

DEVELOPING A SUSTAINABLE URBAN LANDSCAPE MANAGEMENT SYSTEM FOR KABUL, AFGHANISTAN

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DEVELOPING A SUSTAINABLE URBAN LANDSCAPE MANAGEMENT SYSTEM FOR KABUL, AFGHANISTAN



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

September 2019

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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

DEVELOPING A SUSTAINABLE URBAN LANDSCAPE MANAGEMENT SYSTEM FOR KABUL, AFGHANISTAN

By

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September 2019

Chairman : Associate Professor LAr. Osman Mohd Tahir, PhD Faculty : Design and Architecture

Urban landscape plays a significant role in the quality of life and sustainability issues of urban development. As more new cities and metropolitan areas are created and more money spent on urban landscapes, it is becoming more urgent to discover an urban landscape management scheme that addresses these issues. At the same time landscape management plays a key role in improving the quality of urban landscape. High quality urban landscape management requires a proper management system. In rapidly urbanizing cities, such as Kabul in Afghanistan, the importance of urban landscape and green space is acknowledged. However, due to the rapid urbanization and population growth, managing the city's landscape is a major challenge. Developing countries like Afghanistan are facing a decline in green spaces due to lack of proper management. The objective of this study is to propose a sustainable urban landscape management framework for Kabul in Afghanistan.

Three countries were selected as case studies – Malaysia, Singapore, and England. Their urban landscape management systems were studied. Relevant professionals and experts in Kabul were interviewed to elicit their views regarding urban landscape management in the city, and their comments on the proposed management framework are discussed. The findings of the research confirm that the framework has considerable potential for improving the urban landscape management in Kabul Afghanistan. It is hoped that the findings of this study will increase the local authority's knowledge in managing the urban landscape and thereby, decreasing the deterioration and decline of urban green spaces in Kabul's urban landscape.

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

MEMBANGUNKAN SISTEM PENGURUSAN LANSKAP BANDAR LESTARI UNTUK KABUL, AFGHANISTAN

Oleh

FAIZA DARKHANI

September 2019

Pengerusi: Profesor Madya LAr. Osman Mohd Tahir, PhDFakulti: Rekabentuk dan Senibina

Landskap bandar memainkan peranan penting dalam isu-isu kualiti hidup dan kelestarian pembangunan bandar. Dengan pembangunan lebih banyak bandar dan kawasan metropolitan yang baharu serta lebih banyak wang dibelanjakan untuk landskap bandar, pengetahuan mengenai skim pengurusan landskap bandar menjadi lebih penting bagi menangani isu-isu berkaitan. Pada masa yang sama pengurusan landskap memainkan peranan utama dalam meningkatkan kualiti landskap bandar. Pengurusan landskap bandar yang berkualiti memerlukan sistem pengurusan yang berkesan. Di bandar-bandar yang sedang pesat membangun seperti Kabul di Afghanistan, pentingnya landskap bandar dan ruang hijau telahpun diakui. Walau bagaimanapun, pengurusan landskap bandar menghadapi kemerosotan ruang hijau disebabkan kurangnya pengurusan yang berkesan. Objektif kajian ini adalah untuk mencadangkan rangka kerja pengurusan landskap bandar yang mampan untuk Kabul di Afghanistan.

Tiga negara dipilih sebagai kajian kes - Malaysia, Singapura, dan England. Sistem pengurusan landskap bandar mereka dikaji. Para profesional dan pakar di Kabul yang berkaitan telah ditemubual untuk mendapatkan pandangan mereka mengenai pengurusan landskap bandar di bandar berkenaan, dan ulasan mereka mengenai rangka kerja pengurusan yang dicadangkan juga dibincangkan. Hasil daripada kajian mengesahkan bahawa rangka kerja yang dicadangkan mempunyai potensi besar untuk meningkatkan pengurusan landskap bandar di Kabul Afghanistan. Adalah diharapkan penemuan kajian ini akan meningkatkan pengetahuan pihak berkuasa tempatan dalam mengurus landskap bandar di kawasan bandar Kabul.

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I would like to express my deepest gratitude from Afghan government, especially ministry of higher education which they supported me through higher education development program and helped me to turn my educational dreams into reality.

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LIST OF ABBRIVIATIONS

| GD-NRM | General Directorate of Natural Resources Management |
|--------|--|
| MAIL | Ministry of Agriculture, Irrigation and Livestock |
| SULAMs | Sustainable Urban Landscape Management |
| EPU | Economic Planning Unit |
| NLD | National Landscape Department |
| CABE | Commission for architecture and environmental building |
| NGOs | Non-governmental Organizations |
| NParks | National Parks |
| QPs | Qualified Person |
| DC | Development Control |
| BP | Building plan |
| CSC | Certification of Statutory Completion |

6

CHAPTER 1

INTRODUCTION

A sustainable urban landscape management is essential sustaining an urban landscape. According to Zakaria (2017), as of 2014, 54% of world's population live in urban places and this figure is expected to increase 66 % by the year 2050. However, urbanization faces many challenges. One of these is the low priority for urban green spaces allocation in Asian developing countries such as Afghanistan. This can lead social, economic, and physical impacts for city residents (Anguluri & Narayanan, 2017).

