

# **Driving Growth: Fostering Socio-economic Development in Africa through Sustainable Livestock Resource Management**



**The Forum for African Animal Resources (FAAR)**

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## Acknowledgements

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### **Disclaimer**

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## Acronyms and abbreviations

AfCFTA	The African Continental Free Trade Area
AMR	Antimicrobial Resistance
AU-IBAR	African Union-Inter-African Bureau for Animal Resources
ASF	African Swine Fever
CBT	Commodity-based trade
CIRAD	Centre de coopération internationale en recherche agronomique pour le développement
COVID-19	Coronavirus Disease 2019
DLD	Department for Livestock Development of Thailand
EU	European Union
FAAR	Forum for African Animal Resources
FAAR-TT	Forum for African Animal Resources-Think Tank
FAO	Food and Agriculture Organization of the United Nations
IHR	International Health Regulations of WHO
FMD	Foot and Mouth Disease
GDP	Gross Domestic Product
GMP	Good Management Practices
HACCP	Hazard Analysis and Critical Control Points
ILRI	International Livestock Research Institute
MERS-CoV	Middle East respiratory syndrome coronavirus
NGO	Non-governmental Organisation
PPR	Peste des Petits Ruminants
PVS	Performance of Veterinary Services of WOAHA
USD	United States Dollar
WHO	World Health Organization
WOAH	World Organisation for Animal Health

## EXECUTIVE SUMMARY

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The Forum for African Animal Resources (FAAR) is a newly established, leading think tank dedicated to driving the transformation of animal resources in Africa into a modern, productive and thriving sector. This document was prepared in response to continuing food crisis, worsening hunger due to the combined impacts of several factors including protracted conflicts, climate extremes, economic challenges, and the lingering effects of the COVID-19 pandemic. Despite efforts, Africa is off track to meet the Sustainable Development Goal (SDG) 2 on Zero Hunger by 2030 and the Malabo targets for 2025. This first FAAR publication focuses on livestock in the context of Africa socio-economic and cultural outcomes, cohesion and modern Africa society in the global context, while promoting measures for climate protection.

There is an urgent need for intensified efforts to combat hunger and malnutrition. Agriculture is by far the single most important economic activity in Africa, accounting for about 35% of the continent's gross domestic product (GDP), and provides the livelihood of more than 50% of the continent's population. Africa's livestock sector represents 40% of agricultural GDP in Africa, and one-third of the global livestock population.

Thus, investing in improving Africa's rich and diverse livestock population can play a crucial role in improving food and nutrition security across the continent, and enhancing marketability within and beyond the Continent of Africa and contributing to the economic development.

The main objective of this brief document, developed by FAAR, is to highlight key issues that Africa must address, and provide policy recommendations to improve its livestock production sector so that it results in positive, transformative and socio-economic developmental impacts leading to improved health, wealth and well-being of African societies. The document proposes four broad areas within the livestock sector where investment could yield significant gains to contribute to the above goal:

1. Enhancing livestock productivity within an enabling animal health environment.
2. Creating conditions that will facilitate rapid development of traditional, livestock-dependent rural communities to production systems that are more efficient, sustainable and generate high quality animal products that are compliant with international sanitary standards.
3. Establishing a supportive environment that stimulates the small scale, traditional and commercial livestock farming sectors to be able to access local and international markets.
4. Supporting development of a livestock research programme that is fit-for-purpose, enabling animal agriculture to progressively shift from predominantly subsistence farming to strong commercial enterprise.

The document also recommends 11 major thrust areas for sustainable transformation of the livestock sector in Africa. These include: seeking political commitment; reframing the livestock narrative for Africa; strengthening community focused animal health, production and marketing; modernising veterinary services; integrating One Health; enhancing market access; strengthening infrastructure along the value chain; ensuring environmental sustainability; embracing innovation; supporting research and development; and developing partnerships and collaboration.

The document recognises the importance of balancing the increasing demand for livestock products with the preservation of Africa's delicate ecosystems and promotes coordinated efforts from governments, local communities, regional economic communities, and international partners so that Africa can harness the benefits of its animal resources while safeguarding the environment for future generations.

This document is a call for action to key stakeholders—policymakers, the private sector, academia, social movements, non-governmental organizations (NGOs), students, educators, and community leaders—to collaborate on promoting sustainable and equitable development in Africa's animal resource sector.

