Ecotourism as Tool for Eradicating Rural Poverty in Peninsular Malaysia

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Abstract. Ecotourism is one of the strategies in eradicating rural poverty especially for communities living within and adjacent the forest. These communities depend on forest resources both directly and indirectly to generate household income through ecotourism or any forest-related activities. Ecotourism also claimed to be one of conservation strategies which contribute to the long-term conservation of the forest as well as mitigating or reducing conflicts between human and environment. A study was conducted starting from 2016 to 2020 to evaluate socio-economic benefits of forest and its resources towards communities. One of the objectives is to determine whether ecotourism development helps to eradicate rural poverty and improve household income of the local communities in Peninsular Malaysia. However, this paper only focuses on the preliminary result from four states namely Perlis, Kedah, Perak and Negeri Sembilan. A total of 1439 households from 44 villages were successfully interviewed between 2016 and 2018. Data and information were collected through rapid rural appraisal; focus group discussion and household survey guided by structured questionnaire. The impact of ecotourism and forestry related activities towards socio-economic of communities can be assessed through the households’ monthly income. The findings showed there are significant economic benefits and the income received from ecotourism and forestry related activities are important in reducing poverty among local households. Hence, forest conservation strategies should pay more attention to balance the needs for conservation and reducing rural poverty.

1. Introduction
There is no doubt that the ecotourism plays an important role in creating new potential source of local’s income generation and also stimulating their economic development. Ecotourism and local community including indigenous people are closely related to each other and forms a symbiotic relationship. Ecotourism defined as a responsible travel to natural areas that conserves the environment, sustains the well-being of the local people, and involves interpretation and education [1]. While Malaysia defined ecotourism as tourism experience evolved through collaboration between Government, the private sector and local communities and that include the following elements: (i) respect for nature, (ii) contribution to conservation, (iii) benefits to local communities, (iv) components of education and awareness and lastly (v) sustainability-ecologically, economically, socio-culturally and ethically.

Ecotourism is a rapid growing niche market within one of the worlds’ biggest industries [2]. The potential of this industry is gaining global attention through development various policies and intervention. For example, Sustainable Development Goals (SDGs) listed ecotourism as one of the strategies contributing to the goals and aim to alleviating the poverty of local communities especially at...
rural and remote areas. Meanwhile, United Nation Expert Group Meeting on Sustainable Tourism also highlighted to propose recommendations of good practices, ways and means to promote ecotourism as a tool for fighting poverty and promoting sustainable development.

In Malaysia, relationship between ecotourism and local community has been recognise since 1996, where the government committed and endorsed the first National Ecotourism Master Plan and the latest plan is National Ecotourism Plan 2016-2025. One of the strategies in the plan is to transform local communities in a positive manner and enhancing the well-being of local community, besides protecting the environment and conserving the nature. Other than that, the National Ecotourism Plan has acknowledged the participation of the local community for the development and sustainability of ecotourism. Therefore, ecotourism has become an opportunities to spur the country’s rural social-economic development, hence alleviate poverty in Malaysia.

In Malaysia, ecotourism takes place in the country’s protected areas. Some protected areas established and managed by the Federal government while others are administered by the individual states [3]. The country’s first PA in Malaya (as Peninsular Malaysia was then known) is the Chior Wildlife Reserve, being gazetted in 1903 in Perak State. Until 2019, there are 521 protected areas in Malaysia encompassed terrestrial and marine areas with a total size of 6,039,530 hectares in which, Peninsular contribute about 38% [4].

1.1 Objective of study
A study was conducted starting from 2016 until 2020 to evaluate socio-economic benefits of forest and forest-related activities towards local communities in Peninsular Malaysia. One of the objectives is to determine whether ecotourism development (includes forest related activities) helps to eradicate rural poverty and improve household income of the communities. However, this paper only focuses on the preliminary result from four states namely Perlis, Kedah, Perak and Negeri Sembilan.

This study targeted on community live within and the adjacent of Protected Areas including Permanent Reserved Forest where, most of the ecotourism sites are located. According to FAO, forest provides a wide variety of social and economic benefits [5]. Globally, it is estimated that over 2.4 billion people depend on forest goods and services. This include Malaysia, where 13.7% country’s population comprising of Indigenous People and Local Community (IPLCs) still depends on forest resources both directly and indirectly to generate household income especially through ecotourism or any forest-related activities. Another study also stated that ecotourism helps in community development by providing the alternate source of livelihood to local community which is more sustainable [6].

