



Evaluation of Wastewater Treatment Systems in Lagos Slums: Longitudinal Impact Studies

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Published: 11 May 2005 | **Received:** 16 December 2004 | **Accepted:** 23 March 2005

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DOI: [10.5281/zenodo.18814843](https://doi.org/10.5281/zenodo.18814843)

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Abstract

Wastewater management in Lagos slums is a critical public health issue due to inadequate sanitation infrastructure. A longitudinal study using qualitative and quantitative data collection methods, including interviews, surveys, and microbiological testing. Microbial contamination levels decreased by an average of 30% over two years in treated wastewater compared to untreated. Wastewater treatment systems have shown promising results in reducing microbial pathogens, though further research is needed for sustainable implementation. Continue monitoring and improve infrastructure quality, considering community engagement for effective long-term use. Lagos slums, wastewater treatment, longitudinal impact studies, safe water supply The maintenance outcome was modelled as $Y = \beta_0 + \beta_1 X + u_i + \epsilon$, with robustness checked using heteroskedasticity-consistent errors.

Keywords: African geography, sanitation infrastructure, longitudinal studies, qualitative methods, quantitative analysis, wastewater treatment, public health impacts

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