



**UNIVERSITI PUTRA MALAYSIA**

***VISITORS' ENVIRONMENTAL ATTITUDE AND PLACE ATTACHMENT  
TOWARDS KUKUP ISLAND NATIONAL PARK, JOHOR, MALAYSIA***

**NURUL RUSMIDA BINTI RAZALI**

**FH 2016 7**



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By

**NURUL RUSMIDA BINTI RAZALI**

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

**April 2016**

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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

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**NURUL RUSMIDA BINTI RAZALI**

**April 2016**

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Kukup Island Johor National Park (Kukup Island JNP) as the Mangrove National Park in Malaysia, is facing of deterioration of the park's resources where the park facilities are under critical periodical maintenance every year. This is because of the high pressures from a large group of visitors and the facilities are exposed to salt water all the time. Deterioration of the park facilities leads to the need to increase awareness about the importance of this mangrove island, which the visitors visited for education and recreational enjoyment. Therefore, the purpose of the study is to identify visitors' attitudes toward Kukup Island JNP especially the relationship between place attachment and environmental attitude on pro-environment behavior intention towards the park. The study has been conducted on 380 respondents who visited Kukup Island JNP in March 2014 who were selected through a systematic random sampling method and the respondents answered by self-administered questionnaire.

Research findings indicate that the levels of functional and emotional attachment dimensions were moderate to high respectively. The findings revealed that the park's resources such as facilities and Kukup Island JNP's mangrove environment increased the visitors' attachment toward Kukup Island JNP. In addition, the level of environmental attitudes was positive on balance with nature dimension, ecological limits dimension and anthropocentrism dimension. The visitors' awareness of consequences revealed that most of the respondents agreed there is a need for balance between human and the protection of Kukup Island JNP' mangrove environment than anthropocentric attitudes. The findings also found that there is a significant positive effect of balance with nature dimension, ecological limits dimension and place affect with pro-environment behaviour intention with total variance explained by these factors was 48.6%. The findings suggested the respondents had stronger emotional than functional attachment and pro-environmental attitude toward the park. In addition, the respondents' viewpoint on human as a part of nature or protector of the mangrove environment at Kukup Island JNP then encourages they are to participate in pro-environment behavior intention.

Therefore, the research emphasized to increase advocacy conservation efforts through place attachment and pro-environmental attitudes of park visitors. It is also suggested the park management to maintain the park resources for visitors' satisfactory experiences toward Kukup Island JNP.



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

**SIKAP PENGUNJUNG TERHADAP ALAM SEKITAR DAN PERLEKATAN  
TEMPAT TERHADAP TAMAN NEGARA PULAU KUKUP, JOHOR, MALAYSIA**

Oleh

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Taman Negara Johor Pulau Kukup (Pulau Kukup TNJ) adalah taman negara bakau di Malaysia, dan ia sering menghadapi masalah kerosakan sumber-sumber taman di mana kemudahannya kritikal untuk disenggara secara berkala setiap tahun. Hal ini kerana akibat tekanan yang tinggi daripada kumpulan pengunjung yang besar dan kemudahan fasiliti yang terdedah kepada air laut masin setiap masa. Kerosakan kemudahan taman telah mendorong untuk meningkatkan kesedaran akan kepentingan pulau bakau ini, oleh hal demikian kerana tujuan kunjungan adalah pendidikan dan merasai pengalaman berekreasi di sini. Oleh itu, kajian ini bertujuan untuk mengenal pasti sikap pengunjung terhadap Pulau Kukup TNJ di mana hubungan antara sikap pengunjung terhadap alam sekitar dan perlekatan tempat bagi usaha menyokong tingkah laku niat pro-persekitaran terhadap taman negara ini. Tinjauan melalui penggunaan borang soal selidik yang dipantau sendiri telah dijalankan di kalangan 380 responden yang telah melawat Pulau Kukup TNJ pada bulan Mac 2014 dengan kaedah pensampelan rawak sistematik.

