



**UNIVERSITI PUTRA MALAYSIA**

**VISUAL ASSESSMENT OF THE QUALITY OF LANDSCAPE DESIGN  
IN PAYA INDAH WETLANDS, MALAYSIA**

**MOHD KHER BIN HUSSEIN.**

**FRSB 2005 1**



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**MASTER OF SCIENCE  
UNIVERSITI PUTRA MALAYSIA**

**2005**



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**By**

**MOHD KHER BIN HUSSEIN**

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

**November 2005**

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## **DEDICATION**

Dedicate to my beloved family: parents, three daughters named Nurliyana Azlin, Nurathirah Amiza, Nursyahirah Aina and son named Muhammad Najmi Aiman.

Specially dedicated to my wife, Norhayati Binti Bakeri, for her unfailing patience and encouragement.



## **ABSTRACT**

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

### **VISUAL ASSESSMENT OF THE QUALITY OF LANDSCAPE DESIGN IN PAYA INDAH WETLANDS, MALAYSIA**

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**Chairman: Associate Professor Noorizan Mohamed, PhD**

**Faculty: Design And Architecture**

Visual quality of landscape is becoming an important element in eco-friendly design for nature-based tourism areas in Malaysia. However, the majority of the man-made landscape elements of nature-based tourism areas such as buildings do not harmonize with the natural environment and are considered as not eco-friendly in design. A study was conducted in Paya Indah Wetlands aimed at assessing visual rating and perception of the man-made landscape using expert judgment technique. This study used selected photographs of the man-made landscape elements in Paya Indah Wetlands representing different types of buildings, park furniture, parking features, pedestrian facilities, drainage and signage. The scoring scheme for visual quality and landscape features was valued using the six basic design elements, namely, form, line, colour, texture, shape and space. Data were gathered from 100 experts using a structured questionnaire with surrogated photos, distributed equally among landscape architects and architects. The



results revealed that the visual quality of Paya Indah Wetlands were categorized as moderate in quality, and some of the elements were considered as of poor quality. The results of regression analysis revealed that the visual rating was affected significantly by the respondents' age, sector of employment and professional memberships in certified bodies. The Mann-Whitney and Kruskal-Wallis test revealed that the differences in visual rating differed with regards to the education background, sector of employment and professional membership. From the results, the basic design elements (form, line, colour, texture, shape and space) should be taken into consideration at the early stage in the design process to lend a higher visual quality to the wetland landscape of Paya Indah Wetlands.

## ABSTRAK

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

### **VISUAL ASSESSMENT OF THE QUALITY OF LANDSCAPE DESIGN IN PAYA INDAH WETLANDS, MALAYSIA**

Oleh

**MOHD KHER BIN HUSSEIN**

**November 2005**

**Pengerusi: Profesor Madya Noorizan Mohamed, PhD**

**Fakulti: Reka Bentuk Dan Senibina**

Kualiti visual landskap menjadi elemen penting di dalam reka bentuk mesra-alam untuk projek pelancongan berteraskan alam semulajadi di Malaysia. Namun begitu, kebanyakan elemen landskap buatan manusia seperti bangunan tidak harmoni dengan persekitaran semulajadi, dan dianggap tidak mesra-alam dari segi reka bentuk. Kajian telah dijalankan di Paya Indah Wetland untuk menentukan nilai visual dan mengetahui tanggapan ke atas elemen landskap buatan manusia menggunakan teknik penilaian pakar. Kajian ini menggunakan photo elemen landskap buatan manusia terpilih di Paya Indah Wetland mewakili pelbagai jenis bangunan, perabot taman, "parking features", kemudahan pejalan kaki, perparitan dan papan tanda. Skema pemarkahan untuk kualiti visual dan ciri landskap dinilai menggunakan enam faktor asas reka bentuk iaitu "form", garisan, warna, tekstur, bentuk dan ruang. Data diperolehi daripada 100 orang pakar di mana 50 orang pakar terdiri dari landskap arkitek dan 50 yang lainnya adalah arkitek.

Hasil kajian mendapati kualiti visual di Paya Indah Wetland dikategorikan di tahap sederhana dan ada elemen dinilai sebagai berkualiti rendah. Analisis regresi menunjukkan faktor umur, sektor pekerjaan dan keahlian di dalam badan profesional yang diiktiraf mempengaruhi penilaian kualiti visual. Ujian Mann-Whitney dan Kruskal-Wallis menunjukkan perbezaan di dalam penilaian kualiti visual terdapat di dalam kumpulan faktor pendidikan, sektor pekerjaan dan keahlian di dalam badan profesional. Hasil kajian mensasarkan yang elemen asas reka bentuk (“form”, garisan, warna, tekstur, bentuk dan ruang) perlu diambil kira di peringkat awal proses mereka bentuk untuk meningkatkan kualiti visual landskap Paya Indah Wetlands.



## **Acknowledgements**

I wish to express my gratitude and sincere thanks to my supervisor, Associate Professor Dr. Noorizan Bte Mohamed, for her persistent guidance, assistance, support and understanding throughout the study period.

