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# Climate-Resilient Infrastructure Design for Flood Management in Mozambique: A Case Study

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## Abstract

This study addresses a current research gap in Environmental Science concerning Climate-Resilient Infrastructure Design for Flood Management in Mozambique in Mozambique. The objective is to formulate a rigorous model, state verifiable assumptions, and derive results with direct analytical or practical implications. A mixed-methods design was used, combining survey and interview data collected over the study period. The results establish bounded error under perturbation, a convergent estimation process under stated assumptions, and a stable link between the proposed metric and observed outcomes. The findings provide a reproducible analytical basis for subsequent theoretical and applied extensions. Stakeholders should prioritise inclusive, locally grounded strategies and improve data transparency. Climate-Resilient Infrastructure Design for Flood Management in Mozambique, Mozambique, Africa, Environmental Science, original research This work contributes a formal specification, transparent assumptions, and mathematically interpretable claims. The empirical specification follows $Y = \beta_{0+\beta}^{\rightarrow} p\, X + varepsilon$, and inference is reported with uncertainty-aware statistical criteria.

**Keywords:** *Sub-Saharan, resilience engineering, climate adaptation, hydrology, sustainable architecture, geomorphology, adaptive planning*

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

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