Assessing Nigeria's National Livestock Policy and Its Role in Enhancing Protein Security: A Qualitative Policy and Food-Security Assessment

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Abstract

This study examines the interface between Nigeria's national livestock policy and protein security, emphasising the capacity of livestock systems to meet the dietary protein needs of a growing population. Recognising persistent deficits in meat, dairy, and poultry consumption, the study explores historical trends, institutional arrangements, and policy interventions, including the Central Bank of Nigeria's Livestock/Dairy Development Initiative and the National Dairy Policy. Employing a qualitative methodology, data were collected from primary sources, policy documents, government reports, and stakeholder interviews, and complemented by secondary literature, including NBS surveys, World Bank reports, and academic studies. The analysis reveals that despite policy ambitions, livestock productivity remains constrained by farmer-herder conflicts, climate-induced pasture degradation, inadequate feed supply, poor infrastructure, and institutional weaknesses, resulting in limited accessibility and affordability of animal-source protein. Regional disparities, particularly between northern and southern states, exacerbate protein insufficiency. The study concludes that livestock policies can contribute meaningfully to national protein security if implementation is strengthened through institutional coordination, modernisation of production systems, feed and pasture reforms, value chain integration, and expansion of extension services. Based on these findings, seven actionable recommendations are proposed, targeting federal and state governments, the Central Bank, private sector actors, and nutrition agencies, emphasising improved coordination, investment in infrastructure and technology, conflict mitigation, and nutrition education to ensure equitable access to animal protein across Nigeria. This research underscores the critical nexus between policy, livestock productivity, and nutritional outcomes, highlighting pathways for sustainable improvement in national protein security.

Keywords

Nigeria, Livestock Policy, Protein Security, Aanimal-Source Foods, Food Systems

1. Introduction

The livestock sector has long held a prominent if under-recognised place in Nigeria's agricultural economy, both as a source of livelihood for rural communities and as a potential contributor to national food and nutrition security. According to the Food and Agriculture Organization (FAO), Nigeria's livestock population comprises approximately 18.4 million cattle, 43.4 million sheep, and 76 million goats, with poultry numbers reaching around 180 million birds The scale of these assets implies significant opportunities: yet, despite this magnitude, domestic production of animal-source foods remains insufficient relative to growing population needs and changing dietary preferences [1]. However, Gavrilova suggests that while meat consumption remains modest, it is trending downwards in per-capita terms unless production and policy frameworks shift drastically [2].

At the same time, protein security, understood as reliable access to sufficient, safe and nutritious protein, is becoming increasingly critical in Nigeria's national discourse. West Africa, including Nigeria, is characterised by diets in which animal-source foods contribute only a small fraction of overall protein intake [3]. This under-supply of animal protein has implications not just for nutrition but for livelihoods, rural development and national resilience. A recent report estimate showed that insecurity in the livestock sector caused economic losses of about €4.1 billion, and up to 40% mortality among livestock, further undermining the sector's capacity to deliver protein security [4]. Thus, there appears to be both an imperative and opportunity for policy-driven reform of livestock systems in Nigeria.

This study seeks to examine the interface between Nigeria's national livestock policy framework and the realisation of protein security for its population. Employing a qualitative methodology, the research draws on two primary sources of data: written primary materials, including policy documents, government strategy papers and stakeholder interviews, and secondary sources such as academic literature, industry reports and grey-literature. The aim is to explore how livestock policies (past and present) have influenced production, access and consumption of animal-source protein, identify the hindrances, and map out pathways for improvement. Through thematic analysis of textual data, the study endeavours to contribute a nuanced, context-specific understanding of how livestock policy might strengthen protein security in Nigeria [4].

1.1 Livestock Policy

Livestock policy refers to the set of principles, strategies, and regulatory instruments that guide the development, management, and utilisation of national livestock resources. Effective livestock policies aim to enhance productivity, improve animal health systems, and expand market access, while simultaneously addressing environmental and socio-economic considerations. In developing economies, such policies are central to modernising traditional herding systems and ensuring sustainable production [5]. Within Nigeria, livestock policy is increasingly linked to broader objectives of food security, conflict mitigation, and rural development [6].

1.2 Protein Security

Protein security denotes the availability, accessibility, and affordability of sufficient, safe, and nutritious protein to meet the dietary needs of a population. It encompasses both plant-based and animal-based protein sources, although the latter is vital for supplying essential amino acids that support human growth and health [7]. In sub-Saharan Africa, low intake of animal protein remains a persistent nutritional challenge, with implications for national development, human productivity, and public health outcomes [8].

1.3 Livestock Production Systems

Livestock production systems describe the organisational and ecological arrangements through which animals are reared for meat, milk, eggs, and other products. These systems range from extensive pastoralism to semi-intensive and fully intensive commercial models [9]. The structure of a country's production system influences productivity levels, technology adoption, and resilience to climate pressures. In Nigeria, productivity is constrained by outdated production systems, weak extension services, and limited investment, thereby affecting the availability of animal-source foods [10].

1.4 Food and Nutrition Security

Food and nutrition security refers to a condition in which all people, at all times, have physical, social, and economic access to safe, nutritious, and culturally acceptable food in adequate quantities[11]. While food security focuses on availability and access, nutrition security emphasises dietary quality for healthy living. Animal-source foods are central to this framework because they provide dense sources of protein and micronutrients. Consequently, livestock development is essential for achieving national nutrition outcomes [12].

2. Theoretical Framework

This study is anchored on the Sustainable Livelihoods Framework (SLF), a people-centred theory that explains how individuals and communities utilise available assets to secure their well-being within a dynamic socio-economic and environmental context. The SLF emphasises livelihood assets, vulnerability contexts, and institutional structures that shape livelihood outcomes [13]. The framework was developed and popularised by scholars such as Robert Chambers and Gordon Conway, and later advanced by institutions including the Department for International Development (DFID), which refined its analytical structure for development planning [14,15]. Its key principles include sustainability, asset diversification, resilience, and the critical role of institutions in mediating access to livelihood resources. It also underscores the interaction between human, natural, physical, financial, and social capital in shaping livelihood outcomes.

Applied to the present study, the SLF provides a suitable lens through which to examine how livestock policies influence protein security in Nigeria. Livestock constitutes a major livelihood asset, and policies determine access to veterinary services, grazing land, markets, technology, and value chains, all of which directly shape protein availability and affordability. By focusing on institutional arrangements and livelihood vulnerabilities such as climate change, insecurity, and resource competition, the SLF enables deeper insight into how policy processes affect livestock production systems and nutritional outcomes [16]. In adapting the framework to this study, emphasis is placed on institutional and policy structures as the mediating variables that shape the effectiveness of livelihood assets, specifically livestock, in delivering improved nutrition and protein accessibility. This adaptation is necessary because the conventional SLF focuses more on household strategies, whereas this study prioritises national-level policy forces.

The choice of the SLF is justified on three grounds. First, it recognises livestock as both an economic and nutritional asset, aligning with the central focus of this study. Second, it accounts for multi-dimensional constraints, such as weak institutions, insecurity, and environmental pressures, that mirror Nigeria's livestock sector realities [17]. Third, it is widely accepted in agricultural and rural development literature, offering conceptual clarity for analysing the link between policy and livelihood outcomes. The SLF, therefore, provides an appropriate theoretical foundation for understanding how effective livestock policies can strengthen protein security and enhance human well-being in Nigeria.

3. Overview of the Livestock Sector in Nigeria

3.1 Historical Evolution of Livestock Production

Nigeria's livestock heritage traces back to nomadic pastoral systems of the Sahel and savannah belt, where Fulani herders traversed the northern regions with cattle, sheep and goats. Early colonial records estimate a national cattle herd of about 8.5 million in the mid-1970s and approximately 22 million small ruminants. Over subsequent decades growth in herd size tempered by disease outbreaks, land-use change and increasing farmer-herder conflicts. By 2018 the cattle

population was estimated at 20,231,598 for a human population of nearly 200 million, underscoring the scale of the challenge [18]. During this period the nature of production shifted gradually from purely pastoral to increasing sedentary, mixed crop-livestock and peri-urban systems, reflecting urbanisation, land pressure and evolving market demand.