The fast development of urban communities needs not only financial and social adaptation, but also changes in the development and management of the urban landscape. Developments in urban regions usually aim at changing urban living conditions, improving financial conditions and providing a better and more comfortable living. In many cases, however, the changes also alter the existing natural equilibrium in the environment and ecosystems that are critical to urban landscape functioning.

Urban landscape structure has come about as the result of a rapid increase in population, the evolution of city areas and the concept of dense areas (Brown, 2018). Recently, urban green space has decreased in some urban areas (Rakhshandehroo, et al., 2016). For the present and future development of urban landscapes, it is better to focus more on sustainable urban development, green solutions, and the management and governance of green areas in the landscape (Krisdianto, et al., 2012). Effective management depends on good governance. Unsustainable urban landscape management causes air, water and soil degradation (Rakhshandehroo, et al., 2015).

Concerning good planning, more sustainable approaches (Ives, et al., 2014) are needed in the management of urban landscapes (Tahir et al., 2006) Sustainable urban landscape management has been overlooked (Gillette & Hurley, 2018) from the policy maker's perspective (Shields, et al., 2016) landscape management in complex, spanning jurisdictions is often limited by the lack of shared management priorities and a common spatial information system in Kabul Afghanistan (MAIL, 2016). For comprehensive sustainability of urban landscape management, including open green spaces, landscape management is critically needed (Mahayudin, et al., 2015) Landscape management is connected to the managing organization and all others with which it works (Jansson & Lindgren, 2012). Many other studies such as (Ojeda-Revah, et al., (2017) articulated that in some countries landscape planning and management are not statutory. They are mostly carried out through a wide range of powers generated by national, regional, and local laws. In addition, they are often the responsibility of the local government. As a result of the lack of a comprehensive legal framework and proper enforcement, landscape planning and management in these countries do not meet the expectations or needs of the potential users.

1.1 Problem Statement

Kabul is the Capital and the largest city located in the eastern part of Afghanistan. It is the fifth fastest growing city in Afghanistan and with a population of 4,860,880 million in 2018, is the 75th largest city in the world (Central Statistics Organization, 2018). The population will continue to grow and it is projected that the City will have 6.6 million in 2020 and 7.7 million in 2025 (Zakharenka, 2018).

Green spaces including parks are important spaces for public amenity in the City. Established as places for refuge, green areas and its landscape is an important element in forming the character of Kabul City. However, except for three cities (Charikar, Asada bad, Lashkar gah) green spaces and forests account for less than 2% of land area in all Afghanistan cities. Kabul has less than 1% of the total area covered with green spaces in built up areas (*State of Afghan Cities*, 2015).

It is essential to provide a good quality of life, where people can fulfil their basic needs and live comfortably. Thus, creating sufficient green spaces in Kabul are one of these needs. Russo, (2018) stated that the minimum standard for per capita urban green space nine square meter, which is about a 15 minute walk to the nearest green area. Currently, there is only 1.8 square meter of green spaces per capita in Kabul (Barak, 2017).

i. Rapid deterioration of green spaces

Rapid deterioration of green areas, habitat disintegration, the loss of greens in densely populated areas and poor maintenance of these spaces are important issues in Kabul (Anguluri & Narayanan, 2017; Haaland & van den Bosch, 2015). There are indications that the loss of urban green spaces is due to urban densification. Therefore, the provision of urban green spaces in the city is a real challenge for city planners and managers.

Afghanistan has been the stage of conflict involving national and international forces for the past three decades. This long lasting conflict created a chaotic situation which has enormous affected every aspect of life in the City including its green spaces. Today decreasing urban green spaces is a significant national issue especially in Kabul (State of Afghan Cities, 2015). Due to the current redevelopment in the Country, more building are being constructed and consequently the extent of the city's green spaces are shrinking. This created a challenge towards the goal of a sustainable urban landscape in Kabul.

ii. Lack of proper management

Kabul Municipality acknowledged the lacking of proper urban development and access to social services. Unclear responsibilities and relationships between the central government, municipalities, line departments, and municipal service providers contribute to the weak planning and management of urban development, competition and duplication of efforts, and the lack of coordinated plans and investments at city level. These have severely constrained development potential of the City (*State of afghan cities*, 2015).

