

VISITORS' PERCEPTIONS AND VISITATION
ATTRIBUTES OF KINABALU PARK AND TAWAU
HILLS PARK IN SABAH



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FACULTY OF SCIENCE AND NATURAL RESOURCES
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Shirley Ho Schac Li

ABSTRACT

This study investigate visitors' perception and visitation attributes of Kinabalu Park and Tawau Hills Park which focus on visitors' awareness of being in a Protected Area, willingness to pay for conservation (WTP), recreational satisfaction, and willingness to come back. Data were collected by self-administered surveys using questionnaire on 300 respondents each from Kinabalu Park (KP) and Tawau Hills Park (THP). Descriptive and chi-square analyses were performed where socio-demographic profile and visiting characteristics are independent variables; awareness, WTP, satisfaction, and willingness to come back are the dependent variables. Descriptive analyses show the number of foreigners, education level, and monthly income in KP were higher than THP. Respondents in KP and THP had different visiting characteristics. Chi-square results found that awareness being in a Protected Area was significantly different between the first-time respondents and repeat respondents. Most of the respondents were willing to pay for conservation. Foreign respondents were willing to pay the rate of WTP lower than the rate stated by Sabah Parks. Meanwhile, chi-square results show satisfaction was significantly affected by source of information; whilst, willingness to come back was affected by monthly income. Results produce information from the visitors as a better basic for Sabah Parks to plan successful strategies to achieve a balance between tourism and conservation in Kinabalu Park and Tawau Hills Park.

Key words: Protected Area, Awareness, Willingness to Pay, Satisfaction, Willingness to come back

ABSTRAK

PERSEPSI PELAWAT DAN CIRI-CIRI LAWATAN TERHADAP TAMAN KINABALU DAN TAMAN BUKIT-BUKIT TAWAU DALAM SABAH

Kajian ini mengkaji persepsi pelawat dan sifat lawatan pelawat dalam Taman Kinabalu (KP) dan Taman Bukit-Bukit Tawau (THP) dengan menekankan kesedaran pelawat ketika berada di sebuah Kawasan Perlindungan (PA), kesediaan membayar untuk pemuliharaan, kepuasan rekreasi, dan keinginan untuk kembali melawatnya. Data telah dikumpulkan melalui soal selidik ke atas 300 responden dari KP dan THP. Analisis deskriptif dan chi-square analisis telah dijalankan dengan menggunakan profil sosio-demografi pelawat dan ciri-ciri melawat sebagai pembolehubah bebas; manakala, kesedaran, kesediaan untuk membayar (WTP), kepuasan, dan keinginan untuk kembali sebagai pembolehubah bersandar. Analisis deskriptif menunjukkan bilangan warga asing, tahap pendidikan, dan pendapatan bulanan di KP adalah lebih tinggi berbanding dengan THP. Keputusan analisis deskriptif menunjukkan responden daripada KP dan THP mempunyai ciri-ciri melawat yang berbeza. Sementara itu, keputusan analisis chi-square menunjukkan kesedaran berada dalam PA mempunyai perbezaan yang ketara di antara kalangan responden kali pertama dan responden berulang. Kebanyakan responden sanggup membayar untuk pemuliharaan; namun, responden warganegara asing sanggup membayar kadar yang lebih rendah berbanding kadar yang ditetapkan oleh Taman-Taman Sabah. Keputusan analisis chi-square juga menunjukkan kepuasan rekreasi ketara dipengaruhi oleh sumber maklumat di kalangan responden; manakala, keinginan untuk melawat semula adalah ketara dipengaruhi oleh pendapatan bulanan. Maklumat daripada hasil kajian ini adalah asas untuk pengurusan Taman-Taman Sabah untuk perancangan strategi yang berjaya untuk mencapai keseimbangan antara pelancongan dan pemuliharaan alam sekitar dalam KP and THP.

