

**Voluntary Report** – Voluntary - Public Distribution

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**Report Name:** Overview of the Kenya Dairy Industry

**Country:** Kenya

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**Report Highlights:**

Kenya's dairy sector is one of the most advanced in East Africa, and the second largest in Africa in terms of herd size. The industry remains an important part of the Kenyan agricultural economy, contributing 17 percent to agricultural GDP and 3.8 percent of the total national GDP. The sector is still largely informal, with only 15 percent of total milk processed in 2023. Milk production has remained mostly steady over the last decade, though demand is growing. National level productivity is relatively low, as feed costs remain high and feed quality is notably low.

## INTRODUCTION

Production of milk in Kenya is driven by smallholder farmers, who account for about 80 percent of milk produced. These smallholder farmers typically own between one and five cows and produce an average of 7.6 liters per cow per day. While smallholders contribute the bulk of the raw milk, large-scale farmers often produce more consistent quantities and higher quality milk due to better access to resources and technology. The industry operates under three main production systems: intensive production (zero grazing), semi-intensive production, and open grazing. Each system has distinct management practices, feeding strategies, and land use requirements, tailored to the region's resources and farming conditions.

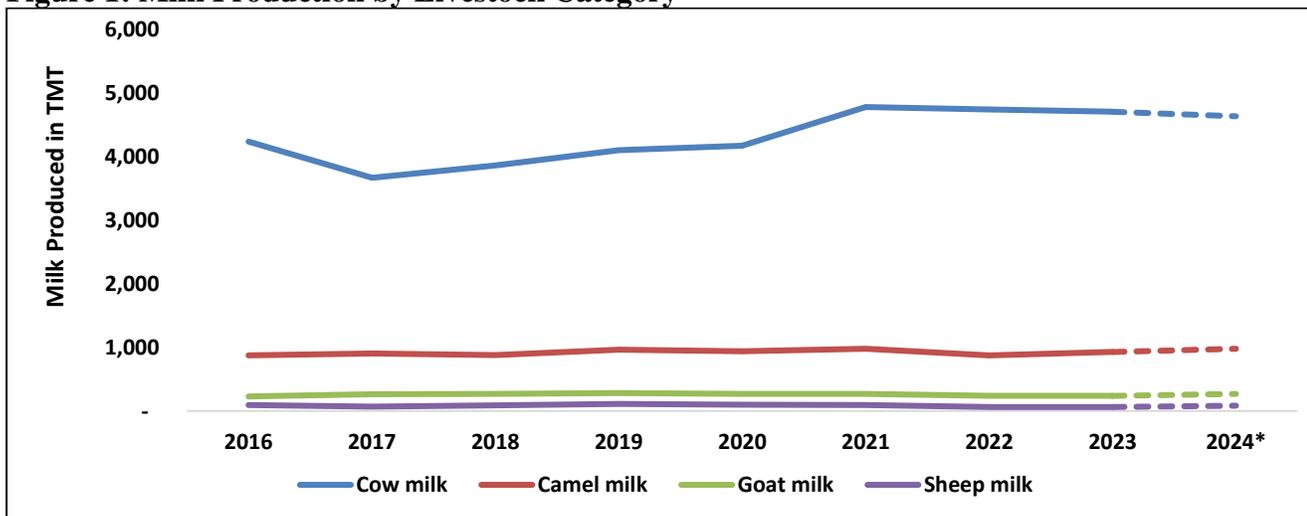
The intensive production system, also known as zero grazing, involves keeping cows confined in a controlled environment, where they do not graze on pasture. Instead, farmers provide all the feeds. The semi-intensive production system combines elements of both zero grazing and open grazing. Cows spend part of their time grazing on available pastures but also receive supplementary feeding in a controlled setting. The open grazing system is the most traditional and extensive form of milk production, where cows roam freely on natural pastures or communal lands.

Milk yields vary significantly depending on the production system. In open and semi-intensive production systems, yields can range from two to fifteen liters per cow per day, whereas intensive systems often achieve over 15 liters per cow daily. Factors such as, animal genetics, and feeding practices also influence productivity, with better management leading to higher milk yields and improved overall production.

## PRODUCTION

In 2023, Kenya produced an estimated 5.76 billion liters (13.08 billion pounds) of milk, with approximately 15 percent of this milk being handled by the formal sector. Cow milk dominates total milk production with 79 percent, while camel milk contributed 16 percent. Dairy goat milk, mainly from the Toggenburg, Saanen, and Alpine breeds, accounted for about four percent, and sheep milk made up one percent (see Figure 1). This report will focus exclusively on cows' milk.