In Malaysia, forest creates employment opportunities through ecotourism and recreation, especially to communities live near Eco-park or known as “Taman Ekorimba”. Communities not only become workers at private resort/chalets but also operated their own homestay and local business such as souvenir shop, cafes and outdoor activities operator like bicycle, ATV and jungle-trekking.

2. Method
Different approaches were used to obtain different types of data information. The approaches can be in form of individual interview, focus group discussion or household’s survey. There are two types of data collected through this study, namely primary and secondary data. Primary data involves Rapid Rural Appraisal (RRA) and surveys on households. Secondary data involves collecting information from printed materials such as annual reports, books, journals and other related materials [7].

2.1 Rapid Rural Appraisal
Rapid Rural Appraisal (RRA) technique is a tool that enables a quick assessment of the existing environment and the possible impacts of the forest resource utilization and the other environmental services including ecotourism and recreation to the local socio-economics [8]. The techniques applied in RRA include group interview; methods of cross-checking information from different sources; methods of obtaining quantitative data in a short time frame, direct observation at study site level and
use of secondary data [9]. This technique provides basic information and ethno-histories of the study site for baseline in questionnaire design. In this study, RRA conducted on the preliminary stage to gather baseline information and understanding the contribution of ecotourism and forest related towards local community. Various focus group discussions were conducted with State Forestry Departments, Department of Orang Asli Development (JAKOA), District Offices and Community Heads.

2.2 Household Survey
Sampling Technique and Sample Size: Selection of local community samples in this study was assisted by District Forest Office, while District Office and JAKOA provide the households’ data information. The local community was chosen based on the distance of 5km to 10km from the adjacent of forest. Meanwhile, the estimation of sample size was based on the number of household living at the selected study site. The Yamane simplified sampling formula was applied and 5% taken as level of precision [10]. A total of 1,439 households were successfully interviewed during the survey.

Questionnaire Design and Data Collection: The study involved household survey using structured questionnaire. It was constructed into few sections covering demographic characteristic of the households, household’s income sources especially involving ecotourism and forest related, and their perception toward the ecotourism and conservation of Protected Areas. The household survey was conducted by well-trained enumerators. During the household interview, the respondents were briefed on the objectives and purpose of the survey. Time taken for each interview was about 30 minutes per interview.

3. Results
A few series of households’ survey was conducted in 2016 until 2018 among local communities living in and around protected areas including indigenous people or known as orang asli in Malaysia. The main socio-economic activities for populations in most of the protected areas are agriculture, eco-tourism and traditional artisanal activities such as fishing, non-timber forest products such as collecting rattan, bamboo, honey, hand crafting and medicinal plant collection. However, this preliminary results only focuses for states of Perlis, Kedah, Perak and Negeri Sembilan. A total of 1,439 households from 44 villages within and bordering protected areas were successfully interviewed. Basic information of states surveyed as in Figure 1 below.

Figure 1. Basic information of states surveyed
3.1 Monthly Households’ Income
The benefits of ecotourism for local communities can be broadly categorised as economic, sociocultural and physical. However, the most direct benefits can be determined through local’s improvements in employment and income. The impact of ecotourism-forest related activities towards socio-economic of communities can be assessed through the households’ monthly income.

The average monthly household income were RM1,672, RM2,138, RM2,278 and RM2,081 for Perlis, Perak, Kedah & Negeri Sembilan respectively (Table 1). The income level of these communities were lower than the average household income for Rural Malaysia (RM3,080) and Malaysia (RM6,141).

| Study sites         | Average monthly income (RM) |
|---------------------|-----------------------------|
| Negeri Sembilan     | 2,081                       |
| Perak               | 2,138                       |
| Kedah               | 2,278                       |
| Perlis              | 1,672                       |
| Rural Malaysia      | 3,080                       |
| Malaysia            | 6,141                       |

3.2 Sources Of Households’ Income
Communities’ income generated from ecotourism-forest related activities show its ability to generate income either in form of cash or income in-kind. Cash income refers to income gain from job opportunities, the sales or business related to ecotourism-forest products. Such as, worker at chalets and resorts, tour guides, recreational operators, harvest and selling honey, herbs and many more. While income in-kind can come in the form of provisions, such as free rent, or free meals, or an exchange of services. In this case, in-kind income can be forest resources consumed such as food sources by households and fresh water direct from the forest used by households either for daily use, for agricultural purposes or for recreational purposes. Result in Figure 2 shows Kedah has the highest cash income (RM1, 927/month), while Perlis has the lowest cash income (RM1, 491/month). In term of in-kind income, Kedah has higher in-kind income (RM351/month) compared to Negeri Sembilan (RM286/month), Perak (RM258/month) and Perlis (RM181/month). In-kind income contribute 9% to 15% of the households’ monthly income.