## A. CONTEXT

Africa is facing a severe food crisis, with millions at risk of worsening hunger due to the combined impacts of several factors including protracted conflicts, climate extremes, economic challenges, and the lingering effects of the COVID-19 pandemic. These issues are exacerbating social and gender inequalities, particularly affecting women and girls. Despite efforts, Africa is off track to meet the Sustainable Development Goal 2 on Zero Hunger by 2030 and the Malabo targets for 2025.

In 2022, about 282 million Africans were undernourished—an increase of 57 million since the pandemic began (FAO, AUC, ECA and WFP. 2023. *Africa – Regional Overview of Food Security and Nutrition 2023: Statistics and trends*. Accra, FAO. <https://doi.org/10.4060/cc8743en>). Furthermore, 868 million people faced moderate to severe food insecurity, with 342 million severely affected. Micronutrient deficiencies, obesity, and the inability to afford a healthy diet are widespread concerns, as 78% of Africa's population could not afford a healthy diet in 2021, far exceeding the global average of 42%.

There is an urgent need for intensified efforts to combat hunger and malnutrition, especially given the slow economic growth, high inflation, and rising borrowing costs since 2022. Agriculture is by far the single most important economic activity in Africa, accounting for about 35% of the continent's gross domestic product (GDP), and provides the livelihood of more than 50% of the continent's population. These shares are more than double than those of the world average and much higher than those of any other emerging region. Africa's livestock sector represents 40% of agricultural GDP in Africa, and one-third of the global livestock population (AU-IBAR, 2016).

Thus, investing in improving Africa's rich and diverse livestock population can play a crucial role in improving food and nutrition security across the continent, and enhancing marketability within and beyond the Continent of Africa and contributing to the economic development.

There are four broad areas within the livestock sector where investment could yield significant gains to contribute to the above goal:

- Enhancing livestock productivity within an enabling animal health environment
- Creating conditions that will facilitate rapid development of traditional, livestock-dependent rural communities to production systems that are more efficient, sustainable and generate high quality animal products that are compliant with international sanitary standards.
- Establishing a supportive environment that stimulates the small scale, traditional and commercial livestock farming sectors to be able to access local and international markets.
- Supporting development of a livestock research programme that is fit-for-purpose, enabling animal agriculture to progressively shift from predominantly subsistence farming to strong commercial enterprise.

This is a challenging task for the Continent given the fact that the livestock sector has been grossly neglected for so many years. This task is further compounded by the existence of hugely diverse and evolving livestock production systems in Africa including the rapidly emerging intensified systems, particularly in the poultry and pig production subsectors. The transformative process will require serious structural changes, political commitment, huge investment in a range of subsectors supporting livestock production from financing, building relevant infrastructure to enhance the whole of complex livestock value chains, strengthening veterinary infrastructure, improving animal health and production, establishing massive capacity development programmes, exploiting the emerging artificial intelligence technology, and creating innovative public-private partnerships to enhance local, regional and international trade for Africa's livestock and livestock products.

If successful, the benefits accrued for the Continent would be enormous and include long term food security, economic and social growth, and improved living standards particularly for the poor agricultural communities who primarily rely on smallholder farming.

## B. OBJECTIVE

The main objective of this brief document, developed by FAAR, is to highlight key issues that Africa must address, and provide policy recommendations to improve its livestock production sector so that it results in positive, transformative and socio-economic developmental impacts leading to improved health, wealth and well-being of African societies.

## C. MAJOR THRUSTS FOR LIVESTOCK TRANSFORMATION

### 1. Seek Political Commitment

Commitment for adequate public policies implementation is the cornerstone for achieving any large-scale transformation, particularly in a sector as complex and interconnected as livestock. Without strong political will and governance, securing the necessary funding, crafting effective policies, and building the required partnerships will be significantly hindered.

In the framework of The African Continental Free Trade Area (AfCFTA), the African Development Bank's LIVEMAP, Livestock Master Plan (ILRI/FAO/CIRAD) being developed at country level and other relevant documents from key partners such as the World Bank, FAO, WOA, AU-IBAR, ILRI etc., FAAR recommends the following priority areas to be addressed:

