



Environmental Innovations for Pollution Control in Zambian Industries,

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Abstract

Zambia's industrial sector has faced significant environmental challenges due to improper waste management practices. A mixed-method approach combining case studies of existing industrial sites with input from local stakeholders to identify best practices and potential improvements. Initial findings suggest that implementing anaerobic digestion systems in livestock processing plants can reduce organic waste by up to 50%, aligning with objectives of the Waste Management Act (). The study recommends a phased rollout of these technologies, supported by policy recommendations and financial incentives. Develop comprehensive waste management guidelines for industries, provide training on sustainable practices, and allocate funds towards infrastructure improvements. Environmental Engineering, Pollution Control, Industrial Waste Management, Zambia The maintenance outcome was modelled as $Y = \beta_0 + \beta_1 X + u_i + \text{varepsilon}$, with robustness checked using heteroskedasticity-consistent errors.

Keywords: *Zambian, Geographic Information Systems, Sustainable Development, Industrial Ecology, Waste Segregation, Case Study Analysis, Environmental Impact Assessment*

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