



UNIVERSITI PUTRA MALAYSIA

***ESTIMATE OF CONSERVATION VALUE FOR ECOTOURISM
RESOURCES IN TAMAN NEGARA SUNGAI RELAU, PAHANG,
MALAYSIA***

NOR HIZAMI HASSIN

FEP 2013 24



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By

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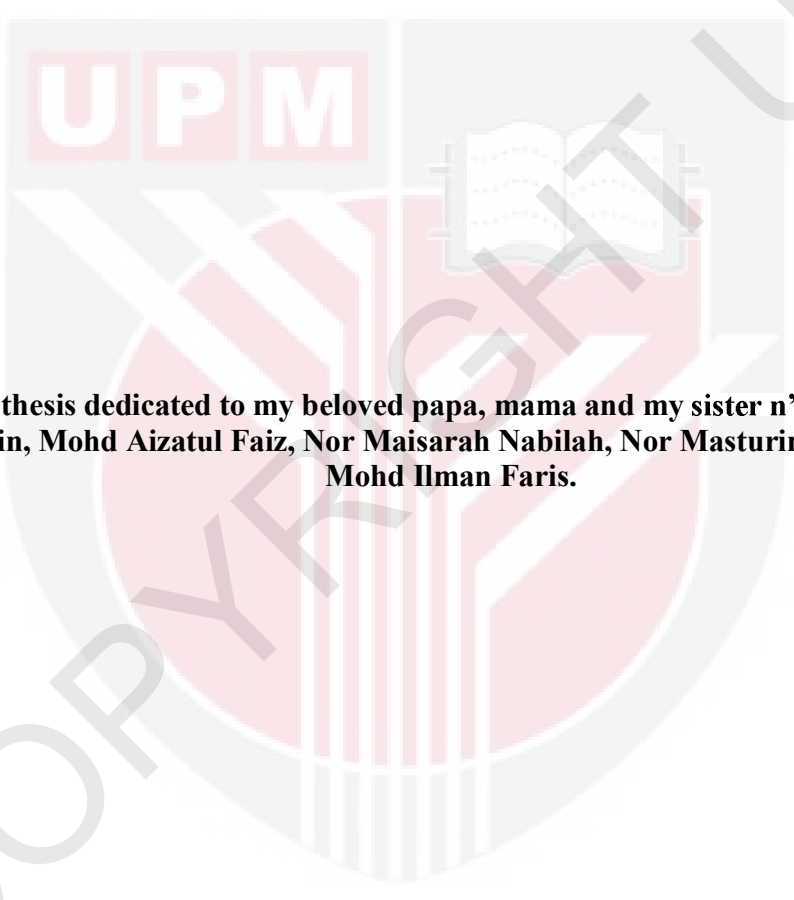
**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia,
in Fulfillment of the Requirements for the Degree of Master of Science**

August 2013

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This thesis dedicated to my beloved papa, mama and my sister n' brother Nor Hazimin, Mohd Aizatul Faiz, Nor Maisarah Nabilah, Nor Masturina Najihah and Mohd Iman Faris.

Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfillment of the requirement for the degree of Master of Science

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By

NOR HIZAMI HASSIN

August 2013

Chairman : Mohd Rusli Ya'cob, PhD

Faculty : Economic and Management

The initial establishment and development of Taman Negara National Park (TNNP) was for protection and conservation of the natural forest and being a function as a sanctuary of its forest eco-systems. Currently, TNNP is well known as an important ecotourism destination in Peninsular Malaysia and one of the entrances is via Taman Negara Sungai Relau, Merapoh (TNSR). The TNSR entrance has attracted more visitors to engage with ecotourism activities offered and concurrently increasing the revenue to the park management. However, most of the charges on visitors for those who want to enjoy the TNSR resources and the entrance permit were never revised since 18 years ago as informed by management of TNSR. Due to this condition, the number of visitors to TNSR increased gradually. An enhancement of visitors will increase the revenue for the park management but at the same time will create a problem to the environment at the park. Thus, the market failure will occur when users are not paying the full costs of using the natural resources in the national parks. The permit charges should be adequate enough to maintain the maintenance of the park and at the same time to be fair for both the local and foreign tourist.

The general objective of this study is to estimate the conservation value for ecotourism resources in TNSR. The specific objectives are to determine the visitor's perception, satisfaction towards ecotourism resource and services provided in TNSR. The willingness-to-pay estimation had obtained by using dichotomous choice Contingent Valuation Method (CVM). A total of 300 respondents were obtained using face to face interviewed among domestic and international visitors which has conducted in January to February 2012. This study analyzes the data by using descriptive analysis, factor analysis and contingent valuation method (CVM). In overall, the result shows that most of the respondents are satisfied with the ecotourism resources in TNSR. The majority of the visitors also agreed the involvement from various organizations is important to conserve and protect the ecotourism resource for future generations. The factor analysis found that five factors that probably related to visitors' satisfaction towards the ecotourism resources and regrouped into three separate factors.

The conservation value of the ecotourism resources in TNSR was estimated by using single-bounded dichotomous choice method. The logit regression model result indicates that bid, income and education variables were significance and influences the visitors' willingness to pay for the entrance permit to TNSR. The estimated mean WTP was RM 8.76 per visit. Meanwhile, the expected benefit or the total value of ecotourism resources in TNSR is estimated at approximately RM 31,409.34 with average per year. The finding of the study recommends that the park management should engage the visitors into its conservation endeavor as well as share the benefits with them. The study also reveals that visitors were willing to pay more for entrance permit. Thus, results of this study may assist the TNSR management in establishing an efficient entrance permits to visitors in order to sustain the ecotourism resource value in future.



Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia
sebagai memenuhi keperluan untuk ijazah Master Sains

**MENGANGGAR NILAI KONSERVASI TERHADAP SUMBER-SUMBER
EKOPELANCONGAN DI TAMAN NEGARA SUNGAI RELAU, PAHANG,
MALAYSIA**

Oleh

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Penubuhan awal dan pembangunan Taman Negara bertujuan untuk melindungi dan memelihara hutan semula jadi yang berfungsi sebagai tempat perlindungan ekosistem hutan. Pada masa ini, Taman Negara National Park (TNNP) terkenal sebagai destinasi penting eko-pelancongan di Semenanjung Malaysia dan salah satu pintu masuk adalah melalui Taman Negara Sungai Relau, Merapoh. Pembukaan pintu masuk melalui TNSR telah menarik ramai pengunjung datang untuk melakukan aktiviti eko-pelancongan yang ditawarkan dan pada yang sama meningkatkan hasil kepada pengurusan taman. Bagaimanapun, permit masuk yang dikenakan ke atas semua pengunjung yang ingin menikmati sumber TNSR adalah rendah iaitu sebanyak RM 1 dan tidak pernah berubah sejak 18 tahun yang lepas sepertimana yang dinyatakan oleh pengurusan TNSR sendiri. Disebabkan keadaan ini, bilangan pelawat yang datang melawat ke TNSR telah meningkat secara beransur-ansur. Walaupun kesan daripada peningkatan pelawat dijangka akan meningkatkan pendapatan kepada pengurusan taman tetapi pada masa yang sama akan menimbulkan masalah kepada alam sekitar di kawasan taman tersebut kesan daripada sesetengah aktiviti pelawat yang tidak bertanggungjawab. Seterusnya, kegagalan pasaran akan berlaku akibat daripada pengguna yang tidak membayar kesuluruhan kos yang terlibat apabila menggunakan sumber semula jadi di taman negara tersebut. Jadi, bayaran permit yang dikenakan perlu dikaji semula dan ia haruslah mencukupi untuk menampung kos penyelenggaraan taman dan pada masa yang sama dapat bersikap adil kepada semua pelawat dari tempatan dan luar negara.

Secara umumnya, objektif kajian ini adalah untuk menganggar nilai pemuliharaan sumber-sumber ekopelancongan di TNSR. Objektif khusus pula adalah untuk menentukan persepsi pelawat, kepuasan terhadap sumber dan perkhidmatan ekopelancongan yang disediakan di TNSR. Anggaran bagi kesanggupan untuk membayar telah diperolehi dengan menggunakan Kaedah Penilaian Kontigen pilihan dikotomi (DC-CVM). Seramai 300 orang responden telah diperolehi melalui temuramah

secara terbuka di kalangan pelawat tempatan dan antarabangsa yang telah dijalankan pada bulan Januari hingga Februari 2012. Kajian ini menganalisis data dengan menggunakan analisis deskriptif, analisis faktor dan kaedah penilaian kontingen (CVM). Secara keseluruhannya, keputusan menunjukkan bahawa kebanyakan responden berpuas hati dengan sumber ekopelancongan yang terdapat di TNSR. Kebanyakan pengunjung juga, bersetuju penglibatan daripada pelbagai organisasi adalah penting untuk memulihara dan melindungi sumber ekopelancongan untuk generasi akan datang. Analisis faktor mendapati bahawa lima faktor yang mungkin berkaitan dengan kepuasan pelawat terhadap sumber ekopelancongan dan dikumpulkan semula kepada tiga faktor yang berasingan.

Nilai konservasi sumber ekopelancongan di TNSR dianggarkan dengan menggunakan kaedah tunggal terbatas pilihan dikotomi. Hasil daripada model logit regresi menunjukkan bahawa pembolehubah bid, pendapatan dan pendidikan adalah signifikan yang mempengaruhi kesanggupan membayar (WTP) pelawat untuk permit masuk ke TNSR. Anggaran purata kesanggupan membayar (WTP) pula adalah sebanyak RM 8.76 per kunjungan. Sementara itu, jangkaan jumlah nilai konservasi sumber ekopelancongan di TNSR dianggarkan lebih kurang RM 31,409.34 dengan kadar purata setahun. Dapatan kajian mencadangkan bahawa pihak pengurusan taman negara harus melibatkan pelawat dalam usaha ke arah pemuliharaan dan juga berkongsi manfaat dengan mereka. Kajian ini juga mendedahkan bahawa pelawat sanggup membayar lebih daripada harga sebenar untuk permit masuk. Sehubungan itu, hasil daripada kajian juga ini boleh dijadikan sebagai rujukan bagi membantu pembuat polisi dan pihak pengurusan TNSR sendiri untuk menentukan permit masuk yang lebih cekap dan berpatutuan kepada pelawat sebagai langkah serta usaha untuk mengekalkan nilai sumber eko-pelancongan yang ada bagi generasi pada masa akan datang.

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I certify that a Thesis Examination Committee has met on 27 August 2013 to conduct the final examination of Nor Hizami Hassin on his thesis entitled "Estimate of Conservation Value for Ecotourism Resources in Taman Negara Sungai Relau, Pahang, Malaysia" in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Master of Science.

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DECLARATION

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LIST OF ABBREVIATIONS

CVM	Contingent Valuation Method
DWNP	Department of Wildlife and National Park
EV	Equivalent Variation
IUCN	International Union for the Conservation of Nature
NCRA	Natural Resources Conservation Authority
NOAA	National Oceanic and Atmospheric Administration
PNP	Pahang National Park
TCM	Travel Cost Method
TIES	The International Ecotourism Society
TNNP	Taman Negara National Park
TNSR	Taman Negara Sungai Relau
VMY	Visit Malaysia Year
WTP	Willingness to Pay
WTA	Willingness to Accept
WTO	World Tourism Organization
WTTC	World Travel and Tourism Council

CHAPTER 1

INTRODUCTION

1.1 Background of the Study

Malaysia has a great achievement among the developing country with a substantial economic transformation through sustainable growth contribution in various sectors. Conventionally, the Malaysian economy is measured by the performance of the primary commodity sectors around the 1970s. In 1998, all the countries in the world have been affected by the world economic crisis including Malaysia. In order to minimize the effect of the economic fluctuations, the government decided to expand its economic bases. The tourism sector was identified as one of the potential industries to increase the national income and provide opportunities for development because tourism plays a significant role for preservation of cultural values and increasing the welfare of the people. The tourism sector has contributed much towards local development and encouraged the growth of supporting sectors as well as reduced the rate of rural-urban migration.

