



KUALA LUMPUR URBAN PARK BIODIVERSITY:  
A RELATION BETWEEN URBAN-BIRDS AND PEOPLE

BY

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## ABSTRACT

This research was rooted from the current issues of the continuously increasing human population which lead to rapid urbanization therefore upsetting the urban wildlife, particularly birds, which are the main focus of this research. Thus the aim of this research is to explore the relation between urban-birds and people in the context of urban park biodiversity in the city of Kuala Lumpur. This research is also important to identify the role of urban parks and their contributions in several elements highlighted. It will review the current research on urban biodiversity, urban birds' survival as well as human dimensions. This understading leads to research questions and objectives about the birds' species richness, human attitude and urban park contributions. The research methodology address two step approaches consist of birds' survey using transect line and human survey. Data were collected through survey questionnaire from 380 park users within five selected urban parks in Kuala Lumpur. Findings from bird survey recorded two predominant birds species which are Eurasian Tree-sparrow (*Passer Montanus*) ( $n=116$ ) and Common Myna (*Acridotheres Tritis*) ( $n=102$ ). The most survived birds are known as the most tolerance bird on any disturbance. Thus, the study has identified three important elements that cater the needs of urban birds such as provide suitable environment, provide food and give protection. Findings on human survey in average presented balance number of respondents between male and female. However, Malay respondents show the highest number of people visiting the park. The majority numbers of respondents are between age groupings coming from 21 to 31 years old. This finding is corresponding towards the level of education which Bachelor Degree holders are majority. The results of the study indicate that, in general, different ethnicities, education levels as well as different income groups were reflected to have different values on environment. The study also found that respondent's familiarity on birds species differ between different genders. Basically, the male respondents are more knowledgeable on birds species compared to female respondents. People with various level of education signifies similar attitude towards urban birds. However, different ethnicities, education levels and income groups were identified to have different behavior towards urban birds. The research revealed positive feedbacks from the respondents which represent the urban people in accommodate urban wildlife, particularly birds surround them while the existing of urban parks give them opportunities to be connected with nature. The research addresses the contributions of urban parks in terms of park use devoted to enjoy outdoor nature and also positive feedbacks in terms of health benefits by giving mind relaxation. Respondents' perception that urban park improve the city appearance and satisfaction in terms of accessibility which closed to community areas show highest percentage. Respondents also agree that urban park contribute in protecting natural environment. These findings provide an overview of relation between urban birds and people to contribute to the conservation of urban park biodiversity particularly in Malaysia. Perhaps, it is also beneficial for future researcher, recreational park managers as well as urban communities in the city Centre of Kuala Lumpur.

