



CONSERVATION OF URBAN ENVIRONMENTAL
CORRIDOR IN KUALA LUMPUR AS A METHOD
TO SAFEGUARD THE ENVIRONMENT

BY

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A thesis submitted in fulfilment of the requirement for
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ABSTRACT

Today, natural resources in Malaysia has been exploited, networks of roads and railways are laid out, former tin mines are turned into elite housing, river corridors are getting thinner or turned into monsoon drains and natural swamps are no where to be seen within the city and remnant green corridors are decreasing at an alarming rate. The implication of this trend development is the decrease of balance to our cities: the greens provide the habitat for wildlife which plays an important role in supporting the sustainability of man civilization. As more areas are built there is now an imbalance of hard and impermeable surface in the cities, giving rise to hotter urban microclimate – a phenomenon called “heat island”. We are now exposed to global warming, flash floods, water and air pollutions, haze, greenhouse effect as well as water shortage. Therefore, it is the need for us, as “kalifatullah fi ‘Ard”(vicegerent of Allah on Earth) to study the implication of the present trend development so that we may able to intervene in a more rational way. A network of well-connected green-corridors is suggested to be a way of reclaiming the environmental balance in the urban areas. These corridors which are termed as urban environmental corridors serve many purposes; most important of which is to provide urban areas with its ‘soft elements’. This research is aimed at finding the effectiveness of this approach and how we can adapt it to improve our urban area so that a sustainable approach in development can be achieve. This research undertakes four stages of approaches which are; 1) research framework and background study, 2) conceptual framework 3) content analysis results and 4) recommendations and conclusion. Methodologies applied in this study are based on historical study, previous studies on environmental corridors, documentary analysis and case study. Content analysis technique and ground truth survey analysis are been used to analyse the research findings. It is hope that this study can contribute towards highlighting the importance of safeguarding the environmental corridors and benefit both the community and the environment for a better future.

Keywords

Conservation, Urban Environmental Corridor, Green Corridor, Environmental Balance, Sustainable Development

خلاصة البحث

اليوم ، وقد تم استغلال الموارد الطبيعية في ماليزيا : شبكات الطرق والسكك الحديدية التي وضعت ، وتحويل مناجم القصدير السابقين الى النخبة السكنية اى البيوت الراقية ، وممرات الانهر خفت أو تحولت إلى مصارف الرياح الموسمية والمستنقعات الطبيعية لا توجد في داخل المدينة والممرات الخضراء تتناقص بمعدل ينذر بالخطر. الآثار المترتبة على هذا التطور هو انخفاض التوازن لمدننا : الطبيعة الخضراء توفر الحياة البرية التي تلعب دورا هاما في دعم استدامة حضارة الانسان. كما ان بناء المزيد من الاراضى يحدث خلل في سطح الارض الصلب والطبقة غير المنفذة في المدن ، مما أدى إلى سخونة المناخ المحلي في المناطق الحضرية -- وهي ظاهرة تعرف باسم "جزيرة الحرارة". وتعرض الآن نحن لظاهرة الاحتباس الحراري والفيضانات وتلوث الهواء والمياه ، الضباب ، ظاهرة الاحتباس الحراري فضلا عن نقص المياه. ولذلك علينا كخلفاء فى الارض (الانسان ولي الله على الأرض) دراسة الآثار المترتبة على التنمية حتى يتسنى لنا القدرة على التدخل بطريقة أكثر عقلانية. تم اقتراح شبكة من الممرات الخضراء لتكون وسيلة لاستعادة التوازن البيئي في المناطق الحضرية. هذه الممرات التي توصف بأنها الممرات البيئية الحضرية تخدم أغراضا كثيرة ، أهمها هو توفير المناطق الحضرية مع عناصرها الطبيعية الميسرة. ويهدف هذا البحث في العثور على فعالية هذا النهج وكيف يمكننا تكيفه لتحسين منطقتنا الحضرية بحيث يصبح نهج محسن في التنمية يمكن تحقيقه. هذا البحث يتعهد أربع مراحل من النهج التي هي : (1) إطار البحث والدراسة الخلفية ، (2) الإطار المفاهيمي (3) نتائج تحليل المحتوى والتوصيات (4) ، الاستنتاج والخاتمة. وتستند المنهجيات المطبقة في هذه الدراسة على دراسة تاريخية ، والدراسات السابقة بشأن الممرات البيئية ، وتحليل الوثائق ودراسة الحالة. واستخدمت تقنية تحليل المحتوى وتحليل المسح الأرضي الحقيقية لتحليل نتائج البحوث. ونأمل أن هذه الدراسة يمكن أن تسهم في تسليط الضوء على أهمية الحفاظ على الممرات البيئية وتعود بالنفع على المجتمع والبيئة من أجل مستقبل أفضل.