Numerous incentives and various forms of assistance have been provided for the private sector to promote a sustainable tourism industry. Beginning the end of the 1980's, there was tremendous development within the tourism industry in Malaysia. In 1987, tourism became one of the interesting aspects of the political agenda when the Federal Government decided to expand the tourism sector to become a major economic sector. During the year 1990, with the implementation of Visit Malaysia Year (VMY) campaign as the tourism promotion to visit Malaysia, the total tourist arrivals increased to 7.4 million, which generated revenue of about RM 4.5 billion compared to only 4.8 million tourists and RM 2.6 billion respectively the previous year in 1989. Then, in the 1990's the growth of tourism was quite favourable while in year 1994, the total arrivals reached more than 7 million peoples, which was indicated Malaysia is the highest tourist arrivals destination in the ASEAN region in that year.

The level of tourism in Malaysia is reflected by its contribution to foreign earnings which directly affects the injection into the economic growth rate. Khodaverdizadeh et al., (2009) stated that tourism became the third most popular sector in the world after the oil and automobile industries. It will be become a main force in the world economy when almost 11 % of the global Gross Domestic Product (GDP) is generated by this sector and about 200 million people are employed (Roe and Urquhat, 2001). The Malaysian tourism industry in 1995 recorded a total tourist income of RM 9.2 billion and total arrivals of 7,468, 792 tourists; a growth of 10.6 % and 3.8 % respectively. The

income via tourist receipts of RM 9.2 billion in 1995 made the tourism industry very attractive.

According to a 2001 News release from the WTO (World Tourism Organization) of 31 January 2001, “world tourism grew by an estimated 7.4 per cent in 2000, its highest growth rate in nearly a decade and almost double the increase of 1999” with almost 714 million arrivals and receipts of US\$ 476 billion. Within the East Asia and Pacific region, ASEAN countries namely, Thailand, Malaysia, Cambodia and Vietnam had again become the world’s favourite tourism destination. In the period from January to August 2004, in South-East Asia, the total arrivals increased by an extraordinary 45 %. Arrivals rose by 68 % in Malaysia (+70 % receipts), 44 % in Cambodia and 48 % in Singapore.

The Table 1.1 shows that Malaysia received 23.646 million tourists with receipts of USD 15.772 million a year (WTO, 2011) and was ranked second after China in terms of tourist arrivals in the Asia and the Pacific region in 2009. This shows Malaysia as an interesting and remarkable tourism destination for people from around the world. Since the tourism sector in Malaysia has been identified as the second most important sector of the economy after the manufacturing sector, the Malaysian Government has decided to spend more than US\$86 million every year for tourism promotion. Malaysia stands as the top country in terms of providing first class tourism infrastructures compared to other Southeast Asian countries (Jusoh and Mohamed, 2006).

Table 1.1 Top Ten Destinations within Asia and the Pacific Tourist Arrivals

Destination	(Thousand)		Change (%)	Ranking
	2009	2010	10/09	
China	50,875	55,665	9.4	1
Malaysia	23,646	24,577	3.9	2
Hong Kong (China)	16,926	20,085	18.7	3
Thailand	14,150	15,842	12.0	4
Macao (China)	10,402	11,926	14.7	5
Singapore	7,488	9,161	22.3	6
Korea. Republic	7,818	8,798	12.5	7
Japan	6,790	8,611	26.8	8
Indonesia	6,324	7,003	10.7	9
Australia	5,584	5,885	5.4	10

Source: WTO, 2011

Presently, the Malaysian government has improved and modernized the services sector for tourism by implementing a new policy for the tourism sector, aimed towards attracting more tourists willing to visit the country. This approach has created a positive impact in the eyes of the world which has increased the Malaysian ranking to the ninth

position of the top ten destinations for international tourist arrivals. While the giant Asian country of China is at third position of the top world tourism destinations as illustrated in Table 1.2, France and the United States dominate the group of international tourist arrivals as the main destination tourism choice of international tourists.

Table 1.2 Top Ten World Destination Tourist Arrivals

Destination	No. of Tourist (Million)		Change (%)	Ranking
	2009	2010	10/09	
France	76.8	76.8	0.0	1
United States	55.0	59.7	8.7	2
China	50.9	55.7	9.4	3
Spain	52.2	52.7	1.0	4
Italy	43.2	43.6	0.9	5
United Kingdom	28.2	28.1	-0.2	6
Turkey	25.5	27.0	5.9	7
Germany	24.2	26.9	10.9	8
Malaysia	23.6	24.6	3.9	9
Mexico	21.5	22.4	4.4	10

Source: WTO, 2011.

1.1.1 Importance of the Tourism Sector in Malaysia.

Basically, the tourism industry is an important sub-sector in the service sector. It is one of the main contributors towards the growth and development of Malaysia, particularly in generating foreign exchange earnings and employment opportunities. Similar to other countries, the tourism industry in Malaysia is also regarded as one of the 'invisible exports' whereby the several sections of resource foods, services, facilities and productivity from the tourism sub-sector are the main products widely produced in Malaysia and worldwide.

The injection of high incentives in the tourism industry such as campaigns and programmes for tourism development currently shows that there is great potential to bring in foreign exchange into the country as long as services and facilities are provided in the hotels and restaurants, or in other enterprises that cater for the international tourists. For example, every purchase in Malaysia is in Ringgit Malaysia (RM). Hence, the percentage of earnings through foreign exchange plus the taxes that are collected, such as government tax in resorts or hotels form the invisible export goods and services that can be measured.

The next important characteristic concerning the tourism industry in Malaysia is its beneficial impact on the economy from a variety of aspects. It has the capacity and efficiency to create employment for Malaysian citizens with different skills and levels of

ability and indirectly will reduce existing gaps in unemployment. The greater the percentage of employment, the more important the tourism industry is as a form of export and income to the country. Similarly for other industries, the change in the capital-labour ratios in the tourism industry also reflects the increase in the utilization of technology as demand grows in the economy.