Kata Kunci: Kawasan Perlindungan, Kesedaran, Kesanggupan Membayar, Kepuasan, Keinginan untuk Kembali

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LIST OF ABBREVIATIONS

ANOVA	Analysis of Variance
CVM	Contingent Valuation Method
DINKS	Double Income Couples without Kids
FIT	Free Independent Travellers
IPA	Importance-Performance Analysis
KOKTAS	Sabah Parks Staffs Co-operative
KP	Kinabalu Park
PA	Protected Area
SEM	Structural Equation Modeling
SERVQUAL	Service Quality Framework
SPSS	Statistical Package for Social Sciences
SSL	Sutera Sanctuary Lodge
THP	Tawau Hills Park
UNESCO	United Nations Educational, Scientific and Cultural Organization
WTP	Willingness to Pay



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LIST OF SYMBOLS

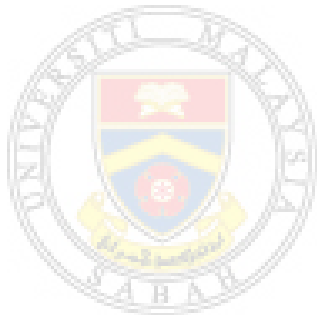
km²	Kilometre square
ha	Hectare
%	Percent
PJ	Joule
mt	Metric tonne
CO₂	Carbon dioxide
RM	Ringgit Malaysia
RMB	Renminbi
χ²	Chi-Square



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CHAPTER 1

INTRODUCTION

1.1 Introduction

The chapter provides the background information, problem statement and the objectives of this study. The study area of Kinabalu Park and Tawau Hills Park in Sabah, Malaysia has also introduced in this chapter.

1.2 Research Background

Sabah has acquired the image as the world's top eco-tourism spot with the recent discover of new species and increased tourist arrivals (Manila Bulletin, 2009). World Wildlife Fund for Nature found the state has 123 new exotic species of flora and fauna: 67 plants, 29 invertebrates, 17 fish, 5 frogs, 3 snakes, 2 lizards, and a brand new species of birds in the discovery made by the Heart of Borneo project. National Geographic study also found that every 10km² of the state has more flora and fauna than North America and Europe combined (Manila Bulletin, 2009).

In 2012, Sabah recorded 2.9 million visitor arrivals. Tunku Abdul Rahman Park, Poring Hot Spring, and Kinabalu Park are the top three preferred destinations in Sabah rated by the visitors (Sabah Tourism Board, 2014). Natural areas are an attraction to people, especially those who live in the modern and busy city. They can enjoy a variety of beautiful natural landscapes and picturesque rural villages, have fun enjoying outdoor recreation activities, and explore the different lifestyles in the natural area. These make natural tourism become the largest growing sector in the tourism industry of Malaysia (Chan and Yeoh, 2001).

Due to the depletion of natural resources and increasing levels of pollution, a number of Protected Areas, created since the late 1800s, are managed to protect and maintain the biological diversity and cultural resources (Biederman *et al.*, 2008). In Malaysia, there are many Category II Protected Areas which are National

Parks managed mainly for ecosystem protection and recreation such as Taman Negara, Bako National Park, Kinabalu Park, and Sepilok Orang Utan Sanctuary.

National Park is the natural land or sea area designated to protect the natural and cultural environment for current and future generations, provide a foundation for spiritual, scientific, education, recreational and visitor opportunities without modifying or removing the origin purpose of the area designation (Worboys *et al.*, 2005).

Tourism and Protected Areas have strong relationships where demand for tourism, both international and domestic, continues to grow, particularly from the rapidly rising middle class of the Asian region. At the same time, increased volume of visitation and number of frequented destination bring threats to the natural Protected Areas (Biederman *et al.*, 2008). Natural and cultural heritage conservation hotspots are opened for tourism development both within and outside protected Areas (Bushell *et al.*, 2007) to receive visitors. The presence of human causes wildlife disturbances, land erosion and pollution that degrade the nature environments (Newsome *et al.*, 2006). These negative impacts must be controlled and a balance between the site's conservation needs and its visitors' needs should, therefore, be created (Ballantyne *et al.*, 2008).

