



**UNIVERSITI PUTRA MALAYSIA**

***FACTORS INFLUENCING AWARENESS OF LOCAL COMMUNITIES ON  
CONSERVATION AT KUCHING WETLAND NATIONAL PARK,  
SARAWAK***

**SITI AISAH BINTI DAHLAN**

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UNIVERSITI PUTRA MALAYSIA  
2016**

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CONSERVATION AT KUCHING WETLAND NATIONAL PARK, SARAWAK**

By

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**A Project Report Submitted in Partial Fulfillment of the Requirements  
for the Degree of Bachelor of Forestry Science in the  
Faculty of Forestry  
Universiti Putra Malaysia**

**2016**

## **DEDICATION**

### **MY DEDICATION GOES TO MY BELOVED MOM AND DAD**

Dahlan Bin Noh, Radeiah Binti Hossen

### **MY BELOVED SIBLINGS**

Iswandy, Ismawandy, Zanidy, Saidiny, Abdul Rahman

### **MY BELOVED AND SUPPORTIVE FRIENDS**

AND

ALL THE LECTURERS INVOLVED FROM UPM

ALL THE LECTURERS AND STUDENTS INVOLVED FROM UNIMAS

ALL THE RESPONDENTS INVOLVED

## ABSTRACT

Mangrove forest is known to be an important ecosystem especially in preventing erosion from the sea wave, as a wildlife habitat and also its economic value on timber. Currently, the mangrove forest area is being destroyed by industrialization, development, and also waste dumping even though most of the local communities are aware of the importance of mangrove forest. If these activities are continued, the degradation of mangrove forest will lead to unsustainable condition. Therefore, the main aim of this study is to determine the factors affecting local community awareness by measuring their level of perception in conserving the mangrove forest area. This study has been conducted in the vicinity of Kuching Wetland National Park area. Altogether, 365 respondents have been interviewed from seven villages which are located near the Kuching Wetland area. The convenient survey technique has been employed to select the respondents. The face-to-face interview technique is adopted to obtain information from the respondents using a structured questionnaire. The results indicate that four factors are found to be significant: socio-demographic characteristic (gender), participation in community programs, participation in conservation activities and knowledge on conservation. The study also reveals that there is a lack of conservation activities conducted in the vicinity of Kuching Wetland National Park area. Therefore, more activities like campaign, environmental education program and training should be carried out in order to increase the local community awareness towards conservation and management of mangrove forest.

Keywords: Awareness, local communities, conservation, mangrove forest, Wetland

## ABSTRAK

Hutan paya bakau dikenali dengan kepentingan ekosistem terutama dalam menghalang hakisan daripada ombak laut, sebagai habitat hidupan liar, dan juga nilai ekonomi terhadap kayu balak. Baru-baru ini, kawasan hutan paya bakau telah dimusnahkan melalui pengindustrian, pembangunan serta pembuangan sisa ke dalam sungai walaupun kebanyakan masyarakat tempatan menyedari tentang kepentingan hutan paya bakau. Sekiranya perkara ini berterusan, kemusnahan hutan paya bakau akan membawa kepada keadaan yang tidak mampan. Oleh yang demikian, matlamat utama kajian ini dijalankan adalah bagi mengenalpasti faktor-faktor yang boleh mempengaruhi kesedaran masyarakat tempatan melalui pengukuran tahap persepsi mereka terhadap memelihara hutan paya bakau. Kajian ini telah dijalankan di sekitar kawasan KWNP. Keseluruhannya, 365 responden telah ditemubual daripada tujuh kampung yang berdekatan dengan kawasan Kuching Wetland. Teknik pemantauan mudah (*convenient technique*) telah digunakan untuk memilih responden. Teknik temu bual secara berdepan (*face-to-face*) telah diguna pakai untuk mendapatkan informasi daripada responden dengan menggunakan soal selidik yang berstruktur. Hasil menunjukkan bahawa empat faktor telah menunjukkan keputusan yang ketara: ciri-ciri sosio-demografi (jantina), penglibatan dalam program masyarakat, penglibatan dalam aktiviti pemuliharaan dan pengetahuan dalam pemeliharaan. Kajian ini juga telah mendedahkan bahawa aktiviti pemeliharaan kurang dijalankan di sekitar kawasan Kuching Wetland. Justeru, aktiviti seperti kempen, program pendidikan serta latihan perlu dilaksanakan bagi meningkatkan tahap kesedaran masyarakat tempatan terhadap pemuliharaan dan pengurusan hutan paya bakau.

Kata kunci: Kesedaran, masyarakat tempatan, pemeliharaan, hutan paya bakau, tanah paya.

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## APPROVAL SHEET

I certify that this research project report entitled “Factors Influencing Awareness of Local Communities on Conservation in Mangrove Forest at Kuching Wetland, Sarawak” by Siti Aisah binti Dahlan has been examined and approved as a partial fulfillment of the requirement for the degree of Bachelor of Forestry Science in the Faculty of Forestry, Universiti Putra Malaysia.