Meanwhile, there are also increases on the fixed supply side that relatively involve both the cost of land and land facilities. The multiplying effect of tourist spending contributes to society and the economic well-being of the country. The inflow of foreign money into the economy may take several forms such as foreign investment, foreign government grants or expenditure, and foreign tourist expenditure. This inflow of money could also stimulate the economy through the segmenting linkages in the economy. Table 1.3 illustrates the number of visitors to Malaysia from 2000 to 2010.

Table 1.3 Tourist Arrivals and Receipts in Malaysia

Year	Arrivals (Million)	Receipts (RM)
2000	10.2	17.3
2001	12.7	24.2
2002	13.2	25.8
2003	10.5	21.3
2004	15.7	29.7
2005	16.4	32.0
2006	17.4	36.3
2007	20.9	46.1
2008	22.0	49.6
2009	23.6	53.4
2010	24.6	56.5

Source: Tourism Malaysia, 2011

Razak (1995) has shown that tourism contribution is important to the long-term future of the Malaysian economy. It represents the second most important industrial sector that contributes to Malaysian economic growth. Tourism is also characterized by generating direct and indirect effects in the local economy. Zortuk (2009) stated that the tourism sector has not only raised the foreign exchange income, but also generated employment opportunities, stimulated the growth of the tourism sector and triggered out overall economic growth. Meanwhile, Sadi and Bartels (1997) noted:

“Since 1987, the continuous trend of tourism development in Malaysia was generated by the manufacturing sector, which has been the country’s engine of growth. The revenue earned from international tourism has an essential role of directing the Malaysian economy to higher growth”.

Cresswell and Maclaren (2000) revealed that tourism to natural sites was becoming an important aspect of development in countries such as Malaysia and Thailand. Mostly, the tourists come from middle class society and want to enjoy their time leisure to escape from the routine of city life, and also to seek experiences in a fresh and clean natural environment with nice and beautiful surroundings which bring tranquillity to their mind and life. The purpose of tourism is considered to achieve employment, income generation and economic stability while providing new uses for old facilities and often providing satisfactions for community activities (OECD, 1994).

Several countries have already transformed their economies by developing their tourism potential. Tourism has the great capacity and ability to generate large-scale employment and additional income sources for the skilled and unskilled. WTO, (2005) indicated that the tourism sector has grown more rapidly than the total employment in the world economy. It has been stated that tourism created employment about 221,568,000 jobs in 2005; about 8.3% of total employment or 1 in every 12 jobs (WTTC, 2005).

1.2 Ecotourism Development in Malaysia

In Malaysia, most of the national parks and other protected area were established for conservation and natural resources management purpose including wildlife. A greater impact will be noted for wildlife sanctuaries, national parks, highlands and islands (9th Malaysia Plan, 2012). The added value associated with a park gives an advantage for beneficial activities such as recreation, research, education, ecotourism and conservation area which is providing a rich environment and natural. The development of the ecotourism area generally is supported by government policy by spreading the image of these areas in Malaysia to the world which area not available elsewhere.

The role of the tourism industry is seen as gaining serious attention from the government at present. Therefore, the development of the tourism industry has attracted special attention, especially in the ecotourism segment. The successful achievement of South African countries in remodelling their economic structure should be noted. That success was partially based on the rapid growth of ecotourism through a financial technique that led to reforms being formulated such as the production of ecotourism bonds and securities through cooperation with international financial companies (Ministry of Culture, Arts and Tourism, 1996). It is clear that ecotourism in Southern Africa basically depends on a network of national parks that are well managed to the point that they are able to become a part of the contribution to the economic growth of the country. These results may become a relevant idea injection that could be consistent with a similar application in Malaysia due to the rich natural resources as well as flora and fauna which should not be ignored in the future.

As is well known, Malaysia is rich with nature as tropical countries have the potential to be exploited and explored. These privileges make ecotourism sector as a source of revenue by giving more attention and providing various alternative for development

program. According to Kuok and Suriani (2010), many scholars and economists claim that nature-based tourism is the fastest growing sector. The ecotourism sector has grown in the last decade from a concept to reality. Tourists and day visitors will be more impressed with the beauty of nature that can give them peace and freshness which cannot be found in urban areas that are categorized as busy and a high temperature environment.

Lindberg (1998) also clarified that nature-based-tourism can play an important role for sustainable development because of its potential to contribute to local and national economic development. Moreover, most of the world's protected areas only charge a low entry fee and use that fee to cover only part of the cost of management (Eagles, 2002). Pricing policies developed in the period aim to provide protection of the resources which is seen as the most important objective as well as a public objective to benefit all of society. Ecotourism is capable of educating the community concerning the importance of natural care which can reduce the negative impact of development on the environment. Therefore, it is very important to implement sustainable tourism development in order to minimize the scale of the damage that cannot be avoided whilst at the same time attempting to preserve the quality of the environment has existed for many years.

1.3 Background of Taman Negara National Park (TNNP)

Taman Negara National Park (TNNP) was gazetted as a national park in Malaysia through an enactment by the states of Pahang, Kelantan, and Terengganu in 1938/39, and given the name King George V National Park. TNNP encompasses the borders of Kelantan, Terengganu and Pahang, and each has its own legislation in Peninsular Malaysia (Rubelo, 1976). TNNP is the largest national park in peninsular Malaysia, with covers 434,340 and as an origin forest which comprise many types of forest that varies according to altitudes and soils. TNNP includes three main river systems beginning from Sungai Relau – Aring – Lebir, Terengganu and Tembeling. This area is claimed as one of the most beautiful forests, with riches in scenic beauty, the rainforest, wildlife habitat. TNNP also acknowledged as one of the world's oldest tropical rainforests.

TNNP is monitored by the Department of Wildlife and National Parks (DWNP) and consists of three regions within the state of Pahang, Terengganu and Kelantan. Taman Negara National Park can be accessed through four entrance gates by Kuala Tahan and Sungai Relau in Pahang, Kuala Koh in Kelantan and Tanjung Mentong in Terengganu and every entrance gate has been declared as a national park. According to the DWNP (1989), the whole national park area is approximately 4343 sq km which is 3% of the land area of Peninsular Malaysia. It was renamed to Taman Negara which literally means “national park” in Malay language after Malaysia was independence in 1957 (DWNP, 1986; 87).

