



SMALLHOLDER
DAIRY PROJECT

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SDP POLICY BRIEF 2

Employment Generation in the Kenya Dairy Industry

Key points

- The dairy industry is a significant source of employment in Kenya. At the farm level there are over 600,000 dairy households, generating an estimated 365,000 waged jobs in addition to the family labour involved.
- The processing and marketing of milk generates a further 40,000 jobs. Over 70 percent of these jobs are in the small-scale informal sector, which also employs a greater proportion of women.¹
- In addition to those directly employed there are many deriving indirect employment from the industry.²
- Policies that encourage the efficient operation and development of both processed and raw milk markets will contribute to the job creation targets of the government.



Introduction

Hundreds of thousands of Kenyans earn their living through dairying and related activities. The sector currently accounts for 3.5 percent of total national gross domestic product (GDP) and about 14 percent of the agricultural GDP. The liberalization of the dairy industry in 1992 led to the emergence of many private enterprises throughout the dairy sector. Small-scale operators dealing in raw milk dominate the informal market, while larger enterprises provide processed milk in the formal market. The Smallholder Dairy Project (SDP) carried out a survey to assess levels of employment in the Kenya dairy industry (see box 1).³

Employment in the dairy industry

Figure 1 shows, in simplified form, the main agents involved in moving milk and milk products from the farm to the consumer. The potential for employment generation in each sector is described below.

Employment generation in dairy farming

There are over 600,000 dairy farm households in Kenya, and much of the labour input on these farms is family-based self-employment. In addition, it has been estimated that dairy farming generates about 50 full-time wage-labour opportunities per 1,000 litres of milk produced on a daily basis. This translates to 365,000 jobs nationally and represents about 12 percent of the national agricultural workforce⁵.

Dairying also generates many indirect jobs in the supply of secondary inputs and services to farmers, although such employment has not yet been quantified.

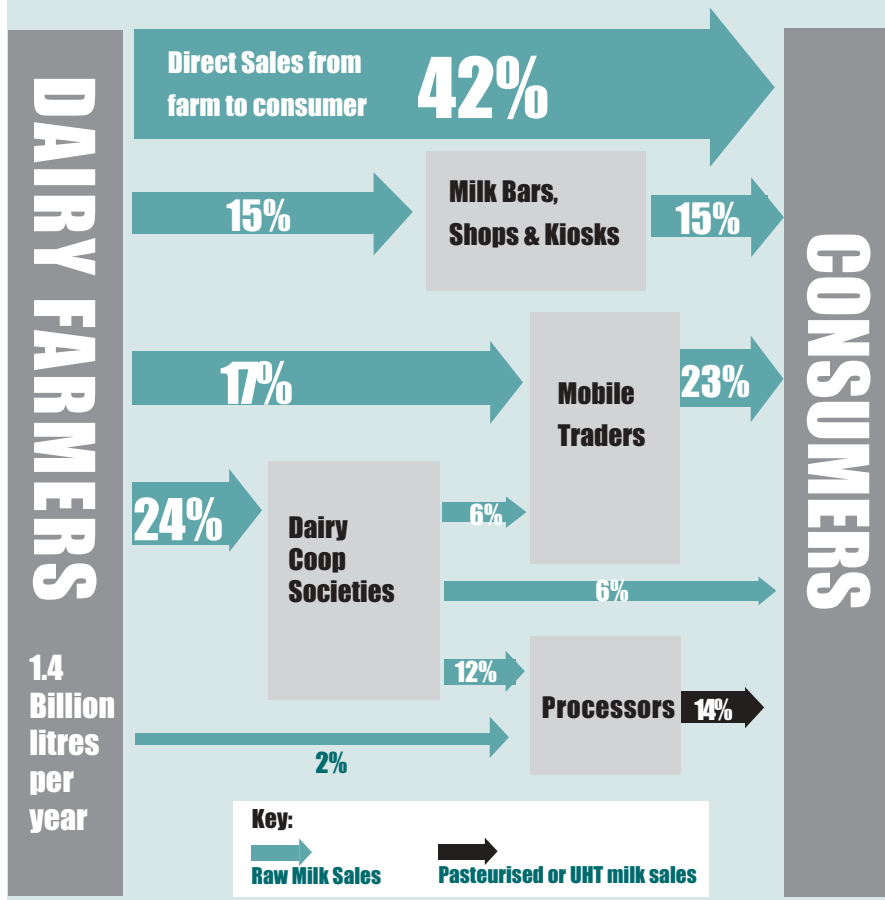
Given the very large share of dairy farming in the agricultural GDP and the rapid growth rate of the sector (4.1 percent per annum compared to 1.2 percent for agriculture as a whole), it is reasonable to conclude that investment in dairying creates more jobs than in most other agricultural sectors.