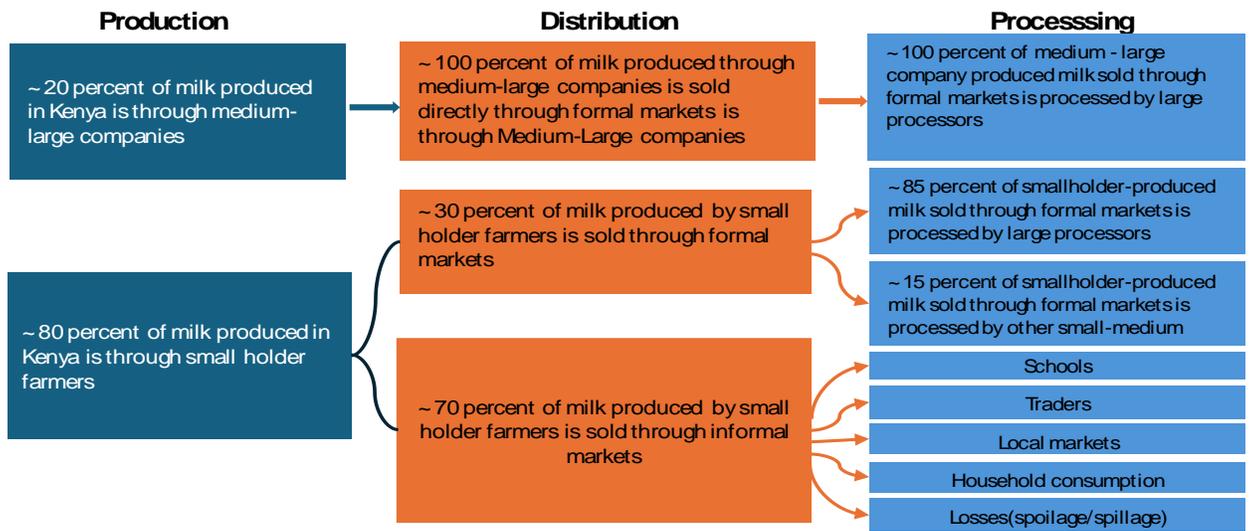
**Figure 1: Milk Production by Livestock Category**



Source: Kenyan Ministry of Agriculture and FAS Nairobi estimates

The Kenyan dairy sector has formal and informal segments, with the informal segment accounting for about 80 percent of all milk sold. The formal sector is defined as the segment consisting of regulated entities that handle the collection, processing, and distribution of milk through licensed channels, ensuring compliance with safety and quality standards set by the Kenya Dairy Board (KDB). The informal sector refers to the segment that operates outside of regulations, generally selling raw milk or consuming milk on-farm. In both cases, farmers supplying milk to the formal sector are required to adhere to quality standards set by the Kenya Dairy Board, which regulates milk production and marketing (see Figure 2).

**Figure 2: Production, Distribution, and Processing Flows in the Dairy Sector**



**Source: Kenya Dairy Board and Ministry of Agriculture**

Farm level productivity remains low, primarily because of low-quality feed and, in some cases, inappropriate animal genetics. Other challenges facing the sector include insufficient aggregation and cooling infrastructure, high feed costs, and seasonality in milk production.

**FORMAL SECTOR**

The formal dairy sector in Kenya is responsible for the milk processed and sold through regulated channels. Milk marketing in the formal sector is structured, organized, and primarily facilitated by dairy cooperatives, milk processors, and retailers. Kenya has 770 dairy cooperatives that link smallholder, and large-scale dairy farmers to the formal market. These cooperatives aggregate milk from individual farmers and deliver it to processors. They also provide essential services like training, veterinary services, and access to credit.

Dairy farms in Kenya's formal sector are more organized and regulated than those in the informal sector, focusing on higher productivity, quality control, and compliance with industry standards. These farms, which include both large-scale and more advanced smallholder operations, tend to have better access to resources like modern dairy technologies, improved genetics, and high-quality feed. Farms in the formal sector typically implement more structured management practices, including record-keeping, veterinary care, and strict feed management.

