

Application of Eco Industrial Concepts in Katunayake Industrial Zone

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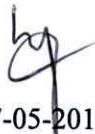
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Student Declaration Page

The work described in this dissertation was carried out under the supervision of Mrs. Nishani Wickramarachchi and any report on this has not been submitted in whole or in part to any university or any other institute for any other degree/examination or any other purpose. It is also certified that all the comments of the Viva voce evaluation have been incorporated in this final submission of the dissertation.

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Supervisors Declaration

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Abstract

Globalization, international competition and other post-war factors are the main roots of rapid industrialization of countries like Sri Lanka in late seventies. The country like Sri Lanka was in an unable situation, to absorb such rapid changes in the industry, but had to accept it in order to overcome issues prevailed in its economy and face the consequences.

This rapid industrialization brought economic growth to Sri Lanka while creating many negative externalities due to the unpreparedness for these rapid changes. It is a strong belief among general public that the industrial areas are insidiously dirty, dangerous, and polluting space, where proper approach is necessary to revert these impacts or to mitigate and control the negative externalities.

The Global actions towards mitigating this conflicting situation are of various from introducing EMS systems like ISO 14000, eco efficiency improvement tools etc, which needs investments where returns are not realistically predictable. Therefore actions to mitigate environmental effects alone will not encourage business community to take possible measures. Eco industrial actions which emphasize social, environmental and economical aspects in parallel will definitely be interested to all stake holders.

Introduction of EID concepts to this industrial estates will optimize the use of available resources, materials, infrastructure, and human capital to reduce costs, increase profits, and reduce the release of harmful by-products to the environment. EID, by facilitating sustainable resource use will bring industrial space into a new light and fosters a better relationship between people and the environment.

This attempt is to create an awareness about potentiality of application of EID concepts among the stake holders and the research question identified as "how could efficiency of resource use be improved by introducing EID concepts in Katunayake Industrial zone. To answer this main question a main objective of this research is to identify the potential application of EID concepts to KIZ and finding net benefits and how stake holders may look at this initiative are the specific objectives.

The approach here is to select potential sample institutions and carry out a survey to collect data and quantify potential area of EID application and calculate net outcome from such actions. As the second step in this research, these data were analyzed and presented to the stakeholders and their perception was measured. This stakeholder perception was identified as the industry readiness or the potential of applying EID strategies in the industrial sector.

Perception on EID was therefore measured by surveying and analyzing statistically, areas of decision making process identified as awareness, attitudes, and willingness to participate.

KIZ was selected as the case study as it has more concentrated set of industries with various disciplines and the combination or sharing of resources are high.

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Abbreviations

KIPZ-Katunayake Investment Promotion Zone
KIZ-Katunayake Industrial zone
EID- Eco Industrial Development
EPZ-Export processing Zone
RIACs-Rapidly Developing Asian Countries
CEPT-Centralized Effluent Treatment Plant
BOI –Board of Investment, Sri Lanka
GCEC-Greater Colombo Economic Commission
N/H-Non Hazardous
DG-Distributed Generation
ISIC-International Standard Industry Classification

CHAPTER ONE

Introduction

1.1. Background of the study

The phenomenon of rapid industrialization was seen in most of the Asian countries such as, Thailand Singapore, Hong Kong and Korea in late sixties. This global trend of rapid industrialization flown in to Sri Lanka in late 70's with the opening up of its economy. The reasons behind this expansion of industrialization in to Asia were mainly due to new global trends like globalization, international competition and other post-war factors Chiu (2008).

Various measures are being adopted by governments in these countries to promote export competitiveness. As a policy means of achieving this goal, the concept of Export Processing Zone (EPZ) has gained noticeable significance in recent years. Terms such as Free Trade Zone (FTZs), Special Economic Zone (SEZs) and Investment Promotion Zone (IPZs) refers to similar concepts, with variations in policy prescriptions and objectives, offering free trade conditions and a liberal regulatory environment and duty concessions etc Sivanathan (2008).

To introduce such new industrial concepts, then Government of Sri Lanka introduced an institution called Greater Colombo Economic Commission (GCEC) .With the enactment of Act No 4 of 1978, foreign investments were flown in more freely and created a momentum in industrialization. More and more foreign investors moved to Sri Lanka to reap various advantages offered by the government.

The government's policy was focused mainly on the fulfillment of its social and political aspiration in the context of economic development only, and negative externalities to environment have not been properly considered in the planning stage. Therefore, these business firms moved to Sri Lanka as aliens to the society as well as to the business community itself. The coordination between these business entities and the society is very poor and most of the services and the materials they require are being imported using their duty free facilities.