Dapatan kajian menunjukkan tahap pergantungan tempat (place dependence) dan pergantungan perasaan (place affect) adalah sederhana dan juga tinggi secara berurutan. Dapatan kajian mendapati bahawa sumber-sumber taman seperti kemudahan fasiliti dan persekitaran bakau meningkatkan perlekatan tempat (place attachment) pengunjung terhadap Pulau Kukup TNJ. Tambahan pula, tahap sikap pengunjung terhadap alam sekitar adalah positif pada 'balance with nature dimension', 'ecological limits dimension' dan 'anthropocentrism dimension'. Hal demikian kerana kesedaran akan akibat menunjukkan kebanyakan responden telah bersetuju bahawa perlunya keseimbangan antara manusia dan melindungi persekitaran bakau Pulau Kukup TNJ berbanding sikap antroposentrik. Dapatan juga mendapati terdapat kesan positif yang signifikan di antara hubungan 'balance with nature dimension', 'ecological limits dimension' dan pergantungan perasaan dengan tingkah laku niat pro-persekitaran dengan jumlah varians yang menerangkan faktor-faktor tersebut adalah 48.6%. Dapatan

juga jelas bahawa pengunjung mempunyai pergantungan perasaan yang lebih kuat berbanding pergantungan tempat dan sikap pro-alam sekitar terhadap taman negara. Malahan, responden berpandangan bahawa manusia adalah sebahagian atau pelindung alam semula jadi di persekitaran bakau Pulau Kukup TNJ seterusnya menggalakkan mereka untuk terlibat di dalam tingkah laku niat pro-persekitaran. Oleh yang demikian, kajian ini menekankan kepentingan memahami perlekatan tempat dan sikap pro-alam sekitar pengunjung terhadap Pulau Kukup TNJ sebagai suatu usaha menyokong untuk usaha konservasi. Ianya juga mensyorkan pengurusan taman untuk menyenggara sumber-sumber taman bagi kepuasan pengalaman pengunjung terhadap Pulau Kukup TNJ.



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I certify that a Thesis Examination Committee has met on 07 April 2016 to conduct the final examination of Nurul Rusmida binti Razali on her thesis entitled "Visitors' Environmental Attitude and Place Attachment Towards Kukup Island National Park, Johor, 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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# CHAPTER 1

## INTRODUCTION

### 1.1 Background of the Study

Existing demands from visitors to explore and interact with natural surroundings have increased the development, as well as degradation of the natural areas, and eventually give adverse impacts the natural resources and the environment. Even though the growth in the tourism sector contributed benefit costs for residents in Langkawi Islands, most of them agreed this development also give impact to the environment; changed the island landscape, destroyed the natural environment and pollution (Azizan Marzuki, 2011). In addition, many visitors tend to engage in a few camping, hiking, boating, swimming, recreational fishing and other recreation-related activities, which lead to the depletion of flora and fauna resources in local natural surroundings (Jayaraman, Lin, Yap & Ong, 2010). Hammitt and Cole (1998) also stated that from accommodation and shelter, campsites to resorts and hotel development had resulted in disturbance to the natural habitat in the nature reserves. The development in the natural areas, especially for ecotourism has often emerged confrontation, both environmental and social issues.

Nevertheless, the public acknowledges this issue and there have been some efforts taken by the other side, for example; Datai Langkawi has been built up with the appearance of a jungle resort without cut grasses and chalets hidden among trees. The chalets in Berjaya Langkawi Beach Resort were built thoroughly on the hill slopes with minimal disturbance to the environment, and BarnThai Restaurant is also showing off dining rooms built around mangrove trees in mangrove area (Teh, 2000). In addition to the environmental protection, a few of the guidelines on coastal development and ecotourism had been produced by the Government of Malaysia since 1987. Category 4 of the National Ecotourism Plan Malaysia 1997 provides the guidelines to cover on a variety of issues such as local community participation, marketing, visitor behavior with monitoring and conservation in general (The National Ecotourism Plan, 1997). Yet, not many people or visitors are keen to engage in natural processes to maintain natural areas or at least to bring actions in minimizing negative environmental impacts, also known as pro-environmental behaviors.