iii. Rapid increase in population

The local regional authorities are the responsible bodies to conserve and maintain the green spaces (Atiqul Haq, 2011). In the case of Kabul, they revealed that rapid increase in population is the most challenging issue in the development of urban green spaces and urban sustainability. Most of the urban trees (both exotic and local species) that were grown to enhance the greenery of the city and protect the natural environment in the past have been destroyed or degraded due to the increase in urban population (Kabul Municipality, 2015).

iv. Rapid urbanization

Irregular and rapid urbanization is another most key issue which led to the loss of urban green spaces to urban sprawl and infrastructural development. A significant amount of urban green spaces and vegetation losses occur due to irregular rapid urbanization (Un-Habitat, 2014). Informal settlements are a big concern in Kabul. Currently, 75-80% of housing and other settlements in Kabul are informal settlements leading to serious encroachment of urban and agricultural lands. This is caused by inadequate measures by the relevant authorities to address this issue. The growth of this kind of settlement is a threat to urban green spaces and parks (Habitat, 2016).

Besides unplanned settlement, waste disposal has also become a major problem in the City contributing to environmental problems. Environmental pollution is a major concerned in Kabul (State of afghan cities, 2015). Low annual precipitation in Kabul also contributed to difficulties in maintaining the city green. For instance, a million trees were planted yearly but most of them died or damaged by the end of the year.

To add to all these challenges is the lack of public awareness and knowledge on the importance of urban green spaces and parks in improving their lives (Popal, 2014).

3

The above challenges form the main hurdles towards maintaining and improving the City's landscape. Having a good quality urban landscapes and green spaces are the indicators of healthy environment, civilization, and advancement for a nation. Therefore, there is currently a need to conduct research into these issues to aid in the landscape management of Kabul. The findings from the study may be able to provide crucial information for entities, organizations and government to take measures towards eliminating some of these challenges towards a more sustainable landscapes and green spaces in Kabul. Creating green spaces in undeveloped land areas in the City can bring multiple benefits related to mental health, flood risk reduction, increased opportunities for physical activities and also improved its air quality.

1.2 Research Questions:

The main research question in this study is how to develop sustainable urban landscape management in Kabul? In order to answer the main research question the study has developed the following sub-questions.

RQ1. What are the problems of urban landscape in Kabul?

RQ2. What are the current sustainable landscape management practices in other Cites?

RQ3. How to improve urban landscape management in Kabul toward achieving sustainability?

1.3 Research Aim and Objectives

The aim of this study is to propose a sustainable urban landscape management for Kabul in Afghanistan.

The specific objectives of this study are:

- 1. To identify the urban landscape management problems in Kabul
- 2. To analyse current sustainable landscape management practices other City's landscape?
- 3. To develop an urban landscape management system for Kabul toward sustainability.

1.4 Significance of the Study

This research is significant to increase understanding and knowledge in urban landscape management in Kabul Afghanistan. This study will be helpful with regards to the urban landscape management issues and the importance of urban landscape management in Kabul, Afghanistan. This arises from the observation that there has not been much focus and clear understanding about urban landscape management in that city.

This research also increase awareness of the importance of an appropriate sustainable system for managing urban landscape in the overall urban landscape development process in Kabul. This is very timely as there is a growing realisation that urban landscapes including green spaces and parks are becoming more important for urban living.

1.5 Scope of the Research

This study focuses on the city of Kabul, Afghanistan because it is one the highest populated city in Afghanistan and landscape management is an important issue for consideration. This study emphasizes the urban landscape, urban landscape management, and green spaces. A lot of effort has been put in to develop green spaces and parks and other urban landscape areas. However, the urban landscape management aspect is still being overlooked. The scope of this study, therefore, is limited to identifying an appropriate landscape management for managing urban landscape in Kabul.

1.6 The Thesis Structure

This thesis consists of five chapters as follows:

Chapter 1: Introduction to the study, study aim and objectives and discussion on the significance and scope of the research.

Chapter 2: Background literature study on landscape and sustainable urban landscape management, other countries experiences and practices regarding landscape management as well as a conceptual framework on sustainable urban landscape management for Kabul, Afghanistan.

Chapter 3: Research methodology including the development of the research strategy and the process of carrying out the research. It also explains the selection of the research methods and techniques for data collection.

Chapter 4: Presentation of study results and discussions on the interviews and observation conducted. The interview is done with professional and local authorities who are directly involved in urban landscape management in Kabul Afghanistan. The chapter also examines the issues, problems, significance and the future of sustainable urban landscape in Kabul. All the results are carefully analyzed and discussed.

Chapter 5: Findings from the research. It consists of the conclusions and recommendation. This chapter ends with some remarks about the contribution of this research and the conclusion of the study. It is shown in figure 1.1



Figure 1.1 : Thesis structure

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