling calculation was done based on the sampling method adopted by Krejcie and Morgan (1970), as shown in the form of a snapshot in Appendix. Based on Table 1, if the population is a total of 70 houses for Kampung Peruas, 150 houses for Kampung Pamah Kulat, 55 houses for Kampung Pamah Rawas and 42 houses for Kampung Sungai Yol, hence the proposed sample size is 59 houses for Kampung Peruas, 108 houses for Kampung Pamas Kulat, 49 houses for Kampung Pamah Rawas and 32 houses for Kampung Sungai Yol (Krejcie and Morgan, 1970). The head or knowledgeable member of a household is selected for the personal interview.

The demographic factors selected for this study were gender, age, race and level of education. The demographics for the mentioned earlier sample are represented in Table 2-5.

To further strengthen the data collected through the field study, secondary information was obtained from the Pahang State Government, the District Council of Raub, Pahang, the Local Authorities, the Forestry Department of Pahang, the Department of Orang Asli (indigenous people) affairs (JHEOA) and travel agencies. In addition, observation was used in a complementary and supplementary fashion. Through observation, researchers can examine the behaviour of subjects based on variables that have been identified. The role of the researcher is to be an observer of changes in behaviour listening, as well as looking at the behaviour of the subjects either from a distance or up close. In this study, non-participant observation was carried out by the researcher to obtain information related to community involvement, ecotourism activities and the impact of ecotourism activities on the local communities.

Table 2: Number of respondents based on gender

Sex	No. of respondents	Percentage
Male	149	50.1
Female	103	40.9
Total	252	100.0

Table 3: Number of respondents based on age

Age categories (years)	No. of respondents	Percentage
15-20	14	5.6
21-30	82	32.5
31-40	38	15.1
41-50	48	19.0
51-60	30	11.9
61-70	23	9.1
>71	17	6.7
Total	252	100.0

Table 4: Number of respondents based on race

Race	No. of respondents	Percentage
Malay	216	85.7
Orang Asli (Indigenous people)	36	14.3
Total	252	100.0

Table 5: Number of respondents based on level of education

Race	No. of respondents	Percentage
No. of formal schooling	21	8.3
Primary education	84	33.3
Lower secondary education	53	21.0
Higher secondary education	77	30.6
Certificate	17	6.0
Bachelor/Master degree	2	0.8
Total	252	100.0

**Postulation of research hypotheses:** Hypotheses were formed to test the relationship between the demographic factors and knowledge of ecotourism among the local communities. The independent variables are demographic factors and as mentioned earlier are gender, age, race and level of education. The dependent variables are in relation to ecotourism knowledge and are expressed in terms of ecotourism infrastructure, i.e., chalets and campsites within Lata Jarum, the benefits of community-based ecotourism, i.e., job generation, business opportunities in food and beverage (F&B) operations, ecotourism lodges, eco-tour agencies, handicraft and related eco-supply chain activities and ecological preservation and maintenance knowledge, inclusive of good practices.

**Relationship between demography and ecotourism knowledge:**

- H<sub>10</sub>: There is no relationship between gender and ecotourism knowledge
- H<sub>11</sub>: There is a significant relationship between gender and ecotourism knowledge
- H<sub>20</sub>: There is no relationship between age and ecotourism knowledge
- H<sub>21</sub>: There is a significant relationship between age and ecotourism knowledge
- H<sub>30</sub>: There is no relationship between race and ecotourism knowledge
- H<sub>31</sub>: There is a significant relationship between race and ecotourism knowledge

Table 6: Interpretation according to the size of the correlation coefficient\*

Size of correlation coefficient	Interpretation
0.90-1.00	Correlation is very high
0.70-0.90	Correlation is high
0.50-0.70	Correlation is moderate
0.30-0.50	Correlation is low
0.01-0.30	Correlation is weak
0.00	No correlation

\*Interpretation should refer to the positive or negative sign of the correlation coefficient

H<sub>40</sub>: There is no relationship between the level of education and ecotourism knowledge

H<sub>41</sub>: There is a significant relationship between the level of education and ecotourism knowledge

**Data analysis technique:** The data collected from the interviews based on the questionnaire were processed using the statistical package for social sciences version 17.0 for MS Window. A total of 252 questionnaires related to community involvement and impact of ecotourism in Lata Jarum, Raub Pahang were analyzed. Inferential statistics was used to test the research hypotheses. The results of the correlation analysis determine whether the researcher should accept or reject the null hypotheses constructed with ( $\rho$  or  $r_s$ ) value approaching 1.0 having a high positive correlation while a weak positive relationship is shown by  $r$  that is close to zero. A negative correlation refers to an inverse relationship between the 2 variables. The purpose of the correlation was to determine the positive or negative relationship between the 2 variables and also to obtain the significant value. The common rules used and agreed upon by many researchers to determine the relationship between the 2 variables as a rule of thumb have been presented by Hinkle based on the size of the correlation coefficient. The interpretation is presented in Table 6.

