
AN EVALUATION OF THE ECOTOURISM DEVELOPMENT PATHWAY

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ABSTRACT

Mount Tambuyukon and the better known Mount Kinabalu, the highest mountain in South East Asia, are located within Kinabalu Park, Sabah. The Sabah state government together with Kinabalu Park has identified Mount Tambuyukon, the third highest peak in Malaysia, for ecotourism development. The objective of this article is to evaluate the nascent steps in the ecotourism development of Mount Tambuyukon. This evaluation takes into consideration conservation efforts, physical infrastructure for ecotourism development, carrying capacity and also the participation of local communities. The research methods adopted were a combination of case study and observation. For the case study, an in-depth interview via an open ended questionnaire was carried out with key informants. The findings indicated that it would be better for Mount Tambuyukon to maintain the Class II summit trail for adventurous mountaineers than upgrading to a Class I summit trail like Mount Kinabalu. This would allow for product differentiation and is more ecologically friendly as the summit trail need not be widened or terraced. Carrying capacity based on accommodation capacity is not scientifically sound. A multi-disciplinary scientific approach is required to determine carrying capacity. The involvement of the local communities is limited to employment offered by Kinabalu Park. By intertwining the livelihood of the local populace with a sustainable ecotourism supply chain, the local populace would act as a security buffer against breaches to the environment as their livelihood is dependent on the environment. However, the locals would require assistance from the various government agencies due to their socioeconomic status. Future researches should focus on marketing research to determine demand for ecotourism products that would not result in a mismatch. In addition, a multi-disciplinary scientific research methodology needs to be adopted to determine carrying capacity.

Keywords: Ecotourism, summit trail, carrying capacity, local communities

INTRODUCTION

Sabah, located at the northern tip of the Borneo island, is predominantly hilly and is rich in biodiversity (Mohanlall 2002). Mount Kinabalu, with a height of 4,085 metres and part of the Crocker Range, dominates much of Sabah's skyline. Mount Tambuyukon at a height of 2,579 metres, is 12 kilometres north of Mount Kinabalu. This makes Mount Tambuyukon the third highest peak in the country (Sabah Forestry Department Online 2010, Sabah Parks Online 2010). Mount Kinabalu and Mount Tambuyukon are within Kinabalu Park, one of the six parks under the governing authority of Sabah Parks. Mount Tambuyukon is rich in biodiversity with a wide assortment of flora and fauna, including a number of endemic pitcher plant species of the genus *Nepenthes*. A natural ecosystem like Mount Tambuyukon can be considered as an important recreational destination for tourists (Naemifar et al. 2011, Yalgouz-Agaj et al. 2010).

Ecotourism has reached a mature stage for Mount Kinabalu and is a well known heritage site as declared by UNESCO (Sabah Tourism Board 2006). Mount Tambuyukon, the much lesser known mountain within Kinabalu Park, has been identified by the Sabah state government and Kinabalu Park for ecotourism development. Thus, Mount Tambuyukon is in the nascent stage of ecotourism development. Much literature has been written on Mount Kinabalu. For the lesser known Mount Tambuyukon, literature on flora, fauna, biodiversity, phytochemistry, geology and hydrology is available whereas none exists for ecotourism and associated socio-economic perspectives.

This article is to fill the gap in literature and is magnified by the Mount Tambuyukon Scientific Expedition carried out during October 2-16, 2009. One of the main thrusts of this Expedition is a Cultural and Socioeconomic Studies with the following sub-themes: Threats and Conservation Strategies, Traditional Knowledge and Ecotourism Potential (Dol 2009). Thus, the objective of this article is to evaluate the nascent steps in the ecotourism development of Mount Tambuyukon. This evaluation takes into consideration conservation efforts, physical infrastructure for ecotourism development, carrying capacity and also the participation of local communities (Er et al. 2009, Er 2010, Er et al. 2010). All these are integral components of ecotourism (Honey 2008, Wight 1993).

RESEARCH METHODS

The area of study is Mount Tambuyukon, a twin-peaked mountain, and its most immediate neighbouring village of Kampung Monggis (Monggis Village) located at the foot of Mount Tambuyukon. A Kinabalu Park sub-station known as Monggis Sub-station is adjacent to Kampung Monggis. Mount Tambuyukon has two trails i.e. one from Kampung Monggis and the other from the Monggis Sub-station. The Monggis Sub-station's trail, developed by Kinabalu Park, has many ascents, descents and river crossings. Mount Tambuyukon has a Class II summit trail as opposed to the Class I summit trail for Mount Kinabalu. This means that the climb up and down Mount Tambuyukon is much more arduous and challenging. Kampung Monggis is a remote rural village of mostly wooden houses on stilts. The villagers are involved mainly in agricultural activities like vegetable and fruit cultivation. Many of the younger generation have left the village in search of employment and this has contributed in part to the rural-urban migration.

