UNIVERSITI PUTRA MALAYSIA

WILLINGNESS TO PAY FOR MARINE CONSERVATION OF TUN SAKARAN MARINE PARK, SEMPORNA, SABAH, MALAYSIA

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WILLINGNESS TO PAY FOR MARINE CONSERVATION OF TUN SAKARAN MARINE PARK, SEMPORNA, SABAH, MALAYSIA

By

NORASILAH BINTI LATIFF

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

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the Degree of Master of Science

WILLINGNESS TO PAY FOR MARINE CONSERVATION OF TUN SAKARAN MARINE PARK, SEMPORNA, SABAH, MALAYSIA

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NORASILAH BINTI LATIFF

June 2016

Chairman : Syamsul Herman bin Mohammad Afandi, PhD
Faculty : Forestry

Tun Sakaran Marine Park, Semporna, Sabah (TSMP) is a marine conservation area located in the water of Sulu Sea, Semporna, Sabah, Malaysia. Located in the Coral Triangle area that spans from Malaysia to the Solomon Islands, TSMP is rich in marine biodiversity. These resources have been attracting tourists to TSMP for many years. TSMP was gazetted as a Marine Park in 2004 and currently managed by Sabah Parks. Since the establishment, the statistics show increasing visitor arrivals. There is no entrance fee to TSMP, tourist are only required to pay for the jetty fee, which is RM2 for domestic tourists and RM10 for foreign tourists. This study is aimed to determine the values of marine conservation in TSMP by assessing the willingness to pay of tourists (WTP). In addition, the study also determined the factors influencing tourists' willingness to pay for marine conservation in TSMP. Contingent Valuation Method (CVM) was employed to elicit the values of WTP. The determination of these values directly represented the actual values of TSMP area in Ringgit Malaysia (RM). From the monetary value, level of awareness amongst tourists towards conservation program can be illustrated. Another significant contribution is that the estimated WTP suggested a range of preferred price for conservation fee TSMP from tourists' perspective. Data was collected in series of face-to-face surveys. A total of 305 useable questionnaires were obtained and used in the analysis. The respondents were 18 years old and above towards tourists visited TSMP. The questionnaire comprised of four main structures which were visitation characteristic, measurement of satisfaction level, WTP and socio-demography. Using the Dichotomous Choice format, six level of bids amount were provided. The Ordinary Least Square Regression (OLS) analysis was conducted to determine the WTP model values by using the Statistical Package for Social Sciences (SPSS). The findings of the OLS analysis were founded 4 variables significantly influencing the values of WTP. Next, from the results of OLS analysis used to conduct the WTP model. The findings of the analysis showed that, most of the tourists are willing to pay for marine conservation towards 4 dimensions. There are (RM1.351 number of educational year), (RM3.662 Motives of visits: Business and Professional),

(RM2.555 Characteristic of site: Variety of Recreational Activities) and (RM2.187 Gender). The WTP (CS) value for marine conservation in TSMP is RM1.887 per person/ visit/year. From this, it was found that, most of the TSMP tourists were concerned on marine conservation program. Otherwise, this showed that the tourists were willing to pay to maintain the quality of natural resources in TSMP. The findings of this study will be useful for the park management to making decision for the applicable of conservation fee in TSMP. Other than that, it will help the management park to improve the quality of managing towards to control tourists' behaviour in TSMP area.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk Ijazah Sarjana Sains

