The potential impact of digital Blockchain based land administration platforms in Ghana
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In short
• 2 Ghanaian start-ups
• Digital, online land administration platforms
• Blockchain technology

Focus on
• Application and implications of technology: Blockchain
• Ownership
• Institutional actors: Actor-Network Theory
• 2 potential user groups
  • Cocoa farmers (Western region)
  • Peri-urban (Ashanti region)
Context: land administration in Ghana

Increasing pressure on land

International

International investment

Source: landmatrix.org
Context: land administration in Ghana

Increasing pressure on land

Galamsey
Context: land administration in Ghana

Increasing pressure on land

National

• Strong urbanization (5.5% ’00-’10)
• Increasing land prices
• Strong authority of customary sector
• Limited government capacity for development land administration system
• 70% of court cases are land disputes
Private sector solutions
The envisioned future

• Online platform for land administration and property management

• Personalized usage

• Digital land documentation and services

• Integration of all institutional actors
  o Public
  o Customary

• Facilitating the land market

• Integration of land/property based service delivery
  o Banks
  o Insurers
  o Utility companies
Analysis: Blockchain Technology

- Financial technology
- Bitcoin-Ethereum

**What it is**
A technology that facilitates database and data transaction

**What it does**
Securing and verifying (transactions in) value / data

- Away with trusted third parties
- Distributed verification
Analysis: Blockchain Technology and land development

From technical processes to **functional values**

- **Security & Indisputability**
  - Of documentation
  - Of transactions
  - Of ownership
  - Of land tenure

- **Transparency & Accountability**
  - Of processes
  - Of institutions
  - In the market

- **Flexibility & speed**
  - Integrating all actors in one platform
  - Increased efficiency in procedures (and costs)

**Technical processes**
- Cryptographic hashing
- Timestamping
- Distributed ledger verification
Analysis: Potential User Groups

Potential impact on perceived tenure security and socio-economic opportunities

Cocoa Farmers in Western Region

Peri-urban landowners on the fringes of Kumasi Metropolitan
Analysis: potential user groups

Potential impact on perceived tenure security and socio-economic opportunities

**Cocoa farmers**

- Contexts of land tenure are fundamentally different
- Potential impact for improved property documentation to increase perceived tenure security

**Peri-urban landowners**

- Significant interest in socio-economic opportunities

**Credit**

**Credit and Market**

**Infrastructure**

- Potential inequalities in ability to access services
Main Findings in light of the SDG’s

What Blockchain-based platforms have to offer for sustainable land administration:

I. Functional values of Blockchain
   - Security & indisputability of documents and transactions
   - Transparency & Accountability of processes and actors

II. Complex Technology and Ownership
   - BC offers opportunities for institutional ownership (open source)
   - For micro-level ownership, complexity could create constraints and possible inequalities

III. Institutional network
Public, private and customary sector are interested and open, but all have interests and limitations (capacity, status quo)

IV. Potential user groups
   - operate in very diverse contexts of land tenure
   - Potential impact on perceived tenure security and socio-economic opportunities through improved land administration
   - Potential challenges in infrastructure and ability to access
Questions for further research

Land rights: from public rights to private products?

How does technology embed values? And who controls these values?

What other opportunities and challenges for land rights can technology bring?