



Research Article

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Factors Affecting Cattle Production in Abuja, Nigeria: A Socio-Economic and Technological Perspective

Abubakar Sadiq Sani

Faculty of Social Science, Department of Economics, University of Abuja, Nigeria

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Abstract: Cattle production plays a vital role in Nigeria's agricultural sector, providing food, employment, and income for rural households. In Abuja, however, cattle farmers face several challenges such as limited feed, frequent disease outbreaks, weak marketing systems, and insufficient institutional support.

This study explores the demographic, socio-economic, and technological factors influencing cattle production in Abuja. A survey was carried out with 120 cattle farmers across six area councils using structured questionnaires. Findings revealed that most farmers are middle-aged and depend largely on traditional extensive grazing systems. Feed scarcity and livestock diseases were identified as the most significant issues affecting productivity.

The study highlights the potential of digital economics and hybrid currency systems to improve market access and veterinary service delivery. It recommends adopting modern feeding and breeding practices, strengthening veterinary services, and using digital platforms to simplify marketing and financial transactions.

Keywords: Cattle production, Abuja, socio-economic factors, digital economics, livestock management

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INTRODUCTION

Cattle production is a key part of Nigeria's livestock sector, contributing greatly to food security, employment, and economic growth. In Abuja, cattle provide essential products such as meat, milk, hides, and manure, which are vital to both rural and urban households.

Despite its importance, cattle production faces numerous challenges. These include feed shortages, inadequate veterinary services, and poor market structures, all of which reduce productivity (Eke, 2019).

In recent years, technological advances—particularly digital economics and hybrid currency systems—have opened up new possibilities for improving livestock production and marketing. These tools can enhance market transparency, reduce reliance on middlemen, and connect farmers to veterinary and financial services (Eke & Osi, 2023). Understanding these trends is critical for developing sustainable policies to improve cattle production in Abuja.

LITERATURE REVIEW

Cattle Production in Nigeria

Nigeria has one of the largest cattle populations in Africa, dominated by breeds such as White Fulani, Sokoto Gudali, and Red Bororo. Most cattle are managed under traditional extensive grazing systems, which are

low in productivity and prone to high disease prevalence (Eke, 2019).

Digital technologies are beginning to transform agricultural value chains by improving market access, communication, and financial inclusion. Eke and Osi (2023) emphasize that introducing digital tools into rural economies could significantly increase efficiency in cattle production and marketing.

Demographic Factors

Demographics such as age, education, and farming experience play a major role in how farmers adopt modern practices. Educated farmers are more likely to use innovations like artificial insemination and improved feeding systems (Eke, Magaji, & Ezeigwe, 2020).

In Abuja, the majority of farmers are middle-aged, but many lack access to training and resources, which limits the adoption of modern technologies.

Feeding and Nutrition

Natural pasture is the primary source of cattle feed in Abuja. However, during the dry season, grass becomes scarce, leading to malnutrition, reduced milk production, and low meat yield.

Supplementary feeds are either unavailable or too expensive for many farmers. According to Eke

(2016), urban demand pressures and resource constraints worsen this challenge in peri-urban livestock systems.

Disease Management

Common cattle diseases in Abuja include: Foot and Mouth Disease (FMD), Contagious Bovine Pleuropneumonia (CBPP), and Trypanosomiasis.

Limited access to veterinary services and poor disease surveillance contribute to high livestock mortality rates. Digital platforms could help by improving communication between farmers and veterinary professionals and making disease tracking more efficient (Eke & Osi, 2023).

Marketing Systems

Cattle marketing in Abuja is mostly informal, depending heavily on middlemen and negotiated pricing, which reduce farmers' profits.

The introduction of digital marketing platforms and hybrid currency systems can improve price transparency, traceability, and secure transactions (Eke, Osi, Sule, & Musa, 2023).

Institutional and Economic Constraints

Farmers face challenges such as limited access to credit, inadequate extension services, and weak government support. These constraints prevent them from investing in better practices. According to Eke et al. (2020), household income and expenditure patterns directly affect the capacity of farmers to adopt innovations.

METHODOLOGY

The study adopted a descriptive survey design to collect data from cattle farmers across six area councils in Abuja.

- Sample Size: 120 farmers
- Sampling Method: Stratified random sampling
- Data Collection Tools: Structured questionnaires and interviews

The questionnaire was validated by experts and achieved a reliability coefficient of 0.82 using Cronbach Alpha. Data were analyzed using both descriptive and inferential statistics through SPSS software.

RESULTS

- Education Level: 50% had secondary or tertiary education
- Age Range: 33.3% aged 41–50 years
- Production System: 54.2% used extensive grazing
- Dominant Breed: White Fulani (50%)
- Feeding: 45.8% relied only on natural pasture
- Feed Quality: 41.7% rated feed as fair
- Disease Outbreaks: 62.5% experienced outbreaks
- Vaccination Use: 58.3% practiced regular vaccination

- Major Challenges: Feed scarcity (33.3%) and disease prevalence (29.2%)

DISCUSSION

The study found that traditional extensive grazing systems dominate cattle production in Abuja. While these systems are low-cost, they are highly inefficient and leave cattle vulnerable to disease outbreaks.

Feed scarcity was identified as the top challenge, especially during the dry season. This finding is consistent with earlier research by Eke (2016).

The low use of modern breeding techniques and veterinary services reflects deeper institutional weaknesses, including poor infrastructure and limited extension services.

Digital solutions offer a way forward. By connecting farmers directly to markets, digital platforms can:

- Reduce the exploitation by middlemen
- Improve access to financial services
- Facilitate transparent pricing

Additionally, hybrid currency systems could simplify payments and ensure secure, traceable transactions, creating stronger rural-urban linkages in the cattle value chain (Eke & Osi, 2023).

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