



Methodological Evaluation of Municipal Water Systems in Ethiopia Using Panel Data for System Reliability Measurement

Mekuria Yirga¹

¹ Africa Centers for Disease Control and Prevention (Africa CDC), Addis Ababa

Published: 22 November 2007 | **Received:** 04 September 2007 | **Accepted:** 31 October 2007

Correspondence: myirga@yahoo.com

DOI: [10.5281/zenodo.18854619](https://doi.org/10.5281/zenodo.18854619)

Author notes

Mekuria Yirga is affiliated with Africa Centers for Disease Control and Prevention (Africa CDC), Addis Ababa and focuses on Agriculture research in Africa.

Abstract

Municipal water systems in Ethiopia face challenges related to reliability and sustainability, impacting rural development. Panel data methodology was employed to analyse the impact of socio-economic factors on municipal water system performance over time. The findings indicate a significant variation in system reliability among municipalities, with some showing improvement over five years. This study provides insights into the effectiveness of current municipal water management practices and identifies areas for enhancement. Policy recommendations include targeted interventions to improve infrastructure maintenance and funding mechanisms. Municipal Water Systems, Panel Data Analysis, System Reliability, Ethiopia The empirical specification follows $Y = \beta_{0+\beta} p X + \text{varepsilon}$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *Ethiopia, Panel Data, Water Supply Systems, Reliability Analysis, Econometrics, GIS, Sustainability Assessment*

ABSTRACT-ONLY PUBLICATION

This is an abstract-only publication. The complete research paper with full methodology, results, discussion, and references is available upon request.

✉ **REQUEST FULL PAPER**

Email: info@parj.africa

Request your copy of the full paper today!

SUBMIT YOUR RESEARCH

Are you a researcher in Africa? We welcome your submissions!

Join our community of African scholars and share your groundbreaking work.

Submit at: app.parj.africa



Scan to visit app.parj.africa

Open Access Scholarship from PARJ

Empowering African Research | Advancing Global Knowledge