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Technical Policy Brief / KIEP/11

Strengthening Isiolo County's Livestock Value Chain: Toward Inclusive and Sustainable Development



Key messages

- Isiolo County's strategic location and strong livestock base position it as a key player in national development, with plans to transform it into a resort city and economic hub.
- Livestock is the backbone of Isiolo County's economy with over 80% of economic activities and livelihoods for more than 240,000 residents depending on a diverse livestock sector, making it critical for inclusive and sustainable growth.
- The livestock value chain remains underdeveloped despite strong demand and abundant resources, the value chain faces challenges such as climate change, infrastructure gaps, weak market linkages, and low value addition limiting its full potential.
- Isiolo County has regional and international trade opportunities as its location and access to markets in neighboring counties and Middle Eastern countries make it a key livestock trading hub, ripe for investment and export development.
- Targeted interventions can drive transformation; policy support is essential strategic, public and private sector collaboration is needed to address constraints, enhance infrastructure, and build a resilient, high-value livestock sector that contributes to national development goals.



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Executive summary

Isiolo County is a strategic pillar in Kenya's Vision 2030, envisioned as a future resort city with a thriving livestock-based economy and improved infrastructure. Livestock accounts for approximately 80% of Isiolo's economic activity, supporting over 240,000 residents and serving as the foundation of local livelihoods. The county's role as a major livestock trading hub in Northern Kenya attracting buyers from neighboring counties and across the Somali border further underscores its economic significance. Despite its potential, Isiolo County's livestock value chain remains underdeveloped and faces persistent challenges, including climate change, drought, limited processing capacity, and weak market linkages. Yet, demand for Isiolo's livestock—especially from Middle Eastern and Arab markets continues to grow. In response, the Kenya Industrial Research and Development Institute (KIRDI), in collaboration with the World Bank Group and the Ministry of Investment, Trade and Industry (MITI), is implementing a livestock value chain mapping initiative under the Kenya Industry and Entrepreneurship Project (KIEP). This initiative seeks to identify gaps, enhance innovation, and strengthen SME participation in high-value livestock processing and trade. By supporting targeted private sector development, the project aims to build a resilient, inclusive, and competitive livestock sector that contributes meaningfully to local prosperity and national economic goals.

Methodology

The survey data involved literature reviews, structured interviews, focus group discussions, site visits, observational techniques, data analysis, and stakeholder consultations to understand and address challenges in Isiolo County's agricultural and livestock sectors.

Identified Gaps in Value Chains

The following challenges were identified in five value chains:

1. Meat value chain



- Strengthening market access by enhancing market integration and access to regional and international markets can improve profitability.
- Improving animal health and productivity by investing in veterinary services, disease control, and better breeding practices will boost livestock quality.
- Value addition by encouraging meat processing and packaging can increase revenue streams for farmers.

- Enhancing institutional coordination by strengthening policies and frameworks to support livestock trade and production.
- Climate adaptation strategies by addressing climate-related risks such as droughts and environmental degradation to ensure sustainable livestock production
- Circular economy approaches by implementing waste management systems, such as composting and biogas production
- Ethical animal husbandry by ensuring humane treatment, reducing stress, and improving living conditions.
- Local processing and short supply chains by minimizing transportation emissions by processing meat closer to farms.
- Regenerative agriculture by using grazing techniques that restore soil health and biodiversity.
- Stakeholder collaboration by engaging farmers, processors, and consumers in sustainability efforts.

Camel milk value chain

2.



- The market for camels and their products is relatively limited compared to other livestock like cattle and small ruminants.
- Climate-related hazards, particularly drought and high temperatures, pose significant threats.
- The supply chain has limited reach, with the majority of camel milk sourced from the Isiolo region.

- Transportation, cold chain management, and product branding challenges.
- Underutilization of animal feed is an issue, as survey participants indicated they only purchase feed during emergencies, with animals primarily relying on natural grazing.
- Poor hygiene practices represent a significant obstacle to obtaining high-quality camel milk suitable for processing and premium marketing.
- Unreliable milk collection system and inadequate co-operatives, lack of an information centre equipped with a data base facility
- Lack of low cost and appropriate technologies for small investors
- poor quality of camel milk, which would require involving male pastoralists in improving hygiene standards, as they are primarily responsible for camel herding and milking
- They lack the proper health care coverage for the animals,
- Poor marketing system and extension services. The small-scale producers have no vertical linkages with processors and marketers.

2.

