



SMALLHOLDER
DAIRY PROJECT

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SDP POLICY BRIEF 1



The Demand for Dairy Products in Kenya

Key points

- Kenya milk consumption levels are among the highest in the developing world. Most of the milk bought is raw milk supplied by the informal dairy sector.
- Mostly because of higher price, processed, pasteurized milk is consumed in much smaller amounts, except in Nairobi. Studies indicate that this formal market will grow only as household incomes increase. The informal market is thus likely to predominate for many years to come, as it is driven by demand from mostly poor consumers.
- Dairy sector policy should recognize the role played by both the informal and formal sectors in the market, and should support their harmonious coexistence and development in the medium term, while aiming for growth in the formal sector in the long term.



Introduction

Kenyans love milk; they consume more of it than almost anyone else in the developing world.¹ On average, each Kenyan drinks about 100 kilograms of milk a year, four times the average for Sub-Saharan Africa.²

Milk can be sold to the consumer in various forms. It can be sold as raw milk, just as it leaves the animal; it can be sold after some processing, such as pasteurization; or it can be sold in other forms, such as soured milk, yogurt, or cheese.

The demand for milk

Dairy products are important food budget items for many families in Kenya. A survey carried out in 1999 in Nairobi and Nakuru (box 1) found that households spent an average 18 percent of their income on dairy products, second only to their expenditure on cereals such as maize (27 percent).

Almost all dairy product consumption is in the form of liquid milk. In Kenya, 86 percent of this milk is marketed raw; only 14 percent is processed.³ Demand for both types has increased significantly over the last 10 years.⁴

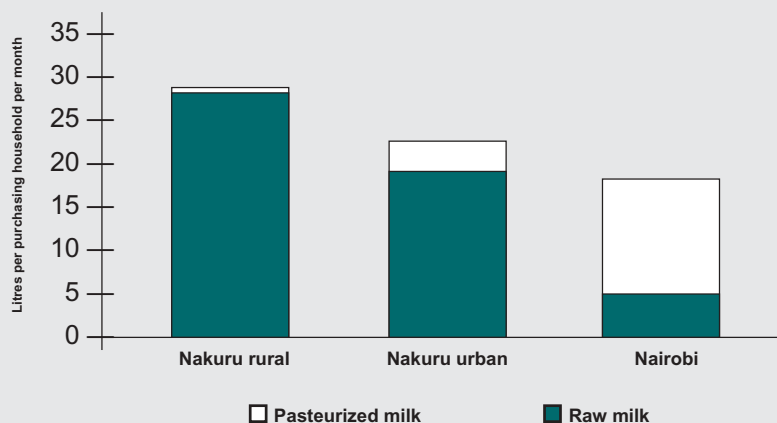
This preference for raw milk occurs especially in rural areas, but is also marked in urban areas. Only in Nairobi do people drink more pasteurized than raw milk. Figure 1 uses Nakuru and Nairobi to illustrate the general pattern of consumption for rural areas, urban areas, and the capital itself.

Figure 2, which shows consumption patterns by income in the sampled areas, indicates some important features of the Kenyan milk market.⁶ Nakuru echoes the national pattern; milk consumption increases with income, and the preference for raw milk extends across all income groups, though there are more high-income than lower-income households buying pasteurized milk.

Box 1. Data sources and methods

A 1999 consumer survey assessed household dairy consumption patterns and demand in Nairobi and Nakuru.⁵ A questionnaire covering various aspects of consumption and expenditure was administered to 210 randomly selected households in each district twice, during the dry and rainy seasons. The sublocations sampled in the two areas were selected to cover a representative range of income and social groups.

Figure 1:
Milk consumption in sample locations



Nairobi is again an exception, with consumers in all income groups showing a preference for pasteurized over raw milk. This reflects the special conditions which are found in the capital:

- Distribution of pasteurized milk is effective through many urban retail outlets and kiosks, and is helped by the well-developed road network.
- The mean price differential between raw and pasteurized milk is smaller in Nairobi—raw milk is only 22 percent lower in price, compared to 50 percent lower in Nakuru (figure 3).⁷
- Regulatory control of the informal, raw milk sector may be easier to enforce.

