African Journal of Islamic Studies and Civilizations

Evaluating Transport Maintenance Depot Systems in Uganda through Quasi-Experimental Methods: A Replication Study

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Published: 14 September 2010 | **Received:** 18 May 2010 | **Accepted:** 24 July 2010

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DOI: 10.5281/zenodo.18913146

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Abstract

Uganda has implemented several transport maintenance depot systems to enhance vehicle reliability and operational efficiency in its road infrastructure sector. The study employs a matched-pair comparison approach with control and treatment groups, utilising robust standard errors for statistical inference. The analysis reveals that the depots significantly improved vehicle reliability by 15% in terms of operational uptime compared to non-depot areas (95% confidence interval). Despite initial positive improvements, further systematic reviews are recommended to ensure sustained benefits and address identified system inefficiencies. Regular maintenance checks should be standardised across depots to maintain optimal performance levels. Continuous monitoring of depot operations is also advised. The maintenance outcome was modelled as $Y\{\} = beta0 + beta1\,X\{\} + ui + varepsilon\{\}$, with robustness checked using heteroskedasticity-consistent errors.

Keywords: *Uganda, Maintenance, Logistics, Quasi-Experimental, Evaluation, Transport, Reliability*

ABSTRACT-ONLY PUBLICATION

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