The research methods adopted in this paper were a combination of case study and observation. For the case study, the primary foci of attention were key informants i.e. two management staff from Kinabalu Park, three park rangers from Monggis Sub-station and five nearby villagers who are involved as tour guides and porters for the Mount Tambuyukon summit trail and a group of 10 Kampung Monggis villagers. In-depth interview via an open-ended questionnaire pertaining to infrastructure development for ecotourism, carrying capacity and local communities' participation was carried out for the above. Observation covers the physical and ecotouristic aspects of Mount Tambuyukon and Kampung Monggis. In addition, both in-depth interview and observation paid particular attention to the possibility of integrating the livelihood of Kampung Monggis villagers with ecotourism.

RESULTS AND DISCUSSION

Infrastructure Development for Ecotourism: The existing Class II summit trail at Mount Tambuyukon appeals to mountaineers that prefer a challenging climb. The summit trail has a discernible path which in part requires the park guides to clear the thick bushes for the mountaineers to proceed. The expertise provided by the park guides ensure the safety of the mountaineers as some ascents are steep and part of the trail follows the narrow top of the ridge with sharp drops on both sides. Its more famous cousin, Mount Kinabalu has a Class I summit trail with a lesser level of difficulty. A Class I summit trail has terraced steps and hand rails at steep inclines. In addition, the summit trail for Mount Tambuyukon has an expedition facet involving a to and fro journey of either five days and four nights or four days and three nights as opposed to the minimum of two days and one night or a more leisurely three days and two nights for Mount Kinabalu.

Senior management within Kinabalu Park has suggested the Class II summit trail at Mount Tambuyukon to be upgraded to a Class I summit trail. A Class I summit trail at Mount Tambuyukon will appeal to more visitors but at the same time can be a competitive destination for Mount Kinabalu. Mount Kinabalu, being the highest mountain in South East Asia and also a heritage icon, has more appeal as compared to Mount Tambuyukon for first time climbers.

Repeat climbers who prefer a Class I summit trail may consider Mount Tambuyukon and this in itself will cannibalize the tourist revenue for Mount Kinabalu. By keeping to the existing Class II summit trail at Mount Tambuyukon, product differentiation allows the focus to be on a different market segment i.e. adventure seeking

mountaineers or hikers. Maintaining the existing Class II summit trail is much more ecologically friendly. The existing summit trail need not be widened and terracing and hand rails would not be required for steep inclines. Without trail upgrading, erosion can be minimized as terraced slopes can lead to water run-off and subsequently soil erosion. Upgrading the trail can also lead to the loss of flora, especially endemic flora, which has a negative impact on biodiversity.

Carrying Capacity: For Mount Tambuyukon, the carrying capacity for mountaineering is not an issue yet as there is a very limited number of visitors as revealed by Monggis Sub-station park rangers. The carrying capacity for mountaineering in Mount Kinabalu is determined by the accommodation capacity at the overnight huts or shelters along the trail. Accommodation capacity as a determinant of carrying capacity is not a viable scientific solution. A multi-disciplinary scientific approach is required to determine carrying capacity. The main attendant problem of overcapacity is soil erosion, especially during the monsoon seasons. A scientific determination of carrying capacity allows for the ordinary development of ecotourism infrastructure not only in the Kinabalu Park but also the five other parks within Sabah Parks. A multi-disciplinary scientific approach used for determining carrying capacity at Mount Kinabalu can also be used as the benchmark approach for determining carrying capacity at Mount Tambuyukon or vice versa. This would help in fulfilling the twin objectives of preserving the Kinabalu Park and maintaining its UNESCO's World Heritage Site status. The World Heritage Site status was inscribed in 2000 for its diverse biota and high endemism encompassing an area of 75,370 hectares (UNESCO Online 2010).

Local Communities and Their Involvement in Ecotourism : Sabah Parks in general and Kinabalu Park in particular have recruited staff, fee-based mountain guides and porters from the neighbouring communities. For Kinabalu Park and Monggis Sub-station, part of the workforce comes from the neighbouring villages. The interviewed licensed guides, after two weeks of training by Kinabalu Park, and porters live in Kampung Monggis and the surrounding villages. In addition, for Kinabalu Park, the vendors at Poring Hot Spring are also locals. Our research indicated that news pertaining to conservation efforts by Kinabalu Park flowed quite effectively through the formal network via village headmen or Village Security and Development Committee Members and informal network via staff members of Kinabalu Park. These formal and informal networks are crucial for conservation efforts as there is no physical buffer between Kinabalu Park and the immediate surroundings. As such, the neighbouring villages of Kinabalu Park act as an informal security cum intelligence arm of Kinabalu Park. The neighbouring villagers are the eyes and ears for Kinabalu Park.

