OVERVIEW ON PROBOSCIS MONKEYS (*Nasalis larvatus*) AS A NATURE TOURISM PRODUCT: KLIAS PENINSULA, SABAH

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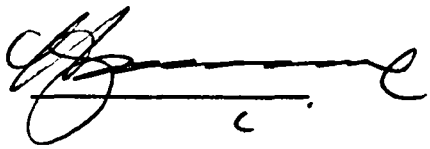

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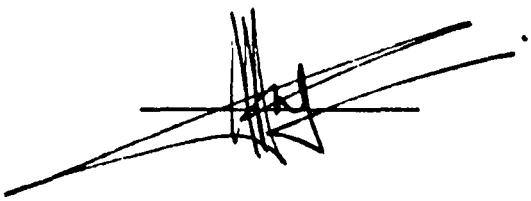

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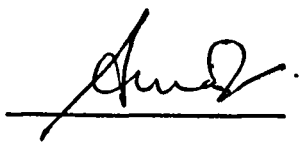

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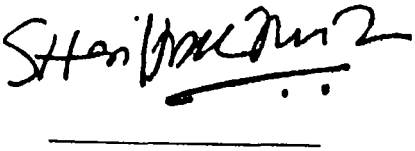

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ABSTRACT

This research is to provide a scientific overview on Proboscis monkey as a nature tourism product in Klias peninsula, Sabah. The objectives of this research is to verify the nature tourism criteria of Proboscis monkeys based on four characteristics (reliability of sighting, linkage to local culture, behavioral enticement and safety) and to provide quantitative information on the nature tourism potential of Proboscis monkeys based on these four criteria. The study site is at Kg. Garama, Klias while the study targets are the tourists, local people and the Proboscis monkey. Two sets of questionnaire were prepared and distributed to tourists and local people. Interview were also conducted with the tour operator at Kg. Garama along with spot observations on the Proboscis monkey at the study site. The total number of respondents was 89. Reliability of sighting was measured through the number individuals observed by the tourists during their boat trips and the number of individuals observed during the spot observation. Most of the respondents stated that they saw many (31-50 individuals) Proboscis monkey during their boat trips and the best time to observed Proboscis monkey is during the late afternoon (4.00pm-6.00pm). Some (19 respondents) of the local people stated that Proboscis monkey has its own tale, myth and aphorism. They also stated that they are involved with business based on Proboscis monkey and their involvement in the industry increases their profitability and livelihood. Behavioral enticement involved the behavior of the Proboscis monkey that attracts the tourist to observe it. The respondents stated that feeding behavior was the most attractive behavior to be observed. From the spot observation, feeding behavior is the most frequent behavior shown by the Proboscis monkey. Safety involves the risk that tourist faces during visits on the nature tourism product. In this research, it was found out that there had been no reports of attacks or accidents caused by the Proboscis monkey on tourists. Interview with the tour operator and also visits to the Beaufort Hospital confirms this statement. Therefore Proboscis monkey are safe to be observed. This research has fulfill its objectives in which the proboscis monkey were easy to observe during observation, it has linkage to the local people culture and livelihood, it has behavioral enticement shown frequently and it is safe to be visited.

ABSTRAK

Kajian ini bertujuan untuk menyediakan pandangan menyeluruh tentang monyet bangkatan sebagai produk pelancongan alam semulajadi di semenanjung Klias, Sabah. Objektif kajian ini adalah untuk mengkaji kriteria monyet bangkatan berdasarkan kepada empat kriteria pelancongan alam semulajadi (keternampakkan, hubungkait dengan kebudayaan tempatan, kelakuan yang menarik dan keselamatan) dan memberi maklumat kuantitatif tentang potensi pelancongan alam semulajadi monyet bangkatan berdasarkan kriteria yang dikaji. Kawasan kajian adalah di Kg. Garama, Klias manakala sasaran kajian adalah para pelancong, penduduk kampung dan monyet bangkatan. Dua set soalan kaji selidik disediakan dan diedarkan kepada para pelancong dan penduduk kampung. Temuramah turut dijalankan dengan pengusaha pelancong di Kg. Garama beserta dengan *spot observation* dilakukan terhadap monyet bangkatan di kawasan kajian. Jumlah responden adalah 89. Keternampakkan di ukur melalui bilangan individu yang dilihat oleh para pelancong semasa lawatan bot dan bilangan individu yang dilihat semasa *spot observation* dijalankan. Sebahagian besar responden menyatakan bahawa mereka melihat banyak (31-50 individu) monyet bangkatan semasa lawatan dan masa yang sesuai untuk melihat monyet bangkatan adalah pada lewat tengahari (4.00ptg-6.00ptg). Sebahagian (19 responden) penduduk tempatan menyatakan bahawa monyet bangkatan mempunyai cerita dongeng, mitos dan pepatah. Mereka turut menyatakan bahawa mereka terlibat dengan perusahaan berasaskan monyet bangkatan dan penglibatan mereka dalam indutri meningkatkan pendapatan dan taraf hidup mereka. Kelakuan yang menarik melibatkan kelakuan monyet belanda yang menarik perhatian para pelancong untuk melihat monyet bangkatan. Responden menyatakan bahawa kelakuan semasa makan adalah kelakuan yang paling menarik untuk disaksikan. Daripada *spot observation* yang dilakukan, kelakuan makan adalah kelakuan yang paling banyak ditonjolkan. Keselamatan melibatkan risiko yang dihadapi oleh para pelancong semasa melawat sesuatu produk pelancongan. Dalam kajian ini, didapati bahawa tiada laporan mengenai serangan atau kemalangan yang diakibatkan oleh monyet bangkatan terhadap para pelancong. Temuramah dengan pengusaha pelancongan dan pihak Hospital daerah Beaufort mengesahkan penyataan ini. Oleh itu, monyet bangkatan adalah selamat untuk dilawati.

