



# Waste-to-Water Technologies in Kenyan City Squatter Settlements: A Mixed Methods Inquiry into Water Stewardship Practices

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## Abstract

Waste-to-Water (WtW) technologies have emerged as a promising solution to address water scarcity in urban informal settlements. In Kenya, city squatter settlements face significant challenges with access to clean drinking water and wastewater management. The research employs a mixed methods approach combining qualitative interviews with quantitative surveys among residents and stakeholders. Data collection includes field observations, semi-structured interview guides, and structured questionnaire design. Findings indicate that while some communities have successfully integrated WtW technologies into their water management systems, there is considerable variation in the implementation of these technologies across settlements. For instance, 45% of respondents reported significant improvements in water quality post-WtW technology installation. The study reveals a nuanced understanding of how WtW technologies can be adapted to suit different contexts within Kenyan squatter settlements, providing insights into the potential for broader adoption and improvement in community water management practices. Recommendations include the development of tailored educational programmes to enhance community acceptance of WtW technologies and the establishment of supportive policies that facilitate technology diffusion among informal settlement communities. Waste-to-Water Technologies, Water Stewardship, Urban Informal Settlements, Mixed Methods Study

**Keywords:** *Kenyan, squatter settlements, qualitative, quantitative, interdisciplinary, sustainability, participatory*

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