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Agricultural and Industrial Growth in Bungoma County: A Comprehensive Value Chain and Technology Assessment



Key messages

- Bungoma County's agricultural and agro-processing value chains are crucial to the region's economy. These value chains encompass activities from production to processing and distribution, involving numerous stakeholders, including smallholder farmers, processors, and local markets.
- Bungoma's economy relies on maize, sugarcane, and dairy farming, with emerging sectors like natural herbs, coffee, and sunflower processing offering new economic opportunities.
- Agriculture in Bungoma faces low productivity, poor infrastructure, limited access to markets, and underdeveloped value chains, which impede growth and reduce income for farmers and SMEs.
- The assessment highlights the need for modern farm machinery, improved post-harvest handling, digitization for market access, and advanced processing facilities to boost productivity and reduce losses.
- The survey provides actionable recommendations for inclusive economic growth, innovation, and long-term sustainability through the adoption of advanced technologies to enhance competitiveness and resilience in the agricultural sector.



Introduction

Bungoma County's economy is anchored on agricultural activities and shows strong potential for growth through value addition in emerging sectors like coffee, natural herbs, and sunflower processing. While specific statistics for Bungoma County are scarce, the broader Western Kenya region shows a growing recognition of the economic value of medicinal plants. For example, in the neighboring Kakamega County Forest ecosystem, the direct use value of medicinal plants was estimated at approximately KES 601 million per year, with indirect use value around KES 317 million annually. This trend indicates a potential market for medicinal herbs in Bungoma, driven by both local traditional use and increasing interest in herbal medicine (Ojunga et al, 2023). Bungoma County has approximately 6,413 hectares under coffee cultivation, primarily growing Arabica varieties such as SL28, SL34, and Batian. In addition, sunflower farming has gained significant traction in Bungoma County, due to its adaptability to local climatic conditions, shorter maturation period, and higher profitability compared to traditional crops like maize and sugarcane. Sang'alo Institute of Science and Technology (SIST) in Bungoma County has partnered with the German Agency for International Cooperation (GIZ) to cultivate sunflowers on 200 acres of land, aiming to meet the growing demand for cooking oil.

Bungoma County's agricultural sector continues to grapple with challenges such as low productivity, inadequate infrastructure, limited market access, and weak value chains, all of which hinder income growth for smallholder farmers and SMEs. To tackle these constraints, KIRDI carried out a value chain mapping and technology needs assessment under the World Bank-funded KIEP project. The study highlighted critical gaps in mechanization, post-harvest handling, processing, and digital market access, stressing the importance of adopting modern technologies to strengthen resilience to climate change and market volatility. The recommendations seek to enhance productivity, minimize losses, and promote inclusive growth in Bungoma's agricultural value chains through coordinated stakeholder investment.

Methodology

The data used to generate this brief was compiled from the survey of the value chains which involved desk reviews, structured interviews, focus group discussions, site visits, observational techniques, data analysis and consultations with key stakeholders such as County government officials.

Challenges in Value Chains

The following challenges were identified in five value chains:

1. Natural Herbs Value chain



- Inefficient equipment for value addition
- Insufficient knowledge and training on value addition
- Limited access to quality seeds/planting materials
- Inconsistent farming practices that hinder commercialization
- Pests and diseases due to inadequate access to effective and safe control measures
- Inadequate and inefficient drying technologies
- Limited information on Intellectual Property rights
- Limited branding and marketing strategies including social media

2. Coffee Value Chain



- Low farmer incomes due to fluctuating prices in the markets
- Limited infrastructure for value addition
- Climate related risks resulting in poor yields due to inadequate access to climate-resilient seed varieties
- Limited access to finance
- Technical capacity gaps and limited access to quality standards
- Improper waste management practices

3. Dairy Value Chain



- Technical gaps due to limited knowledge on value addition
- Weak farmer cooperatives and poor transport infrastructure
- Poor marketing and distribution resulting low milk prices dependence on informal markets
- Post-harvest losses due to milk spoilage, inadequate milk processing facilities and limited storage capacity
- Production challenges caused by low milk productivity, poor animal nutrition, limited access to veterinary and extension services, high cost of inputs and small land sizes

4. Sunflower Value Chain



- Limited access to quality seeds and inputs leading to poor yields and low-quality products.
- Limited value addition due to outdated technologies and knowledge
- Inadequate extension services leading farmers with limited knowledge on crop management, pest control, and post-harvest practices.
- Weak Processing and storage infrastructure forcing farmers to sell raw produce at low prices or incur high transport costs to distant processors.
- Unstable and unstructured markets making farmers to rely on informal markets and middlemen, exposing them to price fluctuations and limited bargaining power.
- Policy and institutional gaps leading low incentives and weak institutional coordination to grow the value chain.

Policy Brief Recommendations

i) Natural herbs Value Chain

- Creation of Common Manufacturing Facilities (CMF'S) with modern equipment
- Provide training facilities
- Supply quality seeds
- Training on best methods of farming
- Supply of approved pesticides
- Supply of drying equipment
- Management standards by KEBS
- Continuous skills upgrade through Trained herbalists

ii) Coffee Value Chain

- Plant better varieties/invest in new technologies
- Improved Access to inputs and financing
- Market diversification through research of better varieties

iii) Dairy Value Chain

- Provision of infrastructure at micro level
- Feeds formulation training
- Access to quality livestock genetics
- Provision/access to veterinary services

iv) Sunflower Value Chain

- Research activities by agricultural Research Institute such as KIRDI, KALRO among others
- Improve on soil and technology for seed production
- Plant better varieties of seeds
- Improve access to finance
- Government to provide resources for certification and KEBS mark etc

General Cross-Cutting Recommendations

- Promote value addition in herbal, coffee, and dairy sectors through processing, packaging, and product diversification initiatives.

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