Besides threats, tourism brings benefits to Protected Areas too. Tourism is a tool for conservation work to protect biodiversity, ecosystem integrity and cultural heritage in and around Protected Areas where it raises awareness, builds support and generates fund from the local people and visitors (Bushell and McCool, 2007). Visitors' perception is an important input for park management policy decision to achieve sustainable tourism goals. Visitor is the user who uses the Protected Area, brings threats and pollution, at the same time, raises conservation awareness of the area, as well as brings in income for conservation fund.

The relationship between public and nature environment is complex. On one hand, visitors' recreation behaviour is indirectly affected by the quality of natural environment; whilst on the other hand, it is also able to affect environmental quality through their behaviour. People using Protected Areas for recreation can differ in many ways based on their personal characteristics and perception about the environment. Their socio-economic status, cultural ties, and past experiences influence the way to perceive the recreational environment quality (Petrosillo *et al.*, 2006).

This study investigates visitors' perception on recreational environment management in Kinabalu Park and Tawau Hills Park by identifying visitors' profile and visiting characteristics; assessing their recreational environment awareness and willingness to pay; and evaluating visitors' recreational satisfaction and their willingness to come back. These information are useful for monitoring the environmental quality, and supporting and sharing decisions between managers and shareholders.

To ensure better management of a Protected Area, visitors' social characteristics information such as who were using the area, how they use it, and how frequent, should be incorporated into management and decision-making process. It is to seek a better understanding of how the individuals form their perceptions about environmental quality and environmental impacts due to tourism (Petrosillo *et al.*, 2006).

Conservation needs support from visitors. Increased visitors' awareness which could influence the impacts caused by human behavior is the way to solve the conflicts between nature and recreational use (Sterl *et al.*, 2008). Therefore, park managers study visitors' awareness on the recreational environment since park visitation and nature-based tourism are important components to support the conservation of biological and cultural heritage contained within the park. Managers of national parks and other protected areas need to acquire a balance between visitors, needs and conservation objectives (Beunen *et al.*, 2008).

Besides, park managers should consider visitors' willingness to pay because Protected Areas need funds for conservation, which is costly, as well as to set entrance fees, user fees, rental fees licences, taxes, rental entrance fees, user fees, rental fees, licences, taxes, rental purchases, and insurance to support the conservation funding (Bushell and McCool, 2007). Willingness to pay (WTP) is important to determine the appropriate pricing policy and strategies for the sustainability of the park (Zaiton, 2008).

Tourism, which brings in the biggest revenue, is important to the state of Sabah. Kinabalu Park and Tawau Hills Park are ready to receive more domestic and international visitors to increase tourism revenue and boost the state's economy. Study on visitors' satisfaction is important for park management in order to know where the parks' recreational environment, facilities, and hospitalities need to be strengthened, changed, or removed in order to get more satisfied consumers, and to avoid wasting resources in developing and promoting the destination (Bramwell, 1998). Satisfaction is important as it provides information for heritage managers to designate their heritage sustainability strategies (Chen and Chen, 2010).

In marketing tourism, destination loyalty is crucial to consider in getting more visitors to purchase the tourism products and services (Hong, *et al.*, 2009). Data on number of visitors who are willing to come back is important for the park management to estimate and prepare adequate and even better facilities and services in the aspects of accommodation, food, transportation, and security for the repeat and first-time visitors. At the same time, the park managers can also study the carrying capacity to conserve nature in the park.

1.3 Problem statement

Sabah is well-known as an ecotourism destination in the international tourism arena. High biodiversity and more than 30 distinctive cultures are the two main tourism products for Sabah (Awangku, 2009). Due to the growing interest to spend leisure time in nature, and increasing awareness on the importance of nature environment, ecotourism has become one of the fastest-growing sectors in the tourism industry.