KESANGGUPAN MEMBAYAR TERHADAP KONSERVASI MARIN DI TAMAN LAUT TUN SAKARAN, SEMPORNA, SABAH, MALAYSIA

Oleh

NORASILAH BINTI LATIFF

Jun 2016

Pengerusi: Syamsul Herman bin Mohammad Afandi, PhD
Fakulti : Perhutanan

Taman Laut Tun Sakaran, Semporna, Sabah (TSMP) adalah sebuah kawasan konservasi marin yang terletak dibahagian Laut Sulu, Semporna, Sabah, Malaysia. Terletak di kawasan Segi tiga Terumbu yang menjangkau dari Malaysia ke Kepulauan Solomon, TSMP kaya dengan biodiversiti marin. Sumber-sumber ini telah menarik minat pelancong untuk ke TSMP sepanjang tempoh pembukaan TSMP kepada umum. TSMP telah diwartakan sebagai Taman Laut pada tahun 2004 dan terletak dibawah pengurusan Taman Sabah. Sejak penubuhan, statistik menunjukan peningkatkan ketibaan pelancong. Tiada bayaran masuk yang dikenakan kepada pelancong yang memasuki ke TSMP. Pelancong hanya perlu membayar yuran jeti, RM2 untuk pelancong domestik dan RM10 bagi pelancong luar negara. Tujuan kajian ini adalah untuk menentukan nilai-nilai pemuliharaan marin di TSMP dengan menilai kesanggupan membayar pelancong (WTP). Di samping itu, kajian ini juga adalah untuk menentukan faktor yang mempengaruhi kesanggupan membayar pelancong bagi aktiviti pemuliharaan marin di TSMP. Kaedah *Contingent Valuation Method* (CVM) telah digunakan bagi mendapatkan nilai-nilai WTP. Penentuan nilai-nilai ini, secara tidak langsung dapat menterjemahkan nilai sesebuah kawasan khususnya TSMP dalam bentuk Ringgit Malaysia (RM). Kajian ini juga dapat memberi gambaran secara umum, peringkat dan tahap kesedaran pelancong terhadap pemuliharaan dan pemeliharaan sumber semulajadi. Ini dapat membantu pihak pengurusan untuk menentukan kadar yuran konservasi yang bersesuaian di TSMP dari perspektif pelancong. Pengumpulan data dilakukan dengan menggunakan borang soal selidik dan sesi soal jawab secara bersemuka. Sebanyak 305 borang soal selidik digunakan dalam analisis. Responden adalah terdiri daripada pelancong yang melawat ke TSMP berumur 18 dan keatas. Kajian ini menggunakan borang soal selidik yang mengandungi empat struktur utama iaitu, bahagian penyertaan pelancong, bahagian tahap kepuasan pelancong, bahagian WTP dan sosio demografi. Di dalam bahagian WTP, ia melibatkan penggunaan format *Dichotomous Choice* dan mempunyai 6 tahap harga bida yang berbeza. Analisis *Ordinary Least Square Regression (OLS)* telah digunakan bagi model WTP. Kajian ini

telah menggunakan pakej *Statistical Package for Social Sciences (SPSS).* Hasil daripada analisis OLS mendapati, 4 pembolehubah mempengaruhi nilai-nilai WTP. Seterusnya, keputusan daripada analisis OLS telah digunakan untuk model WTP. Hasil analisis ini menunjukkan, bahawa nilai WTP pelancong adalah berdasarkan 4 dimensi bentuk pembayaran. Iaitu *(RM1.351 number of educational year), (RM3.662 Motives of visits: Business and Professional), (RM2.555 Characteristic of site: Variety of Recreational Activities) and (RM2.187 Gender).*Manakala, bagi nilai WTP (CS) terhadap konservasi marin di TSMP ialah RM1.887 per individu/lawatan/tahun. Hasil akhir daripada analisis ini nilai WTP pengunjung terhadap konservasi marin di TSMP. Daripada hasil kajian ini, dapat membantu pihak pengurusan taman untuk menentukan jumlah kesesuaian bayaran yuran konservasi untuk TSMP. Selain daripada itu, dapat membantu pihak pengurusan untuk meningkatkan lagi kualiti pengurusan mengawal perilaku dalam perspektif pelancong di kawasan TSMP.

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I certify that a Thesis Examination Committee has met on 24 June 2016 to conduct the final examination of Norasilah binti Latiff on her thesis entitled "Willingness to Pay for Marine Conservation of Tun Sakaran Marine Park, Semporna, Sabah, 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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This is to confirm that:

- the research conducted and the writing of this thesis was under our supervision;
- supervision responsibilities as stated in the Universiti Putra Malaysia (Graduate Studies) Rules 2003 (Revision 2012-2013) are adhered to.

