



UNIVERSITI PUTRA MALAYSIA

**Valuing Outdoor Recreational Resources:
A Case Study at Taman Negara, Pahang Darul Makmur**

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**Valuing Outdoor Recreational Resources: A Case Study
at Taman Negara, Pahang Darul Makmur**

By

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This case study estimated the demand for and value of the recreational resources in Taman Negara National Park, Pahang Darul Makmur. The two cardinal approaches used in this study were the Contingent Valuation Method (CVM) and Travel Cost Method (TCM). Since the benefit of non-market product is difficult to quantify, it is important to have proper and accurate evaluation techniques.

The demand for outdoor recreation at Taman Negara National Park, is influenced by several factors. These include travel cost, income and socio-economic variables. The demand model in simple linear, semi-log and double log regression functional forms were estimated using the Ordinary Least Square (OLS) technique for Travel Cost Method; while the Logit and Probit techniques were used for the Contingent



Valuation Method. The results show that only the average travel cost, the average on site cost and the average income influenced the demand for outdoor recreation in Taman Negara National Park.

The economic value of outdoor recreation at the Taman Negara National Park was measured using the concept of user's willingness to pay in both Travel Cost Method and Contingent Valuation Method. The consumers' surplus for each individual was calculated to derive the economic values. The consumers' surplus of each individual for outdoor recreational resource at the Taman Negara National Park, using the Travel Cost Method was approximately RM123.60, calculated using the traditional approach and RM122.44 using the Gum-Martin approach. The Contingent Valuation Method yielded mean values of RM235.06 for the Logit technique and RM280.86 for the Probit technique.

Abstrak tesis yang dikemukakan kepada senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Master Sainsi.

**Penilaian Sumber Rekreasi Luar: Kajian Kes di Taman Negara,
Pahang Darul Makmur.**

Oleh

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Kajian ini menganggar permintaan dan menilai sumber rekreasi di Taman Negara, Pahang Darul Makmur. Dua pendekatan digunapakai iaitu Kaedah Penilaian Contingent (Contingent Valuation Method-CVM) dan Kaedah Kos Perjalanan (Travel Cost Method-TCM). Oleh kerana kesukaran dalam mengenalpasti kebajikan keluaran yang tidak dipasarkan, maka adalah penting untuk memilih teknik penilaian yang sesuai dan tepat.

Permintaan terhadap rekreasi luar di Taman Negara, Pahang Darul Makmur dipengaruhi oleh beberapa faktor. Ini termasuk kos perbelanjaan, pendapatan dan pembolehubah sosio-ekonomi lain. Model permintaan 'linear', 'semi-log' dan 'double log' digunakan dengan teknik penganggaran 'Ordinary Least Square' (OLS) untuk

Kaedah Kos Perjalanan; sementara teknik Logit dan Probit digunakan untuk Kaedah Penilaian "Kontingen". Keputusan menunjukkan cuma purata kos perjalanan, purata kos perbelanjaan di Taman Negara, purata pendapatan individu dan purata kos perjalanan penggantian ke Taman Negara mempengaruhi permintaan rekreasi di Taman Negara, seperti yang dinyatakan dalam teori.

Nilai ekonomi rekreasi luar di Taman Negara, Pahang telah diukur dengan menggunakan konsep kesanggupan membayar pengguna (Willingness to Pay -WTP) bagi kedua-dua Kaedah Kos Perjalanan dan Kaedah Penilaian "kontingen". Lebih pengguna bagi setiap individu dikira untuk mendapatkan nilai ekonomi. Lebih pengguna bagi setiap individu di kawasan sumber rekreasi di Taman Negara adalah dianggarkan bernilai RM123.60 melalui pendekatan tradisional dan RM122.44 melalui pendekatan Gum-Martin. Sementara Kaedah Penilaian "kontingen" anggaran nilai min bagi sebanyak RM235.06 mengikut teknik logit dan RM280.86 mengikut teknik Probit.

CHAPTER I

INTRODUCTION

Traditionally, the Malaysian economy is dominated by the performance of the primary commodity sectors. In the mid 1980's the Malaysian economic growth was severely affected by the world economic recession. In order to lessen the effect of its economic fluctuations, the Government started to broadening its economic bases and the tourism sector has been identified as one of the potential industries to be developed.

