



Waste-to-Energy Projects in Nairobi's Urban Slums: Energy Access and Economic Impacts Assessment

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Abstract

Waste-to-energy (WTE) projects are increasingly being implemented in urban slums as a solution to both energy access and waste management challenges. A mixed methods approach combining quantitative surveys with qualitative interviews was employed to gather comprehensive data from 300 households and 15 community leaders across four slums. The findings indicate that WTE projects have improved energy access for approximately 70% of surveyed households, leading to a significant increase in household income by an average of \$20 per month. WTE projects demonstrate potential as a viable strategy for enhancing both energy and economic conditions in Nairobi's urban slums. Further research should explore the long-term sustainability and scalability of WTE initiatives, with policy recommendations focusing on community engagement and waste collection infrastructure development. Waste-to-Energy, Urban Slums, Energy Access, Economic Impacts, Mixed Methods Study

Keywords: Kenya, Urbanization, Slums, Mixed Methods, Sustainability, Energy Access, Waste Management

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