- **Generate Political Commitment:** Conduct analysis and insights, and generate evidence for supporting livestock production, and animal-sourced food value chains for sustainable development, and use this to guarantee that livestock remains a development priority on the government agenda.
- **Develop Policy Framework:** In order to support implementation of policies for sustainable livestock development develop a roadmap for the transformation process, create incentive structures to encourage private sector investment and participation, and develop a regulatory environment to ensure fair competition and consumer protection. To support these, ensure adequate institutional support and allocate adequate and sustainable funds to support the transformation process.
- **Facilitate rights to access land:** For the livestock sector in Africa to be successful access to land is essential. It provides the physical space for grazing, water, and shelter and supports the economic, social, and cultural livelihoods of millions of people across the continent. Policies that address land tenure issues, improve land management practices, and ensure equitable access to land are urgently needed for the future of livestock farming in Africa, particularly as the continent faces growing challenges of rapidly expanding population, land use competition and climate change.
- **Establish Strategic Partnerships:** Create strong alliance with regional economic organisations in Africa through AU-IBAR, and multilateral and bilateral development partners such as African Development Bank, World Bank, and other funding agencies and the private sector to leverage additional funds and expertise. Ensure that the funds are allocated for knowledge sharing to facilitate the exchange of best practices and lessons learned, and continuous capacity building to strengthen the capacity of stakeholders to implement the transformation agenda.

## 2. Reframe the Livestock Narrative in Africa

Africa faces increasing scrutiny over the environmental impact of livestock farming, with global narratives often focusing on issues like deforestation, methane emissions, and land degradation. While these concerns are valid, this over simplification disregards its critical role in the Continent's economy, culture and food security and livelihoods. Therefore, Africa must robustly challenge this harmful negative narrative of livestock's contribution to the environment by emphasizing sustainable livestock management practices, quantifying the benefits of livestock to ecosystems and livelihoods, advocating for context-specific policies, and actively participating in global discussions. The continent's unique approach to livestock production, grounded in both tradition and innovation, can provide a model for balancing environmental stewardship with food security and economic development.

In order to achieve this Africa can adopt several strategies:

- **Advocate for a Context-Specific Approach:** Rejecting One-size-fits-all solutions, including blanket global policies aimed at reducing livestock-related emissions, like reducing red meat consumption or curbing livestock numbers, and emphasising that in Africa livestock plays a critical role in poverty alleviation, nutrition, and rural economies. Advocacy for context-specific approaches that address Africa's unique challenges and opportunities can help shape a more balanced narrative.
- **Engage in Global Environmental Debates:** African leaders, researchers, and environmentalists should be more active participants in global policy discussions on climate change and agriculture. African voices can advocate for livestock's role in sustainable development and the need to protect livelihoods while addressing climate concerns.
- **Tell African Success Stories:** Africa can leverage media, academia, and international forums to share success stories of sustainable livestock farming practices that contribute positively to both the environment and communities. By controlling its own narrative and sharing examples of innovation, adaptation, and resilience, Africa can change perceptions globally.
- **Quantify the Positive Contributions:** African rangelands, particularly grasslands and savannas, have the potential to sequester significant amounts of carbon. African governments and research institutions can conduct studies and provide data to support this narrative, demonstrating how well-managed grazing lands can act as carbon sinks, enhancing soil organic carbon, thus mitigating climate change.
- **Emphasise positive contribution to Soil Fertility through Nutrient Cycling:** Livestock contribute to the natural nutrient cycling process, providing organic fertilizers that enhance soil health and productivity. Livestock waste plays a crucial role in maintaining soil fertility and supporting crop production, especially in mixed farming systems. Communicating this link between livestock and sustainable agriculture can counter the idea that livestock only harms the environment.

## 3. Strengthen community-focused animal health, production and marketing

Community-based livestock production and marketing play a crucial role in building resilient rural economies and supporting food security. By focusing on improved animal health, these systems can reduce disease prevalence, enhance livestock productivity, and decrease mortality rates, directly benefiting smallholder farmers and communities. Healthy livestock also provide opportunities to access markets at many levels including regional and international markets fetching higher prices.

Eradication of rinderpest, and ongoing efforts to eradicate and PPR, and the new WOA standards have created significant opportunities to transform the livestock sector in Africa, particularly for the smallholder community. The examples below from Southern Africa and Thailand illustrate the



potential for adaptation of these approaches in many parts of Africa to uplift rural livelihoods, support sustainable agriculture, and expand Africa's role in the global livestock trade.