**RESULTS AND DISCUSSION**

**Relationship between demographic factors and ecotourism knowledge:** This study discusses the results of the correlation test between the demographic factors (gender, age, race and level of education) and ecotourism knowledge among the local community.

**Relationship between gender and ecotourism knowledge:** In Table 7, a weak positive significant relationship exists between males and chalets, campsites, benefits of community-based ecotourism and ecological preservation and maintenance knowledge as opposed to females. Males generally are more sensitized to the existing ecotourism infrastructure, the benefits that avail as a result of community-based ecotourism and ecological greater mobility, the males are more aware of the availability of chalet accommodation like MS Chemerkau Chekas Chalet, C.K. Chalet, Lubuk Semak Enterprise (Chalet), Z.A. Chalet and Japri Guest House which are

Table 7: Correlation between demography and ecotourism knowledge

Demography (X)	Chalets (Y <sub>1</sub> )	Campsites (Y <sub>2</sub> )	Benefits of community-based ecotourism (Y <sub>3</sub> )	Ecotourism preservation and maintenance knowledge (Y <sub>4</sub> )
Gender (X <sub>1</sub> )	0.168**	0.155*	0.135*	0.141*
Age (X <sub>2</sub> )	-0.120	-0.168**	-0.126*	-0.179**
Race (X <sub>3</sub> )	0.567**	0.594**	0.409**	0.494**
Level of education (X <sub>4</sub> )	-0.204**	-0.209**	-0.120	-0.126*

Significant at \*\*p<0.05 and 0.01, respectively; Fieldwork (2011)

located in Kampung Peruas. Likewise, males are more aware of campsite locations. There are approximately 100 campsites provided by the Raub District Forestry Department for visitors who would like to stay in Lata Jarum Ranger, 2011.

For the older and elderly folk, a patriarchal hierarchical worldview means that males are direct economic participants with the women folk either being a housewife or play a complementary cum supplementary role, for example as a cook for an F&B outlet or a handicraft maker for a handicraft vendor. The younger generation also has contributed to the weak positive significant relationship. The younger village folk, albeit males or females have equal access to education and thus, their participation in employment and business activities overarch the existing patriarchal hierarchical worldview. However on an overall basis, males are more aware of the benefits that can be derived from community-based ecotourism activities. Likewise, as males are generally more mobile and have a higher level of interaction at the workplace, informal meeting places, e.g., at coffee shops (food cum beverage outlet) during lunch, tea breaks and after office or working hour for casual evening chat sessions. Chatting at coffee shops is predominantly a favourite pastime for many males. Thus, the dissemination of knowledge pertaining to ecological preservation and maintenance is higher for males as compared to females.

**Relationship between age and ecotourism knowledge:**

Table 7 highlights the negative significant relationship that exists between age and campsites, the benefits of community-based ecotourism and ecological preservation and maintenance knowledge. However, no significant relationship is recorded for age and chalets. The negative significant relationship means that there is an inverse relationship between age and the above variables. This means that a relatively younger villager is more knowledgeable about ecotourism, as opposed to a relatively older or elderly villager having lesser knowledge pertaining to ecotourism. The relatively older or elderly villagers are more conservative and lack the dynamism and eagerness of youths to learn about ecotourism.

In contrast, the relatively younger villagers or youths are more knowledgeable about campsite locations, as they would have participated in camping activities during their school going days and their holidays. In addition, the youths are more exposed to the benefits that avail in the participation of community-based ecotourism. The

catalytic exposure in terms of enhanced awareness and understanding, as well as the encouragement of local community participation in development of ecotourism at Lata Jarum was as a result of a series of seminars and workshops conducted by the Industry and Community Relations and Network (ICRN) arm of Universiti Kebangsaan Malaysia (UKM). This is an outreach programme conducted by HJEIM in conjunction with the Fraser’s Hill Research Centre (UKM), Pahang State Forestry Department, the Ministry of Tourism Malaysia Pahang, Raub District Office and the Village Development and Safety Committee of Lata Jarum. The community members involved in the seminars and workshops were mainly youths within the age group of 18-30 years. However, some participants were from the older and elderly age group.

