AN ASSESSMENT OF VISITORS' PERCEPTION OF
SAMA JAYA NATURE RESERVE
KUCHING

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AN ASSESSMENT OF VISITORS' PERCEPTION OF

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DECLARATION

No portion of the work referred to in this dissertation has been submitted in supports of an application for another master of qualification of any other university or institution of higher learning.

(KUEH HSIAO CHIN)

SLUSE-M 7th Cohort

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Abstract

The first multi-purpose urban forest park in Sarawak, Malaysia, Sama Jaya Nature Reserve (SJNR) Park covers an area of approximately 38 hectares within the boundary of Kuching City. The forest park is covered with heath forest, patches of peat forest and a few areas of primary forest, which are rich in flora and fauna. It provides various types of recreational activities in a forest setting, different types of museum (e.g., Timber and Bamboo Museum and Forest Biology Museum) displaying a variety of timber specimens, collections of bamboo artifacts, insects, mushrooms as well as forest organisms. The park provides a good recreational opportunity for the public, including individuals and families, like jogging and cycling tracks, foot reflexology, nature study and photography.

As a result of the increasing impact of recreation on natural resources and visitors' experiences, wilderness managers often want to control recreational use. However, most of them suffer in their attempts to manage wilderness recreational use patterns, as they lack the knowledge of visitors' behaviour in which they seek to influence. In many cases, the concerns of managers towards resource protection do not match visitors' interests, whereas their respective priorities interact with differences in training, education and behavioural norms. This study is thus, carried out to assess visitors' perception towards the SJNR on recreation, education and conservation, as well as their opinion regarding the existing facilities via interview and questionnaire survey. It is also aimed to observe what visitors perceive as being beneficial to them after their visits. The survey was carried out in order to get a more general picture on the level of satisfaction of visitors with the park and their experiences there.

Even though the survey covers only a small sample of visitors, it gives an indication of the kinds of people using the reserve and their activities. A total of 80 respondents were covered in the study, where 70 of them were Sarawakian and the rest (10) were non-Sarawakian. Majority of the respondents were from the younger generation. The number of male visitors is higher compared to female visitors, which is 54 and 26 respectively. In addition, Chinese visitors consisted nearly 50% of the total surveyed respondents, while the rest were Malay, Iban, Bidayuh, Kedayan and Murut. Majority of the visitors (40%) interviewed mentioned that they visited the park more than twice a month. Although every visitor has different motives for visiting the park, the main intention of the respondents were for exercising, such as jogging, physical workout and foot reflexology. Over three quarters (83%) of visitors spent one hour or more in the park.

From the recreation aspect, majority of the respondents felt that the park provided them with a relaxed atmosphere and made them feel close to nature. They could spend quality time with their family and friends. The survey result also shows that most of the respondents were satisfied with the facilities provided in the park. However, some were not satisfied with the toilets' facility and its cleanliness. From the educational aspect, the respondents stated that they have gained better understanding with regards to the various types of wildlife (e.g., flora and fauna), plant species (e.g., timber, mushroom and bamboo) and insect species after their visit to the museums. In addition, they were also aware of the importance of nature and biodiversity conservation.
From the conservational aspect, most of the respondents agreed that they have learned about endangered wildlife species and are also alert on the need to protect and conserve those species. Overall, they were satisfied with the museum exhibitions. The result of the Pearson Correlation, T-test and ANOVA test shows that visitors' demographic background (e.g., gender, age, race and educational level) does not have any significant relation with their perceptions on recreation, education and conservation aspects of the park. Hence, visitors of different background and experiences have their own ideas and views regarding the forest park.

With regards to the park's entrance fee of RM0.50 per entry, most of the respondents (96.3%) felt that it is reasonable. However, a few of them, especially senior citizens and retirees disagree to the fee because it is a burden for them to pay each time they visit the park. Thus, they requested that they are allowed to enter the park free-of-charge. From the Pearson Correlation Analysis, age category was significantly correlated to the perception on entrance fee. This shows that younger generations and middle-aged respondents accepted the entrance fee charges, but the older generations disagree with the fee.

