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EVALUATION OF PERFOMANCE OF ISO 14001 ENVIRONMENTAL MANAGEMENT SYSTEMS IMPLEMENTED INDUSTRIES IN WESTERN PROVINCE

By

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This dissertation was submitted in partial fulfillment for the Degree of Master of Science in Forestry and Environmental Management

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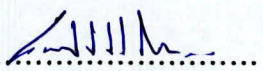
DECLARATION

The work described in this thesis was carried out by me under the supervision of. Dr. Prashanthi Gunawardena, Senior Lecturer, Department of Forestry and Environmental Science and a report on this has not been submitted in whole or in part to any university or any other institution for another Degree/Diploma.



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I certify that the above statement made by the candidate is true and that this thesis is suitable for submission to the university for the purpose of evaluation.

Signature ……

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Dedicated

To

My beloved parents, husband and my son who support to achieve the best in my life

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BOD	Biological Oxygen Demand
CEA	Central Environmental Authority
COD	Chemical Oxygen Demand
EA	Environmental Auditing
ECIs	Environmental Condition Indicators
EM	Environmental Management
EL	Environmental Labeling
EMS	Environmental Management System
EPE	Environmental Performance Evaluation
EPI	Environmental Performance Indicators
EPL	Environmental Protection Licence
EPIs	Environmental Performance Indicators
GDP	Gross Domestic Product
ISO	International Organization for Standardization
LCA	Life Cycle Assessment
NCPC	National Cleaner Production Centre
OPIs	Operational Performance Indicators
SME	Small and Medium-sized Enterprises
SWMP	Solid Waste Management Practices
TSS	Total Suspended Solids

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ABSTRACT

The concept of environmental performance evaluation (EPE) is being developed for use in an environmental management system to quantify, understand and track the relevant environmental aspects of a system. The basic idea is to identify indicators (environmental, operational and management) which can be measured and tracked to facilitate continuous improvements.

A questionnaire-based survey on a sample of companies in Western Province was carried out with the aim of investigating which management performance indicators, operational performance indicators and environmental condition indicators (according to ISO 14031) are used in their Environmental Management System (EMS) .The samples were made up of twenty nine companies belonging to the five industrial sector (hotel, chemical, food, cement and cable) and with a consolidated EMS (ISO 14001 certified for at least two years). Data were collected from twenty nine ISO 14001 Environmental Management System (EMS) certified industries in Western Province which certified by the ISO 14001 were considered to carry out the study under the guidance of SLSI system certification division – ISO 14001 scheme section. Secondary data were collected from Central Environment Authority head office on Environmental Protection Licence applications and relevant project files for complaints received, information pertaining to violation of legal requirement. The data were analyzed in order to identify the degree of compliance with the standards for individual parameters.

The results of the management performance analysis demonstrated that the environmental awareness and attention in post-certified industries were better than in the pre-certified industries. All certified respondents n =29 (100 %) indicated the presence of an environmental policy. Among post certified industries 59 % (n = 17) that non-management employees were involved in EMS, whereas no employees in the pre-certified industries. With regard to operational performance, the results showed significant differences between the post-certified and pre-certified industries on selected environmental indicators such as COD, BOD and noise as well as a significant improvement after the adoption of ISO 14001. As a whole, the certified industries performed better than the pre-certified ones on management and operational aspects. These operational performance indicators were that which industries vary greatly in their manufacturing operations.

For future research activities in order to improve (Environmental Management System) EMS efficiency, it is recommend that companies carry out a specific design phase, in accordance with ISO 14031, aimed at identifying a proper set of indicators to adequately assess and monitor their environmental performances.