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IN THE NEWS

BEYOND THE COW:
Can Buffalo Milk Reshape Kenya's Dairy Sector?

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Preamble

The Kenyan administration has announced plans to fast-track the sourcing of improved breeds of camels and domesticated water buffaloes to help address Kenya's persistent milk shortage. The suggestion sparked widespread tongue-in-cheek reactions across social media, given the public's familiarity with the notoriously aggressive wild African buffalo. Kenya gazetted the domesticated water buffalo (Bubalus bubalis) as a food animal under Gazette Notice No. 977 under the Meat Control Act (Cap. 356) on 31st January 2025. The Ministry of Agriculture has completed the veterinary standards process required to safely import live animals (specifically high-yielding dairy breeds like the Murrah buffalo) from India under a government-to-government framework.

Speaking during the Agriculture and Food Systems Transformation Summit at the Jamhuri Park ASK Showgrounds in Nairobi, the President urged stakeholders to diversify the country's dairy production. Held under the theme "Advancing Food Sovereignty, Job Creation, and Shared Prosperity through Agricultural Technology, Innovation, and Policy Dialogue," the event brought together government officials, private sector leaders, innovators, and development partners. The directive comes as local processors continue to struggle with erratic raw milk supplies.

Kenya's dairy industry has traditionally focused on increasing milk output through improved cattle genetics, better feeding and stronger farm management. A different opportunity is now emerging: **could Kenya create more value from milk by diversifying the species it farms and the products it produces?**

In India and Pakistan, water buffaloes are central to established dairy industries. In Italy, buffalo milk supports a specialised cheese industry built around Mozzarella di Bufala Campana. Egypt also has a long-standing buffalo dairy sector.

These examples show that buffalo milk is not an experimental product globally. However, commercial success elsewhere does not guarantee that the same production systems or economics will work in Kenya.

The investment question is whether domesticated dairy water buffaloes can generate competitive returns under Kenyan conditions after accounting for animal acquisition, feed, water, cooling, veterinary care, reproduction, processing and market development.

The answer will depend on more than milk yield. It will depend on whether Kenya can build a reliable production system and develop a market that pays for the distinctive characteristics of buffalo milk.

Overview of Kenya's Dairy Sector and Leading Market Players

Kenya's dairy industry is primarily supported by domestic demand and regional champions. Regional trade offers an additional market for locally produced milk and dairy products.

The formal market is dominated by four players. Following a strategic 40% stake acquisition by global giant Danone, market leader Brookside Dairy has sustained robust market growth in the market while integrating international best practices. Meru Dairy Cooperative Union and Githunguri Dairy Farmers Co-operative Society are two of Kenya's largest and most prominent farmer-owned dairy cooperatives. New Kenya Co-operative Creameries is a government owned milk processor with nationwide presence across multiple factories and storage facilities.

Institutional Reforms and Market Stabilization: Implications for Buffalo Dairy Plans

New KCC: Implications for the Milk Supply Chain

Under the existing arrangement, the Nairobi facility serves as a central point for distribution to other regions. The government expects the proposed changes to reduce transport expenses and improve the efficiency of milk delivery, granting each facility autonomy similar to the tea sector with farmers able to select their boards.

Kenya's dairy-sector challenges extend beyond milk production to the efficiency of processing and farmer payment systems. On 18 October 2026, President William Ruto announced plans to clear approximately KES 400Mn owed to farmers supplying New Kenya Co-operative Creameries (New KCC) by the end of the

month, alongside a directive requiring monthly payments before the fifth day. The proposed reforms also seek to decentralise financial management across individual factories, with the national government taking over outstanding central debts.

National Market Stabilization: Government to establish a milk stabilization fund

Kenya's planned investment in New KCC's processing capacity and the proposed milk price-stabilisation fund provide a policy basis for establishing a strategic milk reserve. Converting surplus milk into milk powder for storage and release during periods of lower production could help reduce seasonal price volatility, limit post-harvest losses and support farmer incomes. However, the long-term viability of the reserve will depend on adequate processing and storage infrastructure, clear procurement and release rules, and the cost of maintaining stocks. However, the long-term viability of this reserve will depend on maintaining adequate cold-chain infrastructure, establishing transparent procurement rules, and managing stock holding costs. Ultimately, the reserve must complement rather than replace - measures addressing structural constraints like high feed costs and weak market access.

Table 7.17: Dairy Products, 2021-2025

	Unit	2021	2022	2023	2024	2025
Marketed Milk Production[1]	Million litres	801.9	755.3	810.8	909.0	1,013.7
Milk Production	Million litres	4,640.9	4,604.3	5,284.1	5,334.8	5,521.1
Milk Processed						
Milk and cream	Million litres	510.6	473.6	555.4	620.9	704.4
Butter and ghee	Tonnes	1,043.2	742.0	999.6	1,228.3	1,700.0
Cheese	Tonnes	158.4	93.2	117.8	134.5	149.7
Market Share of processed milk	Per cent	11.0	10.3	10.6	11.6	12.8
Market Share of formally Marketed Milk	Per cent	17.3	16.4	15.3	17.0	18.4

Why is there a Milk Shortage in Kenya?

Kenya's annual milk demand is estimated at 8 billion litres, compared with domestic production of approximately 5.76 billion litres, according to the Kenya Dairy Board (KDB), leaving a substantial supply gap that the domestic industry must bridge.

The shortfall is compounded by seasonal fluctuations in production. According to the Kenya National Bureau of Statistics (KNBS), formal milk deliveries declined by 3.7%, from 84.4 million litres in June 2026 to 81.3 million litres in July. KDB attributed the decline to cold and dry weather conditions and the high cost of dairy feeds. Tighter supply has also coincided with rising retail prices, with the price of a 500-millilitre packet increasing by KES 15.

Beyond increasing raw milk production, there may be an opportunity to improve the value generated from each litre. Processors have an incentive to prioritise higher-value dairy products where profit margins are more attractive. However, cow's milk generally contains lower concentrations of fat and total solids than buffalo milk, potentially limiting the yield of certain products, such as cheese and butter, from an equivalent volume of milk. Diversifying milk production to include buffalo could therefore help processors improve product yields, capture greater value and reduce reliance on increasing volumes alone.