However, the rich and diverse flora and fauna in Sabah is currently under threat. Other than commercial logging, conversion to agriculture, land development projects, forest fires, and tourism developments also contributed to the deforestation in Sabah (Charlotte, 2009). Deforestation causes direct loss of flora and indirect loss of fauna due to habitat loss, and degraded environment such as soil deterioration, increased sedimentation, erosion, land and water pollution, and floods. This situation becomes worse when over-crowding of people and improper waste disposal continue to happen in natural tourism destinations.

Balance between development and conservation becomes an important issue in Sabah, especially so, for the government policies as well as the tourism development stakeholders to do planning (Charlotte, 2009). Owing to increasing number of visitors either private individuals, or commercial tours, visiting natural parks, wilderness area, world heritage, and other conservation reserves; pressure in visitor management continues to grow to control impacts and maintain the primary conservation function of the Protected Area (Buckley, 2009).

Park managers in different jurisdictions use different approaches to monitor tourism and recreation in order to minimize impacts in the different areas by either to harden natural environment against visitors' impact, or influence the number of visitors and their behaviour. Regulations, education programmes, and entrance permits are among those prepared to raise visitors' conservation awareness. Concrete trails, broad walkways, campsites, distant car parks, recycle bins, toilets are among facilities provided to harden the fragile environment (Buckley, 2009).

According to Petrosillo *et al.* (2006), regulations in Protected Areas set recreation limits, identify forbidden areas, limits the number of visitors, and control some equipment used in the area. These may create awareness among the visitors; hence influence their behaviour to support the environment conservation. However, these may also lead to dissatisfaction on the recreational experience; cause spreading of negative word-of-mouth, and subsequently affect destination loyalty. Park management levy entrance fees and permits to control number of visitors. Support budgets to harden the fragile environment may cause recreational

dissatisfaction too. Therefore, it is necessary for park managers to consider users' perception to improve their management.

1.4 Objectives

This study attempts to produce information from visitors as a basic for better planning and management. The general objective for this study is to investigate visitors' perception and visitation attributes of Kinabalu Park and Tawau Hills Park. This can be achieved by specific objectives as follows:

- a. To assess visitors awareness being in a Protected Area, and their willingness to pay for the environmental conservation.
- b. To evaluate visitors recreational satisfaction and willingness to come back.
- c. To explore the dependence of answers on certain traits of visitors' profile and their visiting characteristics

1.5 Study Site

Sabah with its variety of tourism products, is attracting over thousands of tourists every year. It attracts adventure travellers to Kinabalu Park for mountain climbing, Padas River for water rafting, and Sipadan Island for diving. It pulls leisure travellers to Tunku Abdul Rahman Park for water activities; to Mari-Mari Cultural Village to learn about Sabah local cultures; and to Sepilok Orangutan Rehabilitation Centre for wildlife. It is also a destination meant for a niche market to come for bird watching, golf, diving, and mountain climbing via ferrata.

Kinabalu Park (KP) and Tawau Hills Park (THP) are categorized as Protected Area (PA) Category II which are National Parks managed by a local government agency, Sabah Parks, mainly for ecosystem protection and recreation (Payne, 2010; Siraj and Jamili, 1995). Both parks supply nature as tourism products to attract domestic and foreign visitors. However, the location, promotion, facilities and experiences offered between these two parks are different. Same core product with

different augmented products consequently pulls various type of visitor groups to the two parks (Worboys *et al.*, 2005).

1.5.1 Kinabalu Park

Kinabalu Park (KP) with Mt. Kinabalu being the highest peak reaching 4,095m above sea-level, occupies a large tropical rainforest Protected Area (Payne, 2010). KP, gazetted as a Park in 1964 with an area of 75,370 ha, is Sabah's oldest park (Phillipps, 1988), and was declared as a World Heritage Site in 2000 by UNESCO (Teo and Sullivan, 2007). It is 90km or 2 hours land journey from Kota Kinabalu, the state capital, and thus makes the park a unique magnet for Sabah's visitors, especially nature-lovers (Payne, 2010).



Figure 1.1 : Location of Kinabalu Park.