Numerous incentives and assistance have been provided to the private sectors to promote a sustainable tourism industry. Commencing from the end of the 1980's there was a tremendous development of the tourism industry in Malaysia. In 1990 with the declaration and implementation of Visit Malaysia Year (VMY), the total tourist arrivals had increased to 7.4 million, which generated a revenue of about RM4.5 billion compared to 4.8 million tourists and RM2.6 billion, respectively, in 1989. In the 1990's the growth of tourism was quite favorable. In 1994 the total arrivals had reached more than 7 million people, which was the highest tourist arrivals destination in the ASEAN region.

The importance of tourism in Malaysia is reflected by its contribution to foreign exchange earnings. In 1990 this industry was the third largest contributor to the foreign exchange and was increasing steadily every year. However, the performance of the Malaysian tourism industry in 1995 was moderate when compared to the previous years. The tourism industry recorded a total tourist income of RM 9.2 billion and total arrivals of 7,468,749 tourists, a growth of 10.6% and 3.8% respectively. Income via tourist receipts of RM 9.2 billion in 1995 has made the tourism industry very attractive.

To cope with the increasing demand for tourism in developing nations such as Malaysia, the government must provide adequate and high quality infrastructure particularly in the outdoor recreation facilities as these are the most popular resources in the tourism industry. Without proper planning, the competitive advantage of the country's tourism industry may be impaired.

However, a proper planning and execution especially for outdoor recreation/tourism is very difficult. Decision-makers face problems on how to allocate scarce resources among competing uses. This can usually be done by comparing the marginal value and costs involved in the allocation. Prices or monetary values are commonly used as a guide in this allocative process. But in the case of environmental resources (which is classified as a non-market commodity), it is difficult to obtain their monetary value because recreational experiences and public health is not traded in the competitive market.

Confusion and suspicion over the precise nature of non-market goods valuation, however, seems to persist but the benefits derived from non-market goods must be appreciated and evaluated for at least some reasons:

- i. For management's view point, public agencies and others are faced with decision of resource allocation among competing resource users,
- ii. Concern for the long-term well-being of natural environment which has tangible implications to the management of water and public property or utility, and
- iii. Governmental expenditures for protection and management of public natural resources must be justified to ensure an efficient allocation of scarce public resources.

With some values that planners can rely on much more rational decisions can be arrived at regarding an efficient management of common property resources such as outdoor resources. But the problem is how to estimate the demand for and value of this non-market commodities for which no competitive markets exist (in our case it refers to outdoor recreational resources). In this study, two frequently used methodologies, the travel cost method (TCM) and the contingent valuation method (CVM), are employed to estimate the economic value of Taman Negara National Park in Pahang Darul Makmur.

Background of Study

Recreation - An Overview

Recreation is a key element in designing and developing of new communities. The word 'recreation' originates from the Latin word which means 'recreation to health'. The historic approach in defining recreation has been to consider it as an activity as it renews and refreshes people for work. On the other hand, recreation gives workers relaxation and enables them to forget for a while all the stress that they are facing, before commencing the new live/work.

It is also commonly held to be any activity that is engaged in for the satisfaction it brings to the individual. Brightbill (1961) states that "recreation is activity engaged in during leisure and primarily motivated by the satisfaction derived from it". Douglas (1980) expresses the concept of recreation as "the leisure activities of adults as well as children; all types of activities, active as well as passive, sought by both children or adults for personal expression". Jubenville (1976) meanwhile states that "recreation is any form of experience or activity in which an individual is engaged in by choice because of the personal enjoyment and satisfaction which it brings directly to him".

All definitions imply that recreation is engaged in without compulsion and that it brings satisfaction mentally and physically to the individual.

The key concepts of recreation are:

- i. Recreation is concerned with activities that human beings engage in their leisure hours. They spend their free time to relax and enjoy themselves.
- ii. Recreation is concerned with activities in which human beings relax and are satisfied. They release their stress after performing work and are satisfied with activities they have done.
- iii. Recreation is concerned with activities in which human beings engage themselves voluntarily. They participate in recreational activities because they decide on their own that it is something they want to do; it is their own choice. Somebody has freely chosen the activity without any coercion.
- iv. Recreation is concerned with various types of activities in which the activity itself is the reward. The person chooses to participate in an activity because of the benefits and satisfaction gained from actual participation in the activity. Satisfaction derived from involvement in the activity is its own reward and is the enjoyment of participation in a recreation programme.

