Blockchain Adoption in Nairobi Slums: Comparative Study on Land Rights Documentation

Oscar Mungai Nyaga[1,2], **Miriam Wanjiku Gachathi**[2,3], **Kerubo Ochieng Okumu**[4,5]

[1] Pwani University

[2] Kenya Medical Research Institute (KEMRI)

[3] Maseno University

[4] Department of Artificial Intelligence, Pwani University

[5] Department of Cybersecurity, Kenya Medical Research Institute (KEMRI)

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Correspondence: onyaga@gmail.com

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Author notes

Oscar Mungai Nyaga is affiliated with Pwani University and focuses on Computer Science research in Africa.
Miriam Wanjiku Gachathi is affiliated with Maseno University and focuses on Computer Science research in Africa.
Kerubo Ochieng Okumu is affiliated with Department of Artificial Intelligence, Pwani University and focuses on Computer Science research in Africa.

Abstract

Blockchain technology has gained traction as a potential solution for improving land rights documentation in developing regions, where traditional systems often face challenges such as corruption and inefficiency. The study employs a mixed-methods approach, combining quantitative data from blockchain transaction records with qualitative insights from interviews and surveys conducted among local residents and officials. Blockchain adoption led to a significant increase in the number of land rights documents processed by 40% compared to conventional methods, while reducing bureaucratic delays by an average of 35 days. The integration of blockchain technology in land rights documentation shows promise for enhancing transparency and efficiency, particularly in contexts where traditional systems are weak or corrupt. Governments should consider piloting blockchain solutions to validate their potential impact on land administration reforms. Stakeholders should also develop robust privacy policies to address concerns about data security. Model estimation used $\hat{\{}\theta\}=argmin\{\theta\}sumiell(yi,f\theta(\xi))+\lambda lVert\theta rVert2^{2}$, with performance evaluated using out-of-sample error.

Keywords: *Geographical, Sub-Saharan, Blockchain, Cryptography, Smart Contracts, Participatory, Empirical*

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