Such special conditions are not readily duplicated in other areas of Kenya, which are likely to retain the consumption patterns exemplified by Nakuru for the foreseeable future. However, both Nakuru and Nairobi share an important feature—consumption of both raw *and* pasteurized milk tends to increase with income, indicating that both markets have a role to play in the development of the dairy sector.

Consumer preferences

Why is raw milk so popular? There are several reasons:

- Raw milk is 20 to 50 percent cheaper than pasteurized milk, as its supply involves fewer costs.
- Many prefer the taste and high buttermilk content of raw milk.
- Raw milk can be sold in variable quantities, allowing even very poor households access to some milk.
- In areas where transport is poor, it is often easier to find a farmer with a cow than a shop with packaged milk.
- Consumers feel, justifiably, that simply boiling raw milk removes most health hazards.⁸

Some consumers, however, especially in the higher-income brackets, prefer pasteurized milk to raw milk. Again, there are several reasons for this:

- They feel there are fewer health risks, and greater guarantee of quality and/or consistency.
- Pasteurized milk is generally packaged, making it convenient to carry and store.
- It has a longer shelf life.

Figure 2:
Consumption of milk production by income group for sample locations

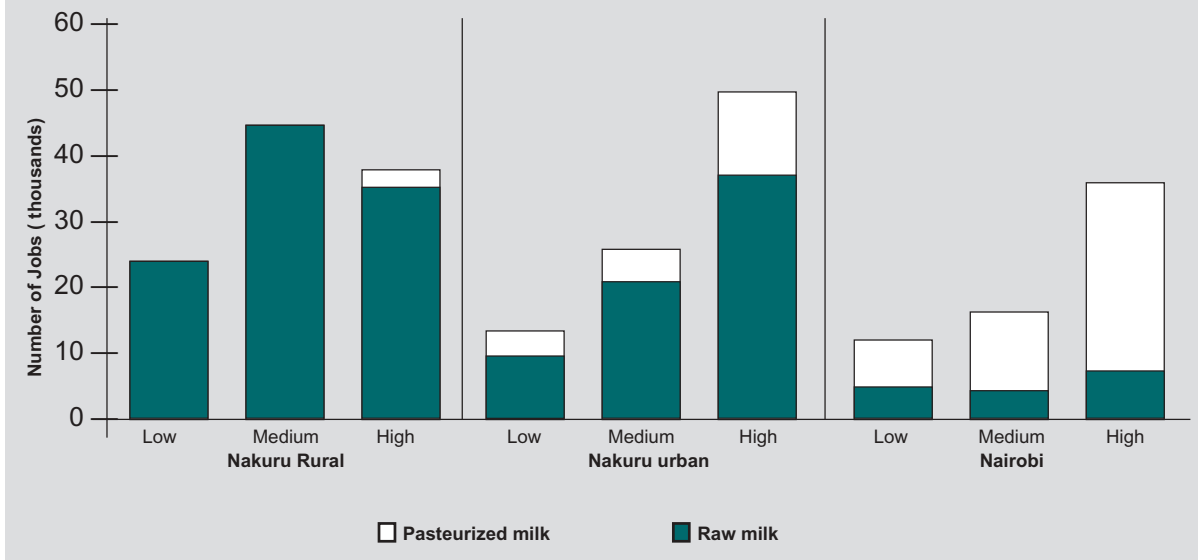


Figure 3. Comparison of milk prices in Nairobi and Nakuru

	Mean price per litre (Ksh)			
	Nairobi		Nakuru	
	Wet season	Dry season	Wet season	Dry season
Milk and milk products				
Raw fresh milk	31.9	31.4	20.8	20.8
Pasteurized packed fresh milk	40.0	41.0	40.0	43.3

How might price changes affect demand for milk products?

Studies have analysed demand for milk using elasticity (the responsiveness of demand to changes in such factors as price). A value of zero indicates that the factor has no effect on demand; a value of more than 1.0 indicates quite a strong demand response. Figure 4 shows that milk is generally considered a necessity which is not very responsive to price changes, though there are some interesting variations.