- **Stimulate Momentum in Livestock Trade and Transboundary Disease Management:** Since the 1990s, Sub-Saharan Africa has seen a marked increase in livestock exports, particularly to the Middle East, stimulated by the eradication of rinderpest. The eradication campaign, led by AU-IBAR, FAO, and the EU, created a strong disease surveillance system. This system includes community-focused monitoring and transit inspection points along major trade routes, such as those from north-eastern Kenya to Bossaso at the Horn of Africa. Initially targeting rinderpest, the system now supports PPR eradication efforts, facilitating safe trade in livestock and products from Eastern Africa to the Middle East.
- **Support Commodity based trade:** In Southern Africa, FMD and other transboundary diseases have historically restricted livestock exports. The discovery that deboning and maturing beef reduces FMD virus risk introduced the concept of Commodity-Based Trade (CBT). CBT enables exports of processed, safe meat from areas not free of FMD, offering an alternative to geographically defined disease-free zones. Despite these advancements, WOAHA trade standards based on disease-free zoning continue to restrict livestock from regions with endemic diseases, limiting market access for smallholder farmers near wildlife conservation areas. Recent investment of USD 2.5 billion in Nigeria by JBS of Brazil, one of the world's leading meat processing companies, is highly encouraging as it is set to expand and enhance livestock value chain in the country and open up national, regional and international markets in meat (see section below on Public Private Partnerships).
- **Exploit New WOAHA standards:** The revised and improved standards allow exports of safe meat from FMD-affected regions, provided risk mitigation measures are in place. Botswana and Namibia have led initiatives to implement these measures. In Namibia's Zambezi region, the Meat Board's mentorship programs trained farmers in biosecurity practices to access export markets. Similarly, in Botswana's Ngamiland district, the government and conservation NGOs have promoted herding practices to reduce contact with wildlife and improve livestock health. Professional herders, or eco-rangers, prevent disease transmission through mobile corrals that protect livestock from predators like lions and reduce interaction with FMD-carrying wildlife. While these projects have shown potential to improve livelihoods and market access, challenges remain. Sustainability requires long-term funding, broad stakeholder support, and adaptation of WOAHA standards. Extending these models to other countries, including Zambia, Tanzania, and Kenya, could benefit more low- to medium-income livestock farmers.
- **Learn from Thailand's success story in poultry export:** Thailand's success in exporting poultry products, particularly to stringent markets like Japan and Europe, can be attributed to a combination of factors that ensured high standards of quality, food safety, disease control and vertical integration of the production system through collaboration with the private sector and the government. Here are the main reasons for this success:
  - **Modernization of Poultry Farming and Processing:** The Thai government supported a shift toward vertically integrated poultry production linking smallholder rural communities with larger, well managed commercial farms, which allowed for greater oversight and control of quality at every stage of production, from feed manufacturing to breeding, raising, processing, and exporting. Adherence to the Hazard Analysis Critical Control Points (HACCP) and Good Manufacturing Practices (GMP) standards became common across processing facilities, further enhancing food safety.
  - **Strong Disease Control Measures:** Thailand implemented rigorous disease surveillance and control measures, particularly in response to avian influenza outbreaks. Following an outbreak in 2004, Thailand invested heavily in biosecurity,

improved farm management practices, and strictly enforced measures to prevent future occurrences. These included regular testing, culling, and the imposition of strict sanitary standards across the poultry supply chain.

- **Compartmentalisation and zoning strategies:** These measures helped control the spread of diseases. Compartmentalization allowed certain farms and facilities to be classified as disease-free based on their biosecurity practices, even if avian influenza cases were present elsewhere in the country. This practice helped maintain export flows to international markets, including Europe and Japan.
- **Compliance with International Standards:** Thailand's Department of Livestock Development (DLD) worked closely with the industry to ensure compliance with these standards, performing regular inspections and audits of poultry farms and processing facilities. This proactive approach reassured importers that Thai poultry met the stringent safety and quality standards required by these high-value markets.
- **Government-Industry Collaboration:** The Thai government worked closely with the poultry industry to develop and enforce standards, provide training, and promote export opportunities. Regular dialogue between government agencies and industry stakeholders facilitated swift responses to challenges, including compliance with new regulations or market demands. Thailand also pursued bilateral trade agreements and negotiations with Japan and the EU, advocating for market access for its poultry exports. By establishing clear channels of communication and cooperation, Thailand was able to stay aligned with international standards and anticipate market trends.

#### 4. Modernize Veterinary Services

It is estimated that nearly 20% of animal productivity is lost by diseases. In parts of Africa this may be higher due to high prevalence of chronic endemic vector-borne and other parasitic diseases. In addition, both zoonotic and non-zoonotic transboundary animal diseases such as FMD, PPR, ASF, avian influenza, MERS CoV and emerging and re-emerging diseases are a major barrier to regional and international trade and access to lucrative global markets, delaying transformative processes necessary to elevate the livestock production in Africa to a thriving and economical profitable sector.