The dairy sector has a milk logistics system to facilitate the flow of milk from farms to processors. Dairy cooperatives have set up cooling centers where small farmers can deliver milk that is then stored in bulk before being transported to processors. The use of cooling centers helps maintain milk quality and reduces spoilage. They also have milk transporters, contracted to facilitate delivery of liquid milk to processing plants, where the milk undergoes quality checks for bacterial count, butterfat content, and other indicators before processing.

Farmers sell milk through the dairy cooperatives, milk processors, and direct contracts with large-scale processors. Dairy cooperatives act as intermediaries, collecting milk from their members and delivering it to processors such as Brookside, New Kenya Cooperative Creameries (New KCC), and Githunguri Dairy Farmers Cooperative Society. These processors pasteurize, package, and distribute milk products to urban centers and retail outlets. Large-scale dairy farms often bypass cooperatives and have direct contracts with processors. A few act as producer-handlers processing their own milk.

The formal sector produces pasteurized fresh milk, long-life milk (UHT), yogurt, cheese, and butter. Since 2019 the production of these products has varied, even as the domestic market demands more product (see Table 1). Despite significant domestic production, Kenya still imports dairy products to meet the overall market needs.

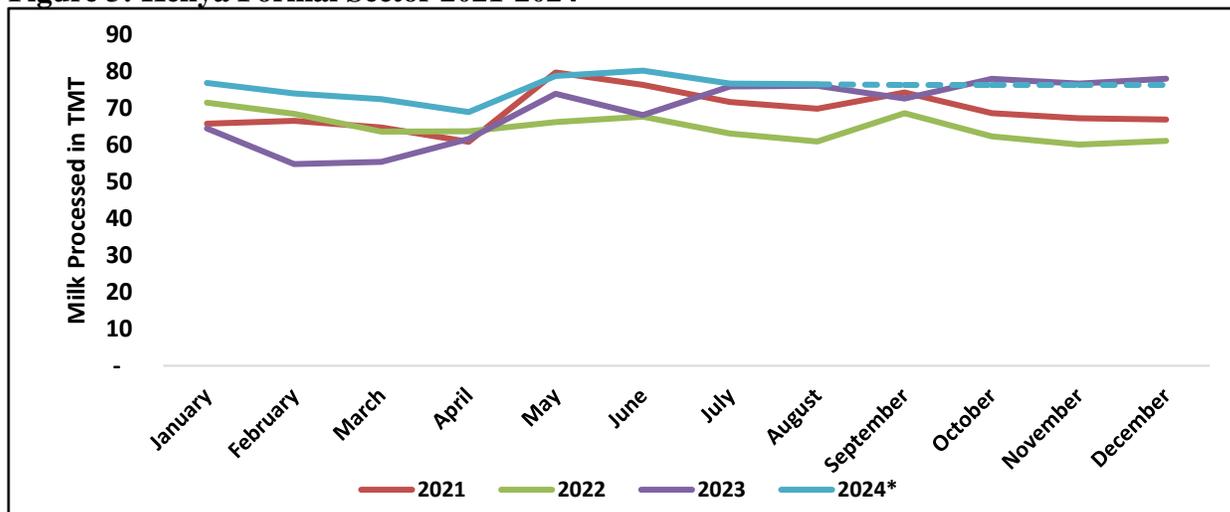
**Table 1: Production of Dairy Products by Category**

Product	Unit	2019	2020	2021	2022	2023
Liquid milk and cream	TTM	504.4	471.6	526	487.8	572.1
Cheese	MT	336.6	174.2	174.6	102.7	79.9
Butter and ghee	MT	1117.1	1055.6	1149.9	817.9	1101.9

Source: Kenya National Bureau of Statistics

The Kenyan dairy sector has 32 active processors and 186 small processors with a processing capacity of about 3.75 million liters per day. In 2023, major processors absorbed 83 percent of production, and small processors handled the remaining 17 percent of the 835 thousand metric tons (TMT) delivered (see Figure 3).

**Figure 3: Kenya Formal Sector 2021-2024\***



Source: Kenya dairy board and FAS projections

Over the years there has been a move towards the formalization and consolidation of the sector, with larger commercial entities, cooperatives, and milk processors playing an increasingly prominent role. Large-scale processors have expanded their operations, acquired smaller players and modernized their facilities to increase their processing capacity and enhance milk quality.

Milk is produced in highland zones of Central Kenya and the Rift Valley. These regions have a bi-annual rain patterns and abundant pastures. About 90 percent of dairy cattle are concentrated there. The central highlands, which include counties like Nyeri, Kiambu, Meru, and Nyandarua, as well as parts of Rift Valley like Nakuru, Uasin Gishu, and Nandi, are the heart of Kenya’s formal dairy sector. Farmers in these regions produced about 80 percent of all milk in 2023.

