AN ANALYSIS OF SPATIAL STRUCTURE OF URBAN GREEN SPACE DISTRIBUTION IN COLOMBO MUNICIPAL COUNCIL AREA

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(08/9605)

Degree of Master of Science in Town and Country Planning

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Declaration

I declare that this is my own work and this dissertation does not incorporate without acknowledgement any material previously submitted for a Degree or Diploma in any other University or institute of higher learning and to the best of my knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgement is made in the text.

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Certification

I herewith certify that H.L. Chamila index number 08/9605 in the Master degree of Town and Country Planning Programme has prepared this research project under my supervision.

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Abstract

Spatial structure of urban green space has an important effect for the urban planning as well as city dwellers. Green spaces have always been urban ecological resources. It is the most desirable thing in cities as the natural elements apart from the tension of city life. In recent years, development of the concepts of 'green cities', 'sustainable cities', 'eco-cities' pay more attention for the urban green spaces.

Many green spaces disappeared due to the development of a city. In a city green spaces provide citizens with contact to the biodiversity and natural environment it became a factor of the physical and mental well-being of the people. It makes more opportunity to enjoy and rest at the green space for the people. However, the green spaces of the cities have been destroyed and changed into human activities.

The objective of this research is to find the relationship between urban spatial structure and green space distribution. Urban Green Space Index with Road Density Index, Building Density Index and Population Density Index is used to find the relationship between the urban green spaces and the urban spatial structure of the area. The study is based on Colombo Municipal Council Area. The green space data derived from satellite imagery data with NDVI extracted vegetation data and Google images in 2013. Demographic data from the 2012 census, in Census and Statistics Department are compiled for further processing with the Geographic Information Systems in ArcInfo. An in-depth interview and field observation was conducted in CMC area to identify the real situation in ground.

This study finds the followings, using four indices to find the relationship between urban green space and urban spatial structure. There is a significant moderate negative relationship among the urban green space and built form. There is no strong correlation among the urban green space and road network. There is a significant moderate negative relationship among the urban green space and population. Finally urban green space is the important element of the urban spatial structure.

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LIST OF ABBREVIATIONS

Abbreviation	Description
BDI	Building Density index
CMC	Colombo Municipal Council
PDI	Population Density index
RDI	Road Density index
UGS	Urban Green Space
UGSI	Urban Green Space Index
USS	Urban Spatial Structure
WBDI	Weighted Building Density Index
WGSI	Weighted Green Space Index
WPDI	Weighted Population Density Index
WRDI	Weighted Road Density Index

LIST OF APPENDICES