

**DEVELOPMENT OF AN EFFECTIVE AND
ENFORCEABLE EFFLUENT CONTROL SYSTEM
FOR INDUSTRIAL ^SE~~A~~TATES IN SRI LANKA**

By

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ABSTRACT

As a result of rapid industrialisation and the poor attention paid to control industrial pollution a remarkable increase in generation of pollutants and accumulation of wastes are observed in the country. Industries have conveniently ignored the treatment of industrial effluents due to weak or virtually non existent regulatory enforcement. Central wastewater treatment plants in many industrial estates are not functioning effectively and surface water bodies have become polluted and continue to create a threat to public health, aquatic life and sustainability of the environment.

Therefore, the need for an effective and enforceable industrial pollution management system has been identified as a prime requirement in the country.

The objective of this research was to develop an effective and enforceable effluent control policy and strategy based on a mix of market based incentives for environmental compliance combined with an element of command and control characteristics for industries in industrial estates in Sri Lanka.

Biyagama Export Processing Zone was taken as the proxy for current effluent control system in industrial estates in Sri Lanka. The proposed effluent control system was developed based on experiences of other countries and feasibility studies conducted in the Sri Lankan context on effectiveness of using economic incentives in controlling pollution. Efforts were made to address the present limitations in the public sector where the lack of accountability of the regulatory agencies resulted in poor effluent monitoring and weak enforcement, with a pragmatic system that transferred the burden of proof of compliance from the regulatory agency to the industrialist. Literature review includes experiences and similar case studies from countries like Germany, Japan, Indonesia, China, Australia and Sri Lanka.

The research proposes a load based licence fee scheme for the effluent generating industries in industrial estates in Sri Lanka. This system will make industries responsible for industrial pollution control through self monitoring and minimises the involvement

of the regulator in routine monitoring and passes the burden of proof of compliance to the industrialist. The regulator's role is limited to ad-hoc compliance monitoring to verify the self monitoring data from the industrialist combined with a effluent charges for ensuring compliance with national environmental standards.

The environmental management policy proposed makes the polluter responsible for environment protection by offering economic incentives to reduce and control pollution. This is one of the strategies priorities outlined in the National Industrial Pollution Management Action Plan and is a long time need of the country. It is expected that adoption of the environment management system proposed as a result of this research will result in a significant improvement in compliance of national environmental standards.



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LIST OF ABBREVIATIONS

BEPZ	Biyagama Exprot Processing Zone
BOD	Biological Oxygen Demand
BOI	Board of Investment of Sri Lanka
CEA	Central Environmental Authority of Sri Lanka
COD	Chemical Oxygen Demand
CWTP	Central Wastewater Treatment Plant
DFCC	Development Finance Corporation Ceylon
EIA	Environmental Impact Assessment
EMS	Environmental Management System
EPL	Environmental Protection Licensing
EPZ	Export Processing Zone
GNP	Gross National Production
IDB	Industrial Development Board
KEPZ	Katunayake Export Processing Zone
LINDEL	Lanka Industrial Estates Limited Sri Lanka
LLF	Load based License Fee
NEA	National Environmental Act
NIPM	National Industrial Pollution Management Strategy and Action Plan
SEPZ	Seethawakapura Export Processing Zone
UDA	Urban Development Authority