AN ASSESSMENT OF VISITORS PERCEPTION OF TAMAN TUMBINA ZOOLOGICAL AND BOTANICAL PARK AT BINTULU

Samuel Kiyui

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by

SAMUEL KIYUI

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The idea behind this study was conceived during one of those visits to the park on a routine zoological veterinary health round where it was felt that a study like this would be beneficial for the institution. I wish to thank the General Manager of Bintulu Development Authority, Tuan Haji Mohidin Haji Ishak and the Curator of Taman Tumbina Bintulu, Encik Jaffry Hj. Ibrahim who had approved for Taman Tumbina as the study venue. Encik Jaffry Hj. Ibrahim had helped in providing invaluable information about the park. My appreciation also goes to Puan Zaiton Bakeri of Taman Tumbina for her assistance in facilitating the smooth conduct of the interviews by the study Interviewees.

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Abstract

The ease with which the general public is kept abreast with very basic information and knowledge of wildlife and nature through various forms of media in the modern context of science and technology threatens the relevancy of zoological parks today. Given the tremendous challenges confronting zoos societies all over the world which was felt closer at home with the controversy surrounding the intended relocation of Malaysia's National Zoo only a few years ago to some other locality, it is relevant that a proper study should be carried out in order to understand the general characteristics of zoo visitors better. Knowing the demographic profile of visitors and document their perception of zoos will help contribute to a zoo revitalized functional needs in consort with the general public and visitors perceived zoo visit benefits.

This study at Taman Tumbina, Bintulu attempts to determine the characteristics of zoo visitors and the nature of their visits. The study also attempt to assess visitors' perception of the zoological and botanical park along the parks objectives of providing recreational and educational benefits to the public. The study also assesses the learning roles of the park towards imparting the message of conservation awareness to the park visitors.

Interview questionnaire was employed as the survey instrument to collect data which were analysed. The results of this study showed that young adolescents and adults were the major park visitors. Most of the visitors made repeat visits and that a large majority originated their visit from Bintulu. Visitors enjoyed
wildlife exhibits that were kept in naturalistic enclosures. The study also discovered that fun and recreation initiated visits to the park. Visitors felt that once inside the park they were able to benefit from the informal learning that the exhibits helped to impart to the visitors. Visitors to the park became more aware of the need to conserve nature and wildlife. Visitors did not find that the park is endowed with much species richness in the endangered species category. They were supportive to the idea of zoo taking active part in captive breeding and the propagation of rare plants.

These results suggest that more could be done in the park to further nurture and meet the learning and conservation expectations of future visitors. It points to much considerable benefits that could be derived if selective collection of species is practiced along the recognized zoological park's role in learning and conservation.
Abstrak

Cara yang mudah orang awam, dengan sejajarnya, dimaklumkan tentang pengetahuan dan makluman asas berkenaan hidupan liar dan alam semulajadi, melalui beberapa jenis media dari segi konteks moden sains dan teknologi menjadi satu ancaman berhubungan dengan taman zoologikal pada masa kini. Dengan cabaran yang amat besar yang dihadapi persatuan zoologikal di serata dunia dan berdekan dengan kita, kontroversi yang melibatkan tujuan untuk penempatan semula Taman Zoo Negara beberapa tahun yang baru ini, maka adalah wajarnya bahawa satu kajian dijalankan untuk memahami ciri ciri keseluruhan pengunjung zoo dengan lebih baik. Dengan mengetahui profil demografik pengunjung dan mencatatkan tanggapan (persepsi) mereka tentang taman zoo, ianya akan membantu menyumbang kepada usaha mengiatkan semula taman zoological selaras dengan kebaikkan dan tanggapan orang awam dan pengunjung zoo.

Kajian ini yang dilakukan di Taman Tumbina Bintulu, berusaha menentukan ciri ciri pengunjung zoo dan tujuan mereka melawat taman zoo. Kajian juga berusaha untuk menilaikan tanggapan pengunjung terhadap taman zoological dan botani selaras dengan objektif taman zoological untuk memberi manfaat dari segi lipurdiri (rekreasi) dan pendidikan kepada orang awam. Kajian ini juga menilaikan peranan pembelajaran taman zoological ini terhadap mesej pemeliharaan yang ditunjukan kepada pengunjung taman ini.