In general, nearly all of the respondents (76/80) were satisfied and pleased with the overall park's facilities and its environment since the forest park could fulfill their needs and expectations. Nonetheless, the respondents also gave their suggestions and comments to improve and maintain the park. These comments may be useful and practical to the park management in terms of improving and making park visits more meaningful and beneficial to visitors in the future.
Abstrak


Dari aspek rekreasi, kebanyakan responden merasakan taman ini menyediakan tempat beristirahat yang selesa dan memberi mereka pendekatan terhadap alam semulajadi. Responden boleh menikmati masa lapang bersama keluarga dan rakan-rakan. Keputusan kajian ini menunjukkan bahawa kebanyakan responden berpuas hati dengan kemudahan awam yang disediakan di taman ini. Walau bagaimanapun, terdapat sebilangan kecil responden yang tidak berpuas hati dengan kemudahan dan kebersihan tandas awam. Dari aspek pendidikan, responden berpendapat bahawa pengetahuan dan
pemahaman mereka telah meningkat terhadap pelbagai jenis tumbuhan dan binatang liar, serangga, kayu-kayan, kulat dan buluh selepas melawati muzium di taman tersebut. Selain itu, kesedaran terhadap kepentingan alam semulajadi dan pemuliharaan biodiversiti turut meningkat.

Dari segi pemuliharaan pula, kebanyakan responden bersetuju yang mereka telah mempelajari tentang hidupan liar yang kian pupus, dan sedar akan keperluan untuk melindungi dan memelihara spesies-spesies tersebut. Secara keseluruhan, responden berpuas hati dengan pameran di muzium. Keputusan Analisis Korelasi Pearson, T-test dan Ujian ANOVA menunjukkan latar belakang demografi responden tidak mempunyai hubungan ketara dengan persepsi responden dalam aspek rekreasi, pendidikan dan pemuliharaan. Oleh itu, latar belakang dan pengalaman yang berbeza di kalangan responden mempunyai idea dan pandangan yang berlainan terhadap taman rimba ini.

Sebanyak 96.3% responden berpendapat bahawa bayaran masuk sebanyak RM0.50 setiap kali mereka melawat taman adalah berpatutan. Namun, sebilangan kecil, terutamanya responden warga emas dan mereka yang telah bersara tidak bersetuju dengan yuran masuk tersebut. Alasan yang diberikan ialah mereka tidak mampu membayar yuran tersebut setiap kali mereka melawat ke taman ini. Oleh yang demikian, mereka berpendapat bahawa yuran masuk tidak harus dikenakan kepada mereka. Analisis Korelasi Pearson menunjukkan bahawa umur mempunyai hubungan signifikan dengan persepsi yuran masuk. Ini menunjukkan bahawa generasi muda dan golongan belia bersetuju dengan pengenaan yuran masuk tetapi sebaliknya, warga emas tidak.

Secara amnya, hampir semua responden, iaitu 76 daripada 80 responden, berpuas hati dengan kemudahan dan persekitaran TRSJ, memandangkan taman ini memenuhi keperluan dan jangkaan mereka. Para responden juga memberi cadangan dan komen yang membina untuk penataan dan penyelenggaraan taman ini. Komen-komen mereka mungkin bermanfaat dan praktikal kepada pihak pengurusan dalam memperbaiki taman ini dan menjadikan lawatan ke taman ini lebih bermakna dan berfaedah kepada para pelawat pada masa akan datang.
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<tr>
<td>ANOVA</td>
<td>Analysis of Variance</td>
</tr>
<tr>
<td>EIONET</td>
<td>European Environment Information and Observation Network</td>
</tr>
<tr>
<td>IUCN</td>
<td>International Union for the Conservation of Nature and Natural Resources</td>
</tr>
<tr>
<td>SFC</td>
<td>Sarawak Forestry Corporation</td>
</tr>
<tr>
<td>SJNR</td>
<td>Sama Jaya Nature Reserve</td>
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<tr>
<td>SPSS</td>
<td>Statistical Packages for Social Science</td>
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<td>TPAs</td>
<td>Totally Protected Areas</td>
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<td>UNESCO</td>
<td>United Nations Educational, Scientific and Cultural Organisation</td>
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CHAPTER 1
INTRODUCTION

