



Agriculture Investment Opportunities in Kenya

Dairy Processing Investment Case

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Executive Summary



1

Market Opportunity



- Kenya offers an attractive market opportunity for dairy processing, as the demand for processed milk is on the rise and is expected to continue increasing at 15% per annum
- However, despite the sizeable capacity for local production, Kenya suffers from a **milk deficit due to limited dairy processing capacity and low quality feed**
- Opportunities exist to **invest in a milk processing plant, partner with an existing processor and/or to enter a joint venture with a feed processor**

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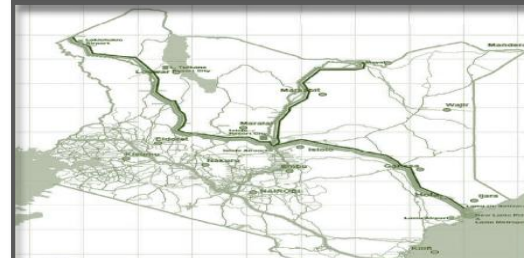
Investment Highlights



- Opportunity to invest USD32 MN into a processing plant in Nakuru; **with a daily processing capacity of one million litres of milk**
- Investors can anticipate **revenues of USD 285MN by the 5th year of operations** with an average net profit margin of 30% per annum
- Risks to investment include competition from existing processors, quality of inputs, low yields, labour skills, and environmental issues

3

Enabling Environment



- The dairy industry has historically played an important role in the growth of Kenya's agriculture sector and the **government has established a number of organisations to ensure the industry's success**
- The government has embarked on several initiatives to strengthen the dairy industry, such as **setting up a fund of USD23.6 MN to eliminate the risk associated with loans issued to farmers**

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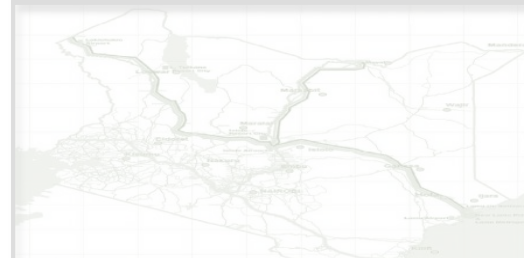
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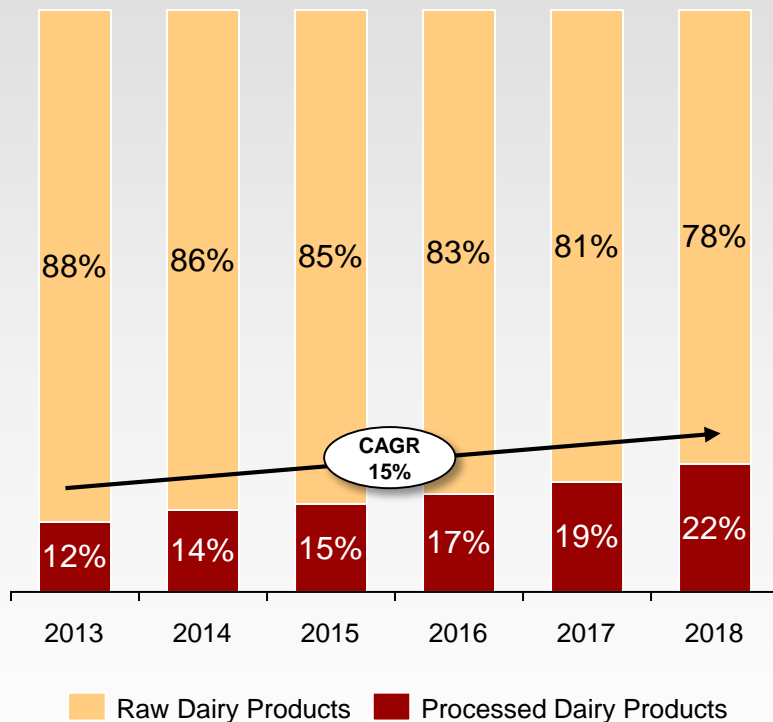
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Rising Demand for Processed Dairy Products

