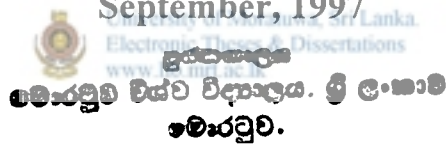


**RECIPIENT BASED
ENVIRONMENTAL MANAGEMENT PLAN
FOR AN INDUSTRIAL ESTATE**

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Sri Lanka

September, 1997



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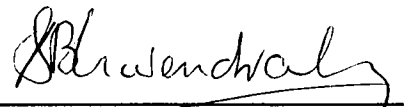
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This thesis was prepared and submitted in partial fulfilment of the Master's Degree in Environmental Engineering and Management to the Civil Engineering Department of the Faculty of Engineering, University of Moratuwa, Sri Lanka.

This thesis, “**Recipient Based Environmental Management Plan for an Industrial Estate**”, is hereby approved as partial fulfilment of the requirement for the degree of Master of Engineering in Environmental Engineering and Management.

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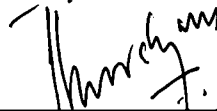


Head of the Department

Date: 6/6/97

DECLARATION

This thesis has not been previously presented in whole or part to any university or institute for a higher degree.



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ABSTRACT

The Government of Sri Lanka (GOSL) has committed itself to establish 15 or more industrial estates through the Ministry of Industrial Development (MID) at various locations in the island. These industrial estates would house medium and high polluting industries and have central effluent treatment facilities. The GOSL has two main objectives in embarking on this course of action. The first being to generate employment in rural areas by promoting regional development and the second being to minimise the impact of industrial pollution on the environment.

The objective of this research was to provide inputs into a conceptual - internal environmental management plan for an actual industrial estate (Waljapala Watta - near Minuwangoda in the Gampha district) identified by the MID. Central to this was the development of an empirical model that could be used to determine the mix of industries that would best suit the location based on the carrying capacity of the environment. For simplicity and clarity in developing the model only two parameters namely air and water quality were considered which are the two important criteria in Sri Lanka's context.

Data for development of the model, and specifically for Waljapala Watta, was taken from the initial environmental examination conducted by the Natural Resources and Environmental Policy Project (NAREPP) team. Probable values with reasons for using them were utilised in instances where data was not available.

The conclusion that was derived from the model was that this method could be used empirically for determining the mix of the industries for a given location as well as to assess the risk levels involved based on the carrying capacity of the natural environment. For Waljapala Watta the model predicts that the best industrial mix would be any dry processing industries due to the reason that the carrying capacity of the nearest water body Mapalam Oya has a limited carrying capacity based on its minimum flow rates.

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List of Acronyms

BOD	Bio-chemical Oxygen Demand
BOI	Board of Investment
CEA	Central Environmental Authority
d	day
DFCC	Development Finance Corporation of Ceylon
DO	Dissolved Oxygen
EIA	Environmental Impact Assessment
FTZ	Free Trade Zone
g	gramme
GOSL	Government of Sri Lanka
ha	hectare
IDB	Industrial Development Board
IEE	Initial Environmental Examination
km	kilometre
l	litre
LA	Local Authority
m	metre
max	maximum
mg	milligrammes
MID	Ministry of Industrial Development
min	minimum
NAREPP	Natural Resources and Environmental Policy Project
NBRO	National Building Research Organisation
NDB	National Development Bank
°C	° Celsius
RISC	Regional Industrial Service Committee
s	seconds
SPM	Suspended Particulate Matter
t	tonne
UDA	Urban Development Authority
USAID	United States Agency for International Development



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