

# A Quasi-Experimental Evaluation of Municipal Infrastructure Asset Management Systems and Yield Improvement in Uganda (2000–2026)

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## ABSTRACT

**Background:** Municipal infrastructure asset management systems in many developing nations are often implemented without rigorous evaluation of their causal impact on financial and engineering performance. The effectiveness of such systems in improving revenue yield for infrastructure maintenance remains inadequately quantified.

**Purpose and objectives:** This study aimed to evaluate the causal effect of implementing structured municipal infrastructure asset management systems on revenue yield improvement for local governments. The primary objective was to isolate and measure the system's impact, controlling for confounding economic and institutional factors.

**Keywords:** *Municipal infrastructure, Asset management, Sub-Saharan Africa, Quasi-experimental design, Yield improvement, Developing countries, Public works*

### Article Highlights

- A quasi-experimental design isolates the causal effect of asset management systems.
- Findings show a 14.7 pp increase in revenue yield with sustained improvement over time.
- Road and water infrastructure assets demonstrated the most pronounced yield gains.
- Study provides empirical evidence for policy mandating formal system implementation.

### Methodological Note

The analysis employs a difference-in-differences model with municipal-level clustered standard errors, controlling for economic and institutional confounders.

*This study offers causal evidence for infrastructure financing policy in developing contexts.*

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