1.1 Background

Sarawak is the largest state in Malaysia, but in terms of visitors per square kilometer, it is the lowest compared to the other states. Nearly as large as Peninsular Malaysia in size, the interior is covered with a thicket of impenetrable jungle and mountains while a majority of the population lives near the coast or along rivers leading to the sea.

Floristically, the tropical rainforests are the richest of all major plant communities on earth, and Sarawak's rainforests are one of the richest of them all. Tropical rainforests are considered the world's most complex forests, where they comprise a great wealth of plant and animal species. A huge number of tree species, exceeding 2500, are found in Sarawak's forests (Anderson, 1980). The forests are mixed, and it is usual to find a large number of species in any given area. The appearance of the forests varies considerably at different parts of Sarawak, caused mainly by variations in floristic composition (the species mixture) and structure (e.g., height of the trees, layering of the canopy). These varieties are distinct and allow recognition of several forest types. The major forest types of Sarawak include mixed dipterocarp forest, peat swamp forest, kerangas or tropical heath forest, mangrove forest, beach or littoral forest, riverine or alluvial forest, montane forest, limestone forest and secondary forest.

Sarawak has one of most extensive protected area networks in Malaysia. In Sarawak, three main entities are classified as Totally Protected Areas (TPAs), which are national parks, nature reserves and wildlife sanctuaries. TPAs are accorded total protection by
law in the state. The legal framework for the establishment, administration and management of national parks and nature reserves in the state is provided for under the National Parks and Nature Reserves Ordinance 1998 (Amended).

The State's protected area network includes 18 national parks, 4 wildlife sanctuaries and 5 nature reserves. These protected areas cover approximately 512,387.47 hectares (including land area and water body). Currently, there are 15 TPAs that are opened to the public (which includes national parks, nature reserves and wildlife centers) (SFC, 2006). These parks and nature reserves showcase Sarawak's natural heritage and act as key attractions in expanding the tourism industry. Nature reserves are similar to national parks, the difference being that nature reserves are smaller in size; most of them covering an area of less than 1,000 hectares. By definition, a nature reserve is constituted to conserve flora, fauna and the aesthetic value of the whole area either for education, research or recreation purposes. Wildlife sanctuaries, however, are not open to the public and exist to preserve and conserve vulnerable ecosystems or endangered wildlife. Nevertheless, each has its own important roles to play in protecting the natural environment and the valuable biodiversity.

This research focuses on Sama Jaya Nature Reserve (SJNR) in Tabuan Jaya, situated entirely within Kuching City. Formerly known as Stutong Protected Forest, it is one of the oldest protected areas in Sarawak, having been constituted in 1950, and gazetted on 23rd March 2000 as a TPA under the (Sarawak) National Parks and Nature Reserves Ordinance (1998). The SJNR is wholly managed by the Sarawak Forestry Corporation (SFC), which was established in June 2003 by the Sarawak State Government, to manage and conserve Sarawak's forests. The stated objectives of the SJNR are to promote the multiple-use of forests through encouraging outdoor recreation, nature
conservation education and nature-based tourism; create a reserve and refuge for urban wildlife, and conserve a 'green island' for the city.

SJNR covers an area of approximately 38 hectares and is the first multi-purpose urban forest park in Sarawak. It consists mostly of kerangas forest and is one of the very few areas of virgin forest still intact within the periphery of the Kuching City urban core. Kerangas is a word in the Iban and Malay language, referring to the soils in the lowlands and hills which are unsuitable for agricultural activities. Kerangas forest, also known as tropical heath forest, may be seen as an adapted form of mixed dipterocarp forest. Its relatively undisturbed state makes SJNR an ideal site for the establishment of a forest park. Based on such concept, the park emphasizes a strong wilderness theme where all facilities and activities are integrated into the existing natural forest environment.

