RESPONSE TO REVIEWERS

African Journal of Community and Environmental Health

Urban Road Drainage Failure Analysis and Rehabilitation Planning in Juba City, South Sudan: Integrating Hydrological Modelling, Failure Mode Diagnostics, and Cost-Benefit Optimisation

Author-facing revision letter prepared from the review package

Manuscript	Urban Road Drainage Failure Analysis and Rehabilitation Planning in Juba City, South Sudan: Integrating Hydrological Modelling, Failure Mode Diagnostics, and Cost-Benefit Optimisation
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Revision Summary

This document consolidates the responses expected for each reviewer concern before final publication.

Reviewer 1

Comment: Replace or substantially justify the use of the Rational Method with a more appropriate hydrological model for an urban setting, detailing its limitations.

Response: Addressed in the revised manuscript.

Comment: Expand the methodology section to explicitly address data limitations, uncertainty analysis, and assumptions in both hydrological modelling and economic appraisal.

Response: Addressed in the revised manuscript.

Comment: Restructure the abstract to be concise and complete, ensuring it accurately reflects the full study's scope and key findings.

Response: Addressed in the revised manuscript.

Comment: Strengthen the discussion by comparing findings with similar studies in other African cities and explicitly addressing practical implementation barriers in Juba's context.

Response: Addressed in the revised manuscript.

Reviewer 2

Comment: Conduct proper hydrological model calibration using observed flood data and multiple rainfall stations

Response: Addressed in the revised manuscript.

Comment: Provide detailed methodology for field survey design including sampling strategy and quality assurance procedures

Response: Addressed in the revised manuscript.

Comment: Strengthen literature review with specific focus on urban drainage studies in similar developing city contexts

Response: Addressed in the revised manuscript.

Comment: Include sensitivity analysis for cost-benefit assumptions and clearly document all economic parameters

Response: Addressed in the revised manuscript.

Reviewer 3

Comment: Substantially revise the methodology section to justify model selections, document data limitations, and validate hydrological outputs against independent observations.

Response: Addressed in the revised manuscript.

Comment: Complete and transparently report the cost-benefit analysis methodology, including all assumptions, parameter values, and sensitivity testing.

Response: Addressed in the revised manuscript.

Comment: Provide explicit discussion of study limitations regarding data quality, model simplifications, and generalisability of findings.

Response: Addressed in the revised manuscript.

Comment: Standardise language to British English conventions throughout and restructure the abstract to focus on key findings rather than methodological details.

Response: Addressed in the revised manuscript.