Source : Phillipps and Liew, 2000

KP has four forest zones which are largely determined by altitude: lowland dipterocarp forest; lower montane oak-chestnut forest; upper montane forest; and sub-alpine zone. These forest zones have differences in soil, slope, availability of water, and degree of exposure. These results due to different forest zones form different plant life (Phillipps and Liew, 2000). There are more than 2,000 species of flowering plants excluding the mosses, ferns, and fungi (Phillipps, 1988) found in the KP forests. There are 746 orchid floras, 600 species of ferns, and 10 species of tropical pitcher plants *Nepenthes*. Diversity is greatest in the lowland of the forests. Most of the endemic flora are found in Kinabalu mountain forests (Phillipps and Liew, 2000).

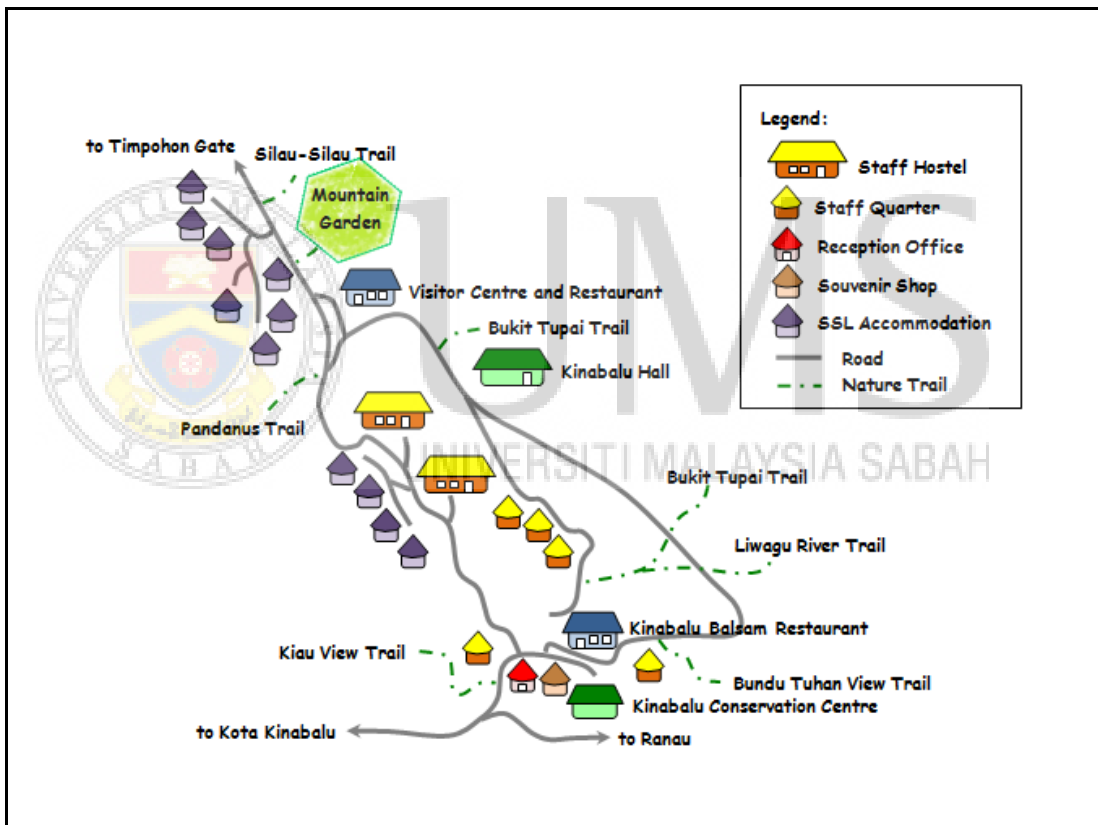


Figure 1.2 : Kinabalu Park Site Map.

Source : Sabah Parks, 2010

KP has over 600 species of butterflies, and is in the hot spot for butterfly diversity in the whole of South-east Asia. Nevertheless, moths are more diverse than butterflies where over 1,000 species are found in the park. The largest moth