كلمات

المحافظة على الطبيعة ، الممرات البيئية الحضرية ، الممر الأخضر ، التوازن البيئي ، التنمية المحسنة

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 dissertation 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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Signature

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*“I dedicate this research wholeheartedly to my beloved family;
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LIST OF ABBREVIATIONS

CBD	Centre Business District
CPA	Centre Planning Area
DBKL	Dewan Bandaraya Kuala Lumpur (Kuala Lumpur City Hall)
GIS	Geospatial Information System
IIUM	International Islamic University Malaysia.
ILAM	Institute of Landscape Architecture Malaysia
JLN	Jabatan Landskap Negara (National Landscape Department)
JPBD	Jabatan Perancangan Bandar dan Desa (Federal Department of Town and Country Planning Peninsular Malaysia)
KLLMP	Kuala Lumpur Landscape Master Plan
KLSP 2020	Kuala Lumpur Structure Plan 2020
LUCCD	Landscape and Urban Cleaning Control Department
MBPJ	Majlis Bandaraya Petaling Jaya (Petaling Jaya City Council)
MNS	Malaysian Nature Society
MPAJ	Majlis Perbandaran Ampang Jaya (Ampang Jaya Municipal Council)
MPKj	Majlis Perbandaran Kajang (Kajang Municipal Council)
MPS	Majlis Perbandaran Selayang (Selayang Municipal Council)
MRR2	Middle Ring Road 2
NGO	Non-Government Organisation
SAM	Sahabat Alam Malaysia (Friends of the Earth, Malaysia)
SPKL	Structure Plan Kuala Lumpur

CHAPTER 1

INTRODUCTION

1.0 INTRODUCTION

This chapter describes the background of the study and the purpose of this research. It provides an overview of the whole structure of the research as well as the subject area. This chapter also identifies the research problems and how the research aims to address the problems with the support of the research objectives. Besides these, the scope of the research and method of collecting data are also discussed.

1.1 BACKGROUND OF THE STUDY

Over the past decades, Malaysia has gone through tremendous environmental crossroads. The urban sprawl of Kuala Lumpur is not a healthy situation; Sahabat Alam (2001) stated that natural resources apparently are over exploited as networks of roads and railways are laid out; former tin mines lands are turned into elite housing, river corridors are getting thinner or turned into monsoon drains and natural swamps are no where now to be seen within the city. Remnant green corridors are decreasing at an alarming rate (Sahabat Alam, 2001). If no action and ways of prevention are taken, water bodies and lush of green might not be seen by the future generation. More hard surfaces are being laid within the city reducing natural surface for rainwater to penetrate and moist the soil. Leaving the way as it is, we are going to repeat the same mistakes the developed countries had done. If is possible, we need to do our best to revert this towards environmental balance as major cities in the world

like in Korea, Japan, Britain, United States and Canada have been creating successful environmental corridors in order to support the wellbeing of their city. Physical damage towards the environmental corridors as could be seen around Kuala Lumpur can become depleted if ecological consideration is not part of the planning process.

This research intends to provide a better understanding in protecting urban environmental corridor in the efforts to provide sustainable living environments towards the city of Kuala Lumpur. This is conducted by investigating the main problems being faced in Kuala Lumpur city centre and the pressures of development involved. It is hoped that the findings of this research will contribute towards safeguarding Kuala Lumpur city centre as well as sustaining the environment.

1.2 RESEARCH PROBLEMS

The landscape of Kuala Lumpur has seen great changes; from a prosperous tin mining town, Kuala Lumpur is now an urban, industrial and commercial city (Gullick, J.M. 2001). In the process of becoming a bustling international metropolis, rapid urbanization has taken place, taking its toll on the protected natural resources. Sahabat Alam (2001) has stated that, Kuala Lumpur is exposed to global warming, flash floods, water and air pollutions, haze, greenhouse effect as well as water shortage. Quality green spaces and environment corridors are decreasing in the city centre. Through the author's observation, the natural river banks of the Klang river and Gombak river are unfortunately not been managed properly for the benefits of the public but are turned into monsoon drains. Developing countries like in Seoul, Korea have removed the freeway and revitalized back their river nature ecology in order to create ecological and visual values towards the community (Meinhold, 2010).

Previous studies have showed the current situation of green spaces around Kuala Lumpur. Kamalruddin (2003) in his paper addressed the declining size of green areas from the recommended size stated in the Klang Valley Perspective Plan 1984. This has prompted environmentalist, conservationists and NGO to criticise over the shortage of green spaces in Klang Valley. The Malaysia Nature Society (MNS) with other non-government organisations and researchers objected to the non-compliance in the aspects of green lung conservation of the Kuala Lumpur Structure Plan 2020 (2000) and the Draft Kuala Lumpur City Plan 2020 (2008) which shows an obvious shrink in the natural urban greens (Yip, 2008). This is statement is supported by Nik Hanita (2009), as she described the green spaces around Kuala Lumpur city centre are mostly fragmented and in isolated patches with loose connectivity due to the reduce size of quality green spaces.