3.2 Structure and Distribution of the Livestock Economy

The livestock economy in Nigeria is structurally diverse yet unevenly distributed. The National Bureau of Statistics data in 2022 revealed that out of approximately 40.2 million agricultural households, 48 % practice livestock farming; 16 % engage in cattle rearing (≈ 58 million cattle), 41.2 % raise goats (≈ 124 million goats) and 42.5 % rear poultry. Regional analysis shows that the North-West accounts for about 52 % of cattle, 35 % of goats and 59 % of sheep in the ruminant classification, significantly higher than southern zones. Table 1 presents selected recent livestock population figures in Nigeria [19]

Table 1. Selected livestock populations in Nigeria (millions)

Species	**Estimated number (2022/23)**	**Share of agricultural households engaged (%)**
Cattle	58	16 %
Goats	124	41.2 %
Poultry	,	42.5 %

Source: NBS, NASC 2022 listing results

Table 1 above demonstrates the dominance of small ruminants and poultry in terms of household engagement, while cattle represent a much smaller proportion of households despite their significant aggregate numbers. This structural pattern underscores both the diversity and scale of the sector and points to where policy and investment might best be directed.

3.3 Key Actors and Institutional Arrangements

Multiple actors shape Nigeria's livestock sector: the primary producers (pastoralists and small-holder farmers), private enterprises (commercial poultry, dairy farms), input providers (veterinary, feed), state and federal agencies (e.g., the Federal Ministry of Agriculture and Food Security), and financial institutions such as the Central Bank of Nigeria (CBN) For instance, the CBN's Livestock/Dairy Development Initiative launched in 2019 aims to raise milk output to 1.7 million tonnes by 2024 and reduce dairy imports. In addition, the World Bank via its Livestock Productivity and Resilience Support Project (P160865) partners with the federal government to bolster productivity, commercialisation and resilience of targeted livestock systems. Institutional arrangements are thus both public and private, formal and informal [20]. However, challenges remain in coordination across levels of government, data-gaps and enforcement of regulatory frameworks, which hamper efficient value chains and hence the sector's contribution to protein security.

3.4 Nigeria's National Livestock Policy Architecture

Nigeria's livestock policy architecture has evolved significantly in recent years under the twin imperatives of economic diversification and food security. The creation in July 2024 of the Federal Ministry of Livestock Development by presidential decree underscored the federal government's determination to institutionalise livestock development as a national priority. Previously, livestock-related matters were dispersed across the Federal Ministry of Agriculture and Food Security and state-level ministries, creating fragmentation of authority and overlapping mandates [20]. The new ministry is intended to coordinate policy, regulation, value-chain development and conflict mediation between pastoralists and farmers. The central bank initiative, Central Bank of Nigeria (CBN) Livestock/Dairy Development Initiative launched in 2019, strives to raise domestic milk production to 1.7 million metric tonnes by 2024, thereby reducing Nigeria's import dependency and building the value chain. Across state governments, policies such as the National Dairy Policy (2024) and the National Livestock Transformation Plan (NLTP) 2019- 2028 serve as frameworks to integrate production-systems, market access and institutional reforms [21].

Table 2. Milk import and production targets (Nigeria, 2023-24)

Year	Target domestic milk production (mt)	Imported milk equivalent (USD bn)	Actual domestic production (mt)
2023	1,700,000	1.3	~585,000
2024	1,700,000	1.5	~600,000

Source: National Dairy Policy (2024) & CBN Livestock/Dairy Initiative

Table 2 above demonstrates a substantial gap between policy targets and actual domestic output. Despite the 1.7 million tonne target, Nigeria remains at roughly one-third of that volume, while the import bill lies in excess of USD 1 billion annually. This under-achievement highlights the structural constraints that policy must address, including low productivity, feed shortages, and value-chain inefficiencies [21].

Institutionally, the policy framework encompasses federal, state and private-sector actors. The Ministry of Livestock Development leads policy formulation; state ministries implement local programmes; and the CBN facilitates finance and investment. Private dairies and feed firms are engaged under cluster-based models. Yet implementation often falters due to inadequate coordination between levels of government and the informal nature of many livestock systems. Accordingly, the policy architecture must not only articulate goals but ensure institutional coherence, resource allocation, and stakeholder alignment to deliver improved protein security via livestock growth.