To meet rising trade demands, effective disease control and improving livestock health and productivity are a pre-requisite. Key elements that need urgent attention are:

- **Modernize national veterinary services** at national and sub-national levels by building capacities of veterinarians and partnering with farmers and animal health field workers, to improving biosecurity from farms and along the value chain to markets, conducting strategic surveillance, and timely reporting for disease prevention and control.
- **Promote and develop private veterinary services** in Africa as was done some 30 years ago linked to the AU-IBAR-FAO-EU Partnership rinderpest eradication programme in Africa. Revisiting this approach and aligning it with the new objectives of greater engagement with rural farming livestock farming communities to participate in livestock trade.
- As part of efforts to strengthen veterinary force we recommend additional steps as follows:
  - Provide formal postgraduate training of official state veterinarians in state veterinary medicine, public health and business/programme management
  - Establish through national veterinary authorities a system for contracting registered private veterinarians for rural veterinary government-contracted activities under the umbrella of sanitary mandate, e.g., vaccinations, inspections, etc.
  - Enable registered private veterinarians to be able to set up a practice and employ, veterinarians, diplomates, veterinary assistants and community animal health workers to undertake government contracted activities at community level in rural

areas for disease surveillance, sample collections, monitoring and vaccination and other disease control.

- Facilitate availability of affordable and safe vaccines against major infectious diseases.

## 5. Integrate One Health Approach

One Health is a multidisciplinary approach that recognizes the interconnectedness between human health, animal health, and the environment. Improving livestock productivity and sustainability requires such an approach to address a wide range of issues along the food chain from production to processing, and from marketing and consumption. Such an approach ensures the health of animals, humans and environment is protected and cared for and leads to the desired goal of livestock transformation to sustainability. The key areas where One Health benefits the livestock sector include controlling TADs and zoonotic diseases, improving food safety, tackling antimicrobial resistance, and supporting environmental sustainability.

While One Health concepts are now widely embraced in the majority of the countries in Africa, the adoption and implementation of these approaches is patchy, mainly due to inadequate policies supporting implementation at national and community level. The inter-sectoral competition for funds, and uneven distribution of funds at national level also hinders collaboration. Nevertheless, it is encouraging that several countries are setting up One Health Platform/Coordination units within the government structure such as in Kenya, where the Zoonoses Centre is a partnership between public and veterinary services, and in Senegal and Tanzania where the National One Health Platform/Coordination is within the Prime Minister's Office and thereby as part of inter-ministerial natural disaster risk management.

Urgent actions are required at a higher level to promote better adoption of One Health principles in the transformation process of livestock in Africa. FAAR recommends the following area to focus on:

- **Develop policy framework and metrics.** to enable decision makers to adopt implementable policies appropriate for each country at national and sub-national levels ensuring specificities for each of the priority livestock farming systems. Such policies should be supported by appropriate regulatory mechanisms and oversight.
- **Incorporate One Health policies in the national livestock development plans:** As many African countries advance their national livestock sector investment plans, incorporating One Health approaches in risk mitigation measures, improving biosecurity, supporting rural communities and informal sector in the livestock food chain should ensure improved multisectoral and multidisciplinary interventions.
- **Strengthen one health capacities at all levels:** A number of core competency requirements for One Health developed by various international agencies as well as the quadripartite FAO-OWOH-WHO-UNEP one health collaboration need to be used as a basis for developing capacities at regional, national and sub-national levels.
- **Engage communities:** These capacities development initiatives should include engagement of communities, as they play an important role in advocacy, implementation and monitoring of interventions to improve sustainable, market-oriented livestock production.
- **Expand National One Health Networks:** Many countries have already created both formal and informal One Health groups to address the interconnectedness of human, animal, and environmental health. Highlight and promote successful examples of these existing networks to inspire others, and strengthen current networks and encourage the creation of new ones, fostering greater collaboration and knowledge sharing across sectors.
- **Build on One Health Initiatives:** Support the development of One Health through national and regional academic and research programs by encouraging universities, research institutions,

and training centres to integrate One Health principles as a core area of study. This should include emphasis on human and animal health, sustainable food systems, and environmental conservation ensuring that the future professionals are better equipped to address complex livestock food systems that span across various interconnected domains.

- **Participate in joint evaluation of public and animal health capacities:** Ensure participation of countries in evaluation and implementation of One Health capacity development initiatives to bring both the animal and public health sectors to WOAHPVS and WHO IHR standards to enhance improved disease surveillance capacity and better preparedness and response to emerging and re-emerging zoonotic and non-zoonotic disease threats and to combat antimicrobial resistance (AMR).