**Box 1.
Data sources and methods**

The SDP used employment-based analysis (EBA)⁴ to calculate direct and indirect employment totals in selected market channels. Surveys of dairy farm households, small-scale formal and informal milk marketing and transport agents, milk and dairy product retailers, and formal dairy processors were conducted, and the data collected were used to estimate the number of jobs created per 1,000 litres of milk handled on a daily basis in each sector. Indirect employment was estimated by calculating the expenditure by these agents and enterprises on products and services, then applying a formula to convert the labour component of this expenditure into actual jobs.

FIGURE 1. How milk gets to consumers from farmers. Percentage of raw and processed milk going through the different market channels

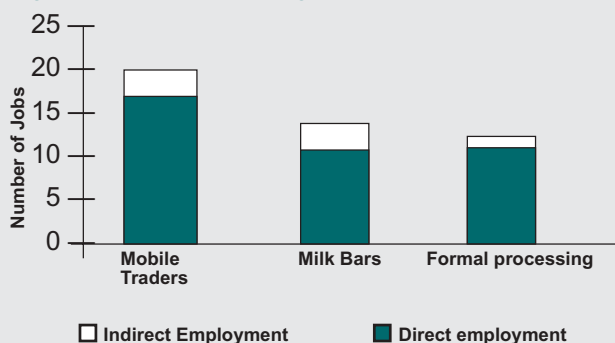


Note: 1.4 Billion litres of milk marketed annually represents 55% of on-farm production. The remaining 45% is either fed to calves or consumed on farm

Employment generation in milk marketing and processing

Many people are employed in the wide range of enterprises involved in moving milk from the farm to the consumer, including retail outlets (such as milk bars and kiosks) and mobile milk traders in the informal sector, and milk processors and distributors in the formal sector. These people and enterprises generate indirect employment by buying services and products, such as bicycle or milk equipment repair, and milk packaging material. Figure 2 shows estimated rates of direct and indirect employment (expressed as jobs per 1,000 litres of milk handled daily) generated in selected sectors.

Figure 2: Employment rates (jobs/1,000 litres of milk handled daily) in the informal marketing and formal processing sub sectors



Employment in the informal sector

Well over 1.5 million litres of milk (excluding pasteurized milk) are traded daily in the informal market in Kenya. Those engaged in delivering milk from the producer to the consumer include:

Mobile milk traders are largely self-employed. They typically sell 50 to 100 litres of raw milk daily, delivering their produce mainly by bicycle. This trade generates a mean of 20 full-time jobs (17 direct, 3 indirect) per 1,000 litres of milk handled on a daily basis. A major constraint is the lack of legal recognition of the trade by the Kenya Dairy Board (KDB) regulators, who argue that the lack of fixed premises compromises milk quality.⁶

Milk bars are specialist outlets selling milk from fixed premises, often with seats for customers. The employment rate is 14 jobs (11 direct, 3 indirect) per 1,000 litres of milk handled daily. They use both family labour and wage employment. They collect milk from producers on foot, by bicycle, or by public transport.

Shops and kiosks trade in milk as part of other retail activity, mainly involving sale of household consumer items. The milk trade often comprises less than half of their total turnover.

Employment in the formal sector

The larger enterprises of the formal processing and marketing sector generate a mean of 12.5 full-time jobs per 1,000 litres of milk handled on a daily basis, less than in the informal sector. Of this total, 11 jobs are direct, less than the rate for mobile milk traders (see above). Conversely, only 1.2 indirect jobs are generated per 1,000 litres of milk handled by formal processors, compared to 3 in the informal sector. About half of the indirect employment arises from the manufacture of packaging material.

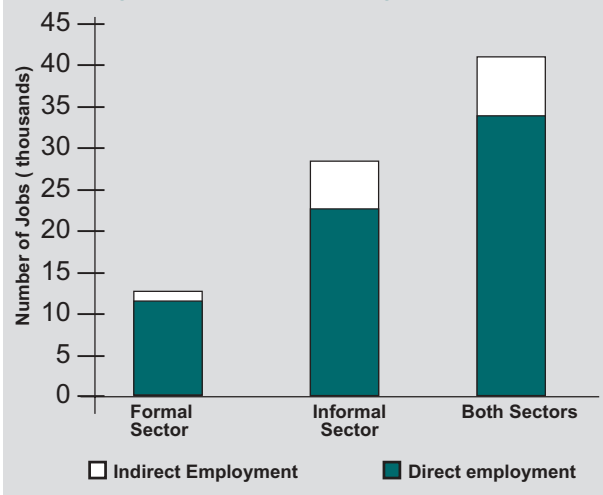
There are variations within these figures; the amount of employment generated per 1,000 litres handled daily declines with scale, perhaps due to substitution of capital for labour. For example, smaller-scale processors support about 13 jobs per 1,000 litres, while larger-scale processors support about 6 jobs.⁷

Although the formal sector generates fewer jobs per 1,000 litres of milk handled than the informal sector, it does on the other hand offer more stable employment.

Employment in milk marketing and processing: summary

Using the employment rates above, it was projected that the entire dairy marketing and processing sector in Kenya supports a total of some 40,000 jobs (figure 3), about 70 percent of these in the informal sector.⁸ Most jobs in both the formal and informal dairy sectors are direct. Direct job opportunities in the informal sector predominantly involve self-employment.