Kajian ini telah mencapai objektifnya iaitu monyet bangkatan mudah untuk di lihat sewaktu pemerhatian, mempunyai hubungkait dengan kebudayaan dan pendapatan penduduk kampung, mempunyai kelakuan yang menarik dan sering ditonjolkan serta selamat untuk dilawati.

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LIST OF SYMBOLS

%	Percentage
-	To
&	And

CHAPTER 1

INTRODUCTION

1.1 Nature Tourism

Tourism is defined as 'a temporary, short term travel of non-residents along a transit route to and from a destination' (Wearing & Neil, 1999). The reason for this short term travel is for leisure and also recreation. Tourism industry can be defined as 'the collection of all collaboration firms and organizations which perform specific activities directed at satisfying leisure' (Page & Dowling, 2002). Tourism has become Malaysia's second most important sector in economy (Badaruddin, 2002) and has an impressive average growth of 9.26% between the year 1981 to 2000. Starting from 1987, tourism has become a part of Malaysia's policy where tourism has been developed as a major economic sector (Hjulmand *et al,* 2003). The government's main objective under this policy is to achieve economic growth and employment in the rural areas through the development of the tourism industry. Under the policy, Sabah State Government has forwarded 'nature tourism' as the focus area in its tourism policy (Ministry of Tourism Development, Environment, Science and Technology, 1996).

Nature tourism is the combination of environmental conservation and economic development (Kueh, 2005). It means the protection and conservation of natural resources while providing a stable and lasting income from tourism activites (Hjulmand *et al*, 2003). Under the content of nature tourism, the creation of national parks is an appropriate approach in addition to the 'Home-Stay Programme' which is an official Sabah Government Scheme. Nature tourism includes cultural tourism, educational tourism, scientific tourism, adventure tourism and agro-tourism (Wearing & Neil, 1999).

Nature tourism has become one of the main economic incomes for many countries in the world as each country has its own nature attractions (Wearing & Neil, 1999; Buckley *et al*, 2001). In Sabah, nature tourism has become one of the most profitable economic sources (Ministry of Tourism Development, Environment, Science and Technology, 1996), and efforts have been done to attract more tourists to visit Sabah and enjoy the unique biodiversity available in Sabah: northern Borneo. The reason for the success of Sabah in nature tourism is the fact that Sabah has a wide range of forest habitats and wildlife species. Nature tourism sites such as Kinabalu Park, Tunku Abdul Rahman Park and Danum Valley Conservation Area, to name a few, have become places of interest for tourists.

Sabah's nature tourism products such as the orangutans, rafflesias, sumatran rhinoceroses, Bornean elephant and Proboscis monkey have attracted and still attracting thousands of visitors to come and visit Sabah. Some new nature tourism products are being prospected and developed to ensure revisitation of tourists.

In order to prospect a product for nature tourism, seven characteristics must first be examined. The seven criteria of a nature tourism product are morphological attractiveness, endemism, rarity, reliability of sightings, behavioral enticement, safety, and linkage of the product to local cultures (Kueh, 2005). These characteristics are important because they give an insight to tourists as well as local people on the reality behind the success of a particular nature tourism product.