3.5 Livestock Production and Protein Availability in Nigeria

3.5.1 Meat Production and Consumption Trends

Nigeria's meat sector has witnessed incremental growth, yet per capita consumption remains below global averages. According to the National Bureau of Statistics (NBS, 2024), annual meat consumption per Nigerian stands at approximately 9.5 kg, significantly lower than the global average of 43 kg. Cattle, goats, sheep, and poultry dominate domestic production, with the northern states, Kano, Kaduna, Bauchi, and Sokoto, serving as major production hubs due to extensive grazing lands and established pastoral systems [18]. Despite this, challenges such as disease outbreaks, poor veterinary services, and fragmented supply chains impede consistent output, constraining availability of animal protein to urban and rural populations alike.

3.5.2 Dairy and Poultry as Strategic Protein Sources

Dairy and poultry play pivotal roles in Nigeria's protein supply. Poultry meat and eggs account for roughly 60 % of all domestically produced animal protein. Dairy production, however, remains inadequate; domestic output is estimated at 585,000 metric tonnes annually, far below the national demand of 1.7 million tonnes [20, 22]. Northern states such as Jigawa, Katsina, and Plateau are central to milk production, while southern regions primarily consume processed dairy products. Limited cold-chain infrastructure, low-quality feed, and dependence on small-scale pastoral systems restrict dairy productivity and access [23].

3.5.3 Feed, Fodder, and Productivity Constraints

Feed and fodder shortages present a critical barrier to livestock productivity. Reports indicate that over 65 % of Nigerian livestock rely on natural grazing, which is seasonal and vulnerable to climate shocks [24]. Imported feed constitutes a significant share of intensive poultry and dairy operations, increasing costs and limiting scalability. Poor access to quality feed results in low growth rates, reduced milk yield, and smaller carcass sizes, ultimately diminishing protein availability and affordability across socio-economic groups [25].

3.5.4 Livestock Production Data Snapshot

Table 3. Livestock production by species, Nigeria 2023

Species	Production volume (mt)	Approx. annual growth (%)	Main producing states
Cattle	1,200,000	3.2	Kano, Kaduna, Sokoto, Bauchi
Sheep	850,000	2.8	Sokoto, Katsina, Niger
Goats	1,400,000	3.5	Bauchi, Plateau, Kaduna
Poultry	1,850,000	5.1	Lagos, Ogun, Oyo, Kaduna
Milk	585,000	2.5	Jigawa, Plateau, Katsina

Source: NBS, Agricultural Reports 2024; CBN Livestock/Dairy Initiative 2024

Table 3 above demonstrates the relative predominance of poultry and small ruminants in Nigeria's animal protein supply, with dairy lagging significantly behind demand. It highlights regional concentrations, particularly in northern states, while emphasising the urgent need for targeted interventions in feed, infrastructure, and production technology to close the protein supply gap.

3.6 Challenges in Linking Livestock Policy to Protein Security

3.6.1 Farmer-Herder Conflict and Insecurity

One of the most pressing challenges undermining livestock productivity and protein security in Nigeria is the persistent conflict between pastoralists and crop farmers. Northern states such as Benue, Plateau, and Kaduna have witnessed

recurring clashes over land and water access, resulting in livestock losses and human fatalities [25]. The Institute for Peace and Conflict Resolution (IPCR in 2024 estimated that approximately 1,200 deaths and over 80,000 displaced persons were reported in 2023 due to such conflicts. These confrontations disrupt livestock supply chains, increase mortality rates, and heighten market instability, thereby reducing the availability and affordability of animal protein in affected regions [26].

3.6.2 Climate Change, Land Pressure, and Pasture Degradation

Climate variability has exacerbated the vulnerability of Nigeria's livestock systems. Desertification in the northern Sahelian zones and recurrent droughts in states like Jigawa, Sokoto, and Katsina reduce grazing areas, forcing herders to migrate southwards, often intensifying conflicts. The World Bank date in 2023 estimates that over 40 % of Nigerian grazing land is at risk of degradation, limiting feed availability and reducing livestock productivity. The combination of environmental stressors and increasing population pressure on land challenges both sustainable livestock management and consistent protein supply [24].

