



Methodological Evaluation of Transport Maintenance Depot Systems in Nigerian Forestry: A Difference-in-Differences Approach for Risk Reduction Analysis

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Abstract

Nigerian forestry operations are challenged by inadequate transport maintenance depots (TMDs), leading to increased risks of accidents and equipment breakdowns. A difference-in-differences approach was employed to assess changes in accident rates before and after the implementation of TMDs. This statistical method compares treated and untreated groups over time to isolate the effect of the intervention. An initial reduction in accidents by 20% was observed where TMDs were implemented, with a 95% confidence interval indicating significant results (effect $\hat{\tau} = -20\%$, $CI: [-30\%, -10\%]$). TMDs have proven effective in mitigating risks associated with forestry transport operations. Further deployment of TMDs is recommended to achieve maximum risk reduction across the sector.

Keywords: *Nigerian, Forestry, Maintenance, Depots, Logistics, Econometrics, Evaluation*

ABSTRACT-ONLY PUBLICATION

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