Kenya's demand for dairy products is significantly higher than in other EAC countries and is expected to continue to grow, driven by an increased preference by domestic and regional markets for processed dairy

Rising Demand for Processed Dairy

Composition of Projected Demand for Dairy



Sources of Demand

Local Demand

- Demand for dairy in Kenya is currently at **145 litres per capita annually**, which is **three times higher than EAC countries**, and is **expected to grow at 2% going forward**
 - Demand for processed milk has been **increasing at 15% annually** over the past two years, and is expected to continue growing at the same rate until 2018

Regional Demand

- Currently, **demand for Kenyan dairy products in Eastern and Southern Africa is estimated at 2 billion litres**
 - Processed milk exports into Uganda and Tanzania account for 72% and 32% of local market share in the respective countries

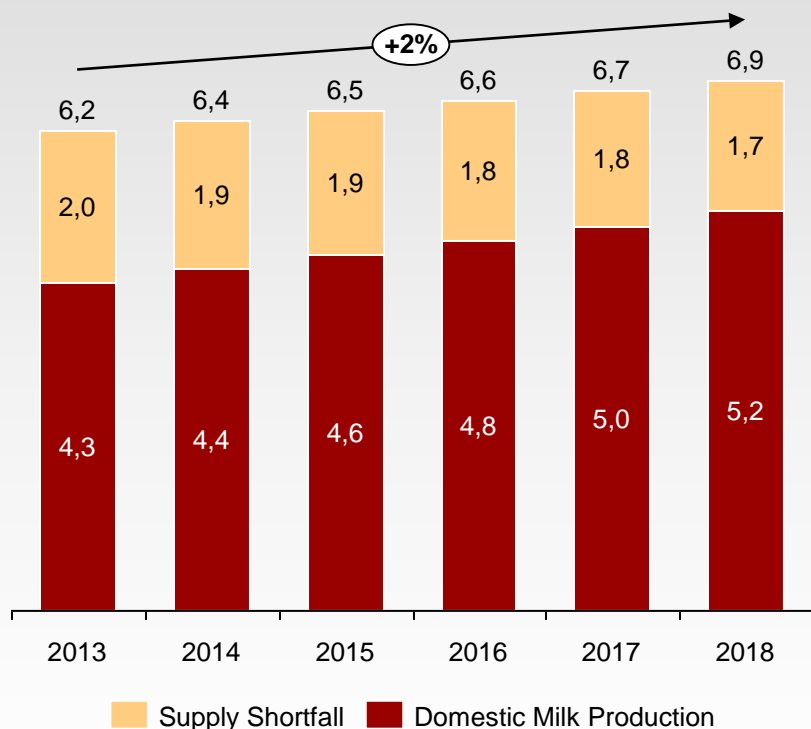
Untapped Potential for Milk Processing



Although local supply of dairy has been increasing, the rise is insufficient to meet demand due to limited processing capabilities and poor quality animal feed diminishing the full yield potential of dairy cattle

Production of Dairy in Kenya

Projected Local Supply of Milk (BN Litres)



- Although the industry is cyclical in nature and prone to supply shocks, the **supply of milk has increased by 8% over the past two years**. While this trend is expected to continue, there is still a **substantial gap between supply¹ and demand**. Contributing factors include:

- Limited processing capability** – more than 80% of the milk produced in Kenya is sold in the informal sector in its raw form. There is an **increasing need to process milk** in order to extend its shelf life. Additionally, there is a regulatory drive to curb the sale of raw milk
- Rising input costs** – the majority of feed produced in Kenya is derived from the by-products of wheat and maize processors and as such there is an absence of an exclusively feed focused processor. This has resulted in **low quality feed production which in turn has led to lower yields and poor milk quality**

