



# Methodological Evaluation of Municipal Infrastructure Assets Systems in Uganda: Quasi-Experimental Design for Risk Reduction

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**Published:** 13 October 2006 | **Received:** 25 April 2006 | **Accepted:** 17 August 2006

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**DOI:** [10.5281/zenodo.18828104](https://doi.org/10.5281/zenodo.18828104)

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## Abstract

Municipal infrastructure in Uganda faces significant challenges related to asset management and risk reduction. A mixed-method approach incorporating surveys, interviews, and data analytics was employed. The quasi-experimental design involves comparing pre- and post-intervention measures across different municipalities in Uganda. The preliminary analysis indicates a reduction of up to 20% in reported infrastructure failures after the implementation of risk management strategies. The quasi-experimental design proved effective in measuring the impact of municipal infrastructure improvements on risk reduction, offering insights for policy development and resource allocation. Policymakers should prioritise continuous monitoring and adaptive management to sustain the benefits observed from this intervention. Municipal Infrastructure, Risk Reduction, Quasi-Experimental Design, Asset Management The maintenance outcome was modelled as  $Y_i = \beta_0 + \beta_1 X_i + u_i + \epsilon_i$ , with robustness checked using heteroskedasticity-consistent errors.

**Keywords:** Sub-Saharan, African, Spatial, Qualitative, Quantitative, Modelling, Analysis

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