The process of progressive transformation of livestock systems will benefit greatly from adoption of One Health and add value to existing siloed approaches, improve collaboration, save costs from disjointed uncoordinated interventions leading to a more efficient result of enhancing the health of people, animals and the environment.

## 6. Enhance market access and value chains

One of the crucial aspects of transforming Africa's livestock production system is to expedite the commercialisation of livestock and livestock products. Developing efficient and secure value chains and ensuring market access for livestock products can significantly enhance economic returns for farmers. This includes improving market information systems, ensuring food safety standards, upgrading slaughterhouse facilities, and promoting value addition through processing to enable commodity-based trade, enhancing cross border trade and developing niche markets.

- **Strengthen Producer Groups and Cooperatives:** Forming cooperatives or producer groups can give them better collective bargaining and negotiating power with buyers and help in bulk sales, leading to better prices and reduced transaction costs. These groups can also help farmers access inputs like feed, veterinary services, and information on best practices, reducing production costs and improving productivity.
- **Promote Value Addition and Processing:** Promoting processing (meat processing, dairy production, leather goods), and introducing standards for these products adds value and can enhance consumer confidence allowing producers to access premium markets, both domestically and internationally.
- **Strengthen Market Information Systems:** Access to real-time information on market prices, demand trends, and consumer preferences are important for farmers to manage their trade in livestock and livestock products. Digital platforms including mobile phone applications, radio programs, and other information-sharing platforms can help farmers stay updated, stay connected with other farmers and buyers, reduce the role of middlemen, and make informed decisions, and plan their production accordingly.
- **Facilitate Access to Finance:** Smallholder livestock farmers often lack access to credit, preventing them from scaling up their operations or investing in better production practices. Governments, financial institutions, and NGOs can work together to create accessible financing models tailored to promoting climate sensitive small scale traditional livestock farming, and also develop livestock insurance products to protect farmers protect against risks such as disease outbreaks or climate-related disasters.
- **Enhance Cross-Border Trade:** African Union can support harmonization of veterinary and trade standards, streamlining regulations, reducing tariffs, and facilitating smoother trade

processes between countries to improve market access and unlock new opportunities for livestock producers.

- **Improve Livestock Health and Productivity:** Ensuring that livestock are healthy and meet quality standards is critical for accessing high-value markets. Expanding veterinary services, disease surveillance, and vaccination programs will reduce livestock mortality and improve the quality of the livestock and their products.
- **Establish Breed improvement programmes:** Investing in improved breeds that are more productive and resilient to local conditions can help farmers produce higher-quality animals that are in greater demand in both local and international markets.
- **Develop Niche Markets:** There is growing demand for organic and sustainably produced livestock products. African producers can tap into these niche markets by adopting sustainable practices and obtaining certification, which can attract premium prices.
- **Exploit full potential of Indigenous breeds and products:** Promoting indigenous livestock breeds and products unique to Africa (e.g., goat milk, camel milk) could also create new market opportunities both locally and internationally.

These strategies can create more resilient, competitive, and profitable livestock systems in Africa, helping farmers to commercialize their operations effectively.

## 7. Strengthen Infrastructure along the food chain

Governments must realise that critical infrastructure development is essential for strengthening the livestock value chain in Africa, improving market access, and ensuring the efficient movement of livestock products. Thus, governments should actively invest in the following key area:

- **Build Transportation Infrastructure:** Lack of or inadequate road conditions and network in rural areas make it difficult to transport livestock and animal products to markets. Upgrading and expanding rural road networks would facilitate easier movement of animals and reduce transportation costs. In regions where long-distance travel is necessary, developing or modernizing rail and air transport can help move livestock and processed goods more quickly and cost-effectively, particularly for exports.
- **Provide adequate Cold-chain Logistics:** For products like meat, milk, and vaccines, having a cold-chain system (refrigerated trucks, storage facilities, etc.) ensures products maintain their quality from farm to market, especially over long distances.
- **Develop Livestock Markets:** Investments are needed in developing proper livestock markets with holding pens, feeding and watering stations, veterinary checkpoints and a high level of biosecurity. These markets should be well-organized and accessible to smallholder farmers.
- **Build Water Points for Pastoralists:** Developing reliable water points (boreholes, wells, and reservoirs) along pastoral corridors would support livestock health and reduce conflicts over water resources.
- **Invest in Irrigation Systems:** Investments in irrigation systems to grow fodder and pasture during dry seasons would help stabilize livestock production year-round and reduce dependence on seasonal rains.
- **Build Processing Facilities:** Infrastructure such as slaughterhouses and abattoirs of international standards, and meat and milk processing units for various products such as sausages, canned meats, cheese, yogurt, etc., will add value to the livestock industry, create jobs, reduce post-harvest losses and enable farmers to access lucrative markets at all levels.