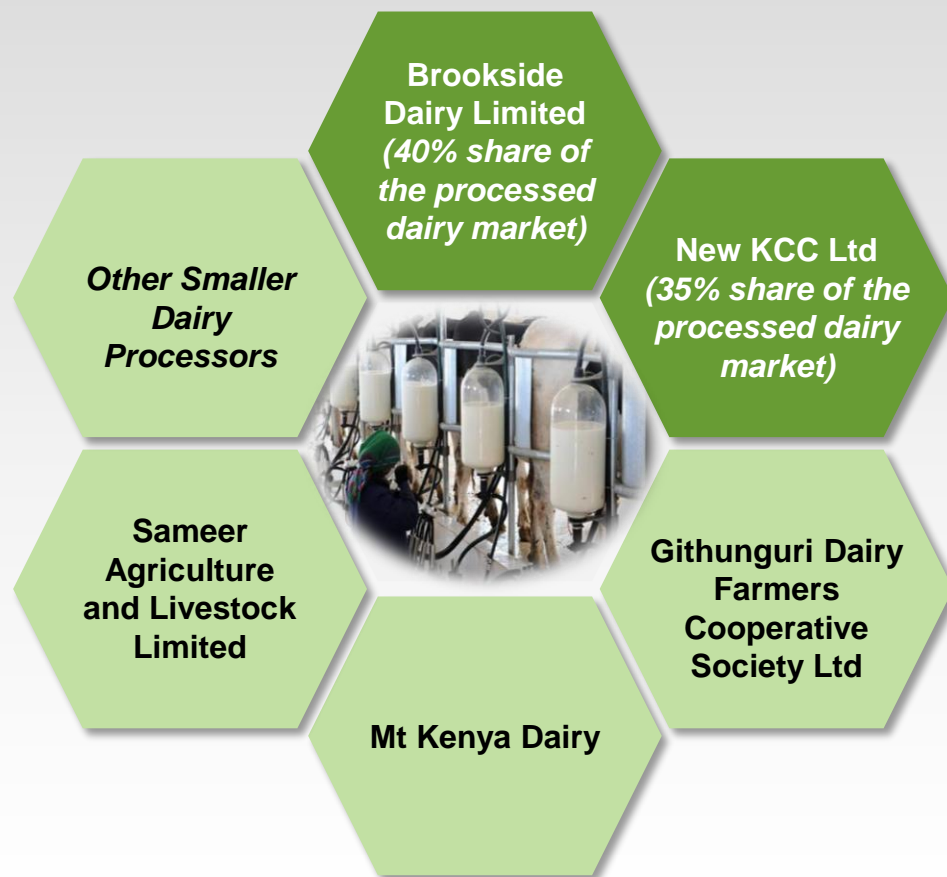
Concentrated Market with Insufficient Processing Capacity



Milk processing activities in the dairy sector are yet to be fully optimised given the inherent capacity constraints in the sector

Current Competitive Landscape

Dairy Processing Landscape in Kenya



- The dairy industry is **highly concentrated** by a **few dominant processors**, with the **top 5 large-scale processors accounting for over 90% of the market**
- However, despite this presence of large-scale processors, the industry **often experiences cyclical glut seasons** where processors are unable to absorb all the milk from producers
 - This is because a large number of **processors face significant capacity constraints** attributed to the limited use of modern processing machinery
 - While the government owned New KCC Ltd has vast processing capacity and infrastructure across the country, **most of its plants are under capacitated** due to the use of outdated technology and machinery. Furthermore, it lacks sufficient funding to optimise its processing plants and machinery

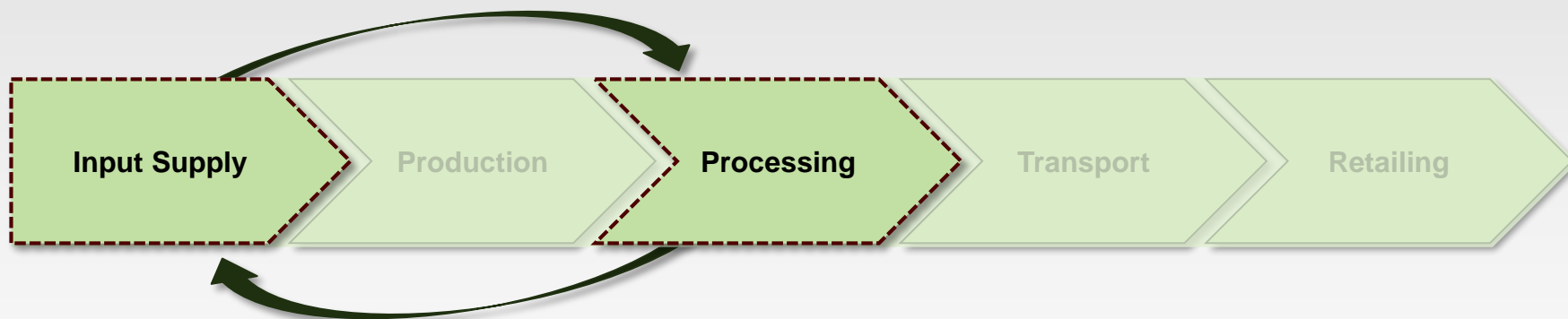
Opportunities for New Entrants Across Value Chain



