The Perceptions of Local Communities toward Penang National Park

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Abstract. The national park is considered as one of the protected areas (PA) created to conserve and protect biodiversity for the benefit of living being and humankind. Penang National Park (PNP) was gazetted in 2003 under the National Parks Act 1980 with a total coverage area of 2,563 hectares. It is in the North-Western part of Penang Island. Referring to its size PNP is among the smallest national parks in the world. The main purpose of (PNP) establishment is to preserve and enhance natural scenery, wildlife and cultural heritage. Being one of the protected areas located in the fast-growing state, PNP faces threats such as development pressures, encroachment and illegal development surrounding the park. This issue threatens its function to conserve biodiversity and raises conflict between the community and the management of this area. To maintain its sustainability the protected area should be able to adapt to changes in social and ecological aspects in support of the conservation agenda. Thus, an investigation has been carried out to understand the views of the local communities towards PNP. Data were collected from local communities living near PNP through questionnaire survey involving 282 respondents from two main areas nearby the national park i.e Teluk Bahang and Kampung Pantai Acheh. The understanding on determinants of local community attitudes towards PA might provide guidance in the design, management and assessment of this strategic form of biodiversity conservation. The outcomes were to establish the local community perceptions on the impact of protected area and analyses the association on the economic, social and environmental impact that support the long-term persistence of conservation concern.

1. Introduction

Protected areas (PA) refer to an area which receives protection due to its natural, ecological and cultural values [1]. According to the Union for Conservation of Nature (IUCN) protected area is defined as “land or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means”[2]. Meanwhile, the Convention on Biological Diversity (CBD) described the protected area as “a geographically defined area which is designated and managed to achieve specific conservation objectives” [3, 4]. However, both agencies agreed the establishment of PA’s is for conservation purposes which comprise different functions i.e national park, wildlife sanctuary, nature reserve, protected landscape, game reserve and habitat management areas. A national park is the most common PA establishment created to conserve and protect biodiversity for the benefits of living being and humankind with the main objective for
ecosystem protection and recreation. Internationally the establishment of a National Park is often referred to Category II as per IUCN guidelines [5, 6].

Realizing the importance of PA in conservation, the federal government of Malaysia together with the support from the state government has established 35 PA’s around Peninsular Malaysia under the management of Department of Wildlife and National Park (DWNP) [7]. In general, protected areas in Peninsular Malaysia include areas with management objectives related to the conservation of biological diversity. PAs in Malaysia exist in the form of the national park, state park, wildlife reserve, forest reserve and wetland areas. However, there are threats to the PA such as development pressure through illegal developments, agriculture activities, apathetic attitude of recreationist and visitors which might create many environmental issues[8, 9]. This situation creates uncertainty in terms of its function and management as a protected area that can indirectly affect the conservation planning and conservation agenda as set out in the National Biodiversity Policy. It also threatens its function to conserve biodiversity and raises conflict between the community and the management of the PA.

All these issues need to be addressed to ensure the sustainable development of the PNP. The challenges include having the political will, creating an effective awareness and environmental education system for all stakeholders, develop a sustainable management plan, environmentally-friendly infrastructure and focusing on ecotourism rather than mass tourism. To maintain its sustainability the PA should be able to adapt to changes in social and ecological aspects in support of the conservation agenda. In order to understand this situation, the study on community understanding is important as they are the backbone to the success of the PA management [10, 11]. Many researchers have studied local communities perceptions on protected areas, especially in developing countries, with the assumption that sustainable, and long-term management of PA depends on local people’s support [10, 12]. The outcomes of these research contribute to determining the perceptions of PA through community socioeconomic and the demographic profile. Apart from that, the perceptions of PA staff and the management also affect communities perception on PA [11, 13].

No doubt, the success of the conservation strategies through PA may lie in the ability of managers to reconcile biodiversity conservation goals with social, economic and environmental issues and to promote greater compliance of local communities with PA management [14, 15]. Knowing more on local communities uses and perceptions of PA could lead to better planning at landscape and regional scales [16]. Thus, an investigation has been carried out to identify the local communities’ perceptions of PA.

2. Purpose of Study
The objectives of this study are (1) to assess local community understanding on PA by people living surrounding the PA area, (2) to identify the local community perceptions on the impact on the economic, social and environmental determinants that support the long-term persistence of conservation concern.