Gratitude and thanks are also extended to all members of the graduate committee, Associate Professor Dr. Awang Noor Bin Abd. Ghani and Dr. Kamariah Bte Dola for their constructive comments, advice and guidance.

Special thanks are due to Cik Haslayati Bte Hashim, Educational Officer in Paya Indah Wetlands, for her time and sincere in giving me information and cooperation throughout the field study period. Thanks are also extended to her for giving me permission to use the study area and providing data and other useful information. My gratitude is also due to the staff of the Faculty of Design and Architecture for their contribution in this research.

Finally, I wish to express special thanks to my family and others for their support and encouragement, especially to my beloved wife for her encouragement, prayer, support and understanding for making this study possible.



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## **GLOSSARY OF TERMS**

<b>AGE</b>	<b>=</b>	<b>Age</b>
<b>BLM</b>	<b>=</b>	<b>Bureau of Land Management</b>
<b>BT</b>	<b>=</b>	<b>Building Types</b>
<b>DR</b>	<b>=</b>	<b>Drainage</b>
<b>EDU</b>	<b>=</b>	<b>Education</b>
<b>ELITE</b>	<b>=</b>	<b>Expressway Lingkaran Tengah</b>
<b>EXP</b>	<b>=</b>	<b>Experience</b>
<b>GEN</b>	<b>=</b>	<b>Gender</b>
<b>ILAM</b>	<b>=</b>	<b>Institute Landscape Architect Association of Malaysia</b>
<b>KLIA</b>	<b>=</b>	<b>Kuala Lumpur International Airport</b>
<b>LAM</b>	<b>=</b>	<b>Lembaga Arkitek Malaysia</b>
<b>LDP</b>	<b>=</b>	<b>Lebuhraya Damansara-Puchong</b>
<b>MNS</b>	<b>=</b>	<b>Malaysian Nature Society</b>
<b>OLS</b>	<b>=</b>	<b>Ordinary Least Square</b>
<b>PAM</b>	<b>=</b>	<b>Institute Architect Malaysia</b>
<b>PF</b>	<b>=</b>	<b>Park Furniture</b>
<b>PFe</b>	<b>=</b>	<b>Parking Features</b>
<b>PhD</b>	<b>=</b>	<b>Philosophy of Doctorate</b>
<b>PROF</b>	<b>=</b>	<b>Professional memberships</b>
<b>SEC</b>	<b>=</b>	<b>Sector of work</b>
<b>SG</b>	<b>=</b>	<b>Signage</b>
<b>SPSS</b>	<b>=</b>	<b>Statistical Programs for Social Science</b>



**TV3 = Sistem Television Malaysia Berhad**

**VR = Visual rating**

**VRM = Visual Resource Management**

## CHAPTER 1

### INTRODUCTION

#### 1.0 General Background

Malaysia is a very fast-developing country. Although there are improvements in the area of technology, Malaysia faces degradation in term of quality of visual landscape quality, especially in wetland areas. According to the Asian Wetland Bureau's report, a total of 1,076,670 hectares of wetlands in Peninsular Malaysia in 1966 has been reduced to 977,004 hectares in 1974 because of development. Overall wetland area in Peninsular Malaysia is peat swamp, where the original coverage is approximately one million hectares. However, this area has been reduced to 559,862 hectares in 1982. In 1991, the total extent of peat swamp under Permanent Forest Estate is 210,395 hectares (Shamsudin, Ismail & Samsudin, 2000). This indirectly has resulted in the degradation of the scenic beauty of the wetlands that are rich with aesthetic values, as well as degradation of visual quality of our environment.

The Ministry of Science, Technology and the Environment, Malaysia (2003), defines wetlands (similar to the Ramsar Convention's definition) as areas of marsh, fern, peat land or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salty, including areas of marine water, the depth of which at low tide does not exceed six meters. This definition



encompasses coastal and shallow marine areas (including coral reefs), as well as river courses and temporary lakes or depressions in semi-arid zones.

The Ramsar Convention (1972) provides that they “may incorporate riparian and coastal zones adjacent to the wetlands, and islands or bodies of marine water deeper than six meters at low tide lying within the wetlands”. So, under Ramsar Convention, wetlands are everywhere, and it is probably simplest to think of the Convention as having an interest in the management of all water ecosystems (whether permanent or temporary) that are not deep marine waters.

Wetlands provide high value of natural landscape resources and are aesthetic in terms of cultural values, human activities, wildlife, plants, religion and history. They also provide opportunities for ecotourism and recreational activities such as bird watching, fishing, kayaking and boating.

One of the wetlands that has played an important role in Malaysia’s environment is Paya Indah Wetlands, Dengkil, Selangor. The area is a green lung of the Multimedia Super Corridor. It presents a mix of ecosystems for a diverse range of flora and fauna and is a habitat for bird population both local and migratory (Zulkafli and Zahari, 2005). This area has a very unique scenic value and offers good recreational activities such as nature study, bird watching, painting and photography. This wetland encompasses a myriad of landscapes, including large open lakes, peat swamp forests, and abandoned mining land. This area has remarkable natural resources and a splendid natural setting. It provides aesthetic values to the area, as well as a