Tea and Milk: A Daily Ritual Driving Kenya's Dairy Market

Kenya is a heavy tea drinking nation with more than double the per capita consumption of the global and African average. Kenya is the largest exporter of black tea and locals drink milk tea.

According to the USDA Foreign Agricultural Service (FAS), Kenya's per capita tea consumption reached 0.72 kg in 2024, more than twice the global average of 0.3 kg. Domestic consumption grew at an annual rate of 3.01% between 2022 and 2024, reflecting the country's established tea-drinking culture. Tea is a symbol of hospitability and is commonly consumed with milk throughout the day, supporting a sizeable domestic market for dairy products.

Table 7.11: Production, Area and Average Yield of Tea by Type of Grower, 2021-2025

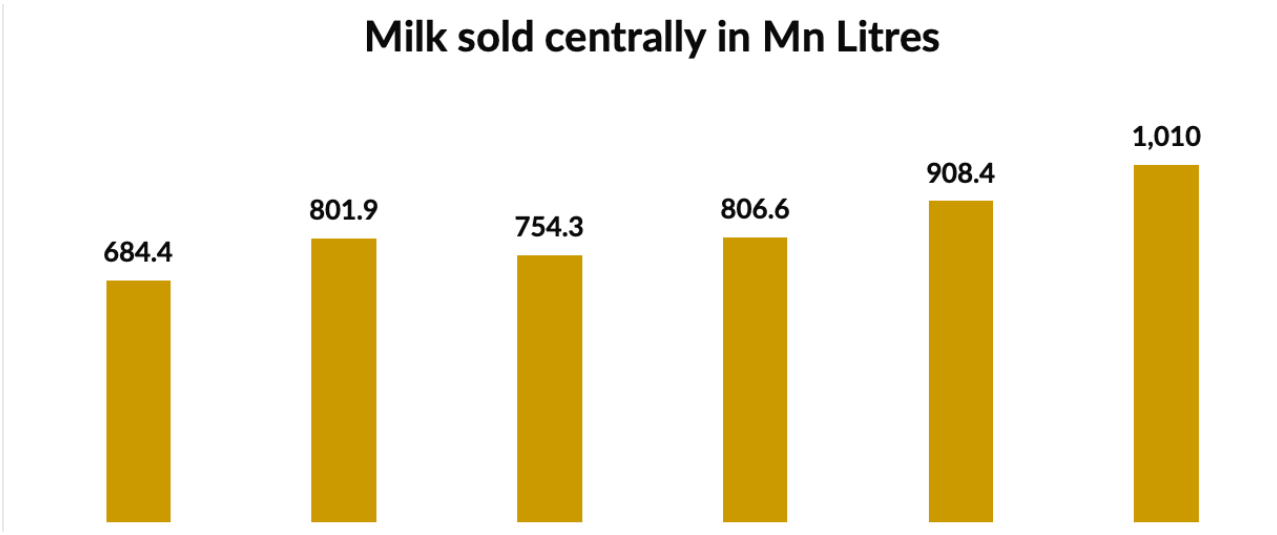
	2021	2022	2023	2024	2025*
AREA ('000 Ha)					
Smallholders	109.3	112.7	112.7	112.7	112.7
Estates	109.7	113.1	115.1	115.7	117.2
TOTAL	**219.0**	**225.8**	**227.8**	**228.4**	**229.9**
PRODUCTION - GREEN LEAF ('000 Tonnes)					
Smallholders	1,287.3	1,233.1	1,258.8	1,405.3	1,223.0
Estates	1,143.6	1,185.1	1,318.9	1,281.9	1,253.7
TOTAL	**2,430.9**	**2,418.2**	**2,577.8**	**2,687.2**	**2,476.7**
PRODUCTION - MADE TEA ('000 Tonnes)					
Smallholders	284.8	272.8	278.5	313.0	271.8
Estates	253.0	262.2	291.8	285.5	278.6
TOTAL	537.8	535.0	570.3	598.5	550.4
AVERAGE YIELD - MADE TEA (Kg/ Ha)[1]					
Smallholders	2,854.9	2,734.8	2,707.9	2,862.9	2,486.0
Estates	2,527.5	2,619.6	2,827.6	2,603.5	2,540.6

Source: Tea Board of Kenya
** Provisional*
[1]Obtained by dividing current production by the area four years ago

Kenya's Milk Market: Domestic Growth and Rising Exports

According to the Observatory of Economic Complexity (OEC), Kenya exported **US$1.38 million worth of milk in 2024**, with Tanzania as the largest destination at US$581,000, followed by South Sudan (US$234,000), Somalia (US$225,000), Uganda (US$139,000) and Oman (US$108,000). The growth in exports to Tanzania, South Sudan and Somalia between 2023 and 2024 highlights the importance of regional markets to Kenya's milk trade.

Expanding this trade further will depend on reliable supply, consistent product quality and competitive pricing. In 2024, Kenya signed a quota free and duty-free access to the European Union market.



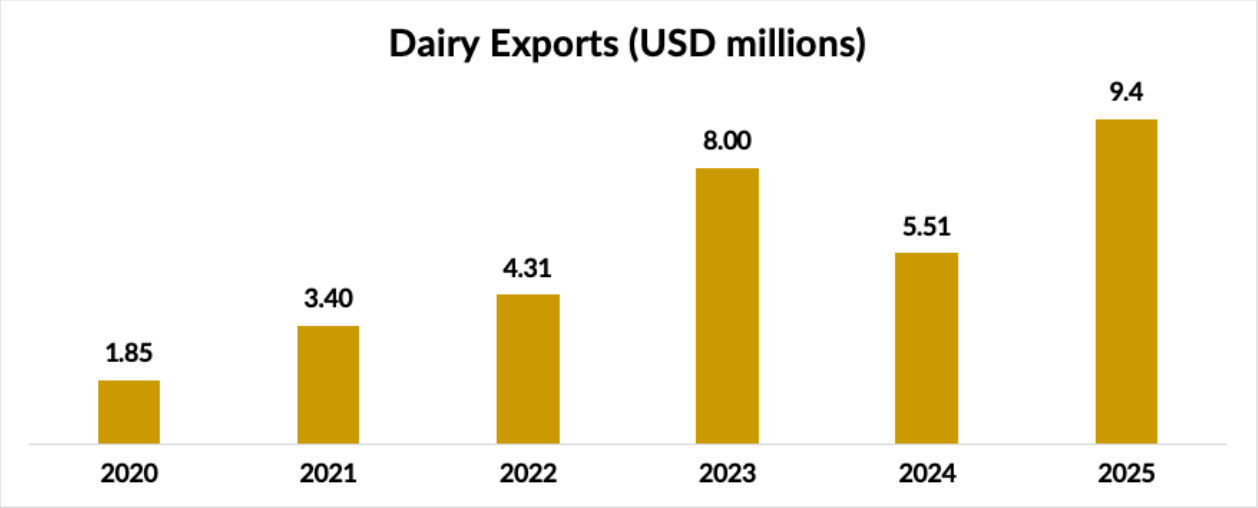
Source: Kenya Investment Authority, Chart: SIB

