Structural Biodiversity of Urban Green Space Influencing the Sense of Place Deliver to Urban Inhabitants in Malaysia

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“The benefits that people get from natural ecosystem”

Millennium Ecosystem Assessment (MEA), 2005
Rate of Urbanisation
(JPBD, 2006)

[1991 – 2000]
54.3% - 65.4%

[2020]
75%

Biodiversity is an ecosystem service provider to inhabitants.
(Millennium Ecosystem Assessment, 2005)
Focus on physical activities only; they miss out assessing biotic and abiotic conditions, and the aspects that may promote other cultural services such as sense of place that less investigated from previous studies. (Voigt et al., 2014; Milcu et al., 2013)

There is a lack in research on the perception, experience and valuation of urban nature’s diversity. (Voigt et al., 2014)

Research on the value and the importance of urban green for inhabitants, but still lack in research on the specific perception and valuation of urban biodiversity. (Dearborn and Kark, 2010)
Assumptions

STRUCTURAL BIODIVERSITY IN URBAN GREEN SPACE

Provide sense of place

Home for urban wildlife

Biodiversity conservation

Enhance urban quality of life
Aim:
To investigate the perceived and appreciated structural biodiversity by urban inhabitants for sense of place in urban green space in Malaysia.

Objective 1:
To identify the features of structural biodiversity provided by green space that people highly value for the sense of place;

Objective 2:
To investigate the dynamics of social and ecological interactions; and

Objective 3:
To examine the composition of structural biodiversity that can provide sense of place to urban inhabitants.

- Are urban inhabitants attracted by a high diversity of natural features?
- What type of features they like most?
- Does the structural biodiversity influence the sense of place of urban green space?
- How structural biodiversity influence inhabitants to interact with nature?
- How does the composition of structural biodiversity in urban green space contribute to sense of place among inhabitants?
“Ecosystem cannot deliver any services to inhabitants if there are no relationship between the interaction between inhabitants, structural biodiversity elements, the provided facilities, and society of the area” - Costanza et al. (2014)
STRUCTURAL BIODIVERSITY
[ Biotic and abiotic elements ]
- Tree elements
- Ground vegetation
- Water elements
- Topography

Park characteristics
- Attractive wildlife
- Attractive plants
  - Naturalness
- Beauty of landscape
  - Good view
  - Tranquillity
- Facilities for relaxation
- Facilities for sport and play
  - Access
  - Proximity to water
  - Shaded areas

Visitor’s activities
- Active/ sport
- Passive/ relax
  - Interaction with nature
- 6 urban parks
- In 2 states (Johor + Kelantan)
- Different in size (small, medium, large)
- Vegetation diversity (higher, medium, low)
Data Collection

- Mapping and evaluation of structural biodiversity and man-made infrastructure
- Questionnaire surveys to assess visitor’s demand and activities
- Observation and site inventory

Data Analysis

- Structural biodiversity of urban park
  - All data on urban green space were compiled using a GIS system (ArcGIS)
- The importance of structural biodiversity for sense of place
  - **Statistical analysis** will be used to examine the relationships between the measured variables with structural biodiversity of urban green space.
Significance of Study

- **Add new knowledge** on the composition of structural biodiversity in urban green space as the provider for cultural ecosystem services (sense of place) to enhance urban quality of life.

- **Provides an idea for the developers, urban planners and landscape architects** to efficiently plan, design and manage urban green areas in providing a proper structural biodiversity composition to deliver sense of place base on inhabitants’ experience.

- **Help in promoting biodiversity conservation in urban area.**

- A model of analysis of preference composition of structural biodiversity in urban area for Malaysia towns could be formulated; can helps Malaysian authority in improving the quality of urban green space in Malaysia.
Anticipated Finding

The experiences of inhabitants’ life in urban area may influence:

- Their preferences for ecosystem structure of green space that they will use for a better quality of life; and
- The criteria of urban green spaces that they choose to access for the sense of place that allow them to obtain intangible benefits for a better self-feeling.

The social and ecological factors that support structural biodiversity may influence:

- Green space to provide sense of place, and this would contribute to the enhancement of perceive and appreciation of urban inhabitants toward urban green space as an ecosystem services provider - sense of place.
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* - Proposal Defence
** - Thesis Defence


Millennium Ecosystem Assessment (2005); The Economics of Ecosystems and Biodiversity initiative (2010)