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LIST OF ABBREVIATIONS

UNTWO	World Tourism Organization
ETP	Economic Transformation Programme
TSMP	Tun Sakaran Marine Park
IUCN	International Union for Conservation Nature
FRIM	Forest Research Institute Malaysia
SIW	Shadegan International Wetland
TNPP	Penang National Park
WWF	World Wide Fund for Nature
NGO	Non-Government Organization
MPA	Marine Protected Area
SCUBA	Self-Contained Underwater Breathing Apparatus
EV	Economic Valuation
SP	Stated Preferences
RP	Revealed Preferences
WTP	Willingness to Pay
WTA	Willingness to Accept
TCM	Travel Cost Method
CVM	Contingent Valuation Method
CM	Choice Modelling
CE	Choice Experiment
RUM	Random Utility Model
ABM	Attributes-Based Method
CS	Consumer Surplus
DV	Dependent variable
IV	Independent variables
SI	Satisfaction Index
GN	Gender
LE	Level of education
ICN	Income
AP	Activities participate
FAV	Factor attracting of visit
OLS	Ordinary Least Squares Regression
SPSS	Statistical Package for Social Sciences

CHAPTER 1

INTRODUCTION

1.1 General Background

The tourism industry is providing multi benefit through economic, social, cultural and environmental natures. This industry also serves and generates employment directly and indirectly with the growth in other related industries. Thus, tourism industry is a key driver of socio-economic progress through export revenues, the creation of jobs, and infrastructure development. It is also as one of the contributors to economic growth. The World Tourism Organization (UNWTO) (2014), reported that international tourists' arrivals (overnight visitors) grew by 5% worldwide in 2013, reaching a record of 1087 million arrivals, after topping the 1 billion mark in 2012. Table 1.1 show, Asia and Pacific recorded the strongest growth with a 6% increase in arrivals on year 2013. Followed by Europe and Africa both countries increased by 5%. In the Americas, international arrivals grew by 3%, while percentage international tourists' arrival in the Middle East they were flat.

Table 1.1: Statistic International Tourists Arrivals

	International Tourists Arrivals (million)						
World continents	1990	1995	2000	2005	2010	2012	2013
Europe	261.1	304.0	388.2	448.9	484.8	534.4	563.4
Asia and the Pacific	55.8	82.0	110.1	153.5	204.9	233.5	248.1
Americas	92.8	109.1	128.2	133.3	150.6	162.7	167.9
Africa	14.7	18.7	26.2	34.8	49.9	52.9	55.8
Middle East	9.6	13.7	24.1	36.3	58.2	51.7	51.6

Source: The World Tourism Organization (UNWTO), (2014)

Referred to Table 1.2, China recorded received highest international tourists (55,622 million). Followed by Hong Kong was presented in second ranked received international tourists (27,770). Malaysia presented in third ranked received international tourists (27,437 million). Where, on year 2010 to 2013, statistic international tourists' arrivals in Malaysia represent increased volume.

Table 1.2: Statistic International Tourists Arrivals in Asia and Pacific

International Tourists Arrivals (million) in Asia and Pacific				
Destinations	2010	2011	2012	2013
China	55,665	57,725	55,686	55,622
Hong Kong (China)	20,0852	23,770	25,661	27,770
Japan	8,611	8,358	10,364	13,413
Korea (ROK)	8,798	11,140	12,176	14,202
Macao	11,926	13,577	14,268	14,566
Mongolia	456	476	418	393
Taiwan	5,567	7,311	8,016	9,910
Brunei	214	209	225	..
Cambodia	2,508	3,584	4,210	4,503
Indonesia	7,003	8,044	8,802	9,435
Laos	1,670	2,140	2,510	..
Malaysia	24,577	25,033	25,715	27,437
Myanmar	792	1,059	2,044	3,081
Philippines	3,520	4,273	4,681	4,833
Singapore	9,161	11,098	11,898	11,858
Thailand	15,936	22,354	26,547	24,780
Vietnam	5,050	6,848	7,572	7,874
Australia	5,790	6,032	6,382	6,868
New Zealand	2,435	2,473	2,629	..
Papua New Guinea	140	168	174	..
Bangladesh	303	125	148	..
India	5,776	6,578	6,968	7,703
Iran	2,938	3,834	4,769	..
Maldives	792	958	1,125	1,205
Nepal	603	803	798	..
Sri Lanka	654	1,006	1,275	1,527

