

Revitalization of the Livestock Industries: A critic of the National Livestock Agenda

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Introduction

Pastoralism is the main livestock production system in Sub-Saharan Africa (SSA) where pastoralists live in arid and semi-arid zones. Pastoral herds move along moisture gradient (in dry areas during rains, in humid areas during dry season) exploiting seasonal availability of pasture, accessing crop residue, fallow land and open range to produce beef and milk with some level of efficiency. This movement is also a very successful strategy in coping with uncertainties due to diseases, climate change and local conflicts. The movement in the past was mainly through designated stock routes (burtali) with rest points in grazing grounds (hurumi) or farms/open rangeland.

Historically pastoralists are known to be generally law abiding. They paid cattle tax (Jangali) and any other legitimate state levy for passage rights and to secure state protection. Pastoralists have big mobile capital (cattle) and are comparatively vulnerable since they are most of the time virtually alone with their animals and can easily be overwhelmed, therefore needing State protection all the time. However, with the abolition of cattle tax along with the decline in local government administration and laissez-faire attitude of the criminal justice system, this protection became less vigorous. In most cases the pastoralists are left to the mercies of corrupt state officials and local bandits, making it imperative for them to sometime resort to self-help.

Contextual background

Beef consumption in Nigeria is low, about 2 kilos per capita, compared to 6 kilos for countries with similar income levels (McKensy Report 2013). Milk and dairy product imports now stand at about US\$ 1.3 billion annually (FMARD 2021). Close to 50% of animals slaughtered in the country come from ECOWAS and other countries.

Although beef is on import prohibition and despite the challenges of insurgency and rural banditry in the North East and North West zones with the

largest livestock population, neither shortage nor dramatic increase in price of beef has occurred. Thanks to pastoralism with its low production costs, today a kilo of meat costs about 1,800 Naira in the country. Another significant contribution of pastoralism is the support to rural livelihood, creation of employment along the value chain, provision of manure and draught power.

How do pastoralists provide these services with such level of efficiency and without Government subsidy unlike crop farmers? Ruminants (Cattle 19.5m, 41.5m sheep and 72.5m goats) are the most efficient converters of roughage into high quality animal protein. And Nigeria has a lot of roughage in the form of crop residue, forage from fallow land, non-arable land and in open range.

Nigeria has a land mass of 92.3m ha, 70.8m ha of agricultural area with only 34m ha currently under cultivation (FMARD). Annual maize production stands at about 11-12m tons producing over 50m tons of crop residue (Alhassan et al 1991). Recent research has in fact shown that 86% of cereal biomass is made of materials that are currently not eaten by humans, but ruminants can convert that into high quality animal protein (Anne Mottel et al 2017). To timely access these crops residue and forage in open range, animals must move. Regrettably this movement which is central to pastoralism is now the main cause of crisis in the livestock industries.

Increased population growth and urbanization have resulted in more land including *Fadama* being put to arable farming for food sufficiency thus reducing animal feed resource base. Paradoxically, the same population growth and urbanization have also increased the demand for food of animal origin which in turn calls for expansion of animal production.

Livestock industry under traditional pastoralism has success stories in Africa. Ethiopia with a similar landmass of 110m ha (Nigeria 92.4m ha) has 60m cattle, three times the cattle population of Nigeria. Ethiopia is one of the fastest growing economy in Africa with livestock production covering 40% of agricultural output and contributing 13-16% of the total GDP.

So, pastoralism is not so unfit to warrant outright abolishment by anti-pastoralist legislations such as banning of open grazing. The reality is, for the foreseeable future the National herd will remain under pastoralists/smallholder management and therefore small-scale producers (SSPs) will remain the main suppliers of the livestock products in the country. Veterinary health care has allowed cattle and small ruminants to stay year-

round in every part of the country making investments in livestock industries very a lucrative business. The resilience of the National herd is based on genetical diversification, tolerance for some diseases, being dispersed instead of concentrated, healthy because of movement but poor in productivity. So, the key to the revitalization of livestock industry is to address the poor productivity of small-scale producers. This should be through commercialization of their operations, making them market orientated to ultimately provide stable supply of animals to the nation and consequently made adequate incomes for their households. The main economic incentive is, livestock products (beef, milk, eggs, poultry and pork) are the most valued agricultural products globally and Nigeria also has a huge internal market.