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## LIST OF ABBREVIATIONS

DOSM	Department of Statistics Malaysia
FAO	Food and Agriculture Organization of the United Nations
KTWR	Koshi Tappu Wildlife Reserve
KWNP	Kuching Wetland National Park
SPSS	Statistical Package for Social Science
SMFR	Sarawak Mangrove Forest Reserve
TPA	Totally Protected Area
UNEP	United Nations Environment Programme



# CHAPTER ONE

## INTRODUCTION

### 1.1 Study Background

Malaysia has been listed as one of the 12<sup>th</sup> mega biodiversities in the world with the current size or percentage of forest covers 62% of the total land area by 2010 (FAO, 2011). The forested area that covers of 18.48 mil. ha. also consist of Permanent Forest Estate (14.61 mill. ha), Stateland (2.04 mill. ha), and National Park, Wildlife and Birds Sanctuaries (1.83 mill. ha). Out from this forested area also, Sarawak covers about 8.23 mill. ha, while Sabah and Peninsular covers about 4.40 mil. ha and 5.83 mil. ha respectively.

There are three major types of natural forest in Malaysia that cover the land; they are mangroves, peat swamp, and dry inland forest. Mangrove forest in Malaysia covers about 0.56 mil. ha out of 18.48 mil. ha of the forested area where for Peninsular Malaysia the mangroves forest covers about 0.1 mil. ha, while for Sabah and Sarawak the forest consist of 0.32 mil. ha and 0.14 mil. ha respectively (Omar & Hamzah, 2012).

Apart from the 3 main forest types in Malaysia, mangrove forest is also estimated to have about 16 to 24 families and 54 to 75 species of plants globally. The mangrove forest spread is influenced by tide, for which the forest actually could tolerate very well with the ecosystems surround it. Other than that, the mangrove forest also is dispersed with the help of its floating fruits, seeds and seedlings. This mangrove forest is also characterized by

surviving in brackish and muddy water and in adapting to this characteristics, the trees here have prop roots, knee roots, plank buttresses and also pneumatophore roots. Unfortunately, not all wildlife or animals could occupy this forest as their habitat but then more aquatic lives live here such as crabs, shrimps and also shellfish.

At the same time, mangrove forest is also known as the main protector of coastal areas against erosion. Some experts in natural disaster also believe that these mangrove areas could lessen the number of death during the natural disaster such as tsunami (Szczucinski et al., 2006; UNEP, 2006; Srinivas & Nakagawa, 2008; Srinivas, 2015). With the greed from human itself, this area is being disturbed and the natural buffer zone is being cleared for some economics activities which then resulting a high death rates during the natural disaster occurs.

This fact had been proved with the tsunami events that happens in 26 December where the Simeuleu Island, Indonesia which is located only 40 km from the earthquake epicenter had only four people died where this island is saved by the wide belt of mangroves at that area. According to the same articles, the five villages of Banda Aceh were also saved with the extensive mangroves in that area (Khor, 2005). This shows that apart from giving the benefit economically, this mangrove forest actually plays an important roles in slowing down the natural disaster events (Quarto, 2005). Thus, it is crucial to conserve and manage these mangrove forests very well and effectively in a worldwide context.



In conserving these mangrove forest areas, the KWNP is also not an exception. Surrounding this KWNP areas, there are some activities that are conducted such as sand mining activities, aquacultures activities, palm oil plantation, and also discharge of waste into the river. These activities have been a major threat to the areas since the mangroves area is cleared and some of the wildlife and aquatic species that inhabit this area will be affected if there is no major action taken by the authority. On the other hand, for the improvement of the mangrove ecosystem, disturbed area should be replanted and restored.

## **1.2 Problem Statement**

Kuching Wetland National Park (KWNP) has been listed as one of the RAMSAR sites in Malaysia. This shows that this site plays an important role to the ecosystem. As a totally protected area, this KWNP acts as the conservation area of biodiversity and habitat, protection of environment and areas of natural beauty, provision of socio-economic benefits through sustainable use of renewable resources, recreation and tourism and also location for environmental and educational research (Sarawak Forest Department, 2010). Based on Shuib et al. (2011), the local communities around the KWNP site are aware of the importance of the mangrove forest area. Unfortunately, this mangrove forest area is still being destroyed through some activities such as agriculture, industrial development, aquaculture, and also waste dumping.

These events show that even some of the local communities around the KWNP site are aware on the importance of mangrove forest, there may be some of them who are still not aware on this matter. Hence, there may be many factors that could influence the awareness of the local communities on the importance of mangrove forest which could also conserve the KWNP area. In order to get the factors that could influence their awareness, this study will be conducted by doing a survey to some of the villagers living around the KWNP. By doing this survey, it is expected that the results from this survey could help the government agencies in managing the mangrove forest area around the KWNP better by enhancing or improving their management activities. Consequently, it would not only give benefit to the management agencies but it could also benefit the local communities around it.

### **1.3 Objectives**

The main objective for this study was to identify the awareness of local community towards conservation in mangrove forest. In details, the specific objectives for this study was:

1. To identify the socio-demographic characteristics of local communities living near the Kuching Wetland.
2. To measure the level of awareness of local communities on conservation of mangrove forest resources in Kuching Wetland.
3. To determine the factors affecting the awareness of local communities on conservation of mangrove forest resources in Kuching Wetland.

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