Figure 3: Projected total employment in the informal marketing and formal processing subsectors



Gender of labour

The gender of workers in the informal milk marketing sector varies with enterprise type and nature of work involved. Young men aged 20 to 25 years dominate the mobile milk trade, which involves bicycle riding. Female workers are only mostly engaged when public transport is involved. In contrast, there are nearly equal numbers of male and female workers in milk bars.

Men account for over 80 percent of the direct job positions in dairy processing plants. Women find it difficult to work in the dairy factories as most tasks are extremely laborious and/or involve working in night shifts.

Wage rates

Wage rates in the formal and informal sectors are comparable. In the formal processing sector mean wages are Ksh 9,120 per month. Within the informal sector, mean earnings are Ksh 8,137 per month in milk bars and shops, and Ksh 9,550 for mobile traders.⁹ Figure 4 summarizes this and other features of selected dairy subsectors.

Figure 4. Features of jobs in informal and formal dairy processing and marketing

	Mobile traders	Milk bars & milk shops	Formal processing
Type of employment	Self-employment	Family & wage labour	Wage employment
Gender of workers	Mainly men riding bicycles) Few women (public transport)	Equal numbers of men and women	80 percent men (tasks are laborious and involve night shifts)
Mean wages/earnings	Ksh 9,550/month	Ksh 8,137/month	Ksh 9,120/month



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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 following conclusions can be drawn from this analysis of employment within the dairy industry:

- Dairying is a profitable growth industry which has the potential to contribute greatly to employment-led economic recovery in Kenya.
- This potential is increased by the fact that dairying activities straddle many sectors—rural and urban, agricultural and industrial, formal and informal, small scale and large scale. In addition, employment in some parts of the informal milk market is particularly important to women.
- It is clear, therefore, that employment-enhancing policies should target all sectors of the dairying industry.
- Improved conditions for more stable employment in the informal milk market may require the formulation of innovative policies.

Policy implications

Dairying generates many jobs throughout Kenya. The most effective policies would recognize the potential for further employment in all sectors of the industry, and would attempt to tackle the constraints currently limiting employment:

- The current high level of employment of other rural poor by smallholder farmers is likely to be sustained and further developed if farm services such as animal health and breeding were improved.¹⁰
- Employment in informal marketing is hindered by regulatory constraints; policies designed to facilitate licensing, training and organization of traders, would increase job opportunities and stabilize current employment.¹¹
- Employment generation in the formal dairy processing and marketing sector is constrained by low local demand for processed dairy products, and most processors are operating below their installed potential. Accessing export markets and markets for new dairy products will increase formal employment opportunities. As demand for processed products responds positively to rises in income levels, the formal sector will ultimately benefit from policies which generate overall economic growth in Kenya.¹²

¹ Loosely defined, the informal sector comprises small-scale operators predominantly handling raw milk. The formal sector comprises larger-scale processors that market pasteurized milk and other processed products.

² Direct employees are those who occupy themselves with milk production, distribution, processing, and marketing on a daily basis and include self, family, and wage labour. Indirect employees are those involved in providing such services to the dairy business as vehicle repair, transport, machine maintenance, and manufacture of packaging.

³ Omore, A., Cheng'ole Mulindo, J., Fakhru Islam, S.M., Nurah, G., Khan, M.I., Staal, S.J., and Dugdill, B.T. 2001. 'Employment Generation through Small-Scale Dairy Marketing and Processing: Experiences from Kenya, Bangladesh and Ghana.' Joint study, ILRI Market-Oriented Smallholder Dairy Project and FAO Animal Production and Health Division.

⁴ Taylor, D.F. 2001. 'Employment-Based Analysis: An Alternative Methodology for Project Evaluation in Developing Regions, with an Application to Agriculture in Yucatan.' *Ecological Economics*, Vol. 36, pp. 249-262.

⁵ This figure refers to full-time jobs only, and does not include the many casual jobs generated by dairy farming.

⁶ See brief 4, 'Public Health Issues in Kenyan Milk Markets'.

⁷ In this analysis small-scale processors were defined as those handling up to 10,000 litres per day; medium-scale 10,000 to 25,000 litres; and large-scale over 25,000 litres. Actual operational volumes were used, rather than potential capacities; many of the processors visited were operating well below their potential output.

⁸ These figures do not include the jobs involved in direct sales of milk from farmer to consumer, which represent 42 percent of total milk sales in Kenya.

⁹ The returns per worker for mobile milk traders and operators of milk bars and shops were calculated by dividing returns to labour as reported in the budgets for informal milk market agents by the number of direct jobs generated (Omore et al., footnote 3).

¹⁰ See brief 3, 'Competitiveness of the Smallholder Dairy Enterprise in Kenya'; and brief 6, 'The Policy Environment of Kenya's Dairy Sector'.

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

¹² See brief 1, 'The Demand for Dairy Products in Kenya'.