Ranching

There is an on-going popular agitation for ranching. According to Roger Blench (2017) the term ranching is not clearly defined in Nigeria; all intensive or enclosed livestock production systems are categorized as ranching.

There are essentially three different types of enclosed livestock production that might fall under this term;

- a) Ranching. A very large area of rangeland is enclosed and the livestock migrate freely within its boundaries, finding their own food.
- b) Intensive livestock production. The animals are kept in paddocks, and graze partly on natural pasture, partly on intensive feedstock.
- c) Zero grazing. The animals are kept in stalls and fed entirely on purchased feeds. They are subject to intensive veterinary care, and often given dietary supplements to enable them to fatten quickly.

But at present, none of these are practised anywhere in Sub-Saharan Africa except in parts of Ethiopia, Kenya and South Africa.

In fact, Nigeria implemented a World Bank assisted project, the First Livestock Development Project (FLDP 1974-1983) exclusively to promote parastatal and private ranches. The project was a failure (FLDP ICR 1983). Some of the reasons advanced for the failure were;

- i) large expanse of land is required
- ii) heavy capital investments in infrastructure involved
- iii) low economic returns due to inappropriate marketing system
- iv) lack of local expertise in establishment and management.

On final analysis, the reviewers concluded that, production of pastoral livestock per hectare in the Sahel was two to three times higher than that of areas with similar climate and soils in Texas and Australia (Breman and de Wit 1983). These findings have led to a more general awareness that pastoral production systems are not as antiquated and backward as often assumed.

In fact, even before the FLDP, several unsuccessful attempts were made to introduce enclosed cattle production in Nigeria. These included importations of purebred dairy cows in the 1940s to establish dairy farms at Agege and Vom, the Western Livestock and States ranches and Livestock Improvement and Breeding Centres (LIBCs) also established by states in 1970s.

What has changed in the livestock industry?

Nigeria has successfully modernized the production of one livestock specie, viz.: poultry through the introduction of enclosed intensive commercial production system. The tipping point was availability of special high-yielding Day-old Chicks (DOC), the introduction of States Poultry Production Units (PPU) to raise DOCs to Point-of-Lay pullets, the availability of quality commercial feeds supported by improved local production of maize and soybeans, large internal market and the support of the commercial Banks All these were anchored by quality veterinary healthcare services, the privately owned Parent Stock (PS) and Grandparent Stock (GPS) farms and Government protection. Today the private sector led commercial poultry is the most financially consolidated sector in agriculture, worth about N10 trillion (PAN) and biggest in Africa. The poultry value chain has created enormous employments, supported livelihood and gender mainstreaming. Commercial and free-range poultry exist in harmony in every state of the Federation enabling commercial poultry to acquire a Federal character.

This remarkable transformation did not just happen, it was made to happen by deliberate government policies, public-private sector partnership and the Nigerian spirit of entrepreneurship.

What can be learnt from the transformation of poultry industry?

Seven high level lessons emerged from the transformation of the poultry industry and they can serve to inform future transformation strategy. The sector is underpinned by:

- I. High-yielding breeds
- II. Commercial feeds from increased maize and soybean production.
- III. Vaccines and quality veterinary healthcare and extension services

- IV. Consolidated financing: Although banks are risk averse but understood the dynamics and process flow of commercial poultry and identified the critical risk and reward factors.
- V. Intensive commercial and free-range poultry in harmony within one ecosystem.
- VI. Big internal market
- VII. Cooperative Federation: Poultry Association of Nigeria (PAN) at National and States level actively lobbying and acting as interest and pressure group

Appros, the strategic recommendation for the revitalization of the livestock industry, is to adapt the lessons learnt and apply the contextual understanding of poultry transformation to other species Viz; cattle, sheep, goats and pigs.

How to adapt; Production charts

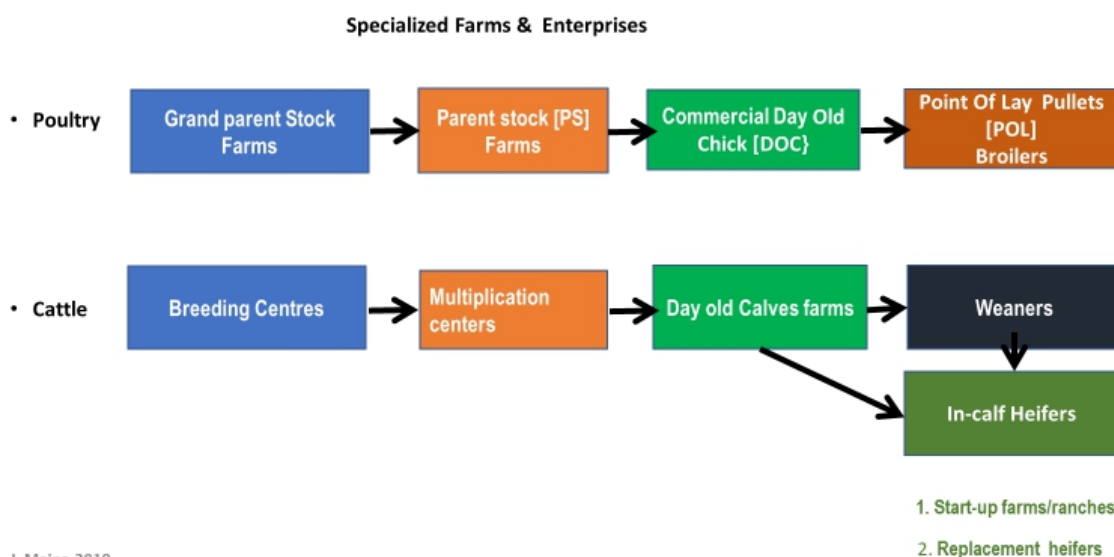


Figure.1

Strategic key recommendations

While ranching is most suited for areas with low and poor rainfall, other intensive production systems like dairy and zero grazing are more suited for areas with high cereal production and with municipal services. Therefore, while recognising that states have different comparative advantages, the following key areas are identified as requiring special interventions:

- Access to land: the 1978 land Use Act sections 5 and 6 specify 500 ha and 5000 ha for agriculture and grazing respectively. The 1965 Grazing Reserves Law (valid in 19 Northern States) has provision for legal land acquisition. Title to land will encourage SSPs to settle and investment in infrastructure.
- National breeding policy: to provide policy guidance on selection for development of National breeds and crossbreeding with exotic breeds.
- Genetic improvement: production of quality breeding stock for both dairy and beef (dairy cows are bred specifically to produce milk in large quantities while beef cattle are bred to rapidly produce meat). These can be produced in commercial ranches under cow/calf production, in dairy farms and private farms and made available SSPs.
- Cereal production: increased cereal production is necessary for livestock feeds. Current level of maize production is insufficient for human and the poultry industry. According to FAO, 33% of Global Land is under cultivation for animal feeds.
- Commercial pasture production: promotion of commercial pasture production. States with good rainfall distribution, the Southern States can be a good source of feed especially grasses and legumes.
- Capacity building: minding producers' knowledge gaps in areas of productivity, the ability to translate research, in education and social skills for effective participation in decision-making and policy formulation on critical issues concerning land tenure, healthcare (including zoonoses), women's rights and governance in general. Lack of these skill preclude small-scale producers from stable market participation. This will be through education and extension services.
- Commercial banks financing: Banks have developed competencies in poultry value chain and can easily understand the dynamics and process flow of other livestock value chains, identifying critical risks areas.
- Structured market: existing livestock markets should be developed for bulk purchase, traceability and animal welfare.
- Research and special skills: funding of research and addressing the dearth in critical skills of Range Management Science, Farm management, modern husbandry and advanced veterinary science.

