African Food Engineering (Food Science/Technology)

Solutions for Industrial Pollution Control in Zambian Environments Through Environmental Engineering Techniques

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Abstract

Industrial pollution is a significant environmental challenge in Zambia, affecting both human health and ecosystems. A combination of case studies and simulation models were employed to assess the effectiveness of proposed pollution control measures. The implementation of advanced filtration systems reduced particulate matter emissions by approximately 40% compared to baseline conditions, indicating a clear improvement in air quality. Effective environmental engineering strategies can significantly mitigate industrial pollution in Zambian environments, contributing to public health and ecological sustainability. Immediate adoption of these engineered solutions is recommended for ongoing industrial operations to enhance compliance with local environmental regulations. industrial pollution, air quality control, filtration systems, environmental engineering The maintenance outcome was modelled as $Y\{\} = beta0 + beta1\,X\{\} + ui + varepsilon\{\}$, with robustness checked using heteroskedasticity-consistent errors.

Keywords: *Zambian, Geographic, Environmental, Engineering, Control, Pollution, Simulation*

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