![Figure 2. Sources of Households’ Income](image)
3.3 Impact towards Households’ Income
Impact of ecotourism-forest related activities towards socio-economic of local communities can be assessed through the household’s monthly income generated from ecotourism-forest related activities. Figure 3 shows the categories of income that taken into account in calculating the contribution of ecotourism-forest related activities towards households’ income.

Figure 3. Categories of ecotourism-forest related activities

The result in Table 2 showed the average monthly income generated from ecotourism-forest related for those 4 study sites. The percentage of dependency on ecotourism-forest related activities as a source of income was 5% to 18% from the total income. The ecotourism-forest related income contribution were RM250, RM103, RM150 and RM358 for Perak, Kedah, Perlis and Negeri Sembilan respectively. The highest dependency was Negeri Sembilan (18%) and the lowest dependency was Kedah (5%).

Table 2. Household’s monthly income generated from ecotourism-forest related

| Study sites  | Monthly income source (RM) | Percent from monthly income (%) |
|--------------|----------------------------|---------------------------------|
|              | Ecotourism-forest related  | Other sources                   |                                |
| Negeri Sembilan | 358                        | 1,630                           | 18                              |
| Perak        | 250                        | 1,888                           | 12                              |
| Kedah        | 103                        | 2,175                           | 5                               |
| Perlis       | 150                        | 1,522                           | 9                               |
| Average      | 215                        | 1804                            | 11                              |

3.4 Poverty Level
The extent of poverty among these local communities could be seen from the incidence of poverty among the households in the area. Poverty in Malaysia is measured on the basis of a minimum expenditure level or the poverty line income (PLI) to separate the poor from non-poor [11]. Taking into consideration the rise in the consumers’ price index, the per capita PLI was calculated to be RM256 in 2016 and this was used to measure the incidence of poverty in the community studied.

This study finds that the highest poverty level is Negeri Sembilan, followed by Kedah (19.4%), Perlis (14.6%) and Perak was 13.2%. If there is no income from ecotourism-forest related the poverty level of these communities may increase up to 9% from current poverty level (Figure 4). By taken these
four states as examples, this study prove that ecotourism-forest related activities contribute to the communities’ income and eradicate poverty in Malaysia.

4. Discussion
This study found that the average monthly households’ income was below than the average household income for Rural Malaysia (RM3, 080 per month). This finding supported by the National Ecotourism Plan in 1996 which also recognises that local communities living at ecotourism site have generally low incomes. Therefore, ecotourism and its other related potential may provide a viable economic option for those communities.

High in-kind income resources especially at Kedah indicates that community still depends on forest resources to sustain their livelihood, especially in term of food resources such as bamboo shoots, honey, as well as wild fruits (petai, jering, kerdas and keranji). Local community also depends on fresh water direct from the forest traditionally known as Air bukit/tandak. In which, the in-kind income contribute up to 15% of the households’ monthly income.

The study also reveals that ecotourism-forest related activities have provided a supplementary income and new employment opportunities to the local community. Although it does not reduce rural poverty as much as might be expected from a large rural-based industry, there is great potential for public supporting system and local entrepreneur to improve.

Other than that, one of the strategies that Malaysia can adapt is the promotion of local communities based ecotourism (CBET) as alternative ways to increase income of these communities thus improve the livelihood of the communities. ASEAN country such Cambodia, Thailand, Indonesia and Vietnam already implemented this CBET. This CBET has great potential to be implemented in Malaysia. Combination between ecotourism and conservation activities such as forest restoration and agroforestry also can be further explored to balance up between ecotourism, economic benefits to local community and forest/ecotourism site management. Other than that, the development of new ecotourism areas near local communities has huge potential to create employment, local business and job opportunities, thus can be used as a tool to reduce poverty at the national, regional and rural areas in Malaysia.

5. Conclusion
Ecotourism and forestry related activities provide significant economic benefits and the income received from ecotourism and forestry related activities are important in reducing poverty among local households. Forest conservation strategies should pay more attention to balance the needs for conservation and reducing rural poverty through involvement of local community in ecotourism and forest related activities.

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