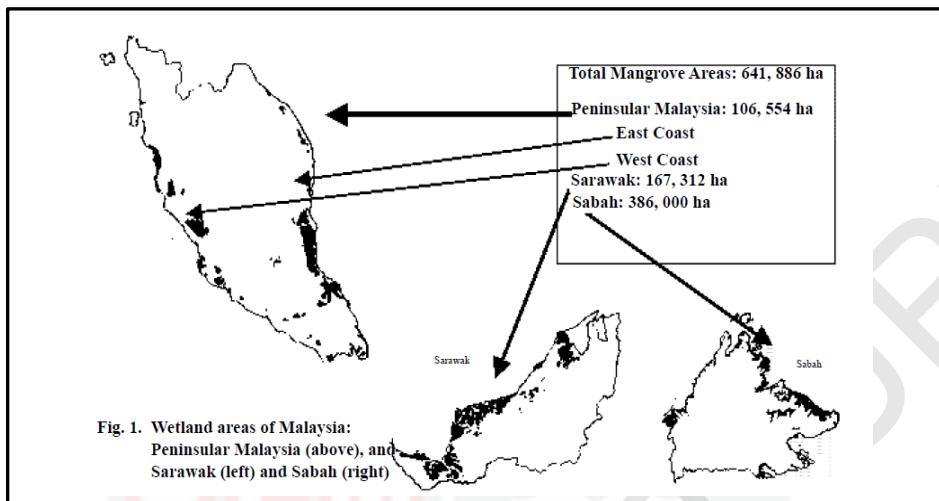
The attachment to a particular place and people's concern about the environment may encourage the pro-environment behavior among people. A previous study has investigated that the participants who were shown places with attachment influence had strongly projected place-specific behavior in environmentally responsible behavior (Halpenny, 2006; Ramkissoon, Weiler & Smith, 2012; Cheng, Wu & Huang, 2013), and community attachment in urban green spaces foster environmentally sustainable attitudes (Budruk, Thomas & Tyrell, 2009). In addition, Budruk et al. (2009) found individuals or communities might be

interested to protect nature and visit the natural areas because they are attracted and attached to the green environment. The feeling of being attached to the green environment encourages individual to participate in recreational activities that minimizes disturbance to the natural areas. Activities such as trail walking, boat ride, bird watching or any activities related to mangrove; such as mangrove trees planting are a part of ecotourism activity with facilities provided. In other words, these activities involve an educational and interpretation purpose towards the society about the natural environment (Juganaru, Juganaru & Anghel, 2008).

Kukup Island Johor National Park (Kukup Island JNP) is the study area in this research, which is the second largest uninhabited mangrove island in the world. There are not many mangrove islands in Malaysia and according to Teh (2000), only Ketam Island and Kukup Island JNP has been proposed the status as a Mangrove National Park. This mangrove island covered approximately 647.2 hectares surrounded by 800 hectares of mudflats. Kukup Island JNP has been granted the status as a 'Wetland of International Importance' (Ramsar site) on 31<sup>st</sup> January 2003 by the Geneva-based Ramsar Convention Bureau as the park fulfilled the several criteria set by the Convention of Wetland to be listed on the Ramsar List of Wetlands of International Importance.

There are two groups of the criteria designed; firstly the wetlands must be representative, unique or rare to consider internationally important; secondly the wetland must be considered internationally important based on species and ecological communities, waterbirds, fish and other taxa (Ramsar Convention Secretariat, 2013). Ramsar sites are provided with special protection for wetlands and it is one of the world's most productive environments (Ramsar Convention Secretariat, 2013). Furthermore, the multiple roles of wetland ecosystems serve for several benefits; shoreline stabilization and erosion control, water supply, wildlife resources, fisheries, tourism opportunities and others. From all of the world's Ramsar sites, there are only 17 Ramsar sites that were mangroves. Kukup Island JNP is one of four mangroves in Asia and which the only listed.

In Malaysia, mangroves are one of major type of forest other than dipterocarp forest, swamp forest and plantation forest. According to Abdul Shukor (2004), Malaysia had 641,886 hectares of mangrove forest which Sabah that covers 57% (386,000 hectare) followed by Sarawak 26% (167,312 hectare) and the rest is in Peninsular Malaysia 17% (106,554 hectare) as shown in Figure 1.1. On the other hand, more than half of the mangrove forest have been gazetted as forest reserves and are being managed by the Forestry Department for both sustainable production and protection. A few examples of mangrove forest sites for ecotourism are Kukup Island JNP, Tanjung Piai Johor National Park, Kuching Wetland National Park, Matang Mangrove Forest Reserve, Kuala Gula Bird Sanctuary, Kuala Selangor National Park and others mangrove area. As an important coastal ecosystem, the mangrove forest is very valuable, especially in ecology, community and economic values.



**Figure 1.1 Mangrove distribution in Malaysia**  
(Source: Abdul Shukor, 2004)

Besides that, Kukup Island JNP has been listed as the Ramsar site which rich in biodiversity and unique of ecological characteristics. The mangroves found in Kukup Island JNP is also one of the attractions for ecotourism as they provide a unique ecosystem in which only certain species inhabit this mangrove island, such as several mangrove species; bakau minyak (*Rizophora apiculata*), api-api putih (*Avicennia alba*), tumu (*Bruguiera sp.*) and other fauna, for instance; the mudskipper, clams, fiddler crabs, wild boar and long-tailed macaque. It has also become as a layover place for a variety of emigrate waterbirds for instance little heron (*Butorides striatus*). There also have 12 species of vertebrates and 76 species of birds, including the lesser adjutant stork, in other word these existing species in Kukup Island JNP represent 50% of the world's mangrove species (Siti Nur Azimah, 2014).

