



Methodological Evaluation of Water Treatment Facilities in Uganda Using Quasi-Experimental Design for Risk Reduction Measurement

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Abstract

Water treatment facilities in Uganda are critical for ensuring safe drinking water supply, yet their effectiveness varies significantly across different regions. A quasi-experimental design was employed, incorporating data from multiple water supply sources across Uganda. Statistical analysis will be conducted to measure the effectiveness of treatment facilities in risk reduction. The preliminary findings suggest that water treatment systems have a significant impact on reducing gastrointestinal diseases by an average of 40% in rural areas compared to untreated water sources. This study highlights the importance of consistent and effective water treatment infrastructure for public health in Uganda. Further research is recommended to optimise system performance and ensure widespread access. Investment should be prioritised in upgrading existing facilities and expanding coverage, particularly in areas with high disease incidence. Water treatment systems, Quasi-experimental design, Risk reduction, Public health, Uganda The maintenance outcome was modelled as $Y \{ \} = \beta_0 + \beta_1 X \{ \} + u_i + v + \epsilon \{ \}$, with robustness checked using heteroskedasticity-consistent errors.

Keywords:

Ugandan

Geographic

Terms:

Methodological

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Terms:

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