Despite an improvement in productivity per cow per day as compared to 2015, milk yields are still relatively low. Extended calving intervals exacerbate already low average yields. In some cases, farmers intentionally extend calving intervals to limit feed consumption among lactating cows and to manage annual milk flows. However, in other cases the extended intervals are simply the result of inadequate herd management.

Feeding systems and feed availability are one of the best predictors of productivity, with wide variance between open grazing and zero-grazing models (see Table 2). Industry contacts frequently report feed prices 25-30 percent higher than those seen in Western Hemisphere markets. With high prices, farmers opt to limit purchased feed, feeding lower volumes per cow and depending more heavily on grazing, which of course limits milk production. High feed prices also incentivize the production and distribution of low-quality feed, as a low-cost alternative.

**Table 2: Characteristic of Typical Dairy Farms in Kenya in a 305-Day Lactation Period**

	Production system		
	Zero grazing	Semi-zero grazing	Open
Average herd size	4	8	8
Average number of lactating cows	2	3	4
Annual milk production	9150	7686	8784
Average productivity (liters/cow/day)	15	8.4	7.2

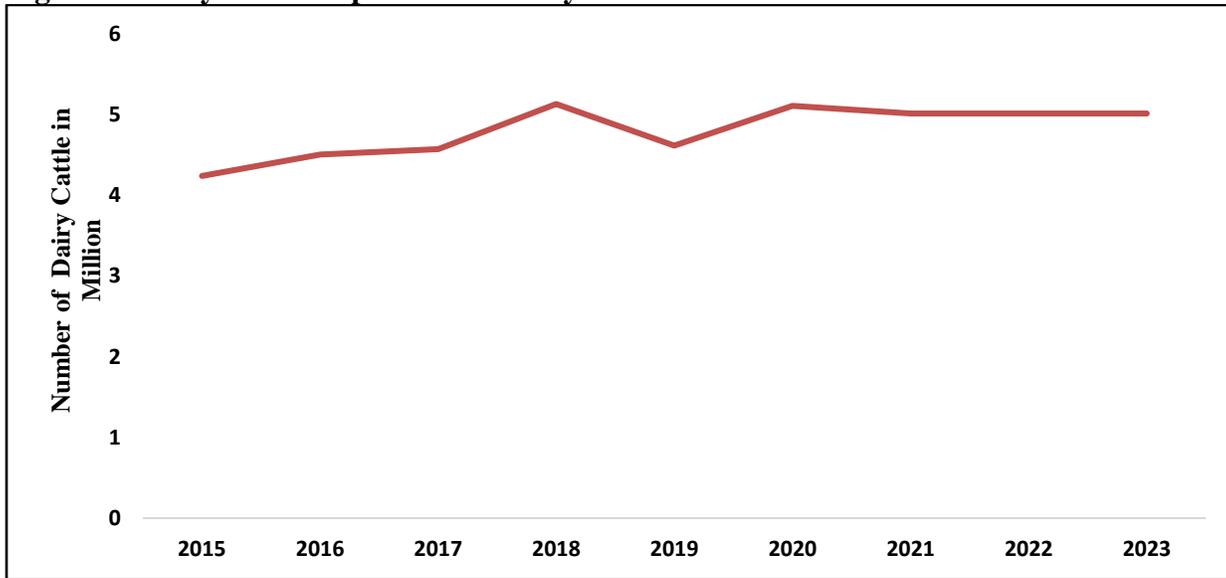
Source: Kenya Dairy Board

Milk production is dominated by Holstein-Friesians which make up around 80 percent of total dairy cattle. Other dairy breeds include Ayrshires, Jerseys, Sahiwal, and their crosses, which are known for their higher milk yields compared to indigenous breeds. Production levels in the formal sector range from 15 to 50 liters of milk per cow per day, depending on the breed, feed quality, and management practices.

Kenya's dairy cow population (see Figure 4) has experienced gradual growth over the years, largely driven by access to improved dairy breeds such as Friesians, Ayrshires, and Jerseys by the dairy cooperatives. The intermittent promotion of artificial insemination and sporadic quality breeding initiatives by both the national and county governments have contributed to increasing the number and productivity of dairy cows. However, in some areas, there are still challenges associated with high

production costs, and inconsistent access to quality inputs. Disease outbreaks such as East Coast Fever, Foot and Mouth Disease, and Bovine Brucellosis, among others, have at times slowed its growth.