1.2 Nature Tourism Product of Sabah: Proboscis Monkey

Proboscis monkey in Sabah are well known as a nature tourism product. It has fascinated and is still fascinating the world with its unique morphology, and has become the treasure of Sabahans. Being endemic to Borneo, it can be found in Sukau, Kinabatangan and also in Klias Peninsula. These places have abundance of Proboscis monkey and efforts have been undertaken to promote the places as nature tourism sites. The discovery of Proboscis monkey in the Klias Wetland propeller nature tourism activities in the area. In 2000, Proboscis monkeys have been accepted as a nature tourism product of Sabah and the tourism site started to be established after the government has realize that the Proboscis monkey have a tourism potential. In 2001, Proboscis monkey was made the mascot for the SUKMA Games held in Sabah.

Even though the proboscis monkey is known to be a nature tourism product, but there is still scarce information regarding the nature tourism aspects of the proboscis

monkey. There is a possibility that the proboscis monkey does not have the seven nature tourism characteristics of nature tourism even though the proboscis monkey has been visited by thousands of tourists for many years. Therefore this research is done to obtain the quantitative bases for those criteria.

The information is important to ensure that the Proboscis Monkey does not become a 'fade-with-time' product. More information is needed to support the viability and development of proboscis monkeys as a nature tourism industry, and eventually, contributes to the sustainable of the proboscis monkey in the tourism industry. The information obtained is also used to substantiate the potential of the proboscis monkey and also its sustainability.

1.3 Objectives

The aim for this research is 'to provide a scientific overview on proboscis monkey as a nature tourism product in Sabah'. The research objectives are:

a) To **verify** the nature tourism criteria of proboscis monkey based on four characteristics (reliability of sighting, linkage to local cultures, behavioral enticement, and safety),
b) To provide quantitative information on the nature tourism potential of proboscis monkey based on four characteristics (reliability of sighting, linkage to local cultures, behavioral enticement and safety).

CHAPTER 2

LITERATURE REVIEW

2.1 General Features of Proboscis Monkey

Proboscis monkeys has the scientific name of *Nasalis larvatus* and are under the Family Cercopthecidae, and Sub-Family of Colobinae (Ron & Ken, 1992). The genus *Nasalis* means 'of nose'. Another sub-family of Colobine is the Cercopthecinae where the Macaca species belongs to. Just like other primates, proboscis monkey has hands and feet well adapted in grasping object with separated and mobile fingers. It also has stereoscopic sight and larger brains (Bennett & Francis, 1993). Proboscis monkey has the ethnic name of 'bangkatan', 'runguyan', 'ungui' (Kadazandusun), 'bakalo' (Murut) and 'bakara' (Sungai). In Malay, they are called as 'lotong bangkatan'.

2.2 Morphology of Proboscis Monkey

Proboscis monkeys has unique a morphology. A male proboscis monkey is generally larger than the female. It has a reddish brown with a cap of red hair and red skin on the face. The tail is long and is a whitish rump. The tail hangs vertically downward while

sitting on the branch and it is found out that the leader will usually sits at the top of the tree and act as a guardian for the group.

Proboscis monkey is arboreal and have the ability to swim. When a new baby is born, the body of the baby monkey is entirely black but the skin will change after to weeks into the same color of the adults (Sabah Wildlife Department, 1993). The skin color of the baby will remain dark blue face for about a year .Another thing that strike tourists is the fact of its large nose in male Proboscis monkey. The nose of male Proboscis monkey is larger than females and this make it easier for tourist to differentiate between male and female. The large nose shape is like an appendage and it hangs just in front of the mouth. The reason for this is said have link with body temperature regulation. As written by Bennett and Francis (1993), coastal swamps are hot and this condition poses problems to Proboscis monkey which is heat loss. Overheating due to heat regulations around the body is overcome by proboscis monkey large body and large stomach that regulates heat.

Another reason for why Proboscis monkey has a large nose according to Bennett and Francis (1993) is due to sexual selection. It is believed that female Proboscis monkeys are attracted to male with large nose and female tend to choose mating mate with male that have a large nose. The selection of male with long nose causes the spread of long nose genes to the population. Even though the nose of Proboscis monkey differs between male and female, the sounds that these individuals make are most likely the same.

The stomach of the proboscis monkey is large and is a 4 chambered stomach resembles of a cow stomach. According to Bennett and Francis (1993), the stomach is full of bacteria juice that ferments the animal food. Proboscis monkey feed on young coastal swamp forests leaf (Sha & Henry, 2005). Mature leaves does not frequently consumed because it is tough and fibrous. Proboscis monkey are able to eat food that is not edible to other primates. Its stomach can break down cellulose of the leaf and the bacteria inside the Proboscis monkey stomach deactivate some poisons in the food they take allowing it to eat foods that can kill any other animal. This explains why the Proboscis monkey can live in mangrove, swampy and riverside area as there is no competition for food. If a group of macaque encounter with a group of proboscis monkey, there will be no competition for food occur due to the differences in both species diet.