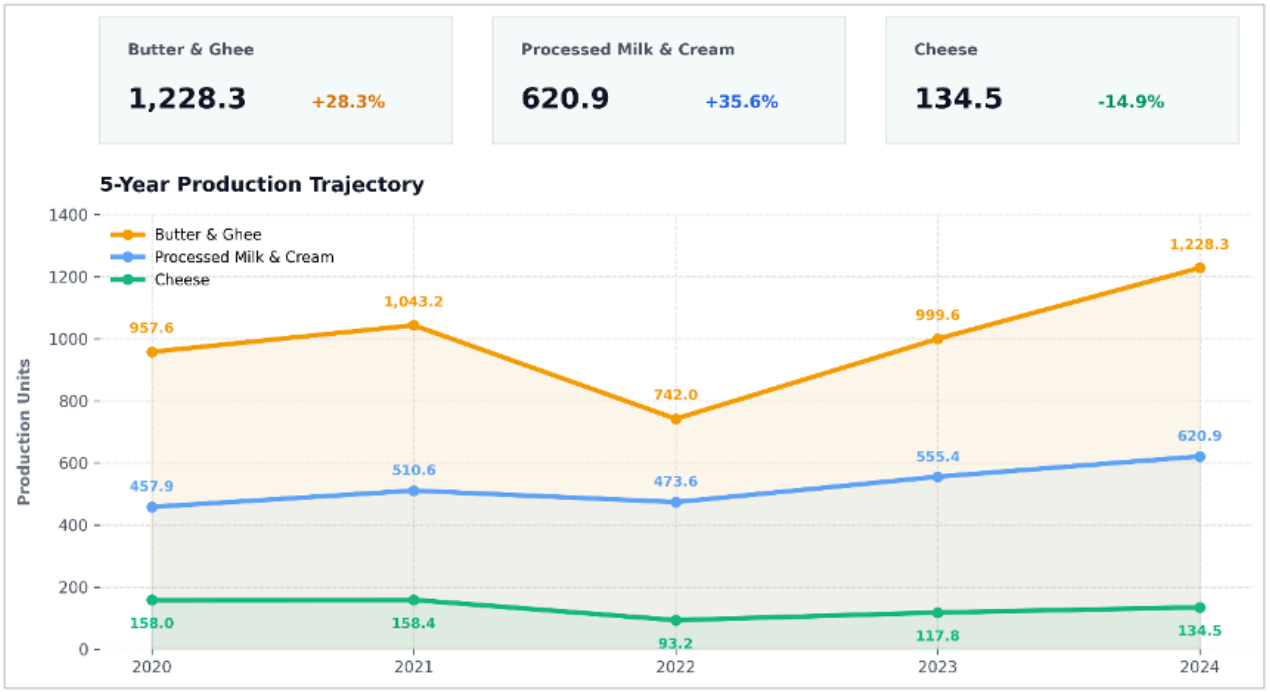
Kenya's dairy sector: a sizeable market with room for value creation

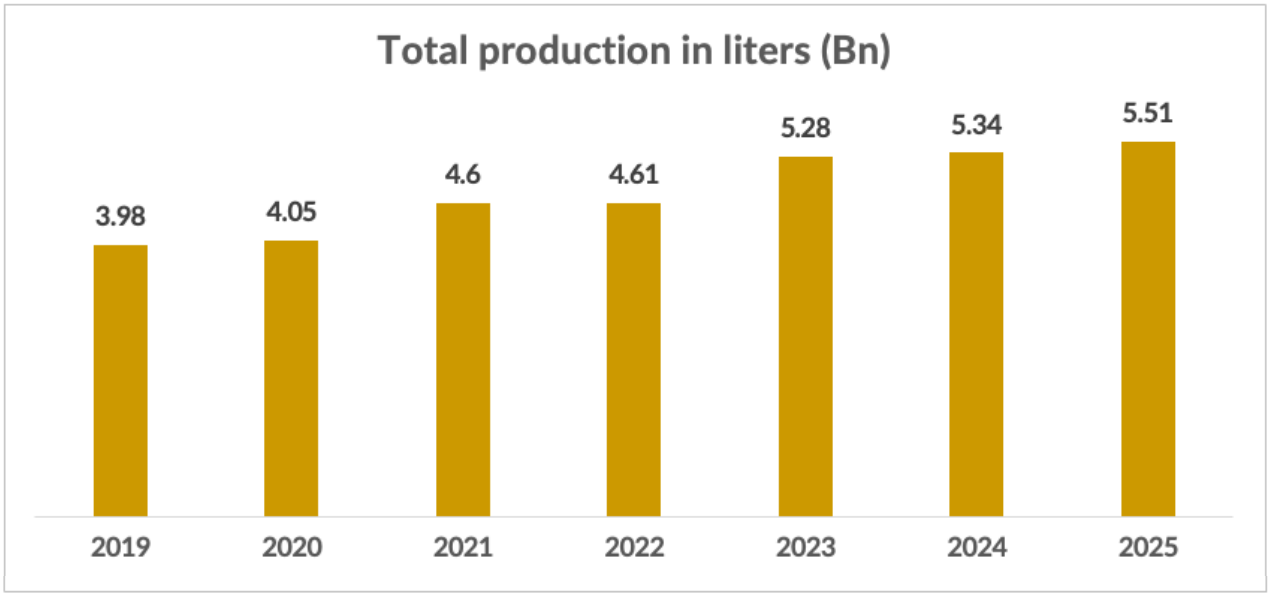
Kenya already has a substantial dairy industry, supported by cattle production, smallholder farmers, cooperatives, processors and established consumer demand.