**Figure 4: Dairy Cattle Population in Kenya**



Source: Ministry of Agriculture and FAS Nairobi estimates

Extreme weather events, such as prolonged droughts have also impacted forage availability and water supply, leading to malnutrition and increased mortality rates among dairy cows. The dairy cattle population in the country currently stands at over five million head.

Dairy farmers in the formal sector predominantly rely on a combination of natural pastures and supplemental feeds. The cost of feed is a significant factor in Kenya accounting for 60 to 70 percent of the total production cost. Key forages include Napier grass, corn silage, Rhodes grass, and Lucerne. Concentrates made of corn germ, wheat bran, oilseed cakes (from sunflower, cottonseed, or soybean), supply the necessary protein and energy. Mineral supplements like calcium, phosphorus, and salt are important components.

While there is some variation in dairy rations across the industry, milking cows are generally fed pasture grasses for roughage; some combination of corn, corn silage, or sorghum for carbohydrates; and a high protein *dairy meal*. The *dairy meal* tends to be a mixture of oilseed meal and minerals, usually advertised as 16-18 percent crude protein. Dry cows are fed with similar ingredients, but lower protein percentages and a heavier reliance on farm-grown inputs. Proportions vary according to price and availability. The descriptions given in Table 3 are based on producer interviews and are illustrative of industry practice.

**Table 3: Feed Formulation in Kenya**

<b>Feed Type</b>	<b>Lactating (Percentage)</b>	<b>Dry (Percentage)</b>	<b>Young Heifers. (Percentage)</b>
Rhode Grass	4.6	19.3	15.2
Corn Silage	41.7	19.3	30.3
Crush Corn	9.3	14.5	10.1
Pellets	0.0	14.5	20.2
Alfalfa	3.5	4.8	0.0
Sorghum	13.9	19.3	20.2
Dairy Meal (18 percent)	20.8	0.0	0.0
Mineral premixes additives	6.2	8.4	4
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

Source: FAS Nairobi

## INFORMAL SECTOR

The informal sector accounts for around 80 percent of all milk consumed. Unlike the formal sector, the informal dairy market operates with fewer regulations and oversight. While cooperatives are more commonly associated with the formal sector, a smaller number of cooperatives and self-organized groups also serve the informal sector. These cooperatives primarily help in the collection and aggregation of milk, but most transactions in the informal sector take place outside formal cooperative structures.

Milk sales in the informal sector occur through direct sales from farmers to consumers, milk bars, informal milk traders, street vendors, and small-scale milk processors. Raw, unpasteurized milk is the most sold product in the informal market, as it is typically cheaper than processed milk. Some farmers deliver milk door-to-door, while others sell it to vendors who transport it to urban areas. In this sector, milk is often sold in jerry cans, plastic containers, or reused bottles, and through milk dispensers without the quality and safety regulations set by the Kenya Dairy Board in the formal market.

Other distribution channels involve the use of informal traders or brokers who collect milk from multiple smallholder farms and deliver it to urban areas. These traders often use bicycles, motorbikes, or small vehicles for transportation.

The producers in Kenya's informal dairy sector are predominantly smallholder farmers, who own between 1 to 5 cows. These small-scale producers often have limited access to resources such as advanced dairy farming techniques or high-quality feed. Their production levels are lower compared to those practicing intensive systems. Unlike large-scale commercial farms, smallholder farmers in the informal sector generally rely on natural pastures, crop residues, and minimal supplemental feeding.

In terms of size, the informal dairy sector is vast with producers, traders, and vendors each handling relatively small volumes of milk daily, but they manage the bulk of milk consumed domestically. The informal dairy sector faces challenges such as limited access to cold storage, fluctuating prices, and vulnerability to quality and safety issues, making it less efficient and less consistent compared to the formal dairy market.

## **Domestic Support Structure**

The Kenyan government provides support to dairy farmers through the New Kenya Cooperative Creameries (New KCC), a government owned processor, and a range of price control mechanisms designed to stabilize the market. The strategy involves New KCC purchasing excess milk during surplus production periods, particularly during the rainy seasons when milk supply spikes. They process the surplus into milk powder or UHT milk, to stabilize the market while providing a buffer during times of low production.