Source: The World Tourism Organization (UNWTO), (2014)

Malaysia is one of the developing countries that have grown fast in its economy. The tourism industry is a significant contributor to the growth of the Malaysian economy. Throughout the world, tourism has been acknowledged as a tool for bringing economic benefits to a country or a specific region (Eccles, 1995 & Mastura et. al, 2012). The Economic Transformation Programme (ETP) (2013) also reported that, tourism sector is a major contributor to the Malaysian economy (12.5%) in 2012. The Department of Statistics Malaysia (2013) reported that, at the end of 2012 the tourism sectors have presented 10.2% of its contribution to the Malaysian economy. In the tourism sector,

both the domestic and international tourists' arrivals have shown an increasing trend. A total of 33.7 million visitors' arrivals were recorded in 2012 compared to 32.8 million in 2011, an increase of 2.9% (Department of Statistics, 2013). This increased proportion is affected by a diversity of factors (Nuva et. al, 2009) i.e. the uniqueness of the destination; variety of tourism activities; accommodation facilities, etc.

As is popularly known, the tourism industry in Malaysia is based on its culture, handcrafts, food, traditions, sports, agro-tourism, geological, eco-systems and natural resources. Malaysia's greatest tourism strength is in its fascinating nature with all year round sunshine, cultural diversity and friendly people; leisure, business-related events and shopping which are very often the most attractive activities for tourists; entertainment; beach and island tourism are increasingly becoming some of the major areas where tourists spend much time (Mosbah et al., 2014). Malaysia has a variety of biological resources which includes terrestrial and marine areas compared to others countries in South East Asia. In the terrestrial area, Malaysian forest ranges from lowland forest, wetland forest, hill forest up to Mountain forest. In addition, the Malaysian ecosystem also has 397 species of reptiles (Das et al., 2005), 298 species of mammals (Davison et al., 2005), 742 species of birds (Jeyarajasingam, 2005). Natural resource is symbiosis to the Malaysian tourism industry. Ecotourism is a part of the tourism industry utilising natural resources as one of its attractions.

As awareness on nature expands, this has promoted the development of ecotourism as one branch under tourism industry. According to Lindberg & Hawkins (1993), ecotourism is a responsible travel to natural areas which conserves the environment and improves the welfare of the local people. Ecotourism can be defined as nature based, environmentally educated and sustainably managed (Blamey, 2001).

The significance of the marine ecosystem in Malaysia as ecotourism resources is invariably important. Marine areas are one of the places that have been utilised as destinations for ecotourism activities. Thus, ecotourism in marine conservation areas are intended to ensure the sustainability of resources, to raise awareness and also to educate the individual closely for preserving biodiversity. Besides that, a marine area provides a variety of recreational activities such as SCUBA diving, snorkelling and many more water-based activities.

In Malaysia, Tun Sakaran Marine Park (TSMP) Sabah, is one of popular marine based ecotourism site. Montagne, et. al (2013), indicated that TSMP provides as much as 21 prestigious SCUBA diving sites, for example, Tabah Siramba (Church Reef), Kapikan Reef, Ribbon Reef, Mantabuan, and Sibuan Reef. Divers and snorkelers enjoy various attractive marine lives, such as turtles, eagle rays, barracudas, bumphead parrotfish, *Nudibranchs*, and recently discovered sponges. More than 600 species of fish and at

least 250 species of corals, summarising fragmented studies of coral species' richness around Malaysia, reported a total of 323 species (Montagne, et al., 2013). Around the reefs, 265 species of molluscs occur, and there may be as many as 140 species of sponges, 70 species of soft corals, and at least 50 species of gorgonians.

