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**INTEGRATION OF WATER BODIES
WITH URBAN DEVELOPMENT
(SPECIAL REFERENCE TO KURUNEGALA MUNICIPAL COUNCIL AREA)**

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Submitted in partial fulfillment of the requirements of the
Master of Science Degree in Town & Country Planning

Universith of Moratuwa



96403

**DEPARTMENT OF TOWN & COUNTRY PLANNING
UNIVERSITY OF MORATUWA
NOVEMBER 2009**

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DECLARATION

I declare that this individually supervised research project represents my own work, except where due acknowledgement is made, and that it has not been previously included in a thesis, dissertation or report submitted to the University of Moratuwa or any other institution for a degree, diploma or other qualification. I wish to also declare that the total number of words in the body of this report (excluding the tables and references) is 9500.

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CERTIFICATION

I certify herewith that L.M.Samantha Kumara, registration no. 07/9612 of the Honours Degree of M.Sc. in Town & Country Planning 2008/2009 has prepared this Individually Supervised Research Project Report under my supervision.

NIL

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Abstract

This research intended to study the capacity to integrate the potentials of lakes with urban development special reference to the KMC. It focused to envisage that with urban development can be promoted, by integrating potentials of urban lakes. Urban lakes and urban development has integrated with the fields of watershed management; water based urban development, economic, social and environmental value of urban lakes and urban ecology etc.

Lake Watershed characteristics such as climatic, physiographic, geology, soil, watershed hydrology, land use and socio economic features are considered for the development of lake watershed area. Out of those it is necessary to consider the land use and socio economic characters because of which changes by the human intervention. Lakes are influenced to change its natural state by the use and existing development activities surrounding the lake and its watershed area. The vulnerability of those influences varies from lake to lake depending on its size shape, type and related other factors. The level of growth and developments of watersheds of a lake depends on a lake's capacity to support that development. In concerning the sensitivity to development of a lake it needs to consider physical characteristics of lakes as mentioned above and chemical or biological characteristics. However, due to changing overtime of chemical or biological characteristics of lakes it mainly focuses to the physical characteristics for the lake's sensitivity.

Based on the lake watershed characteristics, carrying capacity and sensitivity to development, lakes are associated with the significant social, natural and physical features that enhance the lakes characteristics and its surrounding area, and make it a desirable place for people to live, visit and earn a sustainable livelihood. Urban lakes are valuable assets to the people in terms of recreation, tourism, commercial historic sporting visual/landscape amenity, flood management, climatic modification, ecological/environmental etc.

A ring of development is generally formed around urban lakes with the greatest density of development activities. In changing natural state of a lake due to development activities it leads to change its carrying capacity. For sustainable development of lakes there are some zoning areas such as lake shoreline, shoreline buffer, shore land protection area and contributing to the watershed area. Also lake water surface area is zoned as inlet, intermediate and outlet areas. For the development of those areas there are some development guidelines to adopt for each lake zones to integrate the lakes potentials for the development.

The historic Sri Lanka has utilized their lakes especially for supply of drinking water, recreation, scenic beauty, storm water retention, climatic modification etc. Anuradapura, Pollonnaruwa, Kandy, Yapahuwa, Kurunegala, such all ancient cities had a water body within the city limit for those purposes.

Kurunegala city is the capital of Kurunegala district and classified administratively as a Municipal Council. Kurunegala Lake is a man made ancient ornamental water body located in the heart of the city at 126m above MSL. This Lake is a perennial water body having an extent of 46.6 hectares. The lake locates in the heart of the city and it provides much potential to the city.

The development plan prepared for the Kurunegala MC which has included the Lake as a development potential and have given some development guidelines to integrate Lake with urban development.

Increasing population, land use changing, settlement expanding and widely spreading of infrastructure services are the some of main facts to weak the interconnected and interdependent land use system of the Kurunegala Lake. Accordingly reviving the literature based on lake development and studying the Kurunegala lake potentials it is aimed to achieve integrated planning approach for Kurunegala watershed



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ACKNOWLEDGEMENT

I wish to extend my gratitude to my supervisor Mrs. Malani Herath Senior Lecturer, Department of Town & Country Planning, University of Moratuwa for providing supervisions and encouragements throughout my research work.

I wish to take this opportunity to thank Prof. P.K.S. Mahanama, Dean of the faculty and Dr.Jagath Munasinghe, Head of the department and Course coordinator and Plnr. Rangajeewa, Senior Lecture of the department of Town & Country Planning for extending fullest co-operation on this study by giving valuable advices and helpful criticism.

And also I would like to thank to other all staff of Department of Town & Country Planning for their help in giving other services.



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Abbreviations

CBD	- Central Business Area
DP	- Development Plan
KDP	- Development Plan of Kurunegala
KMC	- Kurunegala Municipal Council
NWPEA	- North Western Provincial Environmental Authority
NWS&DB	- National Water Supply & Drainage Board
MSL	- Mean Sea Level