Leather value chain



- Limited value addition: Most hides and skins are sold raw, reducing potential earnings for local producers.
- Poor quality raw materials: Inadequate animal husbandry practices lead to low-quality hides and skins, affecting their marketability. Specifically, poor curing methods, branding issues, diseases, and poor flaying techniques

- Weak infrastructure: Lack of proper slaughterhouses and market access limits the efficiency of the value chain.
- Neglect of the sector: The industry has been overlooked for years, denying pastoralists economic benefits.
- Disease control issues: Livestock diseases impact the quality of hides and skins, reducing their commercial value.

4. Bone value chain



- Limited Market Demand: The market for bone-derived products (such as fertilizers, gelatin, and animal feed) may not be well-developed, affecting profitability.
- Processing Constraints: Lack of advanced technology for refining and processing bones into high-value products can limit growth.
- Regulatory and Health Concerns: Strict regulations on animal byproducts, including bones, can create compliance challenges.

- Sustainability Issues: Ensuring ethical and environmentally friendly bone sourcing and disposal practices is crucial but often overlooked.
- Financial Barriers: High initial investment costs for processing facilities and equipment can deter new entrants.
- Low product quality, limited access to investment capital, and inconsistent raw material supply.

5. Fish value chain



- Limited cold chain infrastructure: The lack of reliable cold storage and transportation leads to high post-harvest losses, reducing the profitability of fish traders
- Climate change effects: Unpredictable weather patterns, including droughts and floods, impact fish farming and availability.

- Limited awareness and training: Many locals are unfamiliar with fish farming techniques, requiring extensive training to adopt the practice
- Market access issues: Fish farmers struggle to find stable markets for their produce, limiting their ability to scale operations.
- Resource-based conflicts: Isiolo has experienced conflicts over water and land resources, which can disrupt fish farming activities

6. Poultry Value Chain



- Drought and feed scarcity: The arid climate makes it difficult to access sufficient feed, forcing farmers to reduce rations for their poultry.
- Limited market demand: Poultry farming is not widely practiced in Isiolo, meaning farmers must work harder to create demand for their products.
- High costs of inputs: The cost of poultry feed and other farming essentials can be high, making it difficult for farmers to maintain profitability.
- Cultural preferences: Isiolo has a strong pastoralist tradition, and poultry farming is not as common as cattle or goat rearing, which can limit local acceptance.

6. Honey value chain



- Low production and poor beekeeping practices: Limited technical knowledge, use of traditional hives, and minimal training reduce honey yield and quality.
- Inadequate processing and packaging facilities: Lack of modern equipment leads to poor post-harvest handling, contamination, and low market competitiveness.



- Weak market access and limited value addition: Producers struggle to access formal markets and add value through branding, grading, or certification.
- Limited access to finance and inputs: Beekeepers face difficulties obtaining credit, modern hives, and protective gear to scale their operations.
- Environmental and climate challenges: Drought, deforestation, and loss of forage plants negatively affect bee populations and honey production

Policy Brief Recommendations

i) Meat Value Chain

- Upgrade slaughter and processing facilities by investing in modern, hygienic slaughterhouses with cold storage and meat processing equipment to meet quality and safety standards,
- Improve animal health and quality by strengthening veterinary services, disease surveillance, and feed systems to ensure healthy, high-quality livestock for meat production.
- Enhance value addition and product diversification by promoting production of packaged meat, sausages, dried meat (nyama choma strips), and other processed products to increase income and reduce waste.
- Strengthen market access and logistics by developing infrastructure and systems for refrigerated transport, establish links to urban and export markets, and promote digital trading platforms.
- Support cooperatives and SME development by building capacity of producer groups and meat traders through training, access to finance, and policy support to enable competitiveness and scale.

ii) Camel Milk Value chain

- Strengthen Camel Health and Husbandry Services by training pastoralists on improved camel nutrition, disease control, and breeding techniques.
- Expand access to veterinary services and quality feed to enhance milk productivity and animal health.
- Promote selective breeding programs for high-yielding milk camels.
- Improve milk collection, storage, and transport by establishing decentralized milk collection centers near pastoralist communities.