3. Penang National Park
Penang National Park (PNP) is located in Penang state at coordinates of 5 ° 27’U, 100 ° 12’T (Figure 1). It was gazetted in 2003 under the National Parks Act 1980 with a total area of 2,563 hectares. The park is also the smallest national park in Malaysia and among the smallest in the world. The main objective of its establishment is to preserve and protect wildlife, plants and interests in terms of geology, ancient history, history, ethnicity and other interests in terms of science and legislation [7]. Some of these areas are undisturbed virgin forests. Originally the area was known as the Acheh Beach Forest Reserve. This area began to be proclaimed as a forest reserve in 1928 under the management of the Forestry Department (JPSM) before it was declared as a National Park in 2003. This PNP covers lowland seismic ecosystems, mangrove forests and coastal hillsides. The highest peak is the 464-meter high Bukit Batu Hitam. In addition, PNP is one of the popular tourist destinations in the north of Peninsular Malaysia. PNP, which has both forest and marine features, had attracted a wide range of visitors with its various attractions such as swimming, camping, jungle trekking, sightseeing and etc. Penang National Park was set up to preserve and protect “flora and fauna, geological, archaeological, historical, ethnological features and other scientific value and scenic interest”.
The PNP was also the first protected area which was legally gazetted under the National Park Act of 1980. It’s first main entrance to PNP is located in Teluk Bahang, and visitors need to register for the entry permit at the National Park’s illumination counter. The second entrance is in Balik Pulau, nestled in Kuala Sungai Pinang. From there, visitors must get a visitors’ boat to get to PNP. While entrance to PNP is free, tourists need to register by name at the office before entering the park and sign out before leaving. Information signs, mostly near the registration point, point out walking trails, directions, and other useful and interesting information. Penang National Park only receives day visitors. For overnight camping, visitors must receive permission from the Park’s management[17].

Due to its status as a national park, the Penang National Park falls under the category II which is categorised as a natural area of land and/or sea, for the purpose of environmental protection for present and future generation. Any exploitation or occupation which may cause harm to the area is excluded. In addition to that, national park which is under the category II is to provide a foundation for scientific, educational, recreational and visitor opportunities. Though national parks are listed as protected and recreation areas, proper and sustainable management are needed in order to maintain the national park.

4. Methodology
The primary dataset used for this study was extracted from an interview survey conducted in two (2) location nearby the Penang National Park i.e Teluk Bahang and Kampung Pantai Acheh. Teluk Bahang is a town within the city of George Town. It is located within the Southwest Penang Island District, near the northwestern tip of Penang Island. Established as a fishing village, Teluk Bahang has evolved into a tourist destination, with a number of attractions built within the vicinity of the town. Ethnic Malays formed almost 68% of Teluk Bahang’s population (7,494), while the Chinese made up over 28% of the population. Another 4% of the population consisted of ethnic Indians [18].

While Kampung Pantai Acheh is a village that covers mostly the Chinese population. It is located on the western coast of Penang Island between Teluk Bahang to the north and Balik Pulau to the south. Initially, this village is a small settlement and less organized. In general, permanent residents in Kampung Pantai Acheh are low income and some of them work as fishermen, hawkers, factory operators, smallholders, light industry and others[19]. These two sites were chosen due to its closest to the PNP and become the entrance to the national park.

An expert judgement has been sought before the survey comprises those who directly and indirectly involved in protected areas management. The survey questionnaire comprised of questions that were divided into some sections focusing on basic socio-demographic understanding of a protected area, economic, environment and social aspect of protected areas. Before beginning the potential survey
respondents in the study were informed of the goals of the interviews through the statement read by the interviewer and assured the data were analysed anonymously. Interviews were conducted upon verbal consent of the potential respondents to participate. The questionnaire was designed by using Likert Scale by using 1= Strongly agree; 2= Disagree; 3=Neither agree or disagree; 4= Agree and 5= Strongly agree been used to measure a different kind of variables. Because of this observation, the median (Md) was used as the measure of a central tendency [20–23].

A total of 282 respondents were involved in the questionnaire survey. Random sampling has been employed to the selected respondent based on their house number provided by the local authority. To ensure the validity of the data, the respondents involved in this survey were approached by the researcher in their house to obtain the information.