Pengumpulan maklumat adalah melalui cara soalselidik dan maklumat dianalisisakan. Keputusan kajian ini menunjukkan orang dewasa dan remaja yang menjadi lingkungan pengunjung yang majority yang melawat taman ini. Kebanyakan pengunjung memulakan lawatan mereka dari Bintulu dan melakukan lawatan mereka berulang kali. Pengunjung bersuka hati melihat hidupan liar disimpan didalam kawasan berpagar dengan keadaan naturalisme. Kajian ini juga mendapati bahawa tujuan utama untuk membuat kunjungan

Keputusan keputusan ini mencadangkan bahawa lebih banyak usaha boleh dijalankan di Taman ini untuk memelihara dan memenuhi pengharapan bakal pengunjung ke Taman ini. Ianya menunjukkan keuntungan yang agak luas yang akan diperolehi jika koleksi terpilih dijalankan di samping peranan pendidikan dan pemeliharaan taman zoologikal.
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List of Abbreviations

AZA  American Zoo and Aquarium Association
DVD  Digital video disc
GDP  Gross Domestic Product
VCD  Video compact disc
WAZA  World Association of Zoos and Aquariums
IUDZG  International Union of Directors of Zoological Gardens
1.1 Introduction

Increasingly world communities have become more and more aware of pressing environmental issues confronting the biosphere that support the existence of all life forms in our planet. The conservation of nature and calls for control of the environmentally destructive processes of development in whatsoever forms necessary to support comfortable human existence took center stage in many major global discussions and forums where nature conservation and environment issues topped the agendas. Embodied in much of the documented outcome of meetings such as Agenda 21 of the Rio Summit 1992 and the Agenda Item 5 of the 1997 Kyoto Protocol Conference of the Parties contain environmental protection implications that echo the global call for conservation and the preservation of environments through sustainable development and restrictions of green gas emissions. Much environmental benefits are expected in this regard from the preservation of existing bodies of natural vegetation and forests, the world over that form the 'green lungs' and 'carbon sink' that benefit the entire global communities.

Ironically though, the past few decades have witnessed challenging issues confronting the modern day relevance of zoos and gardens. The advent of the electronic age has resulted in widespread media presentation of nature and the
general public is made more familiar with many exotic animals and plants, through a barrage of user friendly 'just-click-the-button' informal learning instruments such as video movies, DVD, VCD, television programmes as in the geographic channels, animal planet, and the like. All these and including wildlife publications, for example, The National Geographic, have not only contributed to increasing the flora and fauna literacy levels of the public, but at the same time their curiosity and interests are also heightened. The expectations of animal humane societies, animal rights groups, nature societies and movements, and the general public concerning the way zoo exhibits are being kept for visitors viewing have departed from the old traditional presentation of collections in cages into more nature enhanced display enclosures. Against this backdrop of socio-political and environmentally associated multiplicity of factors, it therefore become more pressing among zoo communities that concerns for informal learning opportunities experienced from zoo visits are more enriched and the awareness for wildlife conservation more entrenched in to the global communities (Nowell and Jackson 1996, Olney et al. 1994).

Visitors, based on studies by Columbus zoo (Columbus zoo, 1991) expected more from zoo visits apart from the traditional information available on the signage. Instead it was found that they would like to know much more than merely be informed on the name, age, and weights of animals in a collection. They like to know, for example about the diet, reproduction, life span, and behavioural characteristics of the exhibits. Similar expectations and notions could not be dispelled for botanical park visitors.
Nevertheless, zoos and botanical parks provide informal education settings, where outdoor firsthand learning experience at relatively more convenient disposal to the public is available in comparison to excursions as in mountain hikes and jungle or forest tracking. Further contrast to the deliveries of nature studies and exposure through the electronic media mentioned earlier would include such realities as in hearing the vocal greetings of some exotic Amazon parrots and cockatoos in the early mornings, or even the visualization of a motherly instinctive care by a nursing gibbon to her infant baby, all but even adorned with much tactile and non-virtual depths of the senses of smell, touch, taste and sound; all of which could not be just something that one could have only imagine anymore.

Again, the question of the relevance of zoos remains of utmost concern among the zoo communities. Following a recently held second Rigi symposium organized under the umbrella of the World Association of Zoos and Aquarium (WAZA) and held at Rigi Mountain, Central Switzerland in February, 2005 and attended by zoo directors from the Alpine area, zoos in Switzerland, Austria, and Bavaria agreed to adopt a new strategy that has been developed by WAZA for adoption by member zoos and aquarium institutions\(^1\). This strategy provides guidance for zoo and aquarium communities regarding the conservation of species. The strategy should help focus and direct the involvement of WAZA members from \textit{ex situ} activities, such as conservation breeding, and education and motivation of the public, to a more holistic approach, that includes \textit{in situ} conservation and sustainable development, hence reinforcing the relevance of zoo in the context of

\(^1\) The World Zoo Conservation Strategies: The role of the Zoos and Aquaria of the World in Global Conservation by the World Zoo Organisation (IUDZG) and the Captive Breeding Specialist Group of IUCN/SSC, 1993.
the present modern world. Importantly, the adoption of this strategy is expected to increase their roles in conservation for the next decade.