According to the figures contained in the research material, national milk production increased by 1.0% to 5,334.8 million litres in 2024. Marketed milk increased by 12.0% to 908.4 million litres, while the value of marketed milk rose by 17.4% to KSh60.0 billion.

These figures suggest that Kenya's dairy opportunity extends beyond increasing total production. Market access, processing capacity and the value captured from each litre are also important.





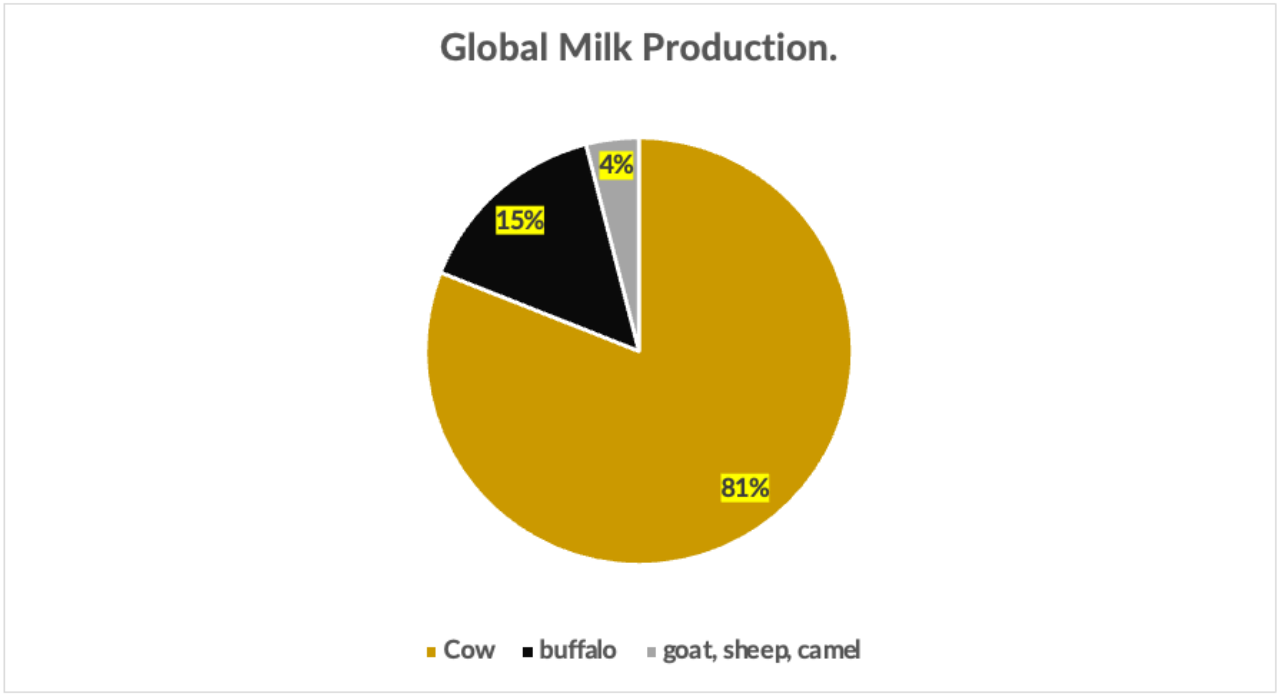


Source: KNBS, Chart: SIB.

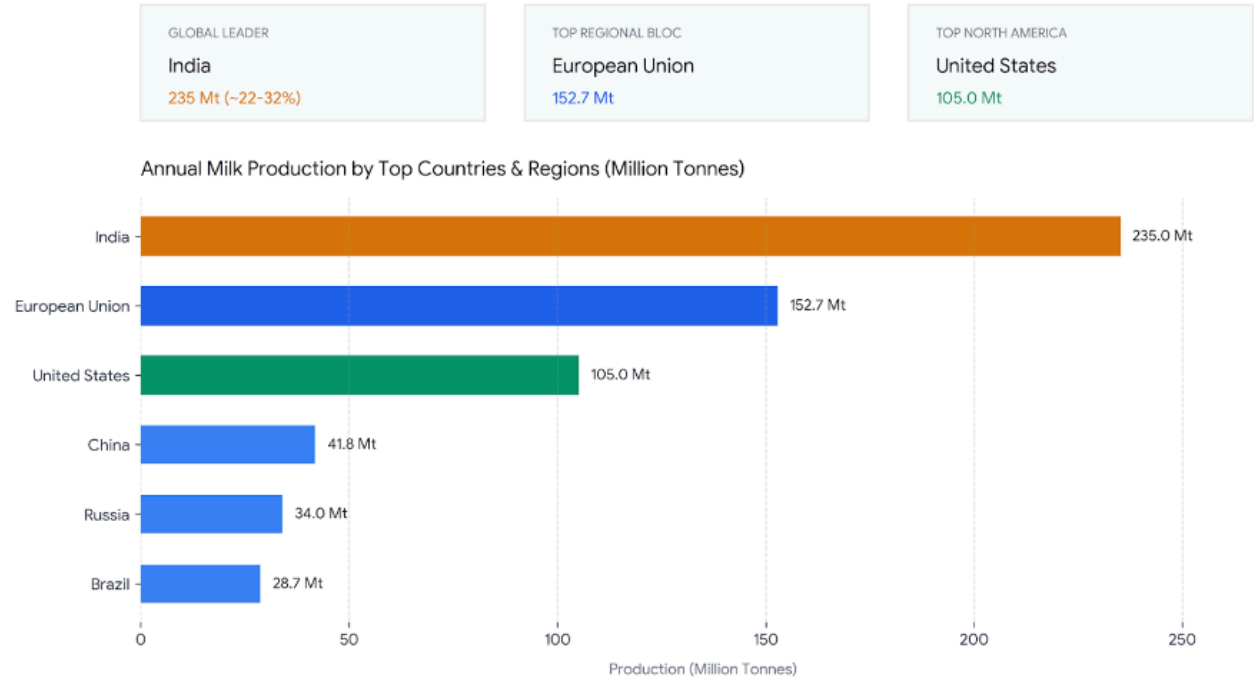
The Global Picture: Buffalo Milk Contributes 15% of Dairy Production

Cow's milk dominates global dairy production, but buffalo milk remains a significant contributor to the world's milk supply. Global milk production reached approximately 1,005 million tonnes in 2025 and is projected to grow by a further 2.2% in 2026.

