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Evaluation of the environmental and economic performances of three selected textile factories in Biyagama export processing zone

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Abstract

The textile industry plays a critical role in the Sri Lankan economy. It is also a major consumer of energy and water and it is the fifth largest contributor to CO₂ emissions in the world. With the increasing popularity of the concept of sustainability and the effect of the external and internal drivers, the textile industry of Sri Lanka has adopted more environmentally friendly production processes and uses sustainability as a marketing tool. This study was undertaken to evaluate the environmental and economic performances of three selected textile processing factories in the Biyagama Export Processing Zone, Sri Lanka. Eco-efficiency analyses were performed for each factory using the formula suggested by the World Business Council for Sustainable Development (WBCSD). Total production for the factories for five-year period (2011-2015) was considered as an indicator of product value. Indicators of environmental influence were selected by considering inputs (energy, material and water) and outputs (wastewater and greenhouse gas emission) associated with the production process. Sustainability measures undertaken by the factories within the study period were evaluated using the eco-efficiency change over time. The sustainability measures taken by each factory had a positive impact on their eco-efficiency. A correlation analysis considering eco-efficiency of different environmental factors and the revenue of the factories was performed. The study revealed that eco-efficiency influenced the production cost. The study also revealed a positive significant correlation between eco-efficiency and the factory level revenue.

Key words: Eco-efficiency, Sustainability, Textile Industry, Correlation

1.0 Introduction

The textile industry plays a critical role in the Sri Lankan economy due to its contribution to industrial production, employment and exports. The textile industry accounts for 16 percent of Gross Domestic Product (GDP) of the country. It recorded a substantial growth of 8.5

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