



Environmental Engineering Solutions for Industrial Pollution Control in Zambia

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Abstract

Industrial pollution in Zambia has been a significant environmental concern, leading to health issues and ecological degradation. A combination of case studies and statistical analysis was employed to assess the impact of implemented pollution control measures. Air quality monitoring data indicated a 20% reduction in particulate matter emissions from targeted industries after implementing new filtration systems. The environmental engineering solutions effectively reduced industrial pollution, contributing positively to public health and the preservation of local ecosystems. Further investment is recommended in advanced air filtration technologies and continuous monitoring systems to maintain air quality improvements. The maintenance outcome was modelled as $Y = \beta_0 + \beta_1 X + u_i + \epsilon_i$, with robustness checked using heteroskedasticity-consistent errors.

Keywords: *Zambian, Geographic, GIS, Sustainability, Modelling, Remediation, Ecosystem*

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