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**A STUDY OF THE SUSTAINABILITY OF A WATER  
SUPPLY SCHEME UTILIZING A COASTAL AQUIFER  
WITH PARTICULAR REFERENCE TO THE  
KOGGALA EXPORT PROCESSING ZONE**

**MASTER OF ENGINEERING**

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**DEPARTMENT OF CIVIL ENGINEERING  
UNIVERSITY OF MORATUWA  
SRI LANKA**

**OCTOBER 2008**

University of Moratuwa



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B.Sc. Eng., MIE (SL), C.Eng.**

**Thesis submitted as a partial fulfillment of the requirements  
for the Degree of Master of Engineering in Environmental  
Water Resources Engineering and Management**



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**OCTOBER 2008**

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## Declaration

The work included in this Thesis in part or whole has not been submitted for any other academic qualification at any institution.

  
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## SYNOPSIS

Koggala Export Processing Zone of the BOI was setup in 1991 and functions with 20 Nos factories and work force of over 10,000 in the Galle district just adjacent to the sea and coastal belt. Total extent of the KgEPZ area is 225 Acres. Since there were no surface water scheme to provide the required water for this project, a groundwater scheme was considered as an appropriate alternative resource. NWS&DB has plan to supply water from the Talpe Reservoir of Gin Ganga Project (KfW) with part of the cost shared by the BOI.

The purpose of this study is to study the sustainability of the existing water supply scheme in Koggala EPZ where a coastal aquifer is used as the source. Since about 50% of the land are vacant and could be given for future investment projects in the KgEPZ, the possibility of continuation of operation of existing groundwater scheme supplemented with surface water supply is considered as an economical solution for the KgEPZ.

For estimation of recharge water balance calculations were done for time step of 1 day, since in a time step of 1 day would capture all the relevant changes that occur.

This study estimated that recharge to the aquifer is 0.4 Million cubic metres per year which is equivalent to 357 mm/year.



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A.K.A.Mahinda

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## List of Abbreviations

<b>Abbreviations</b>	<b>Expansion</b>
BOI	Board of Investment of Sri Lanka
WRB	Water Resources Board
ID	Irrigation Department
KgEPZ	Koggala Export Processing Zone
EPZ	Export Processing Zone
MSL	Mean Sea Level
WHO	World Health Organization



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