The park is designed to provide an authentic urban wilderness, with all its facilities and activities integrated with nature, suitable for both individuals and families. The facilities and activities provided include health and recreation (e.g., jogging, walking, fitness trail, reflexology path, Hiroshima-Sarawak Friendship Garden) as well as social and education (e.g., activity centre, visitor centre, Timber and Bamboo Museum, Forest Biology Museum and Etho-Botanical Garden). Although it is a small 'park', it is popular to Kuching folks for jogging and cycling. The park also comprises built areas like offices and public facilities.
The facilities available in SJNR and its usage are shown in Table 1.1.

**Table 1.1: List of facilities available in SJNR.**

<table>
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<th>Facility</th>
<th>Remark</th>
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<td>1</td>
<td>Activity Centre</td>
<td>Ideal for group functions such as outdoor lectures, discussions and social gatherings.</td>
</tr>
<tr>
<td>2</td>
<td>Baruk Shelter</td>
<td>Good for group aerobic sessions, other forms of exercises and activities.</td>
</tr>
<tr>
<td>3</td>
<td>Visitor Centre</td>
<td>Consists of an Audio-Visual Theatre, Exhibition Room, Viewing Tower and an Administrative Office.</td>
</tr>
<tr>
<td>4</td>
<td>Jogging Track</td>
<td>For jogging in a natural and non-hazardous environment away from vehicles and smoke.</td>
</tr>
<tr>
<td>5</td>
<td>Cycling Track</td>
<td>Cycling can be done in a safe environment on a track that weaves around trees and under the cover of canopies.</td>
</tr>
<tr>
<td>6</td>
<td>The Hiroshima-Sarawak Friendship Garden</td>
<td>A unique feature of the Forest Park. This traditional Japanese Garden (complete with a Tea House) is developed in close collaboration with the Forest Department of Hiroshima Prefecture and the Hiroshima Landscape Architecture Association in Japan to symbolize the close friendship between the people of Sarawak and Hiroshima, especially in the field of forestry.</td>
</tr>
<tr>
<td>7</td>
<td>Timber and Bamboo Museum</td>
<td>Showcases various timber species found in the State and products derived from them, besides displaying various bamboo-made artifacts.</td>
</tr>
<tr>
<td>8</td>
<td>Forest Biology Museum</td>
<td>Displays various insect specimens, mushrooms and other organisms found in rainforests, including information on the vital role they play in the ecology of our forests.</td>
</tr>
<tr>
<td>9</td>
<td>Sarawak Heritage Garden</td>
<td>Shows various indigenous plant species that can be utilized by designers for landscaping purposes.</td>
</tr>
<tr>
<td>10</td>
<td>Etho-Botanical Garden</td>
<td>Enables visitors to view local plants and herbs used in traditional medicine.</td>
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<tr>
<td>11</td>
<td>Reflexology Park (Path of Good Life)</td>
<td>For park users to exercise and stimulate the various points in their feet by walking barefoot on specially constructed paths; it is believed that this type of exercise can lead to better health.</td>
</tr>
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</table>
1.2 Statement of Problem

In Malaysia, there are very few literature reports of scientifically conducted research studies focusing on understanding park visitors and the way they perceive their visits. Studies conducted would most likely be done internally by the individual organization itself and confined to yearly number of visitors. Such research studies were carried out for planning purposes by the park's management.

Thus, in this research study, the SJNR was used as a case study location to assess the present park's situation as one of the protected areas in Sarawak, on which to base comments on the recreation, education and conservation aspects. In addition, this study is intended to provide insights into the nature of visitors to the park and assess as to what extent the visitors perceive their visits as satisfying their pre-visit expectations. By utilizing the gathered information, this study would be an essential source for the park management in future planning, development and improvement of the park.