Therefore, the purpose of TNNP is for preservation as well as to create a chance for the public to have an experience such as education, recreation, research and tourism. TNNP offers a variety of ecotourism activities, such as forest exploration, river rides, mountain-climbing and cave exploration while the most popular attraction is the canopy walk. A study by Zaiton (2008) in Taman Negara National Park stated that the canopy walk extends 0.5 kilometres and is elevated 40 metres above the ground which gives a new experience to the visitors on their vacation. Figure 1.1a and 1.1b show a map of peninsular Malaysia and the location of Taman Negara National Park (TNNP) respectively which straddles the borders of three eastern states in Peninsular Malaysia.

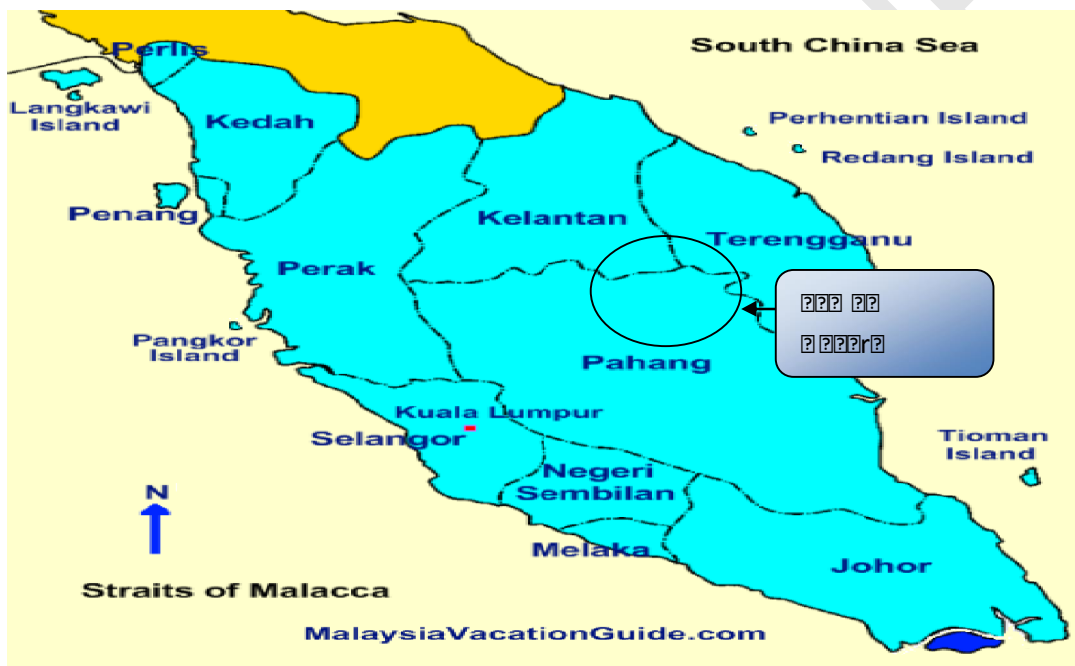


Figure 1.1a Map of Peninsular Malaysia
Source: MalaysiaVacationGuide, 2011



Figure 1.1b Map of Taman Negara National Park
Source: DWNP, 2011

1.4 Taman Negara Pahang (TNP) within Taman Negara National Park (TNNP)

Basically, national parks function as a main national attraction because they include highly valued ground so that the people will enter the parks to enjoy the natural environment. The purpose of national parks is primarily to remain as natural areas for the satisfaction of people and animals, and should be handled with this motivation in mind (Forster, 1973). Thus, Taman Negara Pahang (TNP) is protected and preserved area in Malaysia for tourists to spend their leisure time and to carry activities themselves by becoming directly involved in the programmes that are provided by the park management.

Precisely, the area of the whole TNP is about 2477 sq km which is 57 percent of the overall area of the national parks in Peninsular Malaysia (DWNP, 1989). It is claimed to be largest area of national park in Malaysia followed by Taman Negara Kelantan at 1,043 km² and Taman Negara Terengganu at 853 km². The park has been developed as an ecotourism destination for local and international tourists due to the diversity factor of biological and geological attractions for tourism activities. One of the main attractions of TNP is climbing Gunung Tahan which is familiar as the highest mountain recorded in Peninsular Malaysia. The mountains are a physical feature of Peninsular Malaysia and located at the eastern area of the park.

TNP can be accessed by visitors through two entrances which are from Kuala Tahan, as the main entrance point and secondly from Sungai Relau, Merapoh as the alternative point. Both of entrances easily can be reached either by road, railway and river. The park headquarters are at the main entrance gate at Kuala Tahan. There are many recreational activities on offer for visitors at the Kuala Tahan and Sungai Relau entrance. However, there are differences between the types of recreational activities available between both entries. In general, Kuala Tahan offers more activities than Sungai Relau entrance because Kuala Tahan was developed first. The two entry points offer some similar activities and some activities unique to their own area, depending on the compatibility of the places as illustrated in Table 1.4.

Table 1.4 Activities offered at Kuala Tahan and Sungai Relau Entry Points

Place	Activities
Sungai Relau Entry Point	<ul style="list-style-type: none"> Climb Gunung Tahan 4WD Night Safari Night Walk Safari Cave Exploration River Activities Fish Feeding Bird Watching
Kuala Tahan Entry Point	<ul style="list-style-type: none"> Wildlife Observation Hides Canopy Walkway Cave Exploration River Exploration Fishing Bird Watching Climb Gunung Tahan Visit Orang Asli Settlements Rapids shooting and white water rafting

Source: DWNP, 2011

Sungai Relau Entry Point

According to the park management, the main activity here is climbing Gunung Tahan. The purpose of most of the visitors entering via Sungai Relau entry point is to experience a hiking expedition. This is because a hiking expedition only takes four days to reach the peak of Gunung Tahan which is three days shorter than period taken when starting from the Kuala Tahan entry point. Instead of gaining experience of the natural environment by hiking activities, a conservation function has been introduced for the visitors to see the Kelah fish sanctuary in which fishing is prohibited within the protected area. Feeding the fish at the sanctuary is a popular activity here in which the visitors can watch the fish close up in their natural habitat and feed them.