Investment opportunities exist across the value chain, with significant potential in the feed and processing stages of the value chain

Opportunities for Backward Integration and Partnerships with Existing Processors

- 1 An opportunity exists for the **establishment of a dedicated animal feed plant** that would provide the dairy industry with high quality, low cost feed
 - This could be achieved through a **joint venture between a processor and an animal feed manufacturer** as it secures supply for farmers, preventing a downward cycle in dairy production, in addition to ensuring higher quality and volumes (through increased productivity) for processors



- 2 There are **opportunities for investors to partner with existing local processors to optimise their current installed capacity** through the use of modern technology and expand their ability to meet the growing demand for processed milk

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Operational Highlights



Investment will involve establishing a milk processing plant situated in Nakuru, which will source milk from local smallholder farmers in Nakuru and adjacent regions for sale in local markets

Target Markets



- UHT Milk will be sold to **Kenyan local markets**, currently demanding in excess of 6.2 BN litres of milk annually

Product & Price



- **Fresh UHT milk packaged in milk bags**
- Price will fluctuate in line with market dynamics, but will **average USD 1,050 per MT of milk**

Channel



- Primarily, sales will be to **wholesalers and distributors**

Production & Processing



- A processing plant with a **milk processing capacity of one million litres per day**
- Proposed location in **Nakuru, in the Rift Valley**

Sourcing Model



- Centralised outgrower scheme supported by contract arrangements with **farmers in Nakuru, Nakuru North, Naivasha and Molo**