Buffalo milk production is concentrated in a few countries, particularly India and Pakistan, which account for a substantial share of global output. Their success reflects more than the animals' productivity: it is underpinned by specialised breeding, established consumer preferences, traditional dairy products and well-developed livestock value chains. This offers an important lesson for Kenya: the commercial potential of buffalo dairying depends not only on the animal's milk yield and composition, but also on reliable markets, processing capacity and consumer demand for higher-value dairy products.



Source: OECD-FAO, Chart: SIB



Source: OECD-FAO, Chart: SIB

Milk Composition: What does the Buffalo have that the cow doesn't?

Different species shape dairy quality and processing potential. Milk composition influences taste, texture, processing performance and the quantity of finished product obtained from a litre of raw milk. Cow milk remains the global benchmark, typically containing around 3–4% fat, 3–3.5% protein and approximately 4.8–5% lactose. Buffalo milk generally contains more fat and total solids, making it attractive for products such as mozzarella, paneer, yoghurt, butter and ghee.

Sheep milk is also relatively concentrated, often supporting premium cheese production. Yak milk can have high fat and total-solids content in its traditional high-altitude production systems. Goat milk is versatile, while

camel milk is important in many arid and pastoral settings. Horse and donkey milk generally contain less fat and protein and a different casein profile, making them less suited to conventional cheesemaking.

Composition varies with breed, feed, stage of lactation, season and production conditions; processing performance also depends on milk quality and the product being made.

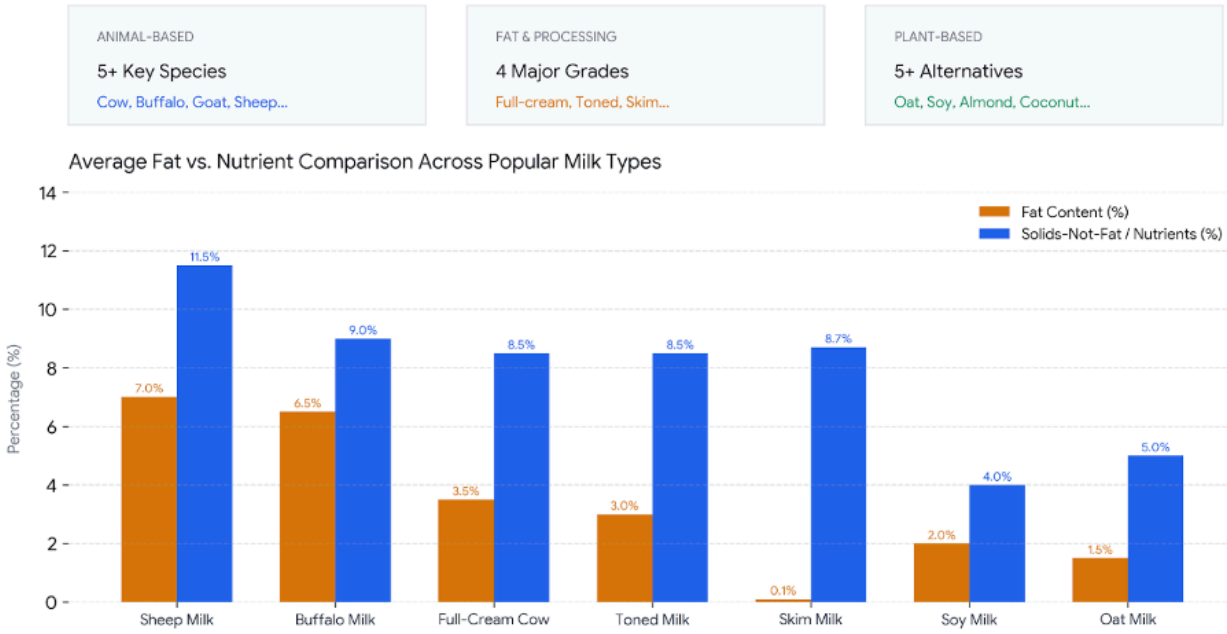
What makes buffalo milk commercially different?

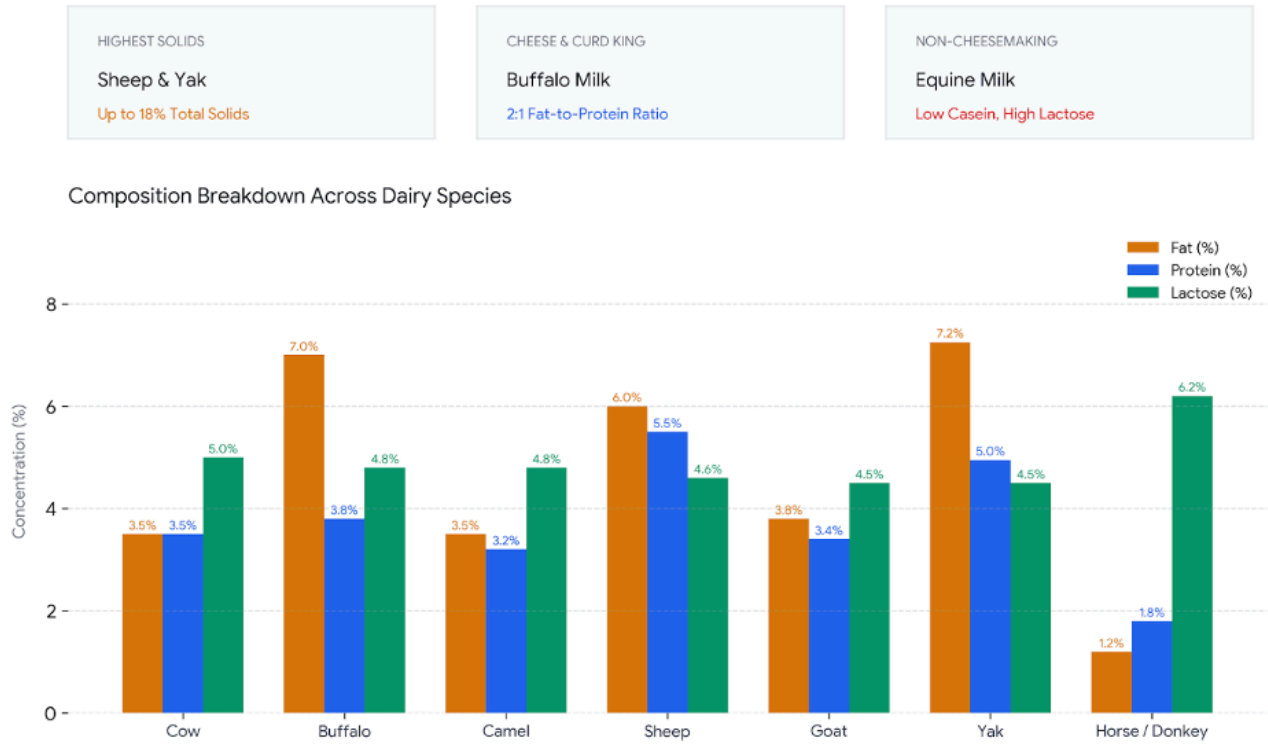
Buffalo milk generally contains more fat and total solids than conventional cow milk. This can affect its processing characteristics and the quantity of certain products obtained from each litre.