- **Leather Tanneries:** Africa has a vast potential for the leather industry, yet much of the livestock hides go to waste or are exported in raw form. Investment in tanneries to process hides locally will boost the value chain and open up opportunities in the leather goods market.
- **Cold Storage and Warehousing facilities:** These are also essential to prevent spoilage of perishable livestock products such as meat, milk, and eggs, there is a need for cold storage at strategic locations (near production areas and markets) to store products before sale or transport. Developing storage facilities for animal feed, hides, and processed goods will help stabilize the supply chain and reduce seasonal price fluctuations.
- **Establish Traceability Systems:** Setting up digital traceability systems for tracking animals and animal products (from farm to fork) is necessary for implementation of CBT, as the assurance of product safety depends on being able to certify product origin. This will improve transparency, increase trust in the products, and open up access to international markets that require high standards of traceability.

## 8. Ensure Environmental Sustainability

Poorly managed livestock production systems can harm the environment. At the same time the livestock sector is also highly vulnerable to climate change. Hence long-term plans and strategies are urgently needed for countries to not only develop livestock production systems that are resilient to climate change but also contribute to environmental sustainability. This will involve addressing widely heterogeneous farming systems across the Continent from traditional small-holder farming, pastoralism and rapidly evolving intensive and semi-intensive systems. It will also involve a range of actions from waste management from intensive farming to managing grazing lands to prevent degradation, protecting biodiversity, and adopting practices that reduce greenhouse gas emissions from livestock. Thus, adopting low-emission strategies, climate smart livestock production systems, green technologies and precision livestock farming with the use of novel technologies such as big data analytics and artificial intelligence will be necessary.

- **Innovative Technologies:** Africa must invest in climate-smart livestock systems, such as precision grazing techniques, sustainable water management, and feed efficiency improvements. These technological innovations can demonstrate that the continent is committed to reducing the environmental footprint of livestock without sacrificing food security or livelihoods.
- **Promote the Role of Traditional and Sustainable Practices:** Traditional pastoralism and agroecology practices evolved over centuries by many African communities are a highly sustainable and efficient way of using marginal lands. Enhancing these practices, including mobile herding allows animals to graze without overusing any one piece of land, preventing land degradation. These practices, when well-managed will contribute to ecosystem health, biodiversity, and soil fertility. Disseminating agroecological systems will enhance sustainability of traditional African livestock farming systems.
- **Disseminate Holistic Grazing Management system:** In marginal lands farming communities use holistic grazing methods that actually restore degraded land and improve soil carbon sequestration. Disseminating such techniques, such as rotational grazing, will support not only environmental sustainability but also improve pasture productivity and biodiversity, turning livestock into a tool for ecological restoration rather than degradation.
- **Promote Innovation in Feed and Waste Management:** Promoting innovations that reduce methane emissions and improve waste management in livestock systems, such as the use of improved forages and biogas digesters, can also help mitigate the environmental impact. Africa can lead efforts in developing climate-smart livestock practices, sharing examples where such innovations have been successful.

## 9. Embrace innovation for transformation and modernisation

Innovative approaches at all levels along the food chain including animal breeding and production, feed and feed resources, animal health management systems, disease control, value chains, and environmental management will be the key to overcoming numerous challenges that the livestock sector in Africa faces, and transforming sector into sustainable livestock production systems. Key among these technologies are the rapid use of digital technologies, phenomics, big data analytics and artificial intelligence (AI).