The attachment to Kukup Island JNP because of this uniqueness, not to mention the facilities provided by the park; such as arboretum, nursery, mini aery tower, boardwalk, suspension bridge, explanation signboards and information gallery for recreational activities, then may influence the willingness of the individual to participate in pro-environment behavior intention as well as their environmental attitudes about the mangrove environment. As there is only a small number of mangrove islands in Malaysia, the studies about individual's attitudes towards Kukup Island JNP as mangrove forest is important for mangrove areas conservation. In addition, so far, there are little studies on visitor's attitude toward Kukup Island JNP and other mangrove areas in Malaysia.

## 1.2 Problem Statement

Since 2003, Malaysia introduced The National Ecotourism Plan to promote ecotourism as a tool for conservation (Mohd Kher Hussein & Noorizan Mohammed, 2007). The rising development of ecotourism in mangrove areas to attract visitor to interact with mangrove resources such as biodiversity of flora and fauna besides providing ecotourism activities. A few mangrove areas were developed for mangrove ecotourism and these involve the participation of community based mangrove ecotourism, partnership either a local community with local government or private and initiative by the private sector, non-governmental organization (NGO) and government (Tan, 2007). Visitors are able to participate in activities such as mangrove trail, bird watching, fireflies watching (Kampung Kuantan), proboscis monkey watching (Klias Wetland and Labuk Bay, Sabah), and Mangrove Ramsar sites in Johor; Sungai Pulai, Tanjung Piai and Kukup Island).

Indeed, in the study, Kukup Island JNP provides good leisure and recreational experience for visitors to visit, besides enjoying the physical and psychological benefits. Visitors are attracted to the park for their vegetation, especially the mangrove species, other wetland flora and fauna. Recreational facilities provided by park management also provide opportunity for visitors to experience Kukup Island JNP's mangrove environment. However, recreational activities in Kukup Island JNP can have high pressure to the deterioration of the park's environment especially toward the availability of resources. Kukup Island JNP's officer stated that the deterioration of facilities happened due to the increasing pressures from large group visitors to experience recreational activities and the facilities are exposed to natural phenomena; weather, saltwater and termite attack which in the long run (personal communication, 7 June 2016). Johor National Parks Corporation spent about RM18, 000 to RM24, 000 every year for under periodical maintenance for the damaged and existing facilities of Kukup Island JNP such as boardwalks, suspension bridge and others (see Table 1.1).

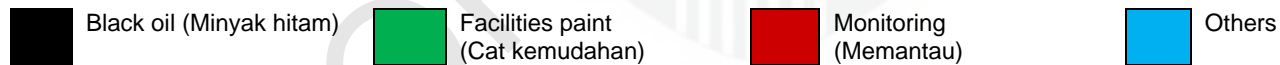
The maintenance is carried out periodically twice every year toward a few facilities such as boardwalk, gazebo, information boards and visitor complex center are crucial for satisfying recreational experience to encourage visitors to come again. In addition, this visitation is important for increasing awareness about the importance of this mangrove island park to the visitor. Kukup Island JNP as RAMSAR site thus has become an important ecotourism site, particularly for recreation and education activities for conservation purpose. Activities such as bird watching, trail walking, mangrove planting and others that involved are important as part of the educational effort and interpretation component for people about the natural environment (Juganaru et al., 2008). As an advocacy effort for conservation to the park's environments, attitudes of visitors toward Kukup Island JNP should be explored.

**Table 1.1 Monthly Maintenance works for facilities at Kukup Island Johor National Park**

Month \ Facility	1	2	3	4	5	6	7	8	9	10	11	12
Main jetty- boat				Black oil (Minyak hitam)						Black oil (Minyak hitam)		
Persiaran jetty		Facilities paint (Cat kemudahan)										
Suspension bridge							Facilities paint (Cat kemudahan)					
Boardwalk (with rope)				Black oil (Minyak hitam)						Black oil (Minyak hitam)		
Water tank building			Facilities paint (Cat kemudahan)							Facilities paint (Cat kemudahan)		
Primary culvert/Salur air utama (forest)				Monitoring (Memantau)				Monitoring (Memantau)				Monitoring (Memantau)
Sg. Ular bridge		Black oil (Minyak hitam)						Black oil (Minyak hitam)				
Store					Facilities paint (Cat kemudahan)							
Wooden boardwalk	Others	Others	Others	Others	Others	Others	Others	Others	Others	Others	Others	Others
Conservation plot-marsh clam						Black oil (Minyak hitam)						
Big tree walkway and big tree area	Black oil (Minyak hitam)							Black oil (Minyak hitam)				
Arboretum walkway						Black oil (Minyak hitam)						
Sg. Ular boat jetty	Black oil (Minyak hitam)							Black oil (Minyak hitam)				
Mini aery tower							Facilities paint (Cat kemudahan)					
Office building and Visitor complex		Others					Others			Others		