The first zoo establishment dated back to the early sixteenth century when the first zoos were private menageries that usually belonged to Kings. King Charles the First, for instance started a zoo with a large python snake as the main attraction. The first public zoological garden was created in Vienna in 1752 (Jamieson, 1985). Zoo institutions in much later years progressed to incorporate the element of scientific study and this resulted in the founding of the first scientific zoological garden in 1828 in London. Subsequent advancement in zoos and botanical parks development as informal learning institutions located in small and major towns and cities all over the world, had resulted in the establishment of several thousands zoos that attracted 600 millions of visitors yearly (e.g. Tokyo’s Ueno Zoo, 6.12 million visitors; Beijing’s Zoo, 11 million; Mexico City’s Chapultepec Zoo, 12.54 million; Washington Zoo, 3.3 million, New York’s Bronx Zoo, 2.078 million; Jakarta’s Ragunan Zoo, 2.01 million, Kuala Lumpur’s National Zoo, 1.05 million).

Malaysia has seven zoos which are affiliated registered members of WAZA. These are Zoo Melaka, A ‘Famosa Golf Resort, Zoo Negara, Zoo Negeri Johor, Kota Kinabalu Zoo, Penang Butterfly House and Taiping Zoo. Altogether there are about 20 institutions under the list of zoo establishments in the country and Taman Tuankina located in the state of Sarawak is one of these.
Quite a number of the zoo establishments in the country have existed for a long time. The oldest zoo such as Johor Baharu Zoo was built in 1928 and opened to the public in 1962. And so has been the Taiping Zoo. Since this zoo was established in 1961, it could be considered as one of the oldest zoo in the country together with the national zoo or Zoo Negara that was opened to the public in 1962. Towards the beginning of the current 21st Century there have been a number of additions to the list of zoos that to this date totaled about 20 establishments. Taman Tumbina, a mixed zoo and botanical park in Bintulu was established in 1990 and opened to the public in 1991 (Taman Tumbina Bintulu Development Authority record).

Although the objectives of these zoos are universally similar to other zoo establishments in other countries in which education, conservation, research and entertainment almost constitute the four core functions of zoos (Jamieson, 2001), the sustainability and justifications of such establishment in Malaysia largely hinges on visitors sustained interests and attendance. This is particularly relevant as most of these zoos are state and municipal owned. Every zoo in the country keeps records of their attendance figures. Taiping Zoo visitors recorded one of the highest number of visitor visits at 250,000 for 1987 and 750,000 in 1988, while Malacca Zoo recorded 538,000 in 2003. These figures which mainly indicated number of visitors however provide limited insights into public interests or how visits actually affect their perceptions of zoos.

Thus it is therefore appropriate that this study is directed towards an investigation into the nature and characteristic of zoo visitors and their
perceptions of the zoo. This study identified a mini zoo incorporated into a botanical park setting as in Taman Tumbina, Bintulu for a case study. Among the other wildlife institutions in Sarawak state, namely the 10 national parks and three wildlife sanctuaries that cover a total of 1,749 sq. km or 1.4% of the total state land area (Hazebroek and Abang Kassim, 2000), Taman Tumbina represents the only public zoo operation in this east Malaysia state.

1.2 Statement of the problem

In Malaysia there has not been any literature report of a scientifically conducted research study that is focused on understanding zoo visitors and the way they perceive their zoo visits, or any visitors study at all. If any study was ever conducted it would be conducted internally by the individual organization itself and would most likely be confined to yearly number of visitors. Such studies would have been designed for planning use by the institution’s management.

This study was intended to provide insights into the nature of visitors to the park and assessed as to what extent visitors perceived their visits as satisfying their pre visit expectation. Being informed concerning the nature, characteristics and expectations of visitors to the park would provide useful reference that the institution may utilize in guiding future decisions on developmental or reorganisation planning.

In zoo and botanical parks visitor research, studies on the nature and composition of the general public that patronises zoological parks revealed numerous
fascinating findings. Visitors are naturally attracted to particular exhibits that easily captivate their level of curiosity. In a study on the effect of felid activity on zoo visitor interest, Margulis et al. (2003) found that visitor attraction to felid exhibits was generally greater when the cats were active.