- Enabling environment by Government; comprehensive policy with timeline, evidence-based advocacy and lobby to counter the current negative narrative on animal production and stakeholders.

Project models and implementation plan

Long distance cross-border and interstates transhumance is in steady decline and impracticable even under the ECOWAS transhumance protocol due to security challenges. However, short distance and intrastate transhumance occur.

Special interventions to revitalize the industry should focus on the following producers:

1. Transhumant Pastoralists; Nigeria has about 415 identified grazing reserves covering a total of 4.3m ha all in the Northern States. Only about 141 are officially gazetted and legally secured. States should continue to develop these reserves for communal use in dry and at peak of farming seasons but should charge grazing fees to discourage misuse and to maintain the infrastructure. Transhumant pastoralists should be encouraged to settle as start-up ranchers, agro-pastoralists inside and outside reserves through granting of land titles. Federal and State Governments to provide incentive and enabling environment

Start-up ranchers' models:

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|----|-----------------------|--------------------------|--------------|
| 1. | Small Ranches; | 25-50 heads of cattle | =Land 50ha |
| 2. | Intermediary Ranches; | 51-100 heads of cattle | =Land 150ha |
| 3. | Medium Ranches; | 101-250 heads of cattle | =Land 300ha |
| 4. | Large Ranches; | 300 -500 heads of cattle | =Land 500ha |
| 5. | Commercial Ranches | 1000 cattle plus | =Land 5000ha |

To promote ranching, Government should provide ranch starter packages in the form of special financing and beneficiaries must sign up;

- To Animal Identification System (AIM)
- Enrolment into National Herd Register
- Register with Anchor Growers Programme
- Procurement livestock Insurance
- Enrolment on Ranchers' capacity Building Scheme;

2. Agro-pastoralists; progressively transhumant pastoralists are settling in all states of the Federation as agro-pastoralists. Agro-pastoralists negotiated for

land and settled in many communities. Clusters of agro-pastoralists exist in Southern states at Iseyin-Igangan, Oyo State, in Adada-Nkpologu-Adani-Iggah axis in Enugu State, in Awgu-Nkanu-Abakaliki axis in Ebonyi State and other places. Many animals in the herd of agro-pastoralists belong to individuals in the local communities.

3. Peri-urban farms: these are unique variants of enclosed livestock production systems. Peri-urban farms are privately owned mixed farms of indigenous and crossbred cattle that sprang up in the periphery of many urban cities starting from the 1970s and flourished up to around 2012 before they were dissipated by cattle rustling.

4. Feedlots and Smallholder Fatteners; medium size feedlots operations and smallholder fattening schemes using indigenous cattle provide quality animals for slaughter in major cities. These producers should be trained on how to source for quality animals and adapt technologies to improve weight gains and finishing.

5. Silvopastoralism; the practice of integrating trees, forage, and the grazing of domesticated animals in a mutually beneficial way. Silvopastoralism belongs to a group of practices known as agroforestry. Federal and State Governments should encourage Silvopastoralism to reduce ungoverned spaces which are security risk hotspots.

All these small-scale producers require access to finance, smart technologies and premium markets for their products.

Conclusion

The revitalization of the livestock industries requires systems approach and engagement of small-scale livestock producers to create a critical mass. The catalyst for this is the establishment of large and medium ranches and dairy farms to produce weaners, in-calf heifers and young breeding bulls for new start-up farms and genetic upgrading of indigenous animals. Understanding of the socio-economics of pastoralism as a major livestock system, addressing small-scale producers' knowledge gaps in modern livestock husbandry are also essential. Government must provide the enabling environment of security, policy consistency, structured market and promote synergistic participation of all stakeholders in the lucrative livestock businesses.

But most importantly is the urgent need to counter the current very negative narrative on pastoralists and the simplistic notion that ranching alone can resolve the herders farmers conflicts.

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