



Methodological Assessment of Municipal Water Systems Adoption in Rwanda: A Quasi-Experimental Study

Kwegyiragwa Muhire¹, Nshuti Ingabiro²

¹ Department of Advanced Studies, University of Rwanda

² Rwanda Environment Management Authority (REMA)

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Correspondence: kmuhire@yahoo.com

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Author notes

Kwegyiragwa Muhire is affiliated with Department of Advanced Studies, University of Rwanda and focuses on Energy research in Africa.

Nshuti Ingabiro is affiliated with Rwanda Environment Management Authority (REMA) and focuses on Energy research in Africa.

Abstract

This study focuses on evaluating the adoption rates of municipal water systems in Rwanda, a developing country where access to clean drinking water is crucial for public health. A mixed-methods approach was employed, combining quantitative data collection through surveys with qualitative insights from in-depth interviews. Data were analysed using statistical software to identify patterns and trends in system adoption across different regions of Rwanda. In the surveyed communities, approximately 60% reported an increase in water access since municipal systems were introduced, though there was a notable variation by region (50-70%). Interviews revealed that affordability and convenience were key drivers for adoption. The quasi-experimental design provided robust insights into how municipal water system adoption can be influenced by socio-economic factors. The findings suggest that targeted interventions could further enhance community engagement with these systems. Future research should focus on developing more affordable financing mechanisms and improving user-friendly service delivery to increase overall system adoption rates in Rwanda. The empirical specification follows $Y = \beta_{0+\beta} p X + \text{varepsilon}$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *Sub-Saharan, qualitative, sustainability, ethnography, intervention, sanitation, governance*

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