1.2 Conservation and Ecotourism Industry

Generally, conservation is considered as preservation and protection programme of natural resources with restoration efforts. It is to protect animals, plants, monuments, sites and buildings. Nowadays, most of the countries are greatly concerned with conservation activities. This can be seen through various conservational programmes organised either by implementing the In-situ or Ex-situ method (Wanjui, 2013). In-situ refers to the conservation of biodiversity in their natural habitat. i.e Wildlife Sanctuaries, National Park and Marine Park. While, ex-situ is the conservation of biodiversity by using out of the context natural habitats i.e Zoo, Botanical gardens and Seed banks. Conservation programmes are also intended to protect and preserve the natural resources, particularly for the threatened species. According to Ficklin (2012), conservation is not only important for animals, but also to all living things. Furthermore, conservation biodiversity includes securing valuable natural resources for the future generation. Therefore, conservation has a higher probability of being successful if it is backed up by public support (Rosalino, 2012).

The greatest effort to maintain quality and quantity to all living, is the sustainability of conservation which is important. For instance, the Marine Park, Wildlife Reserves, Wildlife Sanctuaries, National Parks, Natural Heritage Sites, Species Recovery Programme and all protected areas are common practices to conserve natural resources. The International Union for Conservation Nature (IUCN) has introduced the Protected Areas Categories System to maintain and conserve the natural resources. The categories are recognised by international bodies such as the United Nations and by many national governments as the global standard for defining and recording protected areas and as such are increasingly being incorporated into government legislation (IUCN, 2014).

Nowadays, a variety of methods is being introduced to encourage self-awareness of individuals on the importance of natural resources and conservation. For example, recreational activities in conservation areas, campaign of natural resources and education programme are closely related with natural resources. Ecotourism activities are a simple way to raise the self-awareness of tourists. This can be proven when most of the countries have applied this method to ensure the sustainability of natural resources, as well as to encourage self-awareness among tourist.

Ecotourism in marine areas is a unique existing tourism in Malaysia. Ecotourism may provide positive impacts particularly for the local communities' economy i.e an improvement in employment and income for local communities. Jalani (2012) pointed out that ecotourism is one strategy for supporting conservation and providing income for communities and also for the surrounding protected areas. Despite this, ecotourism may not always give a positive impact. Sometimes recreational activities in the ecotourism area give a negative impact such as the damage and extinction of natural resources, particularly for marine life. Successful ecotourism initiatives may draw increasing interest and a correspondingly higher number of tourists, thus intensifying negative impacts such as solid waste generation, habitat disturbance, and trail erosion (Caroline et. al, 2010). Thus, determination of natural resources values will help to increase the level of appreciation individual towards natural resources.

1.3 The Importance of Economic Valuation of Marine Resources

The evolution of technology has been effecting the demand on natural resources. This factor has affected a number of exploitation on natural resources. The main problem is on the development and uncontrolled usage which could lead to extinction and degradation of biodiversity. The conservation of natural resources and sustainable development is important, because it will be given a positive impact to the socio-economic development of the country. Malaysia generally, has a rich biodiversity of resources.

According to Mazlan et al. (2005), Malaysia has 650,000 ha of mangrove forest comprising 104 species and ranked second after Indonesia with 4.25 million ha. The mangroves in most parts of the Malaysian coastal waters have suffered heavily from human impacts which include illegal cutting, conversion to other uses (such as marine culture and other forms of coastal development) and possible land based industrial pollution.

Malaysia has one of the richest coral reefs and marine resources in Southeast Asia (Muhammad Mehedi et. al, 2015). This type of marine resources is one of the key element that usage in tourism industry. Besides that, marine resources also use as an attraction component in certain area of tourism. Arin et. al (2002) mentioned that, Dive tourism has received increased attention for its promising role in financing coral reef conservation. Indirectly, it will affect the marine resource such as coastal damage, pollution and physical waste. The carrying capacity is a factor that affects the damage of marine resources. The high level of usage may result in conflicts between users, the social and biological carrying capacity, limits of acceptable change and potential environmental degradation (Jamal, 2013).

To solve the destruction issue of marine biodiversity, an assessment of the marine biodiversity resource is needed and it can be illustrated in terms of money (Thalany, 2014). Economic valuation (EV) has become a trend to evaluate the values of biodiversity resources. EV have several techniques which can assist in the decision making process. Naido (2008) quoted that an EV on the tropical nature can play an important role in the conservation of biodiversity in developing countries. Thus, it is necessary to optimise the utilisation of marine resources. The EV is a possible way to measure the value of marine resources based on the individual preference. Christie (2007), cited that EV techniques have therefore been developed to measure the value (consumers' surplus) derived from the recreational use of environmental resources such as forests.

