

## A REVIEW ON ECONOMIC ANALYSIS OF SMALLHOLDER CATTLE PRODUCTION AND MARKET PARTICIPATION IN NIGERIA

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### ABSTRACT

*This review examines the economic analysis of smallholder cattle production and market participation in Nigeria, focusing on profitability, key constraints, and policy interventions. Smallholder cattle farming plays a vital role in rural livelihoods and national food security but faces challenges such as high feed costs, inadequate veterinary services, limited access to credit, and poor infrastructure. The review highlights factors influencing market participation, including farm size, financial access, and transportation networks. Findings suggest that improving market linkages, expanding credit facilities, and strengthening extension services can enhance smallholder profitability and competitiveness. The study recommends policy support for value chain development, sustainable grazing practices, and investment in rural market infrastructure to boost smallholder cattle farmers' participation in formal markets.*

**Keywords:** Smallholder farmers, Cattle production, Market participation, Livestock economics, Nigeria

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### INTRODUCTION

Smallholder cattle production is a vital component of Nigeria's agricultural sector, contributing significantly to the livelihoods of rural households and the national economy. The livestock sub-sector accounts for approximately 8.1% of Nigeria's agricultural output, with cattle being a primary contributor (PwC, 2019). This paper provides an economic analysis of smallholder cattle production and examines factors influencing market participation among these farmers. Livestock production is a key component of Nigeria's agricultural sector, contributing about 35% of agricultural GDP (FAO, 2021). Cattle production, particularly, serves as a major source of income, nutrition, and employment for rural households (Okoruwa *et al.*, 2019). Despite its economic importance, smallholder cattle production faces significant challenges, including high feed costs, poor veterinary services, and market inefficiencies (Umeh and Ogbanje, 2020).

World agriculture is facing a tremendous challenge due to rapid growth of human population. Global population is estimated to grow annually by 76 million and to exceed 9 billion by the year 2050 (UN, 2009). In developing countries food consumption, in particular animal-product consumption has rapidly increased over the past decades as a result of population and economic growth, higher disposable income and urbanization (Steinfeld *et al.*, 2006). However, as Nigerian's make up about 50% of beef consumers in ECOWAS, It is therefore, experiencing a remarkable demographic expansion and a great change in food habits. With a population growth of about 2.8% per annum, the current domestic production is far from being able to meet up the challenging demand (Bernard *et al.*, 2011). Adesina (2013) lamented that Nigeria will increase the National Dairy Production from its current 469, 000 metric tons to 1.1 million metric tons by attaining an average milk yield per lactating cow from below 500 litres to 2,000 litres per lactation by 2015. Nigeria being the most populous country in West Africa with a population of about 167 million people (National Population Commission, 2012). Moreover, despite the availability of natural resources the country is forced to import more than (25) % of the beef consumed (Bernard *et al.*, 2010). In developing countries, it's observed that since 1980s the growth of per capita animal-product consumption exceeds that of other groups of food commodities (cereals, roots and tubers) (FAO, 2009). The global production of livestock products (meat, milk and egg) is projected to increase by 50 % by the year 2050 (Steinfeld *et al.*, 2006). It is observed that one of the most important commodities of livestock subsector is beef cattle, it produce quality meat that has high economic value, and has more important role in public life, important social function in community, therefore it is important to developed the sector and to ensure availability of the product (Prasetyo *et al.*, 2012). Consequently, Markets and improved market access are very essential to rural poor households as a pre-requisite for enhancing agricultural productivity based by improving the competitiveness of farming enterprise, improve the standard of living of rural farmers and to meet up with the challenging global demand by the year 2050. Hence, participation of smallholder farmers in market remains very low due to a range of constraints (Ohen *et al.*, 2013). Market participation among farmers has long been on agricultural economist research programme in both developed and developing countries (Egbetokun and Omonona, 2012). But, still there is a need for more research especially on the area of livestock sector.

Market participation is essential for improving smallholder profitability, yet many farmers struggle to access formal markets due to infrastructural constraints and low bargaining power (Ogunleye *et al.*, 2022). Understanding

the economic dynamics of cattle production and the determinants of market participation is crucial for policy formulation. This study seeks to fill this gap by analyzing the profitability of smallholder cattle production and identifying key factors influencing market engagement in Nigeria.

### **Economic Importance of Smallholder Cattle Production**

In Nigeria, agriculture remains the largest sector, contributing an average of 24% to the nation's GDP over the past seven years (2013–2019) (PwC, 2019). Within this sector, crop production is the largest segment, accounting for about 87.6% of the sector's total output, followed by livestock at 8.1% (PwC, 2019). Cattle farming provides meat, milk, hides, and manure, serving as a source of income, employment, and food security for many rural households. The sector employs more than 36% of the country's labor force, ranking it as the largest employer of labor in Nigeria (PwC, 2019).

### **Key Economic Indicators of Cattle Production**

Several factors influence the economic viability of smallholder cattle production:

- I. **Production Costs:** Expenses related to feed, veterinary services, labor, and infrastructure significantly impact profitability. High costs of veterinary drugs and supplementary feeds are notable constraints (Olabode, 2021).
- II. **Revenue Generation:** Income is derived from the sale of live animals, milk, and by-products. Market access and price stability play crucial roles in determining revenue. Price volatility, influenced by seasonal fluctuations and intermediaries, can reduce farmers' earnings (Olabode, 2021).
- III. **Profitability Analysis:** Assessments of gross margin and net farm income are essential to evaluate the sustainability of smallholder cattle enterprises. Studies have shown that beef cattle production operates at approximately two-thirds of the profit efficiency frontier, indicating potential for increased profitability (Jimoh et al., 2023).

### **Market Participation and Constraints**

Market participation among smallholder cattle farmers is affected by various factors:

- I. **Access to Markets:** Proximity to livestock markets, road conditions, and transportation costs significantly influence farmers' ability to sell cattle. Improving rural market infrastructure can reduce transaction costs and enhance market participation (Omunyin-Mewese and Oluyole, 2020).
- II. **Price Volatility:** Seasonal price fluctuations and the influence of intermediaries can lead to reduced earnings for farmers. Implementing strategies to stabilize prices and reduce the number of intermediaries can help mitigate this issue (Olabode, 2021).
- III. **Credit and Input Access:** Limited access to formal credit facilities and the high cost of inputs such as veterinary drugs and supplementary feeds restrict the growth of smallholder cattle farming. Expanding microfinance services and providing subsidies for essential inputs can enhance production capacity (Olabode, 2021).
- IV. **Government Policies and Institutional Support:** Inconsistent livestock policies, inadequate extension services, and poor disease control mechanisms hinder market efficiency. Stable livestock policies, improved extension services, and effective disease control programs are necessary to support smallholder farmers (Olabode, 2021).

### **CONCLUSION**

An economic analysis of smallholder cattle production and market participation in Nigeria reveals significant opportunities and challenges. While cattle farming remains a vital source of livelihood, constraints such as poor infrastructure, price volatility, and limited access to finance hinder optimal productivity. Addressing these issues through policy reforms, improved market access, and enhanced extension services will promote the economic sustainability of smallholder cattle production in Nigeria. It could be recommended that government and private sector collaboration should enhance feed affordability by introducing subsidized feed programs. Financial institutions should provide tailored credit schemes for livestock farmers to be able to access credit. Investments in rural roads and digital market platforms can enhance participation by Improved Market Linkages. Strengthening veterinary extension services will improve herd health and productivity through Veterinary Service Enhancement.

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