The commercial significance lies in the composition of the milk, not simply its volume.

Higher fat and total-solids content can make buffalo milk suitable for products such as:

- Mozzarella and selected specialty cheeses.
- Paneer and other fresh cheeses.
- Butter, ghee and cream.
- Yoghurt and other cultured dairy products.
- Selected desserts and premium dairy preparations





Buffalo Milk: India and Pakistan Dominate Production

Buffalo milk is an important component of the global dairy industry, valued for its rich composition, distinctive texture and versatility in dairy processing. Compared with cow's milk, it generally contains higher concentrations of fat, protein and total solids, making it particularly suitable for products such as mozzarella, paneer, yoghurt, butter and ghee. Its higher solids content can also improve processing yields, potentially increasing the value generated from each litre.

Buffalo dairying is well established in India and Pakistan, where it supports rural livelihoods, food security and extensive dairy value chains. However, the sector is not without challenges, including high feed costs, water constraints, heat stress, breeding limitations and uneven access to organised milk collection and processing.

The international experience offers an important lesson for emerging markets such as Kenya: buffalo milk's commercial potential depends not only on its nutritional composition, but also on the availability of suitable breeds, reliable buyers, processing capacity and consumer demand for higher-value dairy products.

Where buffalo milk has become commercially established

India — a major production centre

India is the world's largest milk producer, and buffaloes account for a substantial share of national milk supply. Its dairy sector includes specialised buffalo breeds, particularly Murrah, alongside Nili-Ravi, Mehsana, Surti and other populations.

The Indian model demonstrates how buffalo dairying can be supported by a large domestic market, established breeding practices and extensive demand for milk, yoghurt, paneer, ghee and other dairy products.

Pakistan — buffaloes at the centre of dairy supply

Buffaloes form the backbone of Pakistan's dairy sector. The national buffalo herd expanded to 17.318 million head, up from 16.333 million, while buffalo milk production rose to 39.793 million tonnes from 37.528 million tonnes in 2025 respectively.

Buffaloes supply an estimated 60–75% of Pakistan's total milk, with cattle providing most of the remainder. Production is dominated by two principal dairy breeds: Nili-Ravi, predominant in Punjab, and Kundi, which leads production in Sindh.

Italy — specialised production and premium cheese

Italy demonstrates how buffalo milk can support a high-value, specialised dairy industry. Its Mediterranean buffalo sector is anchored by Mozzarella di Bufala Campana, a cheese protected under the European Union's Protected Designation of Origin (PDO) scheme.

Italy has Europe's largest buffalo population, estimated at approximately 400,000 head. Annual buffalo milk production is reported at around 378,000 tonnes, accounting for the overwhelming majority of Europe's estimated 390,000 tonnes.

Although buffalo milk represents only around 1.7% of Italy's total milk production, its relatively high solids content—approximately 7.9–8.6% fat and 4.5–4.8% protein—makes it particularly valuable for cheese production. Production is concentrated in Campania, Lazio, Apulia and Lombardy.

Milk yields vary by production system. Standard 277-day lactation yields range from approximately 1,600 to 1,800 kg per animal, while intensive operations can achieve 2,000–3,000 kg or more per lactation.

For Kenya, Italy illustrates how a specialised dairy product with established demand can create value beyond raw milk production. Rather than competing directly with cow's milk on volume, buffalo dairying could target premium products where higher milk solids improve processing yields and support stronger commercial returns.

Egypt — an African reference point

Egypt is Africa's leading buffalo dairy producer and ranks fourth globally, behind the major Asian producers. It produces approximately 1.3 million metric tonnes of buffalo milk annually from a national herd estimated at between 3.7 million and 5.3 million head, nearly half of which are milking females.

Its 6.5–6.6% fat content and distinctive flavour profile make it the preferred base for regional staples such as Ghibna Domiati and Qeshda. Production is largely integrated into smallholder and mixed farming systems along the Nile Delta and Valley. Dairy buffaloes achieve average seasonal yields of 1,500–2,200 kg over a typical lactation cycle.

Buffalo breeds: Kenya Targets the Murrah Breed

The government has designed a two-year pilot program to establish local guidelines for animal identification, health infrastructure, and specialized milking facilities to prevent contamination.

More than 800 prospective farmers have expressed interest in Kenya's planned water buffalo import programme, according to KAGRC, However, wider adoption will depend on the findings of the initial pilot assessing the animals' suitability for Kenyan farming conditions.

While the meat aspect is cleared via the Meat Control Act, commercial buffalo milk production and processing will fall under the standards and guidelines managed by the Kenya Dairy Board (KDB) as part of the wider legal framework to establish a commercial buffalo dairy industry.