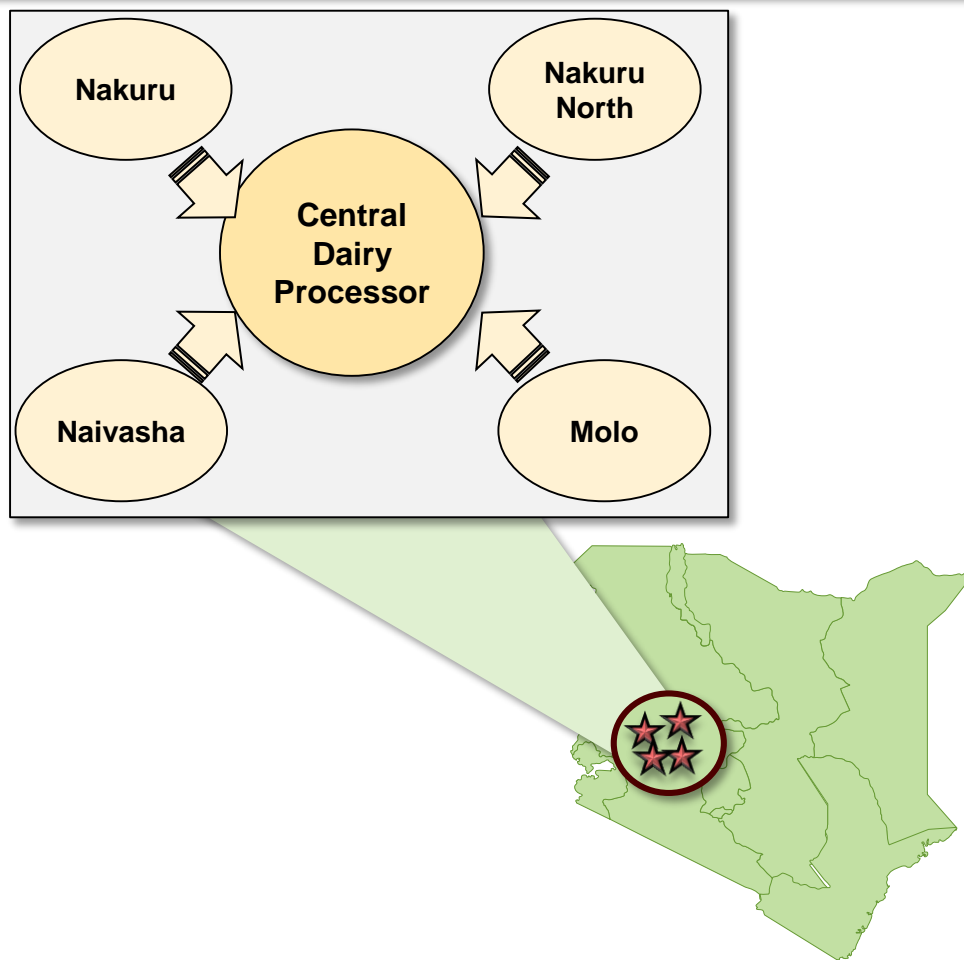
Dairy Processing Investment Highlights

Centralised Outgrower Scheme



Investment requires the establishment of a dairy processor through a centralised outgrower scheme based in Nakuru providing an attractive and sustainable source for raw milk

Illustrative Map of Centralised Outgrower Scheme



Description of Scheme

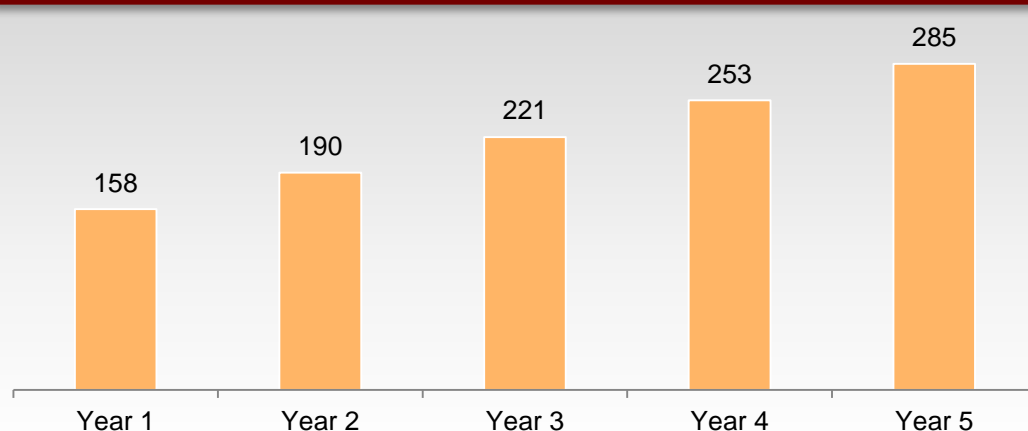
- The investment opportunity identified is for a **dairy processing company, centralised around individual and dairy cooperative farms** based in Nakuru and adjacent areas
 - The **targeted region has ~200,000¹ dairy cattle** with several processors sourcing raw milk from the region
 - **Supply will be secured through contract arrangements** with individuals and co-operatives owning dairy cattle in Nakuru, Nakuru North, Naivasha and Molo
 - Average productivity per cow ranges from 2.5 litres to 5 litres a day, which is **likely to increase to 15 litres a day** with the introduction of high quality feed and improved agricultural practices, further demonstrating the benefits of a joint venture with a feed processor

Financial Performance Summary



Investment is expected to generate revenue of USD 285 after five years of operations, with margins as high as 30% on the retail price of processed milk