Note :

<sup>1</sup> Operation and maintenance includes renewal and repair of facilities periodically



(Source: Kukup Island JNP report, 2016)



Exploring visitor's attitude towards Kukup Island JNP is an advocacy effort to conserve Kukup Island JNP's resources; therefore the relationship of place attachment and environmental attitudes should be identified to determine the factors influencing the peoples' decision to participate in the protection of this place. Therefore, this study will put forward in these questions:

1. What the visitors' place attachment in their satisfaction with facilities toward Kukup Island JNP?
2. What environmental attitudes do visitors express toward Kukup Island JNP as mangrove forest?
3. What is the relationship between place attachment and environmental attitudes influence park visitors towards pro-environment behavior intention?

### **1.3 Research Objectives**

The primary purpose of this study is to identify visitors' attitudes toward Kukup Island JNP, with the specific objectives are;

1. To evaluate place attachment through visitor's satisfaction on facilities
2. To determine the environmental attitudes of park visitors
3. To determine the relationship between place attachment and environmental attitudes towards pro-environment behavior intention

### **1.4 Significance of the Study**

The study used survey approach to identify visitors' attitudes toward Kukup Island JNP. The relationship and appreciation of individuals or visitors to their nature can be test guided by Fishbein and Ajzen's (1975) model, Theory of Reasoned Action. In this model, intention to perform behavior was determined by individual's attitudes toward performing the behavior, hence been evaluated by place attachment and environmental attitudes of New Environment Paradigm Scale. The pro-environmental intention behavior due to availability of Kukup Island JNP's resources can enable park management to identify visitors' desires toward the park, in fact Cheng et al. (2013) also stated pro-environment behavior represents an important indication of sustainable tourism development especially in mangrove areas.

The use of place attachment dimensions; functional attachment or place dependence and emotional attachment toward Kukup Island JNP enable to understand visitors' place attachment on the park's resources. Besides that, the study determines the visitors outlook as humans as part of nature, rather than consumers or protectors of nature. These individual's attitudes toward performing the behavior are needed to determine pro-environmental intention behavior as an advocate efforts for conservation toward Kukup Island JNP. In addition, managing and maintaining biodiversity and nature of Johor Parks and Johor Ramsar site by international management through conservation stated as the mission of the

Johor National Park Corporation (Siti Nur Azimah, 2014). Identifying the visitors' attitudes can help park management to understand factors that affect the travel choice behavior among visitors, this is important to increase visitation for generating revenue for maintenance the park area but in same time advocate conservation efforts.

## 1.5 Definitions and Measurement of Key Terms

The following are definitions of terms that are used throughout this thesis as it is important that readers have an understanding of the terms used. Some of them are adopted from those provided by other authors.

**Place attachment**; According to Scannell and Gifford (2010a), place attachment is a multidimensional concept of an individual's psychological process and locality and many previous researchers relate a person's positive emotional ties to a specific location (Cheng, et al. 2013). In tourism, place attachment is an important term to explore on individual or visitors attachment and behavior. In this study, functional attachment (place dependence) and emotional attachment (place affect) were measured the level degree of agreement in 5-point Likert scale.

**Environmental attitude**; referred as an individual's concern for the physical environment. In the study, environmental attitudes are operationalized by New Environmental Paradigm scale; the degree to which visitors' viewpoint humans as part of nature (balance with nature), rather than consumers (anthropocentrism) or protector of nature (ecological limits). The level degree of agreement measured in 5-point Likert scale.

**Pro-environment behavior intention**; an action of an individual or group that promotes preservation of natural environment. This environmental action can be measured by four dimensions environmental behaviors of civic action, educational action, financial action and physical action using a 5-point Likert scale.

**Visitor**; A traveler taking a trip to a main destination outside his or her usual environment, for less than a year, for any main purpose (business, leisure or other personal purpose) other than be employed by a resident entity in the country or place visited (IRTS, 2008). In this study, respondents were visitor who visited and experiencing the Kukup Island JNP's resources.



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