Furthermore, EV is able to control the utilisation of marine resources EV method. It may also help the marine management perspective. Therefore, the value of marine resources can be evaluated by using the EV method, while the value will be illustrated in currency. It has been proven by Nuva (2009), EV can help economists, government, and society to predict the impact of economic decision and activities on the environment and resources, and also to identify and estimate the monetary value of all economic benefits that society derives from environmental resources. Based on the values of willingness to pay (WTP) by tourists, it will affect the level of appreciation among tourists towards marine resources consumption. Hence, the value of marine conservation area and the value of the sources can be illustrated.

The purpose of EV towards conservation is valuation which can provide information that can directly inform conservation policies, such as payment levels for the payment of environmental services (PES) policies, or entrance fees for protected areas (Chase et al. 1998). According to Mazlan et al., (2005), EV studies can be used in a general sense to demonstrate that the conservation of nature can result in tangible economic benefits to people. The result of values can either be directly compared to other potential uses of land through cost benefit analysis (Pearce 1998) and it can be used to raise awareness among users. In addition, EV is to enhance the well-being of individuals. Through EV, individuals judge resources by giving their willingness to pay and willingness to accept in certain circumstances.

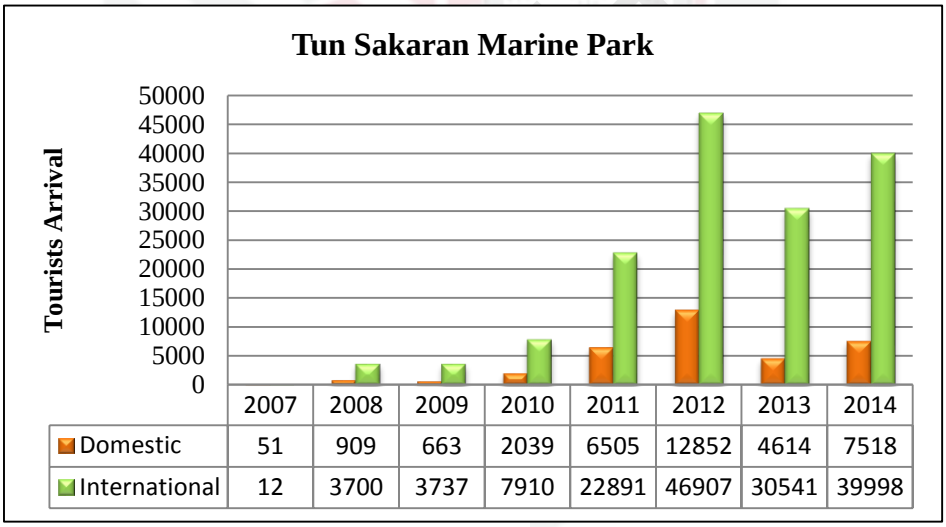
1.4 Tun Sakaran Marine Park

Semporna Management Plan (2001), Tun Sakaran Marine Park (TSMP) is classified as one of the marine conservation areas in Malaysia. TSMP is situated off the south-east coast of Sabah, East Malaysia (Wood et. al, 2008) and located in Semporna Sabah. Currently, TSMP is managed by Sabah Park. It covers 350sq ha of sea and land area. TSMP was gazetted as a protected area in 2004. The main objective for the

establishment of TSMP is to protect the environment and to promote sustainable natural resources.

TSMP comprised of 8 islands which are Bodgaya Island, Boheydulang Island, Tetagan Island, Selakan Island, Sebangkat Island, Maiga Island, Sibuan Island and Mantabuan Island. These islands are rich in the variety of biological resources from the underwater and terrestrial, for example, the coral life, seaweed and variety of fish species and forest. According to Wood et. al 2008, TSMP is home to several uniqueness species of coral reef i.e *Montipora*, *Acropora*, *Clavularia* and *Xenia*. The richness in marine biodiversity have attracted tourists to TSMP. Many of which participated in marine based recreational activities such as snorkelling, island hopping and more vigorous activities such as SCUBA diving.