Wild and Domesticated Buffaloes: An Important Distinction

The term *buffalo* refers to distinct animals with different biological characteristics and production roles. The **wild water buffalo *(Bubalus arnee)*** is a wild species native to South and Southeast Asia, while the **African buffalo *(Syncerus caffer)*** is a separate wild species native to sub-Saharan Africa. Neither should be confused with domesticated water buffaloes, which are raised for milk, meat and draught power.

For Kenya's dairy industry, the relevant focus is on domesticated water buffaloes and their suitability for commercial milk production. These animals are not a single, uniform dairy category: breed selection affects milk

yield, milk composition, reproductive performance, feeding requirements and suitability for different production systems.

Domesticated Buffalo Breeds

Domesticated water buffaloes are broadly classified into two types: river buffaloes and swamp buffaloes.

River buffaloes are the principal type used in specialised dairy production. Important breeds include Murrah, Nili-Ravi, Kundi, Mehsana, Surti and Jaffarabadi. Their dairy potential varies by breed and management conditions.

Swamp buffaloes are traditionally associated with draught power and agricultural work in parts of Asia. Compared with specialised river buffalo breeds, they are generally less suited to commercial systems prioritising high milk yields.

Major breeds relevant to a potential Kenyan dairy industry

Breed or population	Origin or association	Main characteristics	Potential relevance to Kenya
Murrah	India	Established dairy breed with strong milk-production potential	A leading benchmark for commercial dairy performance
Nili-Ravi	Pakistan and India	Dairy breed valued for milk yield and milk solids	An important alternative for comparative evaluation
Kundi	Pakistan	Dairy buffalo associated particularly with Sindh	Worth examining for comparative production performance
Mediterranean Italian	Italy	Associated with specialised buffalo dairy and mozzarella production	Relevant to the processing and value-addition model
Mehsana	India	Dairy breed developed from Murrah and Surti ancestry	Worth assessing for lactation performance and production consistency
Jaffarabadi	India	Large-bodied breed known for milk with high butterfat content	Relevant to evaluating milk-solids value against feed requirements
Bhadawari	India	Particularly noted for high milk-fat content	Relevant where high-fat dairy products are the target
Surti	India	Medium-sized dairy breed valued for milk quality	A possible comparison for smaller-scale production systems
Egyptian buffalo	Egypt	Locally established buffalo population within traditional dairy systems	A useful African production reference, subject to careful comparison

For Kenya, the Government's selection of the Murrah breed for its proposed buffalo introduction programme provides a starting point for assessing the commercial potential of dairy buffalo farming. While Murrah offers a relevant benchmark for specialised dairy production, Nili-Ravi provides an additional point of comparison given its established role in Pakistan's dairy sector. Egypt, meanwhile, offers an important African reference for evaluating production practices, smallholder integration and the adaptability of buffalo dairying to local conditions.

Can Kenya's climate support buffalo dairy farming?

Kenya's diverse agro-ecological conditions offer potential for investigating buffalo dairying, but suitability will depend on local temperatures, humidity, water availability, feed supply and cooling infrastructure. Although water buffaloes are raised in tropical and subtropical climates, prolonged heat and direct sunlight can affect feed intake, milk production and reproductive performance. Commercial viability will therefore depend on whether farms can maintain animal comfort without incurring unsustainable operating costs. Our preliminary analysis suggests strong geographic complementarity by expanding milk production into regions that currently lack significant dairy output. Water buffaloes thrive in highly humid areas and can digest lower-quality forage compared to traditional highland dairy breeds.

Suggested Zones in Kenya for Murrah Buffalo Survival

Lake Victoria Basin (Western Kenya)

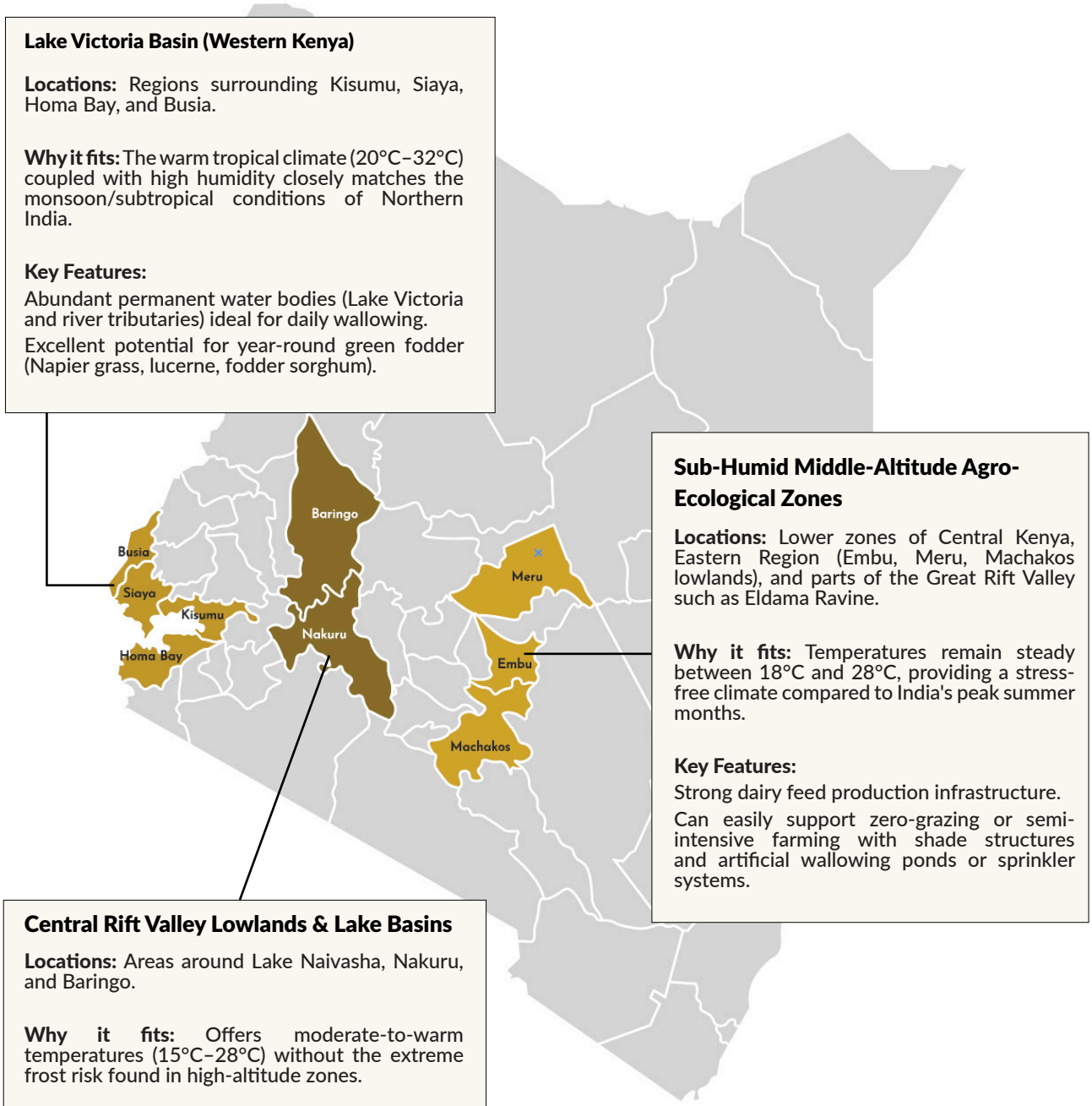
Locations: Regions surrounding Kisumu, Siaya, Homa Bay, and Busia.