The drawback for this type of stomach however is they cannot eat sweet, sugary food (Sha & Henry, 2005). This is because the bacteria inside the Proboscis monkey stomach can cause a condition called bloat condition when it digests sweet food. The bacteria inside the proboscis monkey stomach will produce gases when it digests sugary food and the sudden increase of gases produced in the stomach of the proboscis monkey can kill the primate instantly (Bennett & Francis, 1993). Other diet for proboscis monkey is non-sweet fruits and seeds. Even though Proboscis monkey live on an area filled with leaf, they actually have limited type of food available.

2.3 Behavior of Proboscis Monkey

The Proboscis monkeys is closely associated with river ways where they spend most of their time near the water during every early morning and evening. Proboscis monkeys rarely ranging far from the river, generally not more than one kilometer away (Henry & Zulhazman, 2005). Proboscis monkeys spend their night on trees that they feed on in the evening.

Most of the Proboscis monkey time is spent on trees where this monkey will feed on young leaves buds and resting. Grooming activity also occur during these time. Even though proboscis monkey often can be found on the trees near the waterways, during the afternoon, the Proboscis monkey will go down from the trees for shades.

Interaction between individuals in a harem of Proboscis monkey is via a honking like sound believed to be produced by their nose. The pitch of the honk varies in each signals sent by individuals and the sound produced are something that may as well attract tourists. The Proboscis monkey harem may consist of several male with a large number of female individuals (Bennett & Sebastian, 1988). If this occur, one large harem of Proboscis monkey will be formed and this means a wider distribution area for that harem.

Swimming activity may sometime occur. Proboscis monkey has the ability to swim to cross rivers but this is rarely seen. Proboscis monkey may swim from one river to the other side of riverbanks in search of foods and possible mates (Bennett &

Sebastian, 1988). The Proboscis monkey swims at the surface of the water. However if they are suddenly disturbed, the individuals will dive into the water.

Proboscis monkey is also known to be one of the few primate species in which female transfer between groups occur (Bennett & Sebastian, 1988). A female may move out from its group before breeding or as an adult for some reasons; avoiding inbreeding, improving its dominance status, to join a group with less feeding competition and avoiding infanticide.

2.4 Habitat of Proboscis Monkey

Proboscis monkeys are scarcely distributed and endemic only in the island of Borneo. Proboscis monkey can be found in certain riverine forest, beach forest, transitional forest, swamp forest, brackish-water forest and mangrove forest (Henry, 1998). Proboscis monkey are mostly arboreal and can be found on trees but they will swim across rivers or walk across open areas to reach some isolated patches of forest. Proboscis monkey inhabit in riverine, coastal and part of mangrove. They sleep on trees near the river and most active in early morning and late afternoon. Some can be found in mixed mangrove and 'nipah' area and at the river edges of forests (Sha & Henry, 2005). Places that have these type of forests are available at the Kinabatangan river and at Klias river and it found out that both of these places have Proboscis monkey according to the research done by Sha and Henry (2005) and Henry (1998) .

Assessment by Kawabe and Mano (1972) at the mangrove swamps and nipah palm at the river mouth near Padas and also by Lim (1996) at the Bukau river found out that the population in Klias is very scarce. Another study on the distribution and abundance of the Proboscis monkey been carried out by Henry in 1994 that covers the entire Klias peninsula (Henry, 1998). It is estimated that the population density of the Proboscis monkey in Klias was 4.4 individuals per square kilometer (Henry & Zulhazman, 2004). From that survey, Garama was the most populated with estimated population density of 9.1 individuals per kilometer square, followed by Weston (3.0 individuals per kilometer square) and Ulu Bintuka (1.9 individuals per kilometer square).

2.5 Current Status of Proboscis Monkey

Proboscis monkeys are threatened by illegal habitat loss and poaching by hunters for their meat. Illegal hunting of the Proboscis monkey occurred at the study site, the Garama river in the 80's. It is believed by the Chinese people that the Proboscis monkey meat contains medicinal value. Under the Wildlife Conservation Enactment 1997, Appendix I of the Convention on International Trade of Endangered Species (CITES), it is a totally protected species.

For nature tourism activity, some areas in Sabah had been chosen as tourism sites such as Klias Forest Reserve and Kinabatangan Wildlife Sanctuary. Both of these places had been chosen as the best spot to observe this unique organism. Several tourism

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