Visitors also have the opportunity to watch more than 300 species of birds that have been identified in the area for bird watching activities. The clear and cool river is perfect for swimming and tubing activity, even river trekking for visitors. There are two interesting caves nearby to explore. Firstly, Gua Gajah which is 5.5 km away and Gua Peningat at 8.8 km away from the Sungai Relau basement. An interesting activity at night with guides using flash lights to view nocturnal animals is the night walk safari and the 4WD night safari (DWNP, 2011).

Kuala Tahan Entry Point

The number of activities at the Kuala Tahan entry point is more than at the Sungai Relau entry point. Mostly, the visitors come here to enjoy the activities in the natural environment because the facilities and utilities are more appropriate at the Kuala Tahan entry point compared to Sungai Relau. The climbing activity is no longer the main activity here as the visitors or hikers have found that the track from the Sungai Relau entry point is shorter than from Kuala Tahan. However there is still a group of committed hikers who like to take a challenge to start and finish from the Kuala Tahan track. In Kuala Tahan, visitors can stay overnight at hides and observe wildlife visiting the salt licks nearby for wildlife observation activities, and visitors can experience the longest canopy walkway in the world at 550 m suspended 45 metres above ground to see the flora and fauna of Taman Negara (DWNP, 2011).

There are many beautiful limestone caves available from the Kuala Tahan entry point that visitors can visit such as Gua Peningat, Gua Telinga, Gua Daun Menari and Gua Besar for cave exploration activities. Meanwhile, for bird watching, the researchers or bird watchers can enjoy their chosen pursuit with 54 per cent of the 650 species of Malaysian birds found in TNNP. The different activities available from the Sungai Relau and Kuala Tahan entry points for visitors include the cool fishing spots at Sungai Keniam. The fishermen can camp out or stay overnight at Kuala Perikai fishing lodge. Another activity is to visit the Orang Asli or Aboriginal village to learn more about their culture and way of life and also to experience the thrill of the currents at Sungai Tembeling with rapid shooting and whitewater rafting (DWNP, 2011).

1.5 Study Site (Taman Negara Sungai Relau)

The overall objective of the establishment of national park is to preserve the flora and fauna within the area through various activities including research, education, legislation, recreation and ecotourism. Over the years, the increasing numbers of visitors have raised pressures on the tourism activities in Kuala Tahan and threatened with the most precious natural and historic resources of the world's reserves in the park. Therefore, the management of the park felt the need to create Sungai Relau as an alternative access point to TNNP with the purpose of reducing the impact of visitors or

tourists at the Kuala Tahan access point, apart from exposing other parts of the national park to visitors.

Thus, Sungai Relau is now a second TNP entrance gate placed on the western side of TNNP in Peninsular Malaysia. It is one of the entry points to TNNP, apart from Kuala Tahan on the Southern Side, Kuala Koh in Kelantan and Tanjong Mentong in Terengganu. The park became accessible to the public in August 1993. The park office of Sungai Relau is approximately 7 km from the small town of Merapoh, which is the halfway point along the main road from Kuala Lumpur to Kota Bharu, Kelantan. The nearest towns are Gua Musang about 30 km south of Kelantan and a 100 km north of Kuala Lipis, Pahang. It can also be accessed by the train service from Kuala Lumpur – Gemas – Tumpat. Figure 1.2 demonstrates the location of TNSR.



Figure 1.2 Map of location Taman Negara Sungai Relau, Merapoh Pahang.
Source; DWNP 2011

TNSR is similar to the other parts of national park in that also encloses a large area with biological diversity and geological resources. However, unlike Kuala Tahan, the unique and interesting aspect of Sungai Relau is that the area of the park still maintains its wilderness and natural habitats through restricting the development of infrastructure. Furthermore, the Sungai Relau entrance is the popular point for mountain climbing to Gunung Tahan because of the route to Gunung Tahan is a mere two days as compared to the longer track of five days from Kuala Tahan.

There is also 14 km of jeep trail that links Sungai Relau to Kuala Juram where the foot hills for climbing Gunung Tahan begin. At Sungai Relau (base camp), there is a Dormitory and a Chalet but no Restaurant. Some 14 km away at Kuala Juram there is a dormitory for the Gunung Tahan climbers. Meanwhile, Table 1.5 lists the charges at TNSR which imposes five types of charge. Nevertheless, each visitor to TNSR, like other parts of national park, must obtain an entrance permit which costs RM 1.00 per entry. Other charges depend on the activities the visitors wish to experience at the park.

Table 1.5 Charges for Permits and Licenses at TNSR

Permit and License	Charges (RM)
Entry permit	RM 1/entry
Campsite	RM 1/person and perday
Camera License	RM 5/unit
4WD to Kuala Juram	RM 12/person
Night walk	RM 15/person

Source; DWNP, 2011

The attraction of TNSR is the purity of the natural environment which is still maintained and most of the tourists currently acknowledge the beautiful pristine surroundings found in TNSR. TNSR received visitors' arrivals every year. The trend of visitor arrivals for the five years from 2006 to 2010 shows increase and decline due to fact that the area was not well developed during that year. Meanwhile, the lowest visitor arrivals were recorded in year 2009 because of the park was closed for two months due to a case occurred with one of the hiker groups during hiking to Gunung Tahan.

Table 1.6 exhibits the number of local and international visitors to TNSR. There were a total of 4035 Malaysian visitors (90.15 %) and 441 international visitors (9.85 %) in 2010 while 3737 (92.11 %) Malaysian and 320 (7.89 %) international visitors respectively arrived in 2006. In general, the trend of visitor to arrivals to TNSR fluctuates due to the difficulty of access for the visitors to the park area ecotourism activities for their leisure time compared to the Kuala Tahan entry point.