The New KCC exports dairy products to support prices. By promoting Kenyan dairy products, particularly in regional markets such as East Africa and the Middle East, the government ensures that local farmers have a broader market for their milk. This expanded market helps stabilize domestic milk prices by balancing supply with demand.

The Kenyan government has also invested in cold chain infrastructure, providing cooling plants and milk collection centers managed by New KCC. This allows farmers to sell more milk, even during surplus periods, while preserving the quality. The infrastructure investment helps to minimize spoilage, ensuring that more milk reaches consumers and stabilizing prices by improving overall market efficiency.

On the supply side, the national and county governments sometimes provide semen for artificial insemination at a subsidized cost. These intermittent initiatives aim to enhance the genetic quality of the country's dairy herd by providing farmers access to superior dairy breeds known for higher milk production and disease resistance. The Kenya Dairy Board and the Kenya Agricultural and Livestock Research Organization offer training to farmers on best practices for animal husbandry, feed management, disease control, and modern dairy technologies. These programs focus on building farmers' capacity to adopt efficient and sustainable dairy farming practices.

The Kenyan government has occasionally waived import duties on animal feed ingredients in recent years, primarily in response to crises that drive up feed prices. These waivers, however, are generally short-term measures to stabilize prices during periods of acute shortage or inflation. Additionally, the government, in partnership with private sector players and cooperative societies, has promoted the establishment of feed mills and supply networks to reduce costs and improve the availability of quality feed. Subsidized veterinary services further support farmers by enhancing livestock health, helping to maintain productivity and prevent diseases that could hinder milk production.

## **Price and Costs**

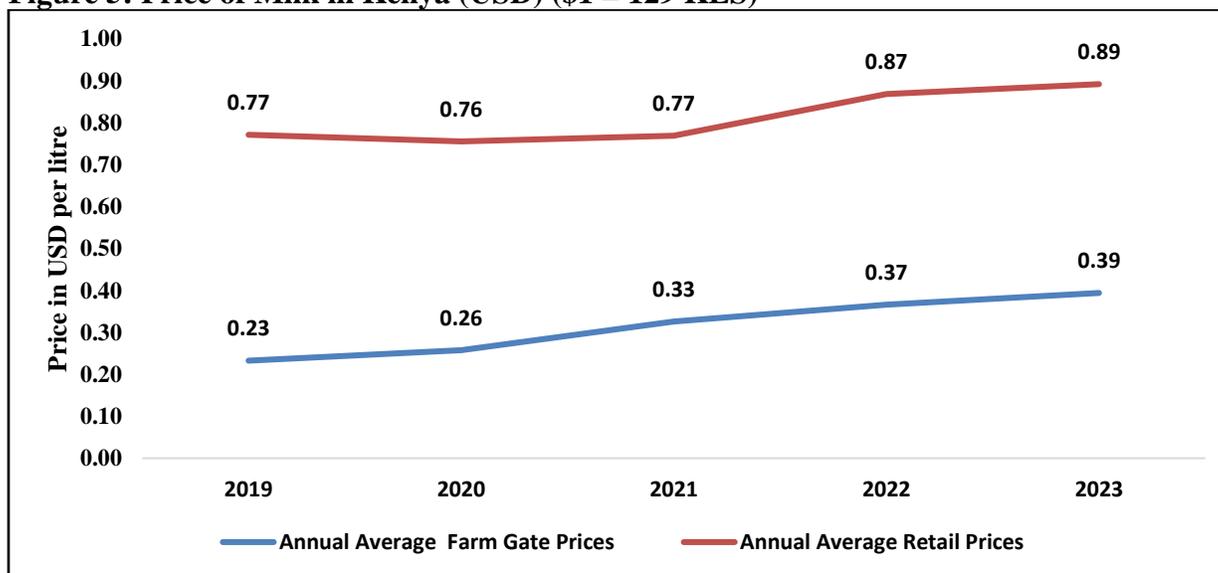
The New KCC guarantees the minimum price to farmers to protect against price fluctuations especially during peak production periods. In 2021, Kenya introduced the Guaranteed Minimum Returns scheme through the Dairy Industry Regulations 2021 which fixed the minimum price paid by a purchaser to an aggregator (minimum price paid to cooperatives) and the minimum price for direct sale (see Table 4).