- **Artificial Intelligence in Livestock Transformation:** Artificial Intelligence (AI) offers several cutting-edge solutions that can be applied to transform the livestock sector. AI tools can monitor and analyse livestock health, behaviour, and feeding patterns in real-time. These tools can predict disease outbreaks, optimize feed efficiency, and reduce resource waste, leading to increased productivity. Additionally, AI-driven platforms can analyse large datasets to identify patterns in livestock health, predict disease outbreaks, and suggest timely interventions, which is particularly useful in areas with limited veterinary services. For example, in the past, farmers would keep manual records of their animals to learn information about them, including their health history, age, reproductive status, growth rate, and eating habits. Processing this data and gaining insights from it are made easier by artificial intelligence. The farmers can fully automate the identification of livestock by using computer vision. Furthermore, AI can provide predictive insights into weather patterns, helping farmers make informed decisions on grazing schedules, water use, and other practices to mitigate the impact of climate change. With regard to market intelligence, AI can enable better market access by providing farmers with real-time data on prices, demand trends, and supply chain logistics, thereby improving their bargaining power and market integration.
- **Genetic technologies:** Advances in genetic technologies can enhance livestock breeds for better productivity, disease resistance, and adaptability to climate change.
- **Digital tools and mobile applications:** The adoption of digital tools such as mobile applications for disease surveillance, market information, and supply chain management can revolutionize the sector.
- **Integrating indigenous methods:** Indigenous methods, rooted in local knowledge and practices, have sustained African communities for centuries and are crucial to complementing AI in livestock management and these includes:
  - **Ethnoveterinary Practices:** Indigenous knowledge of medicinal plants and traditional healing practices offers a cost-effective and culturally accepted means of managing livestock health, especially where modern veterinary services are scarce.
  - **Traditional Grazing Systems:** Rotational grazing and transhumance, long-practiced by African pastoralists, can be enhanced by AI tools that optimize grazing patterns based on data-driven insights.
  - **Local Breeding Practices:** Indigenous breeds, often more resilient to local diseases and climatic conditions, can be selectively bred using AI technologies to improve productivity while maintaining genetic diversity.
  - **Community-Based Resource Management:** Traditional communal resource management practices, such as shared water and grazing resources, can be integrated with AI-driven tools to optimize resource use and reduce conflicts.

The integration of modern technologies including artificial intelligence with indigenous methods represents a powerful approach to transforming and modernizing the African livestock production landscape. This combined strategy leverages the strengths of both modern technology and traditional

knowledge, creating a resilient, productive, and sustainable livestock sector. By fostering innovation while respecting and enhancing local practices, Africa can achieve significant gains in livestock productivity, food security, and rural livelihoods.

### **10. Support Research and Innovation**

Develop and support research and innovation programmes in Africa through inter-regional and international collaboration, and ensure that the research programme is fit-for-purpose addressing demands and requirements for fulfilling the larger goal of transforming livestock production to become competitive, market-oriented and sustainable.

### **11. Develop Partnership and Collaboration**

Foster partnerships between governments, international organizations, NGOs, academia, producer organizations, and the private sector to leverage expertise and resources for sustainable development in Africa's animal resources sector.

- **Private Sector Partnerships:** Private companies can partner with small producers to vertically integrate farming systems, invest in farm level biosecurity, animal health, and the value chain, providing farmers with better access to inputs, markets, and services. This could include partnerships with large-scale retailers, processors, or exporters who can integrate smallholder farmers into formal supply chains.
- **Public-private partnerships (PPPs):** Recently the world's largest meat processing company, JBS of Brazil, signed a memorandum of understanding with the Government of Nigeria to invest USD 2.5 billion to build six new factories for processing meat from poultry, pork and beef, and develop meat supply chains in the country. In return the governments of Nigeria will provide conditions for high sanitary and regulatory standards and economic stability. Such partnerships can accelerate the livestock transformation in Africa. Similar opportunities for PPP should be explored by Governments to develop the livestock sector, invest in infrastructure, and create an enabling business environment for both domestic, regional and international markets.
- **Development partners:** Partnerships with regional and international organizations need to be fostered to leverage expertise and support harmonization of standards and best practices. Alliances with multisector development partners as well as bilateral donors and foundations can also support mobilisation of much needed resources for improvement and modernization of the livestock sector to make it into a viable commercial enterprise.

## **D. CONCLUSION**

Africa's animal resources are vital for food and nutrition security, social stability, livelihoods, and economic growth. To ensure their long-term viability and prevent environmental degradation, these resources must be managed sustainably. Balancing the increasing demand for livestock products with the preservation of Africa's delicate ecosystems requires coordinated efforts from governments, local communities, regional economic communities, and international partners. The right investment in infrastructure, technological innovation, sustainable practices, and policy enforcement is necessary so that Africa can harness the benefits of its animal resources while safeguarding the environment for future generations.

The FAAR Think Tank (FAAR-TT) calls on key stakeholders—policymakers, the private sector, academia, social movements, NGOs, students, educators, and community leaders—to collaborate on promoting sustainable and equitable development in Africa's animal resource sector. FAAR and its Think Tank Group, along with stakeholders, will continue to defend the core values of African animal resources through open debate, discussions, and active participation.



## E. APPENDIX

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