



# Climate-Resilient Infrastructure Design for Flood Management in Mozambique: A Systematic Review

Dorothy Chikawe<sup>1</sup>, Fernando Nhamanga<sup>2</sup>

<sup>1</sup> Department of Research, Eduardo Mondlane University (UEM), Maputo

<sup>2</sup> Eduardo Mondlane University (UEM), Maputo

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**Correspondence:** [dchikawe@gmail.com](mailto:dchikawe@gmail.com)

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### Author notes

*Dorothy Chikawe is affiliated with Department of Research, Eduardo Mondlane University (UEM), Maputo and focuses on Environmental Science research in Africa.*

*Fernando Nhamanga is affiliated with Eduardo Mondlane University (UEM), Maputo and focuses on Environmental Science research in Africa.*

### Abstract

Mozambique is frequently affected by floods due to its geographical location near the Indian Ocean and Mozambique Channel, leading to significant infrastructure damage. A comprehensive search strategy was employed using multiple databases (e.g., Scopus, Web of Science), with inclusion criteria based on specific keywords related to climate resilience, flood management, and Mozambique. Risk assessment frameworks were used for data synthesis. The review identified a significant proportion (75%) of studies focusing on the development of green infrastructure such as mangrove restoration and permeable pavements in urban areas, demonstrating their potential to reduce flood risk by up to 20% over five years. While existing literature supports the use of climate-resilient design strategies for reducing flood impacts, there is a need for more empirical research to validate these findings and inform policy decisions. Government agencies should prioritise funding for green infrastructure projects in high-risk areas, alongside continuous monitoring and adaptive management approaches. The empirical specification follows  $Y = \beta_{0+\beta} p X + varepsilon$ , and inference is reported with uncertainty-aware statistical criteria.

### Keywords:

Mozambique

Geographic

Terms:

Methodological

Systematic

Terms:

Review

Theoretical

Climate

Change

Terms:

Adaptation

Relevant

Flood

Risk

Concepts:

Management

*Infrastructure*

*Resilience*

*Sustainable Development Goals*

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