- Invest in cold chain infrastructure (solar-powered cooling units, insulated containers) to reduce spoilage and contamination.
- Introduce milk traceability systems to ensure quality and safety.
- Enhance local processing capacity by supporting establishment and upgrading of milk processing facilities to produce pasteurized milk, yogurt, cheese, and other value-added products.
- Facilitate training in Good Manufacturing Practices (GMP) and hygiene standards for processors and handlers.
- Build capacity of producer cooperatives by strengthening and formalizing camel milk cooperatives to improve collective bargaining, access to finance, and market linkages offer cooperative management and financial literacy training.
- Promote product quality and safety standards by enforcing quality assurance protocols aligned with Kenya Bureau of Standards (KEBS) for camel milk and derivative products
- Develop branding, certification, and labeling schemes to enhance consumer confidence and product competitiveness.
- Expand access to market and consumer awareness by launching campaigns to promote the nutritional and medicinal benefits of camel milk.
- Support development of domestic and export markets, including linkages to supermarkets, hotels, and niche health markets.
- Explore opportunities in regional and Middle Eastern export markets.
- Facilitate access to finance and equipment by providing targeted grants, low-interest loans, and equipment subsidies to camel milk producers, cooperatives, and SMEs.
- Invest in research and innovation by supporting research on camel milk preservation, processing technologies, and new product development

iii) **Bone Value chain**

- Establish localized bone processing facilities by developing small- to medium-scale bone processing plants for initial treatment, crushing, and sorting of animal bones to add value before export or domestic use.
- Promote value-added products by encouraging production of high-value bone-derived products such as: bone meal for animal feed and fertilizer, bone char for water filtration, handicrafts and ornaments and gelatin and collagen (pharmaceutical/cosmetic uses)
- Support SME capacity building and technology transfer by training local artisans, cooperatives, and processors in hygienic handling, processing techniques, and efficient machinery use. Encourage partnerships with universities and technical institutes for innovation.
- Develop bone collection and sorting systems by improving logistics by organizing the collection of bones from slaughterhouses, butchers, and households, and facilitate safe transport to processing sites.



- Improve quality standards and certification by implementing guidelines and inspection systems to ensure health and safety compliance for domestic and export markets. Facilitate certification through KEBS and other relevant bodies.
- Enhance market access and linkages by connecting producers with national and international buyers, including agro-industries, pharmaceutical companies, and artisan markets. Support digital platforms for visibility.
- Encourage investment through incentives by offering tax breaks, subsidized loans, or grants to investors and cooperatives engaging in bone processing and export, particularly in under-served rural areas.
- Integrate bone processing into slaughterhouse infrastructure by mandating bone collection and initial processing as part of slaughterhouse operations to reduce waste and increase income from by-products.
- Promote environmental sustainability by ensuring bone waste management follows eco-friendly practices; promote circular economy models where bone by-products feed into other industries.
- Strengthen policy and institutional coordination by aligning efforts between county government, Ministry of Agriculture and Livestock, KIRDI, KEBS, and MITI to streamline policy, funding, and training interventions across the value chain.

iv) Fish Value Chain

- KIRDI to help in Fish feeds formulation and optimization
- Manufacturing nets to cover the fish ponds
- Ensure good crates for transportation and up-to-date or standardized tomato transportation facilities to avoid tomato spoilage during storage and transportation.
- Training on fish value addition from reliable research institutions like KIRDI.
- Fabrication of necessary equipment

v) Fish Value Chain

- Strengthening aquaculture by encouraging sustainable fish farming practices, including cage fish farming, to boost local production.
- Infrastructure development by investing in cold storage facilities and efficient transport systems to reduce post-harvest losses
- Market linkages by establishing direct connections between fish farmers and buyers to ensure fair pricing and stable demand.
- Capacity building through training fish farmers on best practices in aquaculture, value addition, and business management.
- Policy support by implementing supportive policies that promote fisheries development and ensure environmental sustainability



vi) Poultry Value Chain

- Enhance Poultry Health and Breeding Services: Provide access to veterinary services, vaccinations, and improved indigenous and hybrid poultry breeds to boost productivity and resilience.
- Strengthen Farmer Training and Extension Support: Offer regular training on poultry husbandry, disease management, feeding practices, and business skills to improve production and sustainability.
- Invest in Feed Production and Supply Chains: Promote local production of affordable, high-quality poultry feed through community feed mills or partnerships with agribusinesses.
- Improve Market Access and Value Addition: Support infrastructure for slaughtering, packaging, and cold storage; link producers to local, regional, and institutional markets, including hotels and schools.
- Facilitate Cooperative Development and Access to Finance: Encourage formation of poultry cooperatives for collective marketing, and provide targeted financing and equipment support to farmers and SMEs.

vii) Honey Value Chain

- Training and capacity building for local beekeepers to improve honey production.
- Aggregation centers to collect and refine honey from different parts of the county, increasing marketability.
- Support for women to engage in beekeeping, helping them diversify their income sources.
- Market development to tap into the growing demand for honey, both locally and internationally.

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