

CLEANER PRODUCTION AND ECO-EFFICIENCY IN COCOA PROCESSING: A CASE STUDY IN ECUADOR

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ABSTRACT

Cocoa is one of the main economic sectors in Ecuador. The purpose of this study was to carry out the diagnosis, propose cleaner production (CP) options, and evaluate eco-efficiency indicators applicable to the cocoa paste elaboration process. The stages of the process were analyzed, from diagnosis to formulation and evaluation of CP alternatives. Options for process improvement related to saving electricity, water, and waste management were proposed. The analysis of the economic and environmental viability shows favorable results, the investment recovery in most of the options is immediate or less than a year. In addition, CP options can contribute to decreasing the consumption of electricity, water, and solid waste generated by 13,2 %, 18%, and 99,7% respectively. Finally, it is recommended to validate these proposals and to carry out future research on other residual currents of the activity that may minimize the environmental contamination generated in the cocoa paste production process.

Keywords: Cleaner Production Options, Environmental Indicators, Waste Management, Energy Consumption.

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