Table 1.6 Number of Visitors to TNSR from 2006 – 2010

Year	Malaysian Visitors	International Visitors	Total
2006	3737 (92.11 %)	320 (7.89 %)	4057
2007	3041 (91.05 %)	299 (8.95 %)	3340
2008	3141 (91.15 %)	305 (8.85 %)	3446
2009	2314 (88.69 %)	295 (11.31 %)	2609
2010	4035 (90.15 %)	441 (9.85 %)	4476

Source; DWNP, 2011

1.5.1 Sources of ecotourism attractions at Taman Negara Sungai Relau (TNSR)

TNSR is such a dreamland for wildlife observation or ecotourism activities because of the park is still maintains the cleanness and wilderness area for visitation. The parks are offers some truly unforgettable sights and experiences for the visitors. There are many forest trails in TNSR that can be experienced by the visitors. Among the popular trails are the Negeram Trail, Palas Trail and Gua Gajah Trail. The 0.5 kilometre interpretive trail provides as beginning to the rainforest and the ecosystem.

The Negeram Trail follows the river Sungai Relau and ends at Pasir Gelanggang passing through lowlands and swampy forests. The Palas Trail is about 1.6 kilometres long with some hilly terrain, peat swamps and lowland forest. The trail to Gua Gajah is about 5 kilometres long. Gua Gajah is a limestone outcrop and provides shelter for elephants during the monsoon. Inside Gua Gajah, there is group of guano and bats are found. The details of the attractions that are available in TNSR are shown in Table 1.7.

Table 1.7 Sources of Attractions at Taman Negara Sungai Relau

Attractions	Details of Attractions
1) Forest Trails	
Negeram Trails	<p>It is about 4.1 km long which starts from Sg. Relau to Pasir Gelanggang crossing the lowland and Negeram River and takes two to four hours to complete the journey. A variety of trees can be seen under the lowland forest such as Tualang, Merbau, Simpoh, Meranti, Neram and Bamboo.</p> <p>All sorts of shapes of limestone can be found along the journey and the fish can be easily observed from the riverbank such as at Kelah, Kejora, Tengah, Daun and others.</p> <p>Wildlife such as elephants and tapir are sometimes found here and camping sites are accessible at Pasir Gelanggang.</p>
Palas Trail	<p>The trail about 1.6 km long and just ventures 300 m from Sg. Relau with the hilly, peatswamp, and flat ground along the trail range. It takes only about one to two hours to complete the journey including time spent observing nature.</p> <p>This is the habitat of the Masked Finfoot aquatic bird and the hills and ridges are known for the Great Argus and Malay Peacock Pheasant only 200 m from Sg. Relau.</p>

Along the trail the main flora that can be observed includes Tualang, Seraya, Meranti and the palm species such as Palas and Kelubi. Some common wildlife is also found here such Wild Pig, Sambar Deer, and Barking Deer.

Kuala Juram – Kuala Luis Trail.

The trail takes about 5 km to traverse from Kuala Juram to Kuala Luis and normally takes around three hours for the complete journey.

At a height of about 306 metres, the trail is located between Sungai Luis and Sungai Tanum and a group of camping sites can be found along the trail.

There, the fresh, clear, and cool waters can be enjoyed from Sungai Luis and the river is full of fish fries and medium size fishes such as Kelah, Kejar, Tengas, Daun, Sebarau and others. This trail is also part of the route to Gunung Tahan.

Interpretive Trail

These trails reach out for 535 metres with a view of the tropical rainforest and its ecosystem. This trail is located approximately 20 metres from Sungai Relau office.

2) Activities

Climbing Gunung Tahan

From Sungai Relau – Gunung Tahan – Sungai Relau it takes four days while Sungai Relau – Gunung Tahan – Kuala Tahan takes seven days to complete the trek.

The trek will provide many experiences and is a challenge for trekkers to reach the peak of Gunung Tahan.

Night Walk and Night Safari

A 4WD vehicle is used to give visitor the experience of the park at night beginning at Sungai Relau headquarters to Kuala Juram and back to explore the adjoining oil palm plantation.

This activity starts at 8.00pm and continues until 12.00pm. Along the journey the visitor can see wildlife such as elephants, tigers, civets, tapirs and marble cats and tourists are advised to bring their own flash light.

Nocturnal wildlife can be observed along the Jeep track to Kuala Juram either by foot or park vehicle or along other trails.

Visitors have a chance to watch Elephants, Flat-Headed Cats, Foxes, Panthers, Tapirs, Mouse Deers, Barking Deers, Owls, and nocturnal birds and bats.

Bird Watching

Sungai Relau is among the best appropriate locations for bird watching because of the low number of visitors and the reduced impact on the park site.

Tourists need to walk for 2-5 km along the Jeep track which enables the visitor to watch the numerous species of Hornbills, Eagles, Woodpeckers, Kingfishers, Thrushes, Forest Magpies, the Crested Fireback, and Doves.

The call of the Great Argus can sometimes be heard along the trail. More than 200 species have been seen over 3 – 4 days by expert bird watchers.

A pair of binoculars and a good guidebook is essential to enjoy bird watching in the park.

Fish feeding

This is a designated fish sanctuary especially for the Mahseer fish (kelah) species, so here fishing is prohibited at all times.

A popular activity here is to watch the freshwater fish up close in their natural habitat and summoning them with a ringing bell to come to feed.

Wildlife Observation

This activity can be done during the day along the Jeep Track or any other trails. Tourists can find along the trail indirect signs left by wildlife such as elephants, tapirs, tigers, bears, wild dogs, monitor lizards, binturong, various species of primates, squirrels and others.

Nevertheless, wildlife here is more often heard than seen due to the dense forest cover which is the same as for other tropical rainforests.

3) Limestone Caves

Peningat Cave

The biggest limestone range in Peninsular Malaysia is situated 8.8 km from Sg. Relau and it takes about three hours to reach there by trail. A campsite for visitors is available at the Kuala Cheruai Camp.

During the Japanese Occupation, this cave was used as headquarters for members of Force 136 and there are still artefacts provided by the locals who lived during the Force 136 control of the cave.

Old writings on the cave wall are evidence of prehistoric human dwellings. During the flower season, the wild honeybees will use the cave as a sanctuary for collecting honey or to breed.

Gua Gajah

Located 5.5 km from Sg. Relau, the cave can be reached by jungle trail and takes around two hours. Visitors can find wildlife there such as elephant tracks and droppings and also bats, swallows, snakes and various insects. Visitors can reach Sungai Tanum from this point.