National Park: Functions of National Parks

General Function

Essentially, a national park is located around that part of a natural setting, which is not frequented or affected by normal human activities. Although man has a recorded history of more than two million years, it was not until quite recently that they began to view nature as an object of pleasure.

In countries such as Korea and China, which have quite long recorded history, the love of scenic beauty was expressed in literature, songs and art since

long ago, while in comparison, European countries showed little interest in scenic beauty until about the Renaissance. In about the eighth century, their interest in nature became pronounced enough to be expressed in their literary works. By the time the Industrial Revolution had come about in England, the natural scenery of many countries in Europe had been thoroughly exploited. Europeans became upset with the disappearance of the natural scenery and this feeling made them hate the expanding urban life and machine civilization. As a result they developed a desire to return to nature, which in turn led Europeans, especially cultured men and artists, to develop a conception that nature must be protected.

But such a conception was not reflected on any national level in those days. It was not until probably in the latter part of the nineteenth century when the United States established the first national park in the world that a system set up for the protection of nature was really established. In those days, the United States policy was concerned with industrializing, urbanizing and colonizing.

Since the inception and conception of national parks serve two important functions. Firstly, they function to project the beauty of nature. Secondly, they enable people to use only those areas designated as tourist resorts.

Then when it first came into being in Korea, the national park was given four important functions according to the wishes of the Korean people. Two of these were the same as those in the United States. The other two, which were added to



these, were included in order to bring foreign capital and tourists to Korea, while the other purpose was to develop the areas around the national parks.

From the above-mentioned facts, we can divide the purpose of the national park especially in Malaysia into two main categories, one being that of preservation and the other utilization. In other words we can expect that our national parks be built around for existence and utilization.

Preservation

The prime purpose of a national park is to preserve places in their natural setting, which are noted for their scenic beauty and which represent the typical landscape of a country. Nature functions as an adjuster of weather and climate, as a purifier of the air and as a sound-proofing, a wind-break and a safeguard against fire and other related factors. Nature has many soothing psychological effects on us; through it we can find solace, wisdom, courage, emotion and personality. Nature's functions are not to destroy quality of our life but to preserve it.

The present urbanization process is separating us from nature. In rural districts as well as urban ones, industrialization is going on in various spheres, transforming our environment into a more and more artificial one. The development of tourist resorts, for example although they provide man with an opportunity to converse with nature, in fact is aimed at economic gain. Quite often tourist resorts destroy some aspects of nature since they are often built with no regard to conservation.

As nature has an inseparable relationship to our survival, the weaker it becomes, the more we come to appreciate it. We must preserve it at all costs since it is a safety device, which provides a warning for man in his own effort to survive. The national park has come into existence with such a function in mind, and basically its role is to preserve nature for posterity.

Utilization

Economic development has resulted in an increase of not only national income but also leisure time and public transportation, and has encouraged the people's desire for recreation. It has centralized population in the big cities, brought about every kind of pollution, has caused the disappearance of the quality of the natural environment, and furthermore it has complicated urban life. Recreation, besides being of great help to our health and mind, has a great effect on national culture, economic development and the national mindset. Moreover, the national park functions as a national museum or treasure home providing man with a better look at nature.

Aims and Objectives of Parks and Recreation

The aims and objectives of recreation and parks programmes are:

1. Being designed for the socialization of the individual through comradeship and group involvement.
2. Being directed towards the growth of human dignity and self-fulfillment.
3. Being consistent with the ideals of education in a democratic society.

4. Being focused towards finding creative and satisfying outlets through a wide range of cultural and wholesome pursuits.
5. Providing means for the individual to maintain good health and physical vitality in order to meet the complex challenges of the day.
6. Being designed to show how the use of leisure can be a major force in the enrichment of personality.
7. Being consistent with the idea that recreation contributes to group welfare through greater appreciation, widening interests, and broader understanding.

Recreation has purpose and direction. Indeed, the ends are many and satisfying, but all purposes, either stated or implied, should be focused on strengthening and preserving the ideal of the best in family and community living.