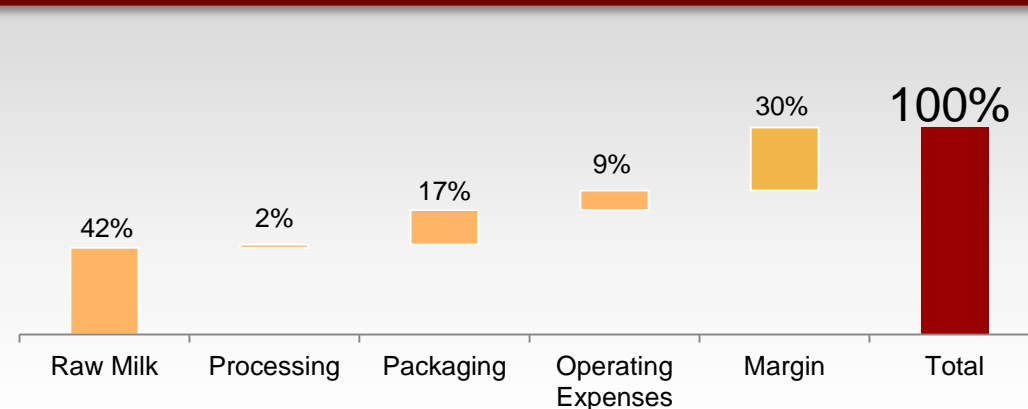
Revenue (MN USD), Year 1 – Year 5¹



Investment²

Debt Investment	\$19M
Equity Investment	\$13M
Total Investment Required	\$32M

Channel Cost Structure (% of Unit Price, Year 5)



Expected Returns

EBITDA Return (Year 5)	\$91M
Net Profit Margin (Year 5)	30%
Net Income (Year 5)	\$87M

Note: ¹Utilisation of processing capacity is expected to grow at 10 percentage points per annum starting at 50% in year 1. ²Investment is benchmarked against a Clover processing plant in Queensburg, South Africa

Sources: Kenya Dairy Board, Technoserve Kenya report for the East Africa Dairy Development Programme -August 2008, Pre-feasibility Study for Dairy Processing Plant, 2006

Potential Ancillary Business Opportunities



Opportunities exist to diversify the product mix to include more value added milk products to satisfy evolving consumer preferences

Diversification of Product Mix

Immediate Opportunities

(requires limited changes to existing processing facility)



- While fresh, unflavoured whole milk represents the majority of processed milk products (74%), opportunities exist for diversification into flavoured and low fat varieties without significant changes to existing installed processing facilities

Long Term Opportunities

(requires significant Additional Capital Investment)



- Additionally, opportunities for sophisticated value addition also exist and include the processing of powdered milk, yoghurt, cheese and butter
- Butter, yoghurt and cheese will enable the processor to command higher margins, however this level of value addition requires significant investment in new technologies and machinery

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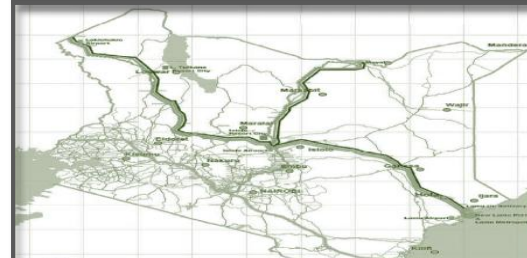
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Role of the Kenyan Government



The dairy industry in Kenya is a priority for government and as such it is supported by multiple organisations focused on ensuring it is regulated, functional and competitive

Public Sector Support

Kenya Dairy Board

- **Regulates, develops and the promotes the dairy industry** in Kenya
- Facilitates various stakeholder activities towards a **sustainable dairy industry that provides quality and competitive dairy products**
- **Secures reasonable and stable prices for dairy producers**
- **Partners with industry sector associations to promote marketing of quality milk and milk products**

New Kenya Cooperative Creameries (KCC)

- Establishes strategic partnerships with various stakeholders in the dairy industry to facilitate the provision of technical support to dairy farmers
- Provides **extension services to farmers across the country** from various service points with the aim of increasing milk productivity and quality as well as promoting farmers' loyalty

Ministry of Agriculture, Livestock and Fisheries

- **Promotes food production and facilitates the supply of agricultural raw materials to ensure food security and income**
- Advances agro based industries and agricultural exports and enhances sustainable use of land resources
- Creates the necessary environment for maximising the production of livestock and livestock products on a sustainable basis