5. Results and Discussion

5.1. Demographic Profile

Based on valid survey responses of 282, 68% of the respondents were from Teluk Bahang while 32% was from Kampung Pantai Acheh. Male was 63% and female 37%, the gender-biased was caused by the readiness of the respondents to be part of the interview conducted. The age of the respondents comprises 5.3% (18-24 years old); 59% (25-39 years old); 28% (40-55 years old) and 8% (>55 years old). While Malays represent 63% of the respondents; Chinese 33% and Indian 4%. In terms of academic qualification, most of the respondents had SPM (60%), STPM/Diploma (22%) and Degree (16%). Meanwhile, the composition of respondents occupation showed self-employed 33%, government 39% and private sector 28%.

5.2. Local Community Understanding On PA

Local communities were asked to give their honest opinion on their understanding of the protected area (Figure 2). Ten (10) questions have been designed for this purpose which indicated that the protected area (PNP) exists with the support of the legal provision, provide benefits to the society ‘Strongly Agree’. Meanwhile, the local community also indicated that they ‘agree’ PNP exists for biodiversity conservation, resource protection, provide an opportunity for research and public support to the conservation agendas in PNP. This result indirectly indicates after 15 years of its establishment the local community has positive views with good support for the conservation purposes in PNP.

However, the local community have mixed opinion ‘neither agree nor disagree’ on conservation strategy and systematic management. Apart from that, they ‘disagree with the statement on no human intervention and management plan toward PNP. The results suggested that the management of PNP (DWNP) should provide a proactive approach in dealing with human intervention and managing the PNP. Although the PNP is easily accessible and open to the public for eco-tourism and other recreational
activities however certain measurement should take place to control the movement of visitors inside and outside the PNP.

5.3. The Perception on Environment, Economic and Social

In light with the aim of this research and the literature search, a set of criteria has been identified based on three elements, i.e., environment, economy and social as indicated above. The criteria were developed from the general set used in establishing the protected areas [24–26]. A total of 24 questions has been established comprises of 8 questions each on the environment, economic and social. All of the criteria’s have been modified to reflect on this study.

Results on the local community perception (Figure 3) on the environment show respondents ‘agreed’ through the establishment on PNP as protected areas it protects the biological diversity, provides scientific research, protects threatened species, unique ecosystem and forest resources. Whereas, respondents were unsure with the existence of PA will protect the aesthetic values of the area. While they were ‘disagree’ with the ideas of the establishment of PA will increase the agriculture development as well as compatibility of land use.

Figure 5 indicates the results on the respondent’s perception on economic. It shows that the community surrounding the PNP ‘agreed’ the PA provides benefits from ecotourism activities, opportunities for businesses, increase job opportunities and increase their household income. However, they were ‘neither agree nor disagree’ with sustainable use of the area, reduce the cost of living and increase property value. They also indicate ‘disagree’ PA will enhance the agriculture development. The reasons might be due to the demographic profile which indicated their job mainly work in the private sector, government and self-employed (business and fisherman).

Nonetheless, Figure 6 assess the respondent's perception on social which resulted in ‘strongly agree’ on providing recreation and education opportunity. While they ‘agreed on protect community identity, improve infrastructure, improve the standard of living, provide therapeutic recreation and protect their
heritage value. But they ‘disagree’ with the existence of PA will reduce the social negative impact. This was due to the fact that the surrounding area of PNP has been developed for urbanization.

However, a continuous effort should be done by the management (DWNP) to promote the conservation strategies to the public. The results clearly show the local community are very supportive to the agenda of conservation and sustainable use of the area. Thus, this study can contribute to better decision making by the respective authorities. Nonetheless, the understanding of nature-based tourism can promote and educate not only the local community but also to the potential visitors in the future. Apart from that, the main objectives on the conservation in PNP require implementing of sustainability principles. Therefore, the integration of current efforts by the management with the support of stakeholders perceptions will lead to the continuous improvement of PA management in PNP. Further studies such as this are important if we firmly believe that the people, particularly the local communities, have the voice in the future development of protected areas in Peninsular Malaysia. The inclusion of the local community in decision-making processes can create a sense of stewardship in order to conserve and protect the biodiversity in PAs.

6. Conclusion
As a conclusion, since the gazettement of PNP as a national Park 15 years ago besides promoting conservation it's also has become one of the major tourist destinations in the northern part of Peninsular Malaysia. It potentials have yet to be fully tapped yet there are threats and challenges to be addressed for sustainable development of the PNP [9]. Undeniably, the existence of PNP provides benefits to the local community not only for the protection for the environment but also on economic through its ecotourism and recreational activities as well as the positive social impact to the local community.

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