1.5 Problem Statement



	2007	2008	2009	2010	2011	2012	2013	2014
Domestic	51	909	663	2039	6505	12852	4614	7518
International	12	3700	3737	7910	22891	46907	30541	39998

Figure 1.1: Tourists Arrival Statistic in TSMP
Source: Sabah Park, (2015)

The tourists' arrival statistic of TSMP (2007 to 2014) indicates that TSMP is becoming an increasingly important marine ecotourism destination in Malaysia. The statistic of tourists' arrival in year 2007 shows that, TSMP was only visited by 63 tourists. This increased on a yearly basis and in 2012 the highest number of tourists visited TSMP was 59,759 tourists (Figure 1.1). However in 2013, the number of tourists declined to 35,155. While in 2014, it showed that there was an improvement in the arrival amounting to 47,516 tourists. Despite the increased volume of tourists occurring from year to year, user fees i.e conservation fees or entrance fees for tourists visiting TSMP

remain unchanged. The only payment is for jetty fee in Semporna, which are RM2.60 (domestic) and RM10.60 (foreign).

The increasing number of tourist arrival in TSMP may lead to excessive use of the resources in the marine park. For example, ecotourism activities like diving, snorkeling and nature walk which are provided by park management may have a negative impact toward the environment of TSMP if the number users exceed the capacity. Garrabou et al., (1998) & Siti Aznor, (2009) have mentioned that the recreation industry has caused small but significant localized damage to the coral reef but the damage can be very severe if tourists lack understanding about the delicacy of the corals. The effects may become very severe if measures are not taken to control these issues. Charging fees would be an approach to control the number of tourists (Nuva et al., 2009) and can be used as a source of fund for conservation of the marine resources in TSMP. Emang et al. (2016) pointed out that the issues are concerned with regards to how and to what degree such conservation activities should be financed, and the debate largely discusses on two sources, namely government funding in some form and user fees in various forms, often in combination. The determination of the user fee becomes the main concern of the study.

According to the Sabah Park Annual Report (2010), the federal government had allocated more than 3.7% in 2010 (RM23,913,812), compared to 2009 (RM22,205,305) for the purpose of managing the marine park in Sabah including TSMP. Other than that, the Sabah Park had received sponsorships from the Marine Conservation Society Ltd. Grant, Global Diversity grant, Philippines International Conservation grant, Malaysian Nature Fund grant and Japan International Cooperation Agency grant. These grants have been utilized for the development of facilities and conservation activities at Marine Park in Sabah include TSMP. These efforts are undertaken to provide the maximum level of satisfaction for tourists during their visits in TSMP. It is involved in terms of financing to the development of TSMP. Hence, to justify the financing of the conservation and development, it is necessary to apply economic approach to reveal the benefits from the use of recreational resources which will be measured in terms of economic value, that is, the willingness to pay.

1.6 Objectives of The Study

The general objective of the study is to estimate conservation value of marine ecosystem in Tun Sakaran Marine Park as a marine protected area. The specific objectives of this study are listed below:-

1. To identify the characteristics of tourists visiting TSMP,

2. To determine willingness to pay of tourists for conservation of marine ecosystem in TSMP,
3. To determine factors that influence tourists willingness to pay for conservation of TSMP.

1.7 Significance of Study

This study will contribute significantly to the state government, Sabah Park, academician, tourists and also to the local communities in Semporna Sabah.

1.7.1 State Government and Sabah Park

The findings pertaining to this study could help the management of the park to manage more effectively and productively. As mentioned in (Section 1.3), TSMP is known as an ecotourism and marine conservation area. TSMP can be identified as the storage of biodiversity resources, especially for marine life. An assessment on the willingness to pay (WTP) among tourists, can help the managing agencies making decisions for the applicability of conservation fee in TSMP. The value of WTP can be used as a guideline to determine a 'Market price' as conservation fee to the TSMP. Other than that, the conservation fee can be used as a tool to control the number of tourists' arrival, should there be any negative impact towards the marine resources. This research will also help to illustrate the values of the TSMP area in terms of monetary values.