**Table 4: Pricing Schedule of Dairy Produce (All Prices in Kenyan Shillings)**

Nature of dairy produce	Unit of Measure (Kilogram)	Minimum price paid to cooperatives (Kshs)	Minimum price for direct sale (Kshs)
Unchilled raw milk	1	34	33
Chilled raw milk	1	36	35
Pasteurized milk	1	38	37

Source: Kenya Ministry of Agriculture and Livestock Development

In 2023, retail prices averaged USD \$0.89 per kilogram while at farm level, prices averaged \$0.39 per kilogram - well above the New KCC support price. Prices vary significantly depending on the quality and volume of milk, type of buyer, distance from the processing plant, and distribution channel. Market prices of skim milk powder and whole milk powder at retail outlets average \$9 to \$15 per kilogram and are always sold in multiple packet sizes. Infant formula prices range from \$22 to \$35, depending on the brand and packet size (see Figure 5).

**Figure 5: Price of Milk in Kenya (USD) (\$1 = 129 KES)**

Source: Kenya National Bureau of Statistics

In Kenya, the Value Added Tax (VAT) on dairy imports and exports is governed by the tax regulations stipulated under the VAT Act, 2013. Dairy products are generally subject to a standard VAT rate of 16 percent on imports, covering among others milk, cheese, and yogurt, unless specific exemptions apply. However, certain essential dairy products, especially those for public health, may be exempt from VAT or subject to a zero rate. For exports, Kenya encourages trade by applying a zero percent VAT on dairy exports, allowing producers to claim VAT refunds on inputs used in production.

Tariffs for dairy products vary depending on the product and origin. Imports from the East African Community (EAC) and Common Market for Eastern and Southern Africa (COMESA) member states enjoy reduced or zero tariffs due to regional trade agreements. For non-EAC and non-COMESA countries, tariffs are higher, generally ranging from 25 to 60 percent depending on the type of dairy product (see Table 5).

**Table 5: Tariffs for Dairy Products**

Product	Tariff in Percent
Whey	25
Butter	35
Dairy spreads	35
Milk and cream	60
Milk Powder	60
Yogurt	60
Cheese and curd	60

Source: East Africa Customs External Tariff

### Trade in Milk and Dairy Products

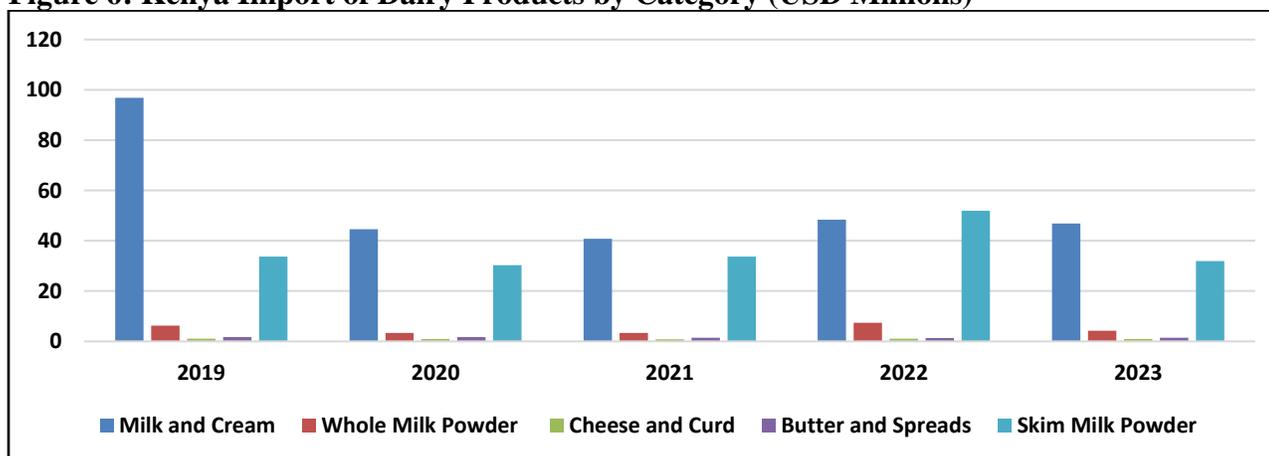
The trade in milk and dairy products in Kenya has shown notable fluctuations from 2019 to 2023. In 2019, imports reached \$139.65 million but declined to \$80.09 million in 2021, before rebounding to \$110.05 million in 2022 and settling at \$85.30 million in 2023. Exports, on the other hand, have generally remained low but show a gradual increase, rising from \$0.85 million in 2019 to \$3.95 million in 2023 (see Table 6).