## خلاصة البحث

يتناول هذا البحث القضية المعاصرة حول تزايد عدد سكان المدينة بشكل مستمرة مما أدى إلى التوسع السريع للحياة الحضرية وفي الوقت نفسه يشكل تهديدا للحياة البرية المدينة خاصة للطيور. بالتركيز على الطيور، فيهدف هذا البحث إلى دراسة العلاقات بين طيور المدينة والمدنيين في إطار التنوع الحيوي في الحدائق العامة بكوالالمبور. ويسعى البحث لتحديد دور الحدائق العامة وإسهاماتها في العناصر المبرزة. وهذا البحث سيراجع البحوث العلمية الحالية في التنوع الحيوي في المدينة وبقاء طيور المدينة وكذلك البعد الإنساني. ومن هذا المنطلق يتم وضع أسئلة البحث وأهدافه حول غزارة أنواع الطيور، والموقف الإنساني وإسهامات الحدائق العامة. وتقتضي طبيعة موضوع البحث الاعتماد على نهج الخطوتين والذي يتألف من استقصاء الطيور بالمقطع البيئي والاستبانة. ويتم جمع البيانات بتوزيع الاستبيان لـ 083 مستجيبا في خمس الحدائق العامة. أما استقصاء الطيور يبرز نوعين رئيسيين من الطيور ومهما الدور الأوراسي (  $n=116$  ) (Montanus Passer) (المينا الشائعة). (  $n=102$  ) (Tristis Acridotheres) ومن الملاحظ أن الطيور الأكثر بقاء هي الطيور الأكثر تكايفا مع أية اضطرابات بيئية. وتنتج من هذه الدراسة أن هناك ثلاثة عناصر لتلبية احتياجات طيور المدينة وهي توفير البيئة المناسبة، وتوفير الطعام والحماية لها. أما الاستبانة، تشير إلى توازن التوزيع بين المستجيبين من الرجال والنساء. ومع ذلك، فإن المستجيبين الملايويين هم أغلب الزوار للحدائق العامة. وتتراوح أعمارهم ما بين 21 و31 سنة. وهذه النتيجة متماثلة لمستوى التعليم لجمهور المستجيبين وهم من مرحلة البكالوريوس. بشكل عام تنوع المجموعة العرقية ومستوى التعليم بالإضافة إلى تباين فئات الدخل أسفر عن اختلاف النتائج لدى المستجيبين حول البيئة. ويتبين أيضا أن إلمام المستجيبين بنوع الطيور يتفاوت بين الرجال والنساء. عموما، المستجيبون هم الأكثر معرفة بأنواع الطيور مقارنة مع المستجيبات. والمستجيبون من مختلف مستوى التأهيل يظهر نفسه الموقف لطيور المدينة إل أنه تم تحديد العوامل المؤدية إلى تشكيل اختلاف المواقف تجاه طيور المدينة وهي تنوع المجموعة العرقية ومستوى التعليم وفئات الدخل. ويكشف هذا البحث التغذية الاسترجاعية الإيجابية لدى المستجيبين في أهمية الحياة البرية المدنية خاصة الطيور بإعطائهم فرصة التعامل مع البيئة. ويبرز البحث إسهامات الحدائق العامة لزوارها التي تقدم لهم التمتع بالبيئة الخارجية والترتويح النفسي من ناحية الصحة. وكان أعلى النسبة المتوقعة هو التصور العام للمستجيبين حول دور الحدائق العامة في تحسين مظهر المدينة وتقديم الارتياح باعتبار إمكانية الوصول نظرا لقربها من المنطقة السكنية. ووافق المستجيبون أيضا أن الحدائق العامة تساهم في حماية البيئة. وتقدم نتيجة البحث أهمية العلاقات بين طيور المدينة والمدنيين في حماية والحفاظ على التنوع البيئي في الحدائق العامة خصوصا في ماليزيا. وفي ضوء النتائج السابقة، فيعدّ البحث نافعا للباحثين في المستقبل ومديري الحدائق العامة والمجتمع المدني في وسط مدينة كوالالمبور.

## APPROVAL PAGE

I certify that I have supervised and read this study and that in my opinion, it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a thesis for the degree of Master of Science (Built Environment).

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## DECLARATION

I hereby declare that this thesis is the result of my own investigations, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

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*This thesis is dedicated to my husband, Raja Muhammad Mursyid, who has been a constant source of support and encouragement during the challenges of my master journey and life. I am truly thankful for having you and our beloved son Raja Muhammad Haikal in my life. This work is also dedicated to my both parents and in laws, who have always loved me unconditionally and whose good examples have taught me to work hard for the things that I aspire to achieve.*

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## LIST OF ABBREVIATIONS

ANOVA	Analysis Of Variance
CBD	Central Business District
CBD	Convention of Biological Diversity
DBKL	The Kuala Lumpur City Hall
DV	Dependent Variable
IV	Independent Variable
NEP	New Ecological Paradigm
NPBD	The National Policy on Biological Diversity
NLP	National Landscape Policy

# **CHAPTER ONE**

## **INTRODUCTION**

This chapter highlights the research aim of the investigation of the role of urban parks and human attitude towards urban wildlife, particularly on birds in Kuala Lumpur. The chapter begins by addressing the current situation of urban park biodiversity and the research gap in this research. The chapter then addresses problems such as the impact of population increase, urban park and green space planning and conservation, urban wildlife survival and people's attitude towards urban wildlife. In the second part, the chapter outlines the research aim, questions and objectives. Finally, the chapter highlights the research structure.

### **1.1 BACKGROUND OF THE STUDY**

Birds are part of the natural heritage with which every country is bestowed. Studies on birds add much interest and enjoyment of life. Such studies also go beyond hobby and add scientific value and contribution to wildlife. Nevertheless, according to Karuppanan et al. (2013), urban people have little knowledge about conservation of biodiversity, particularly on urban wildlife. People severely influence wildlife through natural change and they might also impact wildlife through daily interactions (Clucas et al., 2012). Birds are the most seen as urban wildlife in our everyday and we often heard their beautiful songs. Meffert et al. (2011) once said, "Ask any urban person what type of animal they see on a daily basis and the response will like be 'birds' ".