It is often the case that the general public has a tendency of forming negative perceptions about zoological parks. A visitors study conducted by Reade and Waran (1996) conformed to this presumptive notions but discovered that zoo visitors had a tendency to perceive zoo animals as ‘more well-kept, happy, exiting, and attractive to look at, and less bored than do those outside of the zoo environment’. This study also discovered that the relationship of the general public to zoo animals was of a complex nature. Hood and Roberts (1994) study on the characteristics of visitors to Chicago Botanic Garden revealed that visitors’ expectations differed with age groups; the senior above 55 years that formed 40% of the total number of visitors were most interested in structured programming at the garden such as audiovisual presentations, tour guides, and staff members to answer questions, in comparison to the 18-34 year olds comprising 20% of visitors who generally preferred more casual experience while preferring structured programming if they were with their families.

Recent study by Kohlleppal and Bradley (1999) found that botanical gardens have therapeutic value to visitors. Their survey of visitors to three Florida gardens revealed that the visits brought about a significant decrease in what they believed the stress levels to be and that those with the highest stress levels coming in showed a much better level of stress after their botanical walk.
Thus far introductory research findings were reflective of the complexities surrounding the characteristics and nature of zoo and botanical park visitors. Visitors to Taman Tumbina zoological and Botanical Park would have their own expectations and perceptions of the animal and plant collections in the park. This study was designed to gain an understanding of zoological and botanical park visitors; who the visitors were as much as understanding what visitors value or take away with them from their visits.

1.3 Theoretical Framework

Given the above study aim, a field survey was conducted to obtain information on the visitors’ demographics and other characteristics. The study also explored the issue of motivations as they affect their experience at the park.

This research builds on previous studies of zoo and botanical park visitors as well as some studies of the factors that influence motivation, including visitors’ perception of zoological park attractions, and how much value they place on visiting a park.

The theoretical framework thus designed is shown in the zoo visitors’ expectation and perception model of Figure 1.2.
The Expectancy Theory of Motivation as expounded by Vroom (1964) is a model that attempts to explain how people would rationally decide whether or not to be motivated to pursue a particular course of action. The theory identifies three main factors of motivation – valence, expectancy and instrumentality. Valence is the importance placed upon the reward while the other two factors are both beliefs that efforts and performance are interlinked (expectancy) and that this performance is related to rewards (instrumentality). The belief that one's effort would result in the attainment of desired goals is influenced by that person's past experience, self confidence and the perceived difficulty of the performance standard or goal. In the context of zoo and botanical park, visitors' perception of visit values and benefits could be influenced by their prior knowledge and experiences of the subject exhibits. On the other hand, how important an individual values attained reward would depend very much on that person's needs and goal.
The Expectancy Theory of Motivation regards expectancy and instrumentality as attitudes or specifically as cognitions and therefore represents an individual perception of the likelihood that effort will lead to performance and performance to rewards.

In relation to zoo and botanical parks as a physical learning environment for informal or free-choice learning, Goldman and Schaller (2004), in their research that explored the motivational factors and visitor satisfaction in on-line museum visits, made reference to a learning thinking framework, the ‘Contextual Model of Learning’ which was refined from Falk and Dierking’s formulated framework, the ‘Interactive Experience Model’, that accommodated to the diversity and complexity surrounding learning. The Contextual Model of Learning identified 12 critical suits of factors that were grouped into three contexts as in personal, physical and socio-cultural. These factors could influence the meaning-making process of visitors to free-choice learning settings such as museums (Falk and Dirking, 2000).

The visitors expectation and value model shown in Figure 1.2 comprises the social environment under which visitors are characterized by their demographics, sociocultural, visits types and repeatability. These sociological characteristics determined motivation expectancy that provide the free choice learning and visit experience therein contained in the physical environment. Attitudes and cognitions of visitors following their visit experience constituted their perceptions of the zoological and botanical park’s visit values.
Conceptual definitions

4.0 Zoo and botanical park definition

A simplified definition of a zoo or a zoological park refers to an institution where live exhibits of wild animals are kept mainly for public viewing. More elaborate definitions are usually found under the relevant laws of that particular country. In Malaysia the act of rearing and keeping wild animals comes under the purview of the Malaysian Wildlife Protection Act 1972. For Sarawak, specifically this comes under The Wildlife Protection Ordinance, 1998. In the United States, statue such as the Animal Welfare Act 1970 controls many forms of activities related to exhibiting animals. In the United Kingdom, by virtue of Section 21 of the Zoo Licensing Act of 1981 the definition of zoos make special reference to any establishment where wild animals are kept for public exhibition for more than seven days in any twelve-month period, regardless of whether or not an admission fee is charged.

Thus, in general a zoo can be regarded specifically as permanent establishment or facilities owned by the state, municipal or private bodies where animals are reared in captivity and are frequented by individuals of all age categories either singularly or in groups.

A botanical garden on the other hand is defined as a place where a wide variety of plants are cultivated for scientific, educational, and ornamental purposes, often including a library, a herbarium, and green houses, an arboretum.