Many of the seminar and workshop participants stated that the knowledge gained would be an impetus in their participation in community-based ecotourism. The youths are also aware that the socio-economic benefits that are derived from ecotourism-related activities will be a boon for them to stay in the villages instead of migrating to urban areas in search of better employment opportunities. They also indicated that by staying in the villages, their cost of living will be lower as food and rent is cheaper and their quality of life would be better as there are lesser social ills. The commodity boom in terms of palm oil and rubber prices, also abets this for the past few years. From 2011 till now, the prices of these commodities were on a downward trend till the recent mild recovery. Thus, the venture into ecotourism would be a means of diversifying their income and not be totally dependent on a single source of income.

The youths are also aware that ecological preservation and maintenance is the cornerstone to ensure ecotourism sustainability, as a physical deterioration in the ecological environment will have a negative long term impact on their livelihood. Much of this knowledge is derived from the ecotourism seminars and workshops. This finding highlights the importance of youths, as a galvanising influence in the development of ecotourism. Thus, more resources should be allocated to develop these youths into becoming eco-entrepreneurs.

**Relationship between race and ecotourism knowledge:**

Table 7 illustrates that a moderate positive significant relationship exists between race and the knowledge of the availability of chalet and campsite accommodation.

However, a low positive correlation is seen for the relationship between race and benefits of community-based ecotourism and ecological preservation and maintenance knowledge. As can be seen in Table 1, Malay Villagers inhabit the Peruas, Pamah Kulat and Pamas Rawas Villages whereas Orang Asli inhabits the Sungai Yol Village. The Malay Villagers are more knowledgeable about the availability of chalets and campsite accommodation as they are physically closer to the ecotourism destinations in Lata Jarum. The Orang Asli Villagers are the furthest away among these 4 villages and thus lack the immediate local knowledge avail to the Malay Villages. In addition, the Orang Asli has limited interaction with the Malay communities in the surrounding area of their village. Thus, this led to a lack of knowledge of available chalet and campsite accommodation.

The Malays as opposed to the Orang Asli are more knowledgeable about the benefits of community-based ecotourism and ecological preservation and maintenance. The Malay youths involvement in ecotourism seminars and workshops, as mentioned earlier have dramatically increased their ecotourism knowledge. However, the Orang Asli community is more self-contained and is mainly interested in matters in relation to their own community. In addition, the majority of the Orang Asli have never been to the eco-destination sites in Lata Jarum. They prefer to live and are familiar with the immediate forest close to their village. Due to their socio-cultural history, the Orang Asli have a repository of jungle knowledge as they frequently gather edibles and hunt for forest animals. This knowledge can be utilized as a strategic asset for the development of ecotourism. In addition, the customs and cultures of the Orang Asli community are unique and can be commercialized as ecotourism products. Their lack of knowledge in the benefits of community-based ecotourism and ecological preservation and maintenance is as a result of lack of exposure. Thus, this acts as a barrier to the involvement of the Orang Asli community in the development of ecotourism.

**Relationship between level of education and ecotourism knowledge:** A negative significant relationship exists between level of education and chalet and campsite accommodation and ecological preservation and maintenance knowledge as shown in Table 7. However, no significant relationship exists for level of education and the benefits of community-based ecotourism.

The negative significant relationship indicates that the lower the level of education, the higher the level of ecotourism knowledge and vice versa. This is not surprising as those with a lower level of formal education and those lacking formal education are the ones who have stayed longest in the villages. As such, their local

knowledge of chalet and campsite accommodation is much higher as compared to others. For those who have a higher level of education, their mobility is higher as they have the option to pursue further education or search for better employment in urban areas. The attendees of the ecotourism seminars and workshops organised by ICRN, UKM who are mainly youths support this argument. The attendees generally have a lower level of education and partake in agricultural or business activities within the villages. If they were to venture into the urban areas in search for employment, better job opportunities would be limited, as a result of their lower level of education. Their attendance in the ecotourism seminars and workshops is to improve their socio-economic situation. As a consequence of their participation, the knowledge gained for ecological preservation and maintenance is much higher as compared to others.