Previously, Savard et al. (2000) stated that there is limited distribution and knowledge for most ecosystems focusing on wildlife in the urban context due to most research being done in forest and rural areas. Meffert et al. (2011) claimed that there

are numerous studies on birds' ecology that have been conducted and steadily growing in the last decade in the context of urban areas. This shows that studies on wildlife, particularly in the urban context, are increasing. However, as mentioned by Parmesan (2006), it has been documented in absolute numbers that most of the ecological impact studies are from North America, northern Europe and Russia. Nevertheless, only a few studies are made from South America and two continents coming from just two countries which are South Africa and Japan. Thus, literature shows that comparatively fewer studies on birds have been conducted in urban areas, particularly in Asia.

Meanwhile, a study in Japan claimed that study on bird species' richness are scarce in the urban area (Mikami et al., 2014). In a similar study in Indonesia (Arifin et al., 2011) there are studies on urban wildlife, including birds and their urban biodiversity, but not much research on specific species. Hence, there is a need for new research work that addresses the community with their ecosystems, particularly in the Malaysian urban context. Nonetheless, studies on birds in the urban context has steadily increased over the year (See Table 1). Based on recent scholarly writings on the topic of urban birds, it is found that it is imperative to study humans' relationship with birds in the urban environment as both the ecosystem and human needs must be considered in the design and implementation of urban restoration (Dave et al., 2011).

Table 1.1: Worldwide studies on Urban Birds in Urban Context across the Globe

<b>Author</b>	<b>Field of Study</b>	<b>Country</b>	<b>Year</b>
Osamu K. Mikami & Katsura Mikami	Structure of the Japanese avian community from city centers to natural habitats exhibits a globally observed pattern	Japan	2014

Sadasivam Karuppanan, Zainul Mukrim Baharuddin, Alpana Sivam & Chris B. Daniels	Urban green space and urban biodiversity : Kuala Lumpur , Malaysia	Malaysia	2013
Suk-Hwan Hong, Bong-Ho Han, Song-Hyun Choi, Chan Yong Sung & Kyong-Jae Lee	Planning an ecological network using the predicted movement paths of urban birds	Korea	2013
Sabrina Idilfitri, Nik Hanita & Nik Mohamad	Role of urban ornamental vegetation in providing food and shelter for the birds in urban park	Malaysia	2012
Barbara Clucas,- & John M. Marzluff	Attitudes and actions toward birds in urban areas : Human cultural differences influence bird behavior	Seattle, Washington, and Berlin, Germany	2011
Suria Sulaiman, Nik Hanita Nik Mohamad, Sabrina Idilfitri	Contribution of vegetation in urban parks as habitat for selective bird community	Malaysia	2011
Hadi Susilo Arifin & Nobukazu Nakagoshi	Landscape ecology and urban biodiversity in tropical Indonesian Cities (including birds)	Indonesia	2011
Michael L. McKinney	Effects of urbanization on species richness: A review of plants and animals	Asia, North and South America, Europe and Australia.	2008
Parmesan	Evolutionary and ecological responses to recent climate change	North America, northern Europe and Russia	2006

The aim of this research is to explore the relation between urban-birds and people in the context of urban park biodiversity in the city of Kuala Lumpur. The urban birds represent the fauna and will be explored as an ecological measurement of species

richness in the urban environment, while people represent the urban community who live in the city and lastly the urban park represents the green areas provided in the city context. Thus, to investigate the relation between these three elements, this research's methodology involves a two-step approach. The first step is bird survey and second step human surveys include sections regarding urban parks.

The first approach is to conduct a bird survey as adapted from the Buckland technique that ensemble the native environments which will be explained later in chapter two. Secondly, this research will discuss relevant measurement concerning human dimension based on four components which are values, knowledge, attitudes and behaviors. Lastly, based on the aforementioned observations and discussions, this research will shift focus and thoroughly expound the role and interpretation of urban park biodiversity. This understanding will eventually lead to the findings of the research questions and objectives on the interpretation of urban park biodiversity as well as the relation between urban birds and people's behaviors towards it.

## **1.2 CONTEXT OF THE RESEARCH**

### **1.2.1 Urbanization – The Impacts**

Since in the early twentieth century, urbanization has been expanding rapidly in most developing countries. In Malaysia, the number of people living in urban areas has significantly increased from 250, 790 inhabitants in 1911 to 13,725,609 inhabitants in 2000 (Yaakob et al., 2010). These figures indicate that in a span of 90 years, approximately 13.7 million people became urban residents and the expansion of urban areas throughout the country contributed to the statistical increase in the number of cities with populations of 10,000 or more. Hence, the expected level of urbanization in