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**ASSESSMENT
ON
CURRENT STATUS
OF
SOLID WASTE MANAGEMENT
IN
BATTICALOA MUNICIPAL LIMITS**

BY

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Msc./F/178

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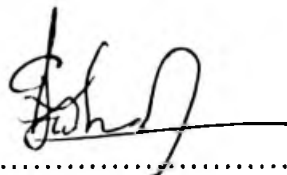
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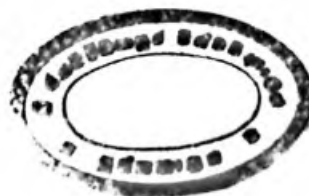
DECLARATION

I carried out research study on *Assessment of Current Status of Solid Waste Management in Batticaloa Municipality Limits* under the supervision of **Dr.N.J.G.J.Bandara**, Senior Lecturer, Department of Forestry & Environmental Science, University of Sri Jeyawardenapura, Sri Lanka, as the partial fulfillment of the Msc. Degree in University of Sri Jeyawardenapura.



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CERTIFICATION OF SUPERVISOR

This is to certify that this dissertation based on this study carried out by the candidate *Mr. Ganthiadiyan Suthahar* himself and now approved for submission.

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**DEDICATION
TO
MY LOVING PARENT
AND
MY WIFE**

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ABBREVIATION

ANOVA	Analysis of variance
BOD	Biochemical Oxygen demand
COD	Chemical Oxygen demand
EIA	Environmental impact assessment
EPR	Extended producer responsibility
LTTE	
MSW	Municipal solid waste
NSSWM	National strategy for solid waste management
PHI	Public health inspector
PMU	Project management unit
PPP	Polluter pay principle
SL	Sri Lanka
SLS	Sri Lankan standard
SWM	Solid waste management
W	Well



Chapter 1

Introduction

Population growth, improved living standards of people, increased consumerism and industrialization of developing countries result in the exploitation of natural resources and generation of larger quantities of solid waste and consequential environment degradation. The amount of refuse composition for developing countries, like Sri Lanka, is an indication of the level of sophistication or development of the people as well as their consumption patterns and habits.

The rampant practice of disposing waste -open dumping- is common in most of the developing countries including Sri Lanka. When solid waste is disposed in open dumps without any environmental safeguards, it causes problems like destruction of natural habitats, alteration of land forms and pollution of surface and ground water with leachates released from dumps. These sites have been turning into sources of contamination due to the incubation and proliferation of flies, mosquitoes and production of odour and toxic gases transmitting diseases that are hazardous to human health.

With the accelerated generation of waste caused by increased population, urbanization and industrialization in Sri Lanka nature's assimilative capacity has been severely curtailed. Local authorities are responsible for managing the disposal of solid waste. Developing an effective and efficient solid waste management strategy is essential for all municipalities in Sri Lanka. There are many options available for local authorities in managing solid waste such as direct dumping on approved sites, sanitary land filling, incineration and direct or indirect recycling.

Direct dumping of solid waste is the disposal method currently carried out within Batticaloa Municipal limits. There is continuous threat to the environment and society from the accumulation of wastes especially when they remain unattended for long



periods of time. To adopt effective management practices, Batticaloa Municipality either has to divert financial resources from other public services or seek external funding.

In the past till the year of 1981 the Batticaloa Municipality dumped the solid waste along the Batticaloa lagoon side. From the year 1982 solid waste is dumped at a larger landfill within Batticaloa municipality limits in a privately owned land. This landfill was originated due to illicit sand and gravel mining. This landfill is located 1.5Km away from heart of the Batticaloa town. The extent of the landfill is about 7acres and it's depth varies from 18m to 22m. The entire landfill is found about 0.5Km away from Batticaloa lagoon. This landfill is operated for 22years. This landfill is not an engineered landfill. A resettlement village is found about 200m away from the landfill.

This study analyses the composition of the solid waste and their generation rates observed in the Batticaloa Municipal limits with particular emphasis on residential and commercial solid wastes. Even though other environmental problems are present in the study area, the concern of the study on problems regarding solid waste disposal, is motivated mainly by the fact that wastes are disposed in open landfills without any prevailing disaster considerations. Furthermore, the type of waste and the nature of environmental deterioration associated in the vicinity of landfill in Batticaloa is also assessed in the study.