How would consumers react to a price increase?

Raw milk. Poor people attach such value to raw milk that they would not buy much less if the price rose. Richer people are more likely to react to a rise in raw milk prices by buying less.

Pasteurized milk. A price rise for pasteurized milk would have the opposite effect; higher-income groups would still buy approximately the same amount of pasteurized milk, and lower-income groups are more likely to buy less.

One implication of these figures is that more stringent regulatory constraint, limiting the availability

of raw milk and thereby increasing its price, would not easily persuade poor people to reduce their consumption of raw milk. The consequent budgetary problems they would face might instead result in reduced consumption of food items, with implications for nutritional intake and health.

Figure 4. Price elasticity of raw and pasteurized milk by income group

Commodity	Elasticity	
	Low-income groups	High-income groups
Raw milk	0.12	0.93
Pasteurized milk	0.70	0.21



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The Smallholder Dairy Project (SDP) carries out research and development activities to support sustainable improvements to the livelihoods of poor Kenyans through their participation in the dairy sub-sector. SDP is jointly implemented by the Ministry of Livestock and Fisheries Development, the Kenya Agricultural Research Institute, and the International Livestock Research Institute, and is funded by DFID.

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Conclusions

The findings indicated above lead us to a number of conclusions:

- The preference for raw milk throughout most of Kenya is based on considerations of taste, affordability, and availability. These factors are unlikely to change significantly in the near future.
- A marked shift in preference from raw to pasteurized milk will probably only occur if there is a substantial increase in income levels in Kenya.⁹
- However, such a rise in income levels would lead to an increase in consumption of both raw and pasteurized milk, benefiting both the informal and formal sectors of the dairy industry.

Policy implications

- The existence of both raw milk and pasteurised milk markets are responses to consumer demand, and both make valuable contributions to Kenya's economy and public health.
- The informal, raw milk market provides millions of poor consumers with an affordable, nutritious product of their choice, as well as being a primary source of rural employment.¹⁰ A policy balance that both regulates and supports this sector would maintain these national assets, almost unique in Sub-Saharan Africa.¹¹
- Although the informal market, driven by demand from mostly poor consumers, is likely to predominate for many years, gradual growth of the formal market will probably occur as incomes rise in the long term.
- Therefore, dairy sector policies that recognise the role played by both the informal and formal sectors in the market, and support their harmonious coexistence and development, are most likely to be effective.¹²

¹ In terms of milk consumption per unit average income, Kenya is only behind Mauritania and Mongolia globally among developing countries.

² Estimates of per capita milk availability range from 80 to 125 kg, depending on location, ethnic group, etc. The average for Sub-Saharan Africa is 25 kg. Developed world figures include UK 119 kg, USA 117 kg, and Japan 43 kg.

³ The actual proportion of marketed milk flowing through informal raw milk channels is likely to be higher than 86 percent. A recent study suggests higher cattle numbers in Kenya than the estimates used for these figures, and by implication, a higher level of national milk production. As the figure for processed milk is based on actual sales, higher overall milk production suggests a higher proportion of marketed milk flowing through informal raw milk channels.

⁴ In contrast, households report much less purchase of UHT milk and milk powder now compared to 10 years ago.

⁵ 'Patterns of Milk and Dairy Products Consumption and Demand in Central Kenya.' SDP Collaborative Research and Development Report No. 3.

⁶ Households taking part in the survey ranged from low income (less than Ksh 5,000 per month) to high income (over Ksh 30,000 per month).

⁷ See brief 3, 'Competitiveness of the Smallholder Dairy Enterprise in Kenya'.

⁸ See brief 4, 'Public Health Issues in Kenyan Milk Markets'.

⁹ Per capita GDP grew at an average rate of 2.2 percent per year during 1990–2000, but has since stagnated.

¹⁰ See brief 2, 'Employment Generation in the Kenya Dairy Industry'; and brief 5, 'Improved Child Nutrition through Cattle Ownership in Kenya'.

¹¹ See brief 4, 'Public Health Issues in Kenyan Milk Markets'.

¹² See brief 6, 'The Policy Environment of Kenya's Dairy Sector'.