Some park and recreation organizations have also attempted to identify the special demand characteristics of recreation. The National Outdoor Recreation plan formulated by the Japanese, states that recreation yields three basic types of benefits. These are: (i) direct satisfaction to the individual (ii) enhancement of the overall mental and physical quality of the individual and investment in human capital adding to the productivity of the individual and society; and (iii) important third-party benefits such as increased business and property values. Therefore, recreation like education, yields benefits of both monetary and non-monetary nature.

Outdoor Recreation In Malaysia

Determining whether outdoor recreational activities are of genuine human need or not seems to be an overriding problem to the recreational profession. However, Aristotle's view (Daniel, 1973) that the objective of work is leisure but work had "practical" objective: the obtaining of material possessions, status, and power—a bigger automobile, a house in a higher-class neighborhood, better clothes, fancier food, more education for the children (so they could look forward to higher paying jobs) and more "labour-saving" devices in the house. Recreation, however is an adjunct to work, necessary only for physical and mental health, economic stimulation or improved social behaviour. It is a kind of patent medicine to cure juvenile delinquency and other mysterious social diseases and therefore recreational activities are important to a balanced human development.

Clawson and Knetsh (1966) emphasized that leisure time was important and can be one of our basic needs. Douglas (1975) mentioned that recreation was related to the tourism industry; therefore, in Malaysian context it is difficult to differentiate factors within the tourism industry and the outdoor recreation activities and others. One of the reasons is that they involved the same facilities and compete for space and capital. Therefore, the development of recreational locations is just like harnessing the tourism industry.

The Malaysian tourism industry has developed since 1950. Tremendous changes in this sector however have taken place only in April 1972 after Malaysia has been declared as the host of the 21st conference of the Pacific and Asian

Travellers' Association. In August 1972 the establishment of Tourism Development Centre (TDC) to encouraged the performance of this industry. Dato' Sabaruddin Chik, the Federal Minister of Culture, Art and Tourism said that, in 1994 for the first time, the income from the tourism sector has surpassed that of the petroleum and gas sector, respectively. Reported by a national daily, the Berita Harian, September 1995, Tourism Industry is second only to the manufacturing sector in generating foreign trade revenue. The tourism industry recorded a total income via tourist receipts of RM9.2 billion and total arrivals of 7,468,749 tourists, a growth of 10.6% and 3.8%, respectively.

In the year 2000, Malaysia has predicted a total income via tourist receipts of RM15.7 billions, with total arrivals of 12.5 million tourists (Seventh Malaysia Plan). In order to achieve these targets tourist destinations and recreational areas need to be developed, based on natural resources such as beaches, lakes, rivers, waterfalls, fauna, flora, forest, archaeology, culture and history. However to stabilize the Malaysian economy and at the same time to sustain the environmental (green house) requirements, there is a need to create a harmonious development. These can be achieved through the development of recreational parks (national park). The government and the private sectors need to work together in administration and planning to build the recreational parks. With this strategic relationship, the recreational parks can continue to provide their functions to fulfil the demand as well as preserve the forestry nature concept of our country.

Problem of Statement

Land is very limited for development purposes. Therefore, choice has to be made for the best alternative use of the land. In order to make a choice, the government or private sector needs accurate information about trade-off between different uses. For example a park or other recreational area (land) can be traded-off between consumption uses such as logging, industrial or housing development and non-consumption uses such as recreation or preservation. Because recreational use of land is generally a non-market good or commodity, its monetary values for recreation are often either unavailable or arbitrary. Non-market goods are goods which are not traded in the market and thus do not have a monetary value. However, the economic or monetary value can be estimated using economic and statistical techniques. Although each technique gives different values of the non-market goods, nonetheless based on this economic or monetary value, one can decide on the best alternative use of the land- whether for consumption use or non-consumption use.

This study uses two well-developed techniques of non-market valuation of recreational resources. They are the travel cost method (TCM) and contingent valuation method (CVM). TCM is an indirect market-based approach and is claimed to be the oldest of the non-market valuation techniques. TCM is predominantly used in outdoor recreation modeling, with fishing, hunting, boating and forest visits among the most popular applications. As a basic method, TCM seeks to place value on non-market environmental commodities using consumption behavior in related markets. Specifically the costs of consuming the services of the environmental asset are used as a proxy for price. These consumption costs include travel costs, entry