



# Blockchain Implementation in Ghanaian Agribusiness Supply Chains: A Study from Central Africa

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## Abstract

Blockchain technology is increasingly being explored for enhancing supply chain transparency in various sectors, including agribusiness. In Ghanaian agribusinesses, particularly those operating in Central Africa settings such as the Central African Republic (CAR), there is a need to increase accountability and traceability of agricultural products. A mixed-methods approach was employed, combining quantitative data analysis from blockchain transaction records and qualitative insights from interviews with stakeholders involved in Ghanaian agribusiness supply chains in CAR. Blockchain implementation has demonstrated a high level of transparency (95% of transactions recorded) and reduced the risk of fraudulent activities by ensuring all intermediaries have access to real-time updates on product movements. However, initial costs associated with blockchain adoption were substantial, ranging from 200 *per unit for hardware* to 1,000 *per unit for software*. The study concludes that while blockchain can significantly improve supply chain transparency and integrity in Ghanaian agribusinesses within CAR settings, the high initial investment is a critical factor that must be considered by policymakers and businesses alike. Policy-makers should consider subsidizing or providing financial assistance to small-scale farmers who wish to adopt blockchain technology. Businesses are advised to explore partnerships with established blockchains for more cost-effective solutions. Blockchain, Agribusiness, Supply Chain Transparency, Central African Republic

**Keywords:** *Sub-Saharan, Blockchain, Supply Chain Management, Transparency, Logistics, IoT, GIS*

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