



Analysis of Ant's Habitat in the Quran: Potential of the Adaptation for Sustainable Urban Landscape Design in Malaysia

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ABSTRACT

Majority of the urban dwellers will experience physical urban disarray of a climate change from the unsustainable urban landscape design. Urban landscape design concept and policies in Malaysia fail to produce optimal solution to the threat of climate change. This paper will try to reveal answer for unsustainable issues in urban landscape design via simulation of the Quranic verses on the habitats of ant. The appropriate and relevant verses of the Quran regarding habitat of ant gathered to develop a nine-component sustainable landscape design template. Those variables explored from the habitat of ants from the Quran are used to insert with integral do's and don'ts of sustainable habitat design. The habitat of ants in the Quran describes the spatial articulations, behavioral and socio-ecological that appropriate to be embedded into sustainable landscape design. It is anticipated that through this paper we can understand an integration of spatial articulation and social components of urban landscape design of the framework give it a distinctive mosaic that most urban landscape design system lack. The study also will support urban landscape design preservation and conservation of urban habitat and ecosystem, low carbon emissions, low urban crime, security and safety, urban social responsibility and respect for human rights and pride.

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INTRODUCTION

Verily, in the creation of the heavens and the earth and the alternation of night and day, are Signs for people of inward understanding who remember Allah, standing and seated, and upon their sides, and ponder as to the creation of the heavens and the earth: Our Lord! Not for naught didst thou create this . . . ' (Quran 3: 190-191)

Urbanisation issue is one of the pivot challenges to be faced of the 21st century. It will expect 50% of urban dweller will be living in cities [10]. That scenario will affect urban land increase that cause chaos to global sustainability issue more than development activities. The most problems wrecks from this issue are associated to urban landscape design and urban land use change [9]. Generally, urban cities area account about 70% of the global energy net consumption and emissions [7]. As stated by Michael *et al.* [5] that there are critically environmental impacts of cities encompass various aspect of urban scope. On the other hand, those challenges are not restricted to cities, but the urban sustainability risks look in uncountable ways such as urban disintegration affects biodiversity [8] climate change and carbon emissions [6,4].

There is an interesting distinctiveness of the 21st century which is solving problem matter through interdisciplinary method. This approach will encompass sharing of research finding and methodologies within and across social sciences, humanities and technologies. In this manner, the new model of sustainability science identifies the vital of *various human and natural systems* [4]. Multi-disciplinary extends understanding of issues, problems and resolutions in the built environment. In the similar light, they can together increasing shift of interest of major world religions towards encouraging our urban sustainability.

Thus, the harmony of science, religion and arts, is a fundamental center of strength to build communal of sustainability scientists. This paper challenges unmanageable urban landscape design through simulation of the verses of Quran on the ant's habitats. The main objective is to determine how ant habitat system could support

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in overwhelming contemporary urban landscape design hesitations. The paper scrutinizes the current urban landscape design issues and strategies for its sustainability. It also summaries how the understanding of the Quran complements on modern scientific concepts of sustainable landscape design.

2.0 How far urban landscape design has it gone with Sustainability?

Urban landscape design is a combination of built environment disciplines such as urban design, town and planning, architecture, etc., which is express landscape planning, landscape ecology, landscape engineering, landscape policy, landscape construction, spatial articulation, and morphology of urban areas as the aim of urban landscape design is for social and public well-being [3].

Accordingly, Lehmann framework of sustainable urban city, Lehmann categorises a complement of criteria for sustainable urban design that will be adopted into sustainable urban landscape design for instance: efficient transport, mixed uses, efficient infrastructure, compactness, renewable energy, waste management, and proximity to consumables, prominence on strategic planning, carbon and emission reducing and retrofitting of unused and disturbed urban lands. Indubitably, there is no city in the world can claim their right to have fully accomplished the aims of sustainable urban design.

However, some researchers highlighted that some design for urban city that refer to their cultural and traditional can be claimed as a good models for sustainable urban design. It is according to its conservation of historical value, its dense, workable city and compact urban city forms [2]. Thwaites, *et al.*, attentiveness that issue of lacking social value of urban landscape design fails if its design does not consider a sense of place, human value, social aspects of liveability, and attachment to it as characteristic human values such as its cultural and historical. Therefore, a good design for urban landscape design must be encompassing a social value integrating with environmental aspect in a city.

3.0 Contextualisation of the Quranic verses on Ant's Habitat Setting:

This paper extracted the underlying contexts of design and landscape sustainability that the selected verses implied. Verses regarding ant's habitat is determine below:

Till when they came to the valley of the ants, one of the ants said: "O ants! Enter your dwellings, lest Sulaiman (Solomon) and his hosts should crush you, while they perceive not." (Quran 27 (Naml-The Ants) verse 19)

A verses regarding ants represented the images of the ants' habitats concerning certain socio-ecological, behavioral and social community dimensions.

4.0 Simulation of the Quranic Verses & Principles of Sustainable Urban Design:

A template for enhancing sustainable urban landscape design through adopting ideas derived from ant's habitat in the Quran is revealed. Lehmann framework for Green Urban Design is adopted as its key aspects of sustainable best practice for urban area. The principles drawn from the ant's habitat in the Quranic verses are given in table 1:

Table 1: The principles drawn from the ant's habitat in the Quran.

Ant's Habitat Design in the Quran	
1	Local Ecosystem conservation
2	Human rights
3	Compact design
4	Sacredness in design orientation
5	Community Information-sharing

5.2 Characteristics of the Ants' Habitat and Implications for Urban Design:

It is important to highlight that ants are special insect which known as social insects that succeed in their communities. Through this research, it is found that the Quran clarify special characteristics of ants' habitat; the security, communication and information sharing features among them and sense of neighbourhood. Consequently, it is an urgent to adopt from those ant's habitat characteristics into sustainable urban landscape components though communication, and information sharing. Even though it is not in spatial articulation, however their community could play a better part in meeting sustainability needs of urban landscape area. As urban area are often exposed to hazards of crimes and environmental disturbance, implementation of 'communication and information sharing' and revealed from the ant's habitat design, it will help to avoid those hazardous. A sense of neighbourhood is vital to be adopted into sustainable urban landscape as it should learn from the ant's habitat design for a better community.

Conclusions:

The result above are vigorously important to be adopted into sustainable urban landscape as for better neighbourhood planning for futuristic, concerning social and attached to the ecologically. The paper also

establishes the potentials of religious context in giving solution to the urban planners, architects and landscape architects. Thus, it is significant to implement those ants' habitat design to enhance sustainable urban landscape in retrofitting problems saturated urban landscape.

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