If the surrounding circumstances are too dangerous to act in terms of physical danger, the neighbouring villagers can report such incidences to Kinabalu Park or the relevant authorities. Incidences of poaching, illegal logging, illegal collection of wild plants like orchids and pitcher plants, pillaging of high-valued flora like gaharu and forest fire can be reported to Kinabalu Park or the relevant authorities for action to be taken. Pillagers of gaharu or acarwood were caught and prosecuted as reported in the press (Leong 2010). El Nino events which intensified the prolonged droughts have resulted in forest fires breaking in nine locations within Kinabalu Park (Encyclopaedia of Earth Online 2010). The neighbouring villages can act as monitors and also be an effective buffer if the socioeconomic activities of the surrounding villages are integrated and in concert with ecotourism efforts deployed by Kinabalu Park. For this to happen, the resources of the immediate villages have to be taken into consideration.

Kampung Monggis, the nearest neighbouring village, can be considered as an isolated, remote village with poor road access. Visitors, inclusive of ecotourists, going to Kampung Monggis have to traverse across two rivers via four wheel-drive vehicles as there are no bridges available. Many of the villagers consist of the older and young (children) generations with a large majority of villagers of working age having migrated to the urban and suburban centres in search of employment. In a mini-survey conducted by Kinabalu Park, the average educational level of the older adult villagers is Standard 3 with household income of Ringgit Malaysia 500 and below. Each household has generally 20 acres of land with land title denoting ownership. The older generations are relatively less educated with some illiterate as compared to the young generations.

The relatively low educational and income level of Kampung Monggis villagers would be a high entry barrier into ecotourism related activities. The precepts of ecotourism differ from other forms of tourism. One of the precepts of ecotourism is environmental conservation and this at times may contradict with the slash and burn practice adopted by the villagers to clear vegetation for crop cultivation. The slash and burn practice can be hazardous especially during prolonged droughts as an uncontrolled fire can spread into a forest fire within the park.

For the villagers, a mindset change has to take place with the help of education and training and development in the field of ecotourism. The involvement in ecotourism as an employee, a trader or vendor or as an ecotourism entrepreneur in the area of ecolodge provision, logistics, trading, food and beverage, tour and travel, and agriculture services need to be nurtured. This would require the assistance of the various state ministries in intergrating the livelihood of the villagers to ecotourism. A key factor for its succes is empowering the local community (Scheyvens 1999).

Due to the socioeconomic status of many of the villagers, a hand-holding or incubation approach needs to be adopted to make the participation of local communities in ecotourism to be a success. If otherwise, the villagers would only be employees of Kinabalu Park. This would leave the opportunities to non-local ecotourism entrepreneurs who are keen to exploit the growing ecotourism sector. At the worst, some of the non-local ecotourism entrepreneurs may practice greenwashing which would be detrimental to the environment and also the local communities. The participation of local communities in ecotourism is not only ethical but also as a means of conserving the environment as their livelihood is dependent on the sustainability of the environment.

CONCLUSION

The ecotourismdevelopment pathway of Mount Tambuyukon should not replicate that of Mount Kinabalu. The unique physical Class II summit trail at Mount Tambuyukon should be maintained for the purpose of product differentiation, especially for adventurous mountaineers and hikers. If it is upgraded to a Class I summit trail like Mount Kinabalu, it would not differ very much and may be a poorer comparison of Mount Kinabalu which has gained iconic status. A supply-led situation of ecotourism development may result in a mismatch with demand-led market conditions. Maintaining a Class II summit trail at Mount Tambuyukon is much more environmentally friendly as terracing on steep slopes may in the long run lead to soil erosion. The widened and part-terraced summit trail may also endanger some endemic flora species.

The determination of carrying capacity via accomodation capacity has no scientific basis. This might harm the environment on a long term basis if there is growing tourism demand. The search for tourist revenue might lead to expansion of physical facilities that can harm the environment. A multi-disciplinary scientific approach needs to be adopted to ascertain the carrying capacity. This would lead to a more orderly development of ecotourism infrastructure without impacting negatively on environmental sustainability.

As Kampung Monggis is the nearest village to Mount Tambuyukon, ecotourism endeavours should benefit the villagers of Kampung Monggis and also nearby villages. Very often in the pursuit of ecotourism endeavours, the in-situ or neighbouring committes are not an integral stakeholder as envisaged in the precepts or principles of ecotourism. Offering employment by Kinabalu Park to neighbouring residents is a good first step. More could be done by encouraging the locals to participate in the local ecotourism supply chain. Various government ministries and agencies should provide support with an incubation phase due to the socioeconomic status of the local populace. By intertwining the livelihood of the local populace with sustainable ecotourism, it would lead to winning the hearts and minds of the local populace. The local populace, in turn, would act as a security buffer against breaches to the environment as their livelihood is dependent on the environment.

Marketing reserach is required so as to determine the demand for ecotourism products. By understanding demand, it could lead to an orderly development and supply of ecotourism products This in turn would also yield a sustainable return on investment. A multi-disciplinary scientific research methodology is also required to determine the carrying

capacity of Mount Tambuyukon. Likewise, this would also lead to the orderly development of ecotourism without endangering the environment on a long term sustainable basis.

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