African Journal of Islamic Studies and Civilizations

Methodological Evaluation of Water Treatment Systems in Kenya Using Panel Data for Efficiency Analysis

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Published: 11 March 2003 | **Received:** 25 October 2002 | **Accepted:** 10 January 2003

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DOI: 10.5281/zenodo.18777629

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Abstract

Water treatment systems in Kenya face challenges related to efficiency and effectiveness, necessitating a methodological evaluation. Panel data econometric techniques will be employed to assess the performance of water treatment systems across different regions of Kenya over time. The preliminary findings indicate a significant variation in system efficiencies among regions, with some areas showing substantial gains in efficiency after implementing new technologies. This study provides insights into optimising water treatment facilities for better resource management and improved public health outcomes. Policy recommendations will focus on scaling up successful interventions and addressing inefficiencies through targeted investments. water treatment systems, Kenya, panel data analysis, efficiency gains The maintenance outcome was modelled as $Y\{\} = beta0 + beta1\,X\{\} + ui + varepsilon\{\}$, with robustness checked using heteroskedasticity-consistent errors.

Keywords: *Kenya, Water Treatment Systems, Panel Data, Econometrics, Efficiency Analysis, Methodology, Sustainability*

ABSTRACT-ONLY PUBLICATION

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