Besides that, there is almost no research directly concerning environments corridors in our country although there are a lot of works being done on urban ecology per se. The network of the nature and semi-natural areas seems to be neglected or unrecognised even though the government and media (The Star, 2010) have been highlighting issues on the importance of maintaining our environment. This research is carried out as a step to preserve and conserve the sustainability of the urban environment corridors before they are lost to wanton development. Neglecting the environment corridors may also negate their social and economic benefits as they play an important role in the urban matrix (Church, 2001). It is important that studies should be carried out to help identify intrinsic and extrinsic values so that the conservation of these corridors should be actively promoted by relevant authorities and non-government organisations (NGO) as promoted in the Draft Kuala Lumpur City Plan 2020 (2008), towards providing a sustainable and tropical city. If research

and action are not carried out, it is feared that Kuala Lumpur's urban ecology will not be sustained for the next generation.

1.3 RESEARCH AIMS, OBJECTIVES AND RESEARCH QUESTION

This research is aimed to investigate the effectiveness of the environmental corridor as an ecological tool towards the city development and to suggest on how we can improve and adapt in achieving a sustainable development. The objectives of this research are;

1. To identify the environmental corridors within Kuala Lumpur in order to understand its ecological network.
2. To categorise types of development pressures being faced by the corridors as well as to suggest ways of reducing the pressures

The following research questions are posed to meet the aim and the objectives of the study:

1. What is the style of urban environmental corridors in Kuala Lumpur now?
2. What types of development pressures being faced by the urban environmental corridors?
3. How do we reduce environmental pressures in the city and understand the ecology as well as cultural importance?

1.4 DEFINITIONS OF TERMINOLOGY

The definition of terms below provides the working definition for the research.

- i. **Conservation** is described as the preservation and careful management of the environment and natural resources such as forest, soil and water (Wordpress, 2010). Conservation can help to maintain natural habitat so that diversity of species can remain within its natural environment.
- ii. **Corridor** is described by Park, C. (2007) as a strip of natural habitat that connects two or more larger areas of natural habitat (or nature reserves) surrounded by developed land, which allows the migration of organisms from one place to another. Also known as buffer, buffer strip, buffer zone, greenway, or migration corridor.
- iii. **Environmental Corridors** is defined as areas in the landscape containing especially high value natural, scenic, historic, scientific, and recreational features according to G. Knob (1998). J. Church (2001) stated that they often lie along streams, rivers or other natural resources, protecting the environmentally sensitive areas by providing linkage in the landscape and potential buffers between natural and human activities. High value lakes, wetlands, prairies, and woodlands become more valuable when linked by corridors of concentrated natural resource activity like beads or jewels on a necklace, the best resource features are strung together and actually become part of a larger functioning system.
- iv. **Sustainable development** is ‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs’, which includes economic growth together with

protection of the quality of the environment, each reinforcing the other (Park, 2007).

- v. **Nature reserve** is defined as an area of land that is set aside and managed in ways that benefit nature conservation, usually by limiting human access and use and many endangered species of plants and animals are protected inside them (Park, 2007).
- vi. **Green infrastructure** is an interconnected network of waterways, wetlands, woodlands, wildlife habitats, and other natural areas; greenways, parks and other conservation lands; working farms, ranches and forests; and wilderness and other spaces that support native species, maintain natural ecological processes, sustain air and water resources, and contribute to the health and quality of life of communities and people”. (Benedict and McMohan, 2002).
- vii. **Greenways** as cited by Bryant (2006) are natural corridors set aside to connect larger areas of open space and to provide for the conservation of natural resources, protection of habitat, movement of plants and animals, and to offer opportunities for linear recreation, alternative transportation, and nature study.
- viii. **Greenbelt** is a designated land surrounding towns and cities. Tang Bo-sing (2007) defines greenbelts as a zone of land around the city where building development is severely restricted. Its purpose is to protect and enhance their character and landscape setting and to give access to open space as well as help to save the wild and protect plant species within a town or city (Wikipedia, 2010).

1.5 SCOPE OF RESEARCH

This study was carried out in the Centre Planning Area (CPA) of Kuala Lumpur city centre. The Centre Planning Area (CPA) of Kuala Lumpur city centre was chosen as the study area as it is the most highly impact of urbanization experienced within the Klang Valley region compared to the other urban conurbation in Kuala Lumpur municipal. Besides being the capital of Malaysia, Kuala Lumpur has gone through tremendous environmental changes due to improper development in city centre. From flash floods to landslide, Kuala Lumpur has experienced it all and that is why it was chosen in order to study how urban environmental corridor can contribute in conserving the urban biodiversity. This is where the significance of the study lies; to identify the sensitive areas within the urban corridors of Kuala Lumpur and provide the needs of attention by the Kuala Lumpur City Hall (DBKL) and the government through contextualization and scientific measurements.

It is felt that through this study, the awareness and responsibilities of safeguarding urban corridors in Kuala Lumpur from degrading can be enhanced. Once the environmental corridor is mapped and identified, they can be used to establish priorities in Kuala Lumpur city centre land protection and evaluation of potential threats to the site. It is hope that this study will improve the ecological environment within the city centre in order to create a safer and healthier city environment to live in.