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**MANAGEMENT OF CANE-SUGAR INDUSTRY EFFLUENTS
BY BIOGAS GENERATION: A CASE STUDY OF THE
SUGAR INDUSTRY IN MUHORONI //**

BY

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Abstract

This thesis describes the anaerobic digestion of cane-sugar industrial effluents as an alternative treatment mode which not only reduces pollutants but affords end-products of economic value.

The results show that 75-85% reduction in COD is achieved within a retention period of 5 days. The volume of biogas generated using a floating-dome digester was found to be 0.81m³ per cubic meter of effluent, within a retention period of 25-33 days. The COD reduction achieved, indicates an operational efficiency of 49.52% on extrapolation, and is equivalent to an estimated saving in woodfuel per annum of 21.76%.

The digester effluent had a salinity of 3160 μ S/cm, and is therefore too saline for agricultural use.

Anaerobic digestion of cane-sugar effluents is effective in oxygen-demand reduction but further treatment is required to reduce the pollutants to admissible levels of discharge into the river.