## CONCLUSION

The conclusion of this study is that demographic factors like gender, age, race and educational level are related to ecotourism knowledge. Males are more aware of the chalet and campsite ecotourism infrastructure, the benefits of community-based ecotourism and ecotourism preservation and maintenance knowledge. This is influenced by the patriarchal hierarchical worldview held by the older and elderly village folk. However, this influence is not so pervasive for the younger generation. This gender difference has policy implications. For the older and elderly village folk, the male heads of households have to be convinced 1st prior to the buy-in by the other members of the household. As the village development and safety committee of Lata Jarum is involved in the organisation of ecotourism seminars and workshops, this committee acts as a catalyst to develop ecotourism from a nascent to the growth phase. However for the younger generation, the gender issue is not as prevalent.

The findings on age and level of education are intertwined and have policy implications. The youths, mainly those who have a lower level of education are not caught in the throes of rural-urban migration as they are gainfully employed. To lessen their dependence on agriculture and the vagaries in commodity prices, the venture into ecotourism has a relatively lower entry barrier as the ecotourism infrastructure is mostly in place. In addition, the familiarity with the various eco-destinations in Lata Jarum would enhance their learning and experience curve. The policy implication is that youths should have a greater level of priority as they have many years ahead of them. These youths lack employment mobility as compared to their better-educated brethrens. However, their enthusiasm in ecotourism should be sustained by having a greater level of support by the various

government agencies. An eco-entrepreneurship incubator system would provide the necessary handholding during the initial years. Once they gain the necessary experience and expertise, they can be weaned off from the programme.

In terms of race, the Malay Village folk are more responsive towards ecotourism. However, the Orang Asli are more comfortable with their current lifestyle and also their occasional forays into the jungle to collect edibles and hunt for forest animals. This is against one of the precepts of ecotourism. All the local communities should symbiotically benefit with no community being left behind. The Orang Asli have a rich socio-cultural history and repository of knowledge, especially of the jungle and this would be a strategic input in the development of ecotourism products. This has policy implications as the means of engaging the Orang Asli has to take a different approach. Their socio-cultural nuances and needs have to be understood prior to the development of a plan of engagement to integrate the Orang Asli into ecotourism.

#### APPENDIX

A snapshot of Krejcie and Morgan (1970)'s sampling table

Population (N)	Sample (n)
10	10
15	14
20	19
25	24
30	28
35	32
40	36
45	40
50	44
55	48
60	52
65	56
70	59
75	63
80	66
85	70
90	73
95	76
100	80
110	86
120	92
130	97
140	103
150	108

#### REFERENCES

- Chua, Y.P., 2006. Kaedah dan Statistik Penyelidikan Asas Statistik Penyelidikan: Buku 2. McGraw-Hill, Malaysia.
- Eagles, P.F.J., 1966. Fragile landscape: Seeking eco benefit. *Ecodecision*, 20: 17-20.
- Er, A.C., 2001a. Penentu-penentu Utama Kelebihan Bersaing Industri Eko-pelancongan di Bukit Fraser. In: *Bukit Fraser: Persekitaran Fizikal, Biologi dan Sosio-ekonomi*, Latiff, A. (Ed.). Pusat Pengurusan Penyelidikan, Universiti Kebangsaan Malaysia, Bangi, Malaysia, pp: 331-355.
- Er, A.C., 2001b. Peluang Pasaran dan Peranan Kerajaan Dalam Pembangunan Eko-Pelancongan di Bukit Fraser. In: *Bukit Fraser: Persekitaran Fizikal, Biologi dan Sosio-Ekonomi*, Latiff, A., Z. Zakaria, Z.M. Isa, K.M. Salleh and N.M.H.D.L.B. Din (Eds.). Pusat Pengurusan Penyelidikan, Universiti Kebangsaan Malaysia, Bangi, Selangor, ISBN: 9789832446224, pp: 356-367.
- Krejcie, R.V. and D.W. Morgan, 1970. Determining sample size for research activities. *Educ. Psychol. Meas.*, 30: 607-610.
- Mowforth, M. and I. Munt, 1998. *Tourism and Sustainability New Tourism in the Third World*. Routledge, London, New York.
- Ross, S. and G. Wall, 1999. Ecotourism: Towards congruence between theory and practice. *Tourism Manage.*, 20: 123-132.
- Scheyvens, R., 1999. Ecotourism and the empowerment of local communities. *Tourism Manage.*, 20: 245-249.
- Weaver, D.B., 2001. *The Encyclopedia of Ecotourism*. CABI, Wallingford, UK., ISBN: 9780851993683, Pages: 668.