The East Africa Dairy Development Project



The East Africa Dairy Development (EADD) project has been instrumental in supporting smallholder farmers to improve their yields and income from dairy production

Project Objective

- The project was established in 2008 by Heifer International through multiple partnerships and a USD 42.8 MN grant from the Bill and Melinda Gates Foundation
- The main aim of the project is to **equip smallholder farmers to transition from subsistence to commercialised farming**, focusing specifically on increasing production volumes and profitability

Key Project Initiatives

- **Educating smallholder farmers** on best practices to keep cattle healthy and obtain higher milk yields
- **Connecting farmers to markets** where they can sell their produce at consistent prices
- **Providing extended financial services support** to farmers on favourable interest terms

EADD Project Impact

\$131^{MN}

Revenues earned from milk sales by farmers

356^{MN}

Amount of milk sold by farmers

15

Yields achieved, increased from historical yields of 2L

\$11^{MN}

Amount saved by farmers in production costs

203 778

Amount of farmers connected to institutions to improve operations



To create a favourable environment for investors, the GoK is considering several policy interventions to drive and encourage investment in dairy production and processing

Existing Initiatives

- To **create an attractive business environment for dairy**, the Government of Kenya has implemented a number of strategies, including:
 - Improving extension services provided to smallholder farmers
 - Providing credit facilities to farmers through co-operatives
 - Organising agricultural shows at district and county levels to provide farmers with information on good dairy farm management, this includes the FoodAgro Africa Trade Fair
- The Kenya Agricultural Research Institute, through its Livestock Research Sub-Programme, is undertaking research to **improve and develop nutrition/feeding packages to be extended to farmers for their adoption to improve returns from dairy production**

Further Considerations

- The Government has set aside a USD 23.6MN fund to eliminate the risk associated with loans issued to farmers by commercial banks. This fund is **expected to increase to USD 235MN within the next four years**
- The **Kenya Dairy Board is advocating for the establishment of a Dairy Development Fund to provide resources for initiatives in the industry** such as marketing, surveillance, product development and compliance to quality standards
- There is also an intention to revive the school milk programme as a way of managing the cyclical milk glut in the market
- The Kenya Dairy Board commits to prescribing the terms and form in which contracts for the sale of milk by producers shall be made, thereby providing contractual support to both producers and processors

Additional Government of Kenya Initiatives



The GoK has embarked on additional initiatives targeted at increasing dairy production, lowering power costs by exploring alternate forms of energy and creating additional demand for milk processing

Opportunities within Galana-Kulalu

- The Galana-Kulalu project is a **USD 2.88BN government initiative to enhance national food security** by optimising the productivity of the Galana and Kulalu Ranches on **one million acres of land irrigated** over the next five years
 - This will occur through targeted investments in the various value chains, including **150,000 acres for livestock**, further increasing the country's dairy production capacity

Industrialisation of Nakuru

- The Nakuru County looks set to lead the African geothermal energy revolution with several construction projects underway driving industrialisation, namely:
 - The construction of power plants with a **combined production capacity for 280MW costing USD 1BN** – the largest geothermal production field in Africa (KenGen)
 - The **22 completed geothermal wells that will contribute 100MW to the national grid by December 2014**, and 360MW by 2017 when the project is complete (Geothermal Development Corporation)

Ban on Milk Hawking

- The Kenya Dairy Board has banned the hawking of raw milk because the **practice exposes consumers to measurable safety risks** and the creates an opportunity for the **sale poor quality milk**
- The law creates an even **larger opportunity for milk processors** as more milk will be introduced into the formal market for pasteurisation

Abbreviations and Acronyms



BN	Billion
CAGR	Compound Annual Growth Rate
EAC	East African Community
EBITDA	Earnings Before Interest, Taxes, Depreciation, and Amortization
EADD	East Africa Dairy Development
GOK	Government of Kenya
KCC	Kenya Cooperative Creameries
MN	Million
MT	Metric Tons
UHT	Ultra High Temperature
USD	United States Dollar
USAID	United States Agency for International Development