**Table 6: Kenya Trade in Milk and Dairy Products (USD Millions)**

Year	2019	2020	2021	2022	2023
<b>Imports</b>	139.65	80.95	80.09	110.05	85.30
<b>Exports</b>	0.85	0.90	2.29	1.84	3.95

Source: Trade Monitor, LLC

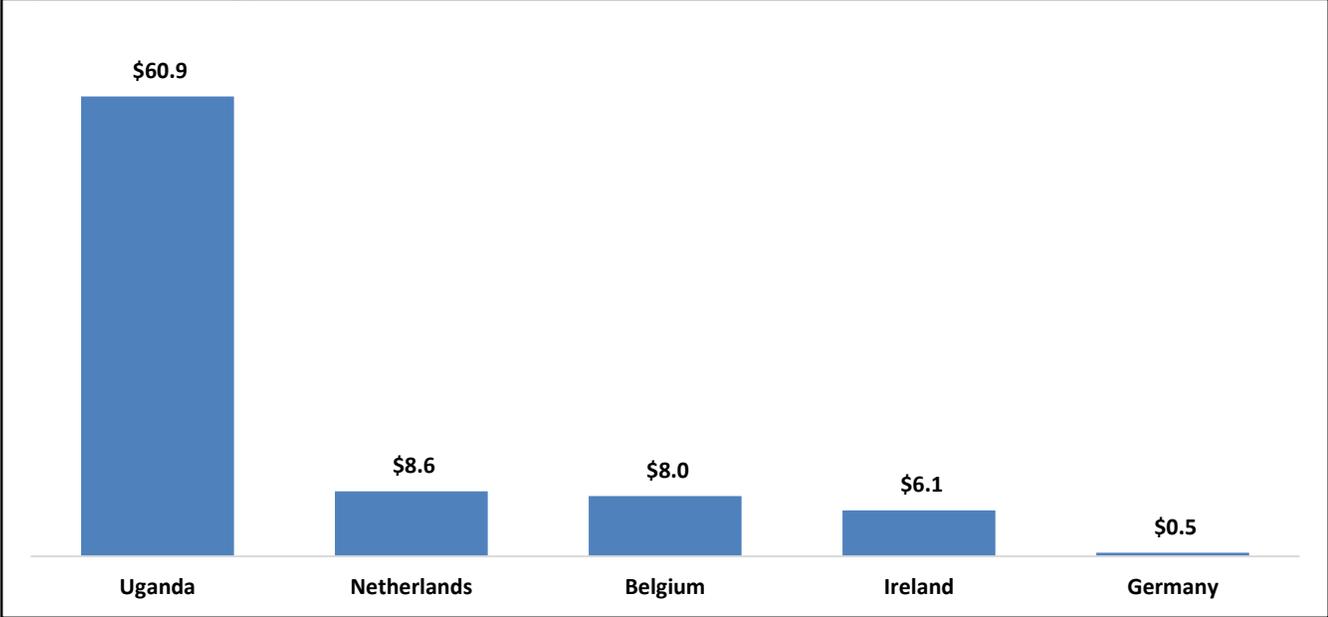
Imports of dairy products from 2019 to 2023 fluctuated across various categories because of global and regional supply chain challenges, and effects of COVID-19 pandemic (see Figure 6). Milk and cream saw a notable decline from \$96.78 million in 2019 to \$46.82 million in 2023. Whole milk powder experienced more volatility, peaking at \$7.36 million in 2022 but dropping to \$4.17 million in 2023. Cheese and curd remained relatively stable but low, while butter and spreads remained consistent with a slight variation over the years. Skim milk powder fluctuated significantly, reaching \$51.97 million in 2022 but falling to \$31.88 million in 2023.

**Figure 6: Kenya Import of Dairy Products by Category (USD Millions)**

Source: Trade Monitor, LLC

In 2023, Uganda was the largest supplier of dairy and dairy products to Kenya, with exports worth \$60.9 million. The Netherlands follows as the second largest supplier with exports worth \$8.6 million. Other significant contributors include Belgium \$8 million, Ireland \$6.1 million and Germany \$0.5 million. Denmark and Egypt also supply smaller quantities of dairy products to Kenya, worth \$0.5 and \$0.2 million, respectively (see Figure 7).

**Figure 7: Top Suppliers of Milk and Dairy Products (USD Millions)**



Source: Trade Data Monitor, LLC

**Attachments:**

No Attachments.