EXAMINING THE VIABILITY OF TRANSPORTATION DEVELOPMENT TO REDUCE URBAN POVERTY IN THE DEVELOPING WORLD THROUGH ACCESSIBILITY: THE CASE OF KIBERA - NAIROBI, KENYA

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RESEARCH QUESTION

Nairobi, Kenya’s, most infamous slum, Kibera, is the pilot project of the Kenya Slum Upgrading Program (KENSUP), and includes new housing redevelopment projects, utilities and services, and a new commercial roadway corridor to reduce poverty and improve quality of life in Kibera.

This research evaluates current transportation accessibility within Kibera, and the feasibility of public transit strategies into the KENSUP program to reduce poverty through increased access to economic, educational, and healthcare land uses for Kibera’s residents.

METHODOLOGY

Literature Review – explores Sub-Saharan Africa, urban poverty, accessibility, and transportation development

GIS Analysis – determines spatial trends and accessibility relationships between Kibera and key land uses of interest in the City of Nairobi

• Economic Land Uses
• Institutional Land Uses
• Healthcare Land Uses
• Presence of Existing Housing and Transportation

ANALYSIS

The GIS Analysis examines:

• Demographic & Spatial Characteristics of Kibera
• Transportation and Infrastructure Characteristics of Kibera
• Educational & Healthcare Characteristics

The Spatial Analysis Tests examine:

• Economic Access
• Educational Access
• Healthcare Access
• Institutional Access
• Directional Distributions

FINDINGS

Severe Spatial Mismatch between Kibera and Nairobi

• Distance, physical constraints to access to essential economic, educational, healthcare land uses for poverty reduction

Uneven Distribution of Transportation & Transit Access in Kibera

Challenges to Transportation Development Implementation

• Financial, Political, and Spatial Feasibility
• Informal Economic Markets
• Acquisition of Funding Sources

CONCLUSIONS

Research Conclusions

• In partnership with the KENSUP commercial road corridor to be built through Kibera, a formalization of transit service is recommended as well through a public bus, formalized matatu, or light rail system
• Increased government and international aid support

Opportunities for Further Research

• Continued mapping of informal settlements such as Kibera
• Application of other land-use, economic, or transportation strategies