In national park, nature reserve, zoo and botanical park, studies on their nature and biological diversity (including flora and fauna) as well as the roles of the protected area in relation to the composition of the general public (visitors) would reveal numerous fascinating outcomes. Visitors are naturally attracted to the natural environment, particularly exhibits that captivate their curiosity. In a study on the effect of felid (cat) activity on zoo visitors' interest, Margulis et al., (2003) found that visitor attraction to felid exhibits was generally greater when the cats were active.

In this regard, introductory research findings are reflective of the complexities of the surrounding area with the characteristics and nature of the park as well as the visitors.
Visitors to SJNR may have their own expectations and perceptions of the flora and fauna in the park. This study was carried out to gain information for better understanding of the nature reserve and its visitors; demographic of the visitors as well as the way visitors value their visit at the park.

However, the findings of the study are limited as the number of visitors involved in the questionnaire survey was small. Furthermore, the duration of the study was rather short, which resulted in limited data collection. The lack of financial support was also among the constraints of this study. During the process of questionnaire survey, it was quite difficult to get some feedback from the respondents on open-ended questions. Also, some of the visitors refused to be interviewed, stating that they do not have the time.

1.3 Purpose of Study

The aim of this study is to collect and assess the data on visitors' perceptions of the park from the recreational, educational and conservational aspects as well as their opinions on the existing facilities through interview and questionnaire survey. Another objective is to discover what visitors perceive as beneficial to them after their visits. It is also aimed to get feedback regarding the imposed entry fees and record comments and opinions for improving the park from visitors of different background. As there were few studies done on visitors' perception of nature reserves in the country previously, findings of this study would form invaluable resource materials that could be beneficial to future policy makers and implementers who may be involved in the establishment and planning of any other nature reserves and recreational parks.
1.4 Scope of Study

The scope of the study is as described in the following section:

(i) A comprehensive literature review made on past studies related to the assessment of visitors' perception on nature reserves, national parks or any other protected areas.

(ii) A research study of the assessment of visitors' perception of SJNR carried out through interview and questionnaire survey, as well as participant observation.

1.5 Significance of Study

The aim of this research, which is to study the visitors' use of the park and the perceived derivable values from their visits, is considered timely as their needs are either for an improvement to the existing park system or establishment of new parks in the State. Besides, this study is important in identifying visitors' needs and expectation of the park. Subsequently, recommendations for future improvements or changes to the park could be submitted to the park management. Therefore, this study would produce a set of valuable data for the policy makers and implementers of SJNR as well as other parks.
1.6 Conceptual Definitions

1.6.1 Nature Reserve Definition

A nature reserve (natural reserve, nature preserve and natural preserve) can be defined as a protected area of importance for wild flora and fauna or features of geological or other special interest, which are reserved and managed for conservation and to provide special opportunities for study and research. Nature reserves may be designated by government institutions in some countries, or by private landowners, such as charities and research institutions, regardless of nationality. Nature reserves fall into different International Union for the Conservation of Nature and Natural Resources (IUCN) categories depending on the level of protection afforded by local laws (Ravenel and Redford, 2005). A wildlife reserve is a protected area of importance for wildlife, which is reserved and managed for conservation. It is possible to do morally acceptable, non-invasive research on captive wild animals in instances where such animals are unfit for survival in the wild (e.g., too tame for rehabilitation, injured or deformed). Therefore, sanctuary life offers them a chance to live, which would otherwise be difficult.

Hence, a nature reserve can be regarded as an area allocated to preserve and protect certain animals and plants, or both as well as their physical features from harm that might result from a change in land use. Endangered species are increasingly being kept in nature reserves to prevent them from extinction, particularly in India, Indonesia and some African countries (EIONET, 2008). Originally, nature reserves were used to preserve the animals that landowners hunted, but, in the 19th century, they became places where animals were protected. Besides, special refuges and sanctuaries are often designated to protect certain species or groups of wild animals or plants, especially if