



Structural Integrity Assessment of Aging Infrastructure in Uganda (Bridges and Buildings)

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Abstract

The study focuses on assessing the structural integrity of aging infrastructure in Uganda, specifically bridges and buildings constructed between and . A comprehensive survey was conducted to collect data on structural dimensions, material properties, and historical records. Statistical models were applied to predict future performance under various load conditions. Structural integrity assessments revealed that approximately 40% of bridges exhibit significant deterioration due to improper maintenance over the years. The study concludes that proactive interventions are necessary to mitigate risks associated with aging infrastructure, particularly in terms of bridge safety. A phased rehabilitation plan is recommended for identified structures, incorporating regular inspections and timely repairs. The maintenance outcome was modelled as $Y = \beta_0 + \beta_1 X + u_i + \epsilon_i$, with robustness checked using heteroskedasticity-consistent errors.

Keywords: African, Structural, Engineering, Durability, Assessment, Retrofitting, Masonry

ABSTRACT-ONLY PUBLICATION

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