



# Eco-Paving in Urban Slums: An Ethnographic Assessment of Sustainable Materials and Their Impacts in Kampala, Uganda

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## Abstract

Urban slums in Kampala, Uganda face challenges related to infrastructure development, particularly regarding sustainable paving materials that can mitigate environmental degradation and enhance community resilience. The study employed participant observation, semi-structured interviews, and focus group discussions to gather data from local residents, community leaders, and construction professionals. Data analysis was conducted using thematic coding methods. Participants reported a preference for eco-paving materials over traditional ones, with 60% of respondents indicating an increased willingness to pay for sustainable options due to perceived environmental benefits and improved quality of life. The study underscores the potential for community-led initiatives in promoting sustainable urban development through the adoption of eco-friendly paving materials. However, economic constraints remain a significant barrier to widespread implementation. Local governments should incentivize the use of eco-paving materials through subsidies and public-private partnerships, while stakeholders must collaborate on education campaigns to address cost concerns among residents. The empirical specification follows  $Y = \beta_{0+\beta} p X + \text{varepsilon}$ , and inference is reported with uncertainty-aware statistical criteria.

**Keywords:** African Geography, Ethnography, Sustainable Development, Community Engagement, Participatory Research, Renewable Materials, Urban Planning

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