3.6.3 Market, Infrastructure, and Value Chain Bottlenecks

Poor infrastructure is another major constraint. Nigeria suffers from inadequate cold storage, poor transport networks, and underdeveloped abattoirs, which exacerbate post-harvest losses, particularly in poultry and dairy sectors. The National Bureau of Statistics in 2024 reported that up to 25 % of perishable livestock products are lost due to lack of refrigeration and processing facilities. Limited access to markets reduces profitability for smallholder farmers, discouraging investment in productivity improvements, and ultimately restricting the flow of affordable protein to consumers [27]).

3.5.4 Policy Implementation and Institutional Weaknesses

Table 4. Policy implementation constraints in Nigeria

Constraint	Percentage of stakeholders reporting	Affected regions
Poor coordination of agencies	72 %	Nationwide
Weak extension services	65 %	Northern & South-Western zones
Inadequate funding	58 %	Nationwide
Limited enforcement of regulations	61 %	Nationwide

Source: World Bank, Livestock Productivity Report 2023; NBS Agricultural Survey 2024

Table 4 above demonstrates that a majority of stakeholders perceive poor coordination, weak extension services, insufficient funding, and limited enforcement as critical barriers to effective policy implementation. These institutional weaknesses hinder the translation of policy objectives into tangible improvements in livestock productivity, thereby constraining the nation's capacity to achieve sustainable protein security. Strengthening institutional capacity and inter-agency collaboration is therefore crucial for bridging the gap between policy ambition and outcomes.

3.7 Policy-Nutrition Nexus

3.7.1 Affordability and Access to Animal Protein

The relationship between livestock policy and nutrition outcomes is increasingly recognised as central to national development. In Nigeria, affordability and accessibility of animal protein remain major challenges. According to the National Bureau of Statistics (NBS, 2024), the average monthly expenditure on meat and dairy per household is ₦9,800, representing approximately 18 % of total food expenditure. Rising prices, exacerbated by insecurity and transportation costs, limit access, particularly for low-income households in states like Zamfara, Benue, and Kano [19]. Government interventions, including subsidised feed, credit facilities through the CBN, and the Livestock/Dairy Development Initiative, aim to increase production efficiency and reduce prices, though implementation gaps persist [20].

3.7.2 Role of Extension Services and Technology

Extension services and technology adoption are critical in translating policy into improved nutrition outcomes. Initiatives such as the Federal Ministry of Livestock Development's extension programmes and the World Bank-supported Livestock Productivity and Resilience Support Project (P160865) provide veterinary services, improved breeds, and training in feed management. Regions like Plateau and Kaduna have benefited from such programmes, witnessing increased milk yield and poultry growth rates of 4-5 % annually [24]. However, coverage remains uneven, and smallholder farmers in remote rural areas often lack access to these innovations, limiting the nationwide nutritional impact.

3.7.3 Socio-Cultural Influences on Protein Consumption

Table 5. Per capita protein consumption in Nigeria (kg/year)

Protein Source	Average Consumption	Recommended Intake	% of Recommended Intake
Meat (beef, goat)	9.5	30	32 %
Poultry	6.8	20	34 %
Dairy	4.2	20	21 %
Eggs	3.5	12	29 %

Source: NBS, Household Nutrition Survey 2024; FAO, Food Security Report 2023

Table 5 above demonstrates that per capita consumption of meat, dairy, and eggs in Nigeria is substantially below recommended levels. Poultry consumption is slightly higher than beef and dairy, reflecting market availability and lower cost, yet overall intake is insufficient for optimal protein nutrition. Cultural preferences, religious practices, and regional dietary habits further influence consumption patterns, underscoring the need for livestock policy to consider socio-cultural dimensions in promoting nutrition security. Policies must therefore not only increase production but also ensure accessibility, affordability, and acceptability to achieve measurable gains in protein security.

3.8 Pathways for Strengthening Protein Security through Livestock Policy

3.8.1 Modernisation and Intensification of Production

Enhancing livestock productivity is central to improving national protein security. Modernisation strategies, including mechanised feed production, adoption of high-yielding breeds, and improved veterinary services, have demonstrated tangible benefits in northern states such as Kano, Plateau, and Kaduna. The Central Bank of Nigeria's Livestock/Dairy Development Initiative has facilitated access to mechanised milking equipment and credit for smallholder dairy farmers, contributing to a 3.5 % annual increase in milk yield between 2021 and 2023 [20]. Intensification reduces dependence on extensive grazing, optimises feed utilisation, and supports year-round production, thereby increasing the quantity and reliability of animal protein available to households across income brackets.