The study will adopt a Contingent Valuation Method where hypothetical scenarios will be illustrated to the respondents. A set of Double bounded dichotomous choice will be made available to respondent for them to choose from. Hence, the findings could give the managing authority a series of management option's and how much the impact would be towards TSMP, even before the charges took place. Besides that, based on the characteristics of visit, it will help the management park to improve the quality of managing TSMP especially to control the tourists' behaviour on characteristics of visit and satisfaction level. Besides, this study will also provide information on tourists' socio-demographic background, and tourists' perception in TSMP. This information can be used by agencies (Sabah Park) for marketing tourists to TSMP.

1.7.2 Literature

The result of this study may also help to add more sources of reference for researchers and academics especially in the field of economic valuation, tourism and marine conservation. This is because of the lack of review sources and studies relating to the

economic valuation in the TSMP area. This is reflected, mostly in the reviews and references about TSMP area which were focused on the species and quality coral reef. Thus, the economic valuation (EV) study is very important for the marine conservation area. Based on the finding values of EV, it may show the real value of the area in terms of monetary values. Indirectly, this could increase the level of awareness of tourists and local communities. Also, it always ensures that the quality and sustainability of the natural resources in the area is at a high level.

1.7.3 Tourist and Local Communities

The findings of this research could help the management of park to improve the service and facilities in the TSMP. Consequently, it will be more beneficial to tourists particularly the values of experience and level of satisfaction from their visit. It is also able to enhance the level of tourist awareness by preserving natural resources. Besides tourists, this research can also provide benefits to local communities. This is an influence by the good management which will increase the number of tourist arrivals and subsequently enhance to create employment opportunities to the local communities.

1.8 Theoretical Framework

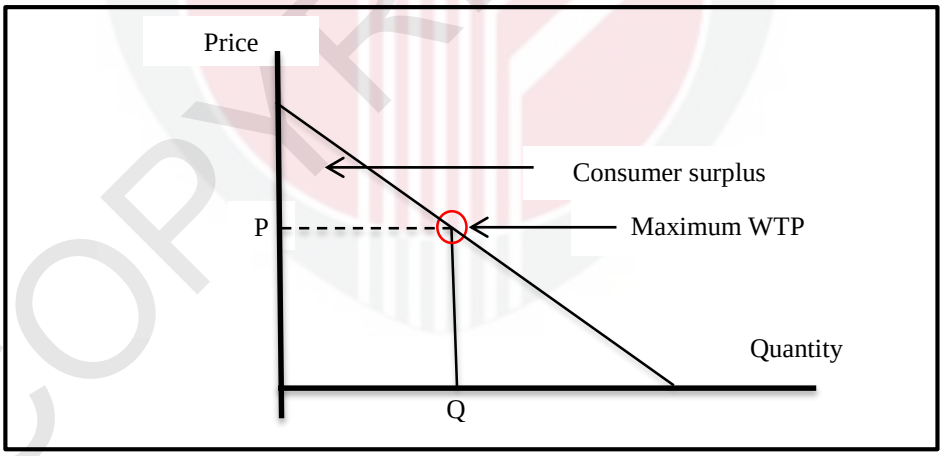


Figure 1.2: Demand of Non-market services

The economic valuation is used to evaluate the values of natural resources based on the individual preference. Besides that, economic valuation can be used as a controller of utilisation for marine resources. The main purpose of this study is to estimate conservation value of marine ecosystem in TSMP among tourists. In order to estimate the value of marine conservation, tourist will be asked the question about how much

they willing to pay (WTP) for conserving marine resources, by using Contingent Valuation Method (CVM). Indirectly, it could be viewed as the level of appreciation, demand and satisfaction among tourists towards marine resource consumption. Based on the demand theory, for a good that has a market price, there is an inverse relationship between quantity demanded and price per unit, ceteris paribus. When price is low, demand is high (Whelan & Msefer, 1996). However, for goods that have no market price, the benefit derived from the use of the good is evaluated using the concept of Consumer Surplus. From this study, the value of conservation marine or conservation fee will be illustrated as the demand of non-market services.

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