



**BACKGROUND(RESEARCH)**

Cassava farming and pig rearing are two important agricultural activities in Ghana. Cassava is a major crop in the farming systems of Ghana and is a main source of carbohydrates to meet the dietary requirements, needs, and a regular source of income for most rural dwellers. Pig farming, on the other hand, is an important source of protein and income for smallholder farmers.

One of the challenges facing pig farmers in Ghana is the high cost of feed. However, research has shown that cassava can be used as an animal feed ingredient, which could reduce the high cost of feed and increase livestock production. Several studies conducted in West Africa showed that cassava in its different forms has great potential as animal feed.

The market size for cassava processing is expected to grow positively in the forecast period of 2023 and 2028 to reach a volume of approximately 328.71 million tons by 2028. This presents a significant opportunity for cassava farmers and processors to tap into this growing market.

In terms of the value chain, cassava has a multi-purpose use as food for humans and animals, making various industrial products, including its use as input for breweries. These projects have introduced improved varieties for better yield, reduced post-harvest losses, improved agro-processing and better access to markets, etc. The various interventions have enhanced the production and marketing of cassava in the country, improving the income of producers and other actors involved in the value chain and generating more employment for women and youth, contributing in this way to poverty reduction.

The use of cassava as an animal feed in Ghana could have positive effects on the market by reducing the high cost of feed and increasing livestock production. This presents a value proposition for pig farmers who could benefit from using cassava as an alternative source of feed.

**PROBLEM**

The dual challenges of high pig feed costs, consuming 70% of production expenses, and the underutilized potential of cassava as a versatile crop present a critical dilemma in Ghana's agricultural sector. The compelling problem at hand is: How can the integration of cassava farming and pig rearing forge a sustainable, economically viable, and scalable model that capitalizes on local resources?

**SOLUTION**

An Integrated Cassava and Pig Farming Hub that cultivates and processes cassava into various forms for both human consumption and pig feed, and simultaneously optimizes pig rearing practices. This cohesive model will open new market opportunities, promote sustainable farming, reduce feed costs, stimulate economic growth, and create synergy between the cassava and pig value chains, thus contributing to local job creation, increased productivity, and potential exports.

**HOW IT WORKS**

**A diagram of a farm

Description automatically generated**

* **Farming**: The core of the business is divided into cassava farming and pig rearing.
* **Cassava Farming & Pig Rearing:** These are the primary agricultural activities, both integrated with AI and blockchain technology.
* **AI Integration**: Utilizing artificial intelligence to enhance farming practices, increase yield, and streamline operations.
* **Blockchain Technology**: Implementing blockchain to ensure transparency, traceability, and security in the supply chain.
* **Quality Assurance**: Ensuring that the products meet the highest standards of quality, aided by AI.
* **Organic Products:** Focusing on organic farming methods to produce value-added products, supported by blockchain.
* **Export**: The products are prepared for export, adhering to international standards and regulations.
* **Sustainability:** The entire process is designed with sustainability in mind, minimizing waste and environmental impact.

**INNOVATION/TECHNOLOGY**

**AI**

**A diagram of a farm

Description automatically generated**

**Farm:** The starting point of the agricultural process, including planting and harvesting.

**Planting & Harvesting:** Key farming activities that can be optimized through AI integration.

**AI Integration:** The implementation of AI technologies to enhance various aspects of farming.

**Predictive Analytics:** Using AI to analyze data and predict weather patterns, soil conditions, and crop growth.

**Robotics & Automation:** Leveraging AI-driven robots and automated machinery to perform tasks with precision and efficiency.

**Disease Detection & Prevention:** Utilizing AI algorithms to detect and prevent diseases in crops and livestock.

**Yield Optimization:** Applying AI to optimize crop yields through intelligent monitoring and decision-making.

**Quality Assurance**: Ensuring that products meet quality standards through AI-driven analysis and inspection.

**Efficiency & Cost Reduction:** Utilizing AI to streamline operations, reduce waste, and lower costs.

**Sustainability:** Leveraging AI to promote sustainable farming practices and reduce environmental impact.

**Market & Consumer Insights:** Using AI to analyze market trends and consumer preferences, guiding product development and marketing strategies.

**BLOCKCHAIN**

**A diagram of a company

Description automatically generated**

**Farm:** The starting point of the agricultural process, including planting and harvesting.

**Planting & Harvesting:** Key farming activities that are recorded on the blockchain.

**Blockchain Record:** An immutable record that captures all relevant data, ensuring transparency and integrity.

**Quality Assurance & Certification:** Verification of quality standards and organic practices, securely stored on the blockchain.

**Smart Contracts:** Automated agreements and transactions that streamline the supply chain process.

**Transportation & Distribution:** Tracking the movement of products, with real-time visibility provided by the blockchain.

**Retail:** The point of sale, where blockchain ensures that all product information is accurate and verifiable.

**Consumer:** The end-user who can access detailed product information through the blockchain, building trust and engagement.

**Information Access:** Consumers can scan a QR code to learn about the product's journey, ingredients, processing methods, etc.

**Environmental Sustainability:** Blockchain's role in optimizing resources and verifying sustainable practices

**COLLABORATORS AND PARTNERS**

* Local Farming Cooperatives: Working with farming cooperatives and agrarian communities in Ghana will be vital for securing a reliable, high-quality supply of organic cassava.
* Agricultural Research Institutes: Collaborating with research institutions like the Crop Research Institute (CSIR-CRI) will help us access the latest research on cassava varieties and sustainable farming practices.
* Tech Companies: Given our emphasis on AI and digital marketplace development, local tech companies specializing in AI and e-commerce solutions will be essential collaborators.
* Distribution and Logistics Companies: Local and international logistics providers will play a significant role in our product distribution strategy, both domestically and for exports.
* Government Agencies: Engagement with government bodies such as the Ministry of Food and Agriculture (MoFA), Ghana Export Promotion Authority (GEPA), and the Food and Drugs Authority (FDA) is crucial to ensure regulatory compliance and leverage potential support programs.

**OUR TEAM**







**REFERENCES**







**REFERENCES**

1. GEPA Buyer Portal. (n.d.). Cassava from Ghana. Retrieved from https://www.gepaghana.org/import/ghana-product/cassava-from-ghana/
2. Cassava Enterprise Association of Ghana. (n.d.). Home. Retrieved from http://www.ceaghana.com/
3. The Fintech Africa. (2022, September 13). How to Start a Cassava Farming Business in Ghana. Retrieved from https://thefintechafrica.com/business/how-to-start-a-cassava-farming-business-in-ghana/
4. Statista. (2023, January 20). Ghana: cassava production. Retrieved from https://www.statista.com/statistics/1188629/production-volume-of-cassava-in-ghana/