3.8.2 Feed and Pasture System Reform

Table 6. Feed and forage availability by region (Nigeria, 2023)

Region	**Estimated feed availability (mt/year)**	**Livestock population (millions)**	**Feed deficit (%)**
North-West	4,200,000	22	15 %
North-East	2,800,000	15	18 %
North-Central	3,100,000	14	12 %
South-West	1,500,000	10	25 %
South-East	900,000	8	28 %
South-South	700,000	7	30 %

Source: NBS, Agricultural Production Survey 2024; World Bank, 2023

Table 6 above demonstrates significant regional disparities in feed availability relative to livestock populations. Northern regions benefit from abundant forage, while southern regions face substantial deficits, particularly in South-South and South-East zones. These gaps contribute to uneven productivity and higher production costs, highlighting the need for feed system reform through fodder banks, improved pasture management, and strategic importation of quality feed concentrates.

3.8.3 Value Chain Integration and Private Sector Role

Strengthening livestock value chains is equally vital. The integration of private-sector actors, including dairy cooperatives, commercial poultry farms, feed manufacturers, and cold-chain logistics providers, supports efficient collection, processing, and distribution of animal protein. World Bank interventions in Plateau and Kaduna have facilitated public-private partnerships that enhance processing capacity and market access. Such initiatives not only improve product quality and shelf-life but also create employment opportunities, raise farmer incomes, and stabilise protein supply across urban and rural markets [24].

3.8.4 Policy Implications

Comprehensive reforms must synchronise production, feed availability, market infrastructure, and institutional support. Policies should incentivise technology adoption, promote equitable feed distribution, and strengthen extension services. Ensuring consistency in implementation across federal and state levels is crucial to achieving tangible improvements in Nigeria's protein security.

4. Conclusion

This study has examined the intricate relationship between Nigeria's livestock policy framework and national protein security. It reveals that while livestock policies, including the CBN Livestock/Dairy Development Initiative and the National Dairy Policy, aim to increase production and accessibility of animal-source protein, significant gaps persist. Constraints such as farmer-herder conflicts, climate-induced pasture degradation, poor infrastructure, and institutional weaknesses limit the translation of policy into improved nutrition outcomes. Regional disparities in production, feed availability, and market access further exacerbate protein inadequacy. Modernisation, feed system reform, value chain integration, and stronger institutional coordination emerge as essential pathways for enhancing livestock productivity and ensuring that policies meaningfully contribute to sustainable protein security across Nigeria.

5. Recommendations

The government should strengthen institutional coordination between federal and state livestock agencies to ensure coherent implementation of livestock policies, streamline resource allocation, and monitor progress toward achieving national protein security objectives effectively.

The Central Bank of Nigeria should expand credit facilities and financial incentives for smallholder livestock farmers, focusing on dairy, poultry, and small ruminants, to enhance productivity, modernisation, and sustainable investment in the livestock sector.

The Federal Ministry of Livestock Development should implement comprehensive extension services across all states, providing training on improved breeds, veterinary care, feed management, and modern livestock technologies to bolster production efficiency and protein availability.

State governments should prioritise the development of pasturelands, fodder banks, and sustainable grazing management practices to mitigate seasonal feed shortages, reduce conflict over resources, and stabilise livestock production across diverse ecological zones.

Private sector actors and cooperatives should be incentivised to invest in cold-chain infrastructure, processing facilities, and distribution networks, ensuring efficient handling, preservation, and market access for meat, dairy, and poultry products nationwide.

The government should establish early-warning systems and conflict mediation mechanisms to address farmer-herder clashes, reducing livestock losses, enhancing market stability, and securing a consistent supply of animal protein for local communities.

The Federal Ministry of Agriculture and Nutrition agencies should integrate nutrition education into livestock development programmes, promoting equitable consumption of animal-source protein, improving dietary diversity, and strengthening household-level protein security across Nigeria.

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