Why it fits: The warm tropical climate (20°C–32°C) coupled with high humidity closely matches the monsoon/subtropical conditions of Northern India.

Key Features:

Abundant permanent water bodies (Lake Victoria and river tributaries) ideal for daily wallowing.

Excellent potential for year-round green fodder (Napier grass, lucerne, fodder sorghum).



Sub-Humid Middle-Altitude Agro-Ecological Zones

Locations: Lower zones of Central Kenya, Eastern Region (Embu, Meru, Machakos lowlands), and parts of the Great Rift Valley such as Eldama Ravine.

Why it fits: Temperatures remain steady between 18°C and 28°C, providing a stress-free climate compared to India's peak summer months.

Key Features:

Strong dairy feed production infrastructure.

Can easily support zero-grazing or semi-intensive farming with shade structures and artificial wallowing ponds or sprinkler systems.

Central Rift Valley Lowlands & Lake Basins

Locations: Areas around Lake Naivasha, Nakuru, and Baringo.

Why it fits: Offers moderate-to-warm temperatures (15°C–28°C) without the extreme frost risk found in high-altitude zones.

Key Features:

Proximity to freshwater sources makes water security and pond management feasible.

Suitable land for irrigated pasture production and zero-grazing setups.

Processing and the premium-market question

The international experience suggests that buffalo milk may be most attractive when linked to products that benefit from its composition.

For Kenya, potential applications include specialty cheese, paneer, yoghurt, ghee, butter and selected cream-based products. However, the commercial opportunity for each product remains a hypothesis until demand and processing economics are tested locally.

The bigger lesson for Kenya's dairy transformation

Buffalo milk raises a broader question about the future of Kenya's agricultural sector.

For years, dairy development has focused heavily on increasing production. That remains important, but greater volumes do not necessarily produce greater profits. Equally, higher-value milk does not automatically justify the cost of introducing a new livestock species.

Kenya needs to evaluate agricultural opportunities through resource productivity, market access, value addition and sustainable investment returns.

Buffalo milk is worth investigating because international examples demonstrate established production systems and specialised product markets. Yet Kenya must develop its own evidence on breed performance, climate suitability, feed and water requirements, processing economics and consumer demand.

The strongest investment case will not be the animal that produces the most milk or the milk with the highest fat content. It will be the production system that converts available capital, land, water and feed into the greatest sustainable economic value.

Production economics: the limits of the global comparison

Buffalo dairying is not inherently more profitable than cattle dairying. Returns depend on the relationship between saleable milk output, milk price, production costs and the capital invested in the enterprise.

The main considerations are:

Feed and animal management. Feed is a recurring operating cost, while breeding stock, housing and equipment require initial investment. Any comparison with cattle must use locally relevant input costs and actual production data.

Reproduction and productive downtime. Age at first calving, calving intervals, lactation length and dry periods influence the amount of milk an animal produces over its lifetime. These factors also affect the timing of cash flows and the replacement of breeding animals.

Climate and water requirements. Heat stress can affect feed intake, animal welfare and milk production. Shade, ventilation, sprinklers and suitable cooling arrangements may be necessary, depending on local conditions. These requirements can add to operating costs.

Collection and processing. The value of higher milk solids is only realised if milk can be collected, handled and processed appropriately and the resulting products find a market.

Market access. A premium product needs a sufficiently reliable customer base to justify its additional production, processing, packaging and marketing costs.

What the global experience means for emerging dairy markets

The international experience offers three main lessons.

First, **market demand should guide production investment**. Before establishing a specialised dairy herd, investors need evidence that processors or consumers will pay enough for buffalo milk or its derivatives to cover the additional costs.

Second, **the intended product should shape the production model**. Supplying ordinary drinking milk creates different requirements from supplying a specialised cheese producer. Product specifications, milk quality, collection frequency and processing capacity must be considered from the outset.

Third, **local conditions matter more than copying an overseas model**. Breed performance, climate, feed quality, veterinary support and reproductive efficiency influence commercial outcomes. Results achieved in established South Asian or European systems cannot be assumed to transfer directly to East Africa.

Buffalo Milk: A Strategic Value-Chain Opportunity - Not a Short-Term Alternative

International experience demonstrates that buffalo dairying can support both large-scale milk production and specialised, higher-value dairy markets. India and Pakistan illustrate the importance of established supply chains, while Italy highlights the potential of product differentiation and Egypt provides a relevant African reference.

For Kenya, however, the opportunity remains conditional. The commercial case will depend on breed performance, feed and water costs, climate adaptation, reproductive efficiency, processing capacity and the availability of buyers willing to pay for buffalo milk's distinctive composition.

Buffalo dairying should therefore be viewed as a potential complement to Kenya's existing dairy industry, rather than a short-term substitute for cattle production. A carefully evaluated pilot can establish whether the additional value generated through processing is sufficient to justify the investment and operating costs. Ultimately, success will depend not on milk yield or fat content alone, but on the ability to convert local resources into sustainable economic returns.

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