Source; DWNP, 2011

1.6 Problem Statement

National parks are one of the ecotourism destinations that are becoming extremely popular in the tourism industry. National parks are defined as sites with one or a number of ecosystems whether of plant and animal species and their habitats, or landscapes of great beauty for which they are valued for a range of specialized purposes that have not been extensively distorted by human exploitation and occupation (Gulez and Sumer, 1992). It is important for the preservation of objects and areas with very important aesthetic and historical value, and for recreational purposes. Moreover, national parks are usually location for activity such as research, education, legislation, and recreation and in recent years particularly for ecotourism activities.

Thus, in order to promote environmental conservation, the government has to charge the public to enter the national park as commonly implemented by many other countries as implemented by the United States and Canada on their protected areas (Sharpley and Sharpley, 1997). In Malaysia, most of the established protected areas or nature-based-tourism areas also had been charge visitors for an entry permit which is also the practice at TNSR. At present, visitors are charged at RM 1 per entry to enjoy the TNSR ecotourism resources. In fact, the management of TNSR informed that the cost of the entrance permit has not increased for over 18 years.

Due to this low permit charge, the number of visitors entering TNSR keeps increasing which may cause environmental damage if the large number of arrivals is not monitored properly and exceeds the TNSR carrying capacity (Sjaifuddin, 2004). Besides, the entry permits are set the same rate for both local and foreign tourists who are really not paying enough and this could cause the market to fail due to users not paying the full cost of using the natural resources in the national parks. The cost of the park permit should be set appropriately, so that some revenue could be obtained from those with the ability to pay (e.g. foreign tourists) while remaining affordable for lower income groups (e.g. local and regional tourists, students and pensioners) as a subsidy as is commonly practically practiced in developed countries.

The revenue from an increase of entry charges is needed as a financial resource for maintenance in terms of facilities, human capital and inventory and also to prevent overcrowding and environmental damage in the national park area. The conservation of environmental resources will bring benefits to the visitors and it is important to ensure the sustainability of the ecotourism resources at TNSR. By increasing the entry permit, it will increase visitors' awareness and concerning attitude towards the importance of natural resources conservation, so as to increase the willingness of the visitors to pay appropriate fees to maintain the natural environment. Ideally, this study will attempt the information on how much people are willing to pay for the conservation at TNSR and estimate the benefit of TNSR ecotourism resources conservation by visitor's WTP. Field and Field, (2002) indicated that benefit would be taken away from them, in fact being damage while the environment is cleaned and when the environment is allowed to deteriorate in quality.

Therefore, an economic valuation should be applied to answer the issues mentioned above. This approach involves a broad range of concerns of society on environmental values which are to be incorporated into policy decisions. Relevant public attitudes and motivation are to be obtained which can be useful for environmental conservation purposes. An understanding of the attitudes of the public towards management and protection of natural resources will assist the government and the authorities concerned to be successful in resolving these issues. In this connection, understanding and incorporating these attitudes into the planning stage is essential in developing effective information, communication, programmes and strategies.

In order to determine the best level of entrance permit to be charged, it is necessary to find out how much the visitors are willing to pay in order to enjoy the ecotourism resources at TNSR. This will also allow the management to determine the benefits of developing tourism resources, while at the same time plan for the park development using the limited resources available. Additionally, the perceptions and opinions of visitors regarding tourism development in TNSR will be useful information for the management to appraise the level of satisfaction towards the facilities and services.

1.7 Objective of the Study

The general objective of this study is to estimate the conservation value of ecotourism resources in TNSR. The specific objectives of the study are:

1. To determine the visitor's perceptions and satisfaction with regard to the ecotourism facilities and services in TNSR;
2. To determine the visitor's attitude toward sustainability of ecotourism resources at TNSR; and
3. To determine the visitor's willingness to pay (WTP) for conservation of the ecotourism resources at TNSR.

1.8 Significance of the Study

This study is intended to capture the benefit of ecotourism resources at Taman Negara Sungai Relau, Merapoh, Pahang. This study will also attempt to obtain more information concerning the description of the visitors' perceptions, attitudes and their willingness to pay (WTP) for ecotourism resources at TNSR.

The findings of the research can be significant to help the consumers, TNSR management, tourism operators and policy makers to identify real concerns and issues which could be useful for developing and implementing new entry permits by revising the current entry rate for the natural attractions at TNSR. The results of this study could help the decision makers in other countries to tackle the financial issues of their own natural attractions for nature-based-tourism channels. Moreover, it can be helpful to identify which factors are threatening the quality of visitor's perceptions and satisfaction of enjoying ecotourism resources at TNSR. Furthermore, the tourism industry generates substantial financial income for the park management, which is essential to support nature conservation. It also provides job opportunities for the local community and will increase the standard of living in the area while the financial revenue generated from tourism supporters contributes to further nature conservations at TNSR.

This study can also be an important source for academicians and for public education to obtain a better understanding of sustainability of ecotourism resources in a protected area. The public education programme will increase knowledge, awareness, and consideration from society to sustain the natural resources for future generations. Moreover, no known research has attempted to explore the subject in terms of sustainability of the ecotourism resources at TNSR. As far as is known, this is the first study to attempt to examine the WTP of respondents at TNSR for the natural attractions. Therefore, the result of this study can provide a significant contribution for future literature reviews concerning the conservation of ecotourism resources and perhaps stimulate further research in this area.

1.9 Organization of the Thesis

This thesis is organized into five chapters. Chapter 1 contains the background of the study, the problem statement, objectives of the study, the significance of study, and provides information about Taman Negara Sungai Relau, the flora and fauna, and places of interest that can be enjoyed by visitors. Chapter 2 provides the literature review and a conceptual frame work which is related to relevant previous studies.

The methodologies and econometric models used in this research are explained in Chapter 3. The description contains a general approach used to analyze the research, the data sources, questionnaire design, and also the model and data analysis. The chapter also includes the identification of validity of respondents on their willingness to pay for the entrance permit at TNSR.

The empirical result of this study will be presented and discussed in Chapter 4 and the final chapter as Chapter 5 will present a summary, limitation and conclusion of the study.

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