

Research Application Summary

Comrade Dairy and Food enterprise (CDFE) - Enhancing milk quality through value addition

Kwendo Mahindu, G.

Egerton University, P.O. Box 536, Egerton, Kenya

Corresponding Author: gabrielmahindu@yahoo.com

Abstract

Research shows that about 80% of milk produced in Kenya is sold raw without any value addition. Njoro sub-county in Kenya is not an exception. It lacks adequate processing facilities. It has only one cooling plant in Njoro town. A huge amount of milk is therefore hawked around the county especially with people who have very little skills on milk quality assurance. Comrade Dairy and Food enterprise (CDFE) team identified lack of value addition in the dairy value chain in the sub-county as a business opportunity. In order to turn the opportunity into a real business venture, the enterprise was established as small-scale dairy processing plant capable of adding value to 250 liters of milk per day. This is in bid to help in bulking farmers' milk, processing it and then marketing. Farmers are also trained on hygienic milking and animal husbandry so as to make efficient milk productivity. Increased milk productivity translates to high farmer income and consistent supply to the processing plant. The current product portfolio of the enterprise is yoghurt and maziwa-lala (sour or cultured milk) and we anticipate to produce kefir in the near future. These products are bottled and marketed under the name Prestige Fresh Yoghurt and Prestige Fresh maziwa lala. By diversification customers have variety to choose from and this avails important nutrients such as proteins and calcium in more palatable and available forms. The products can be taken by all the age groups including lactose intolerant people. This is because the product is fermented converting milk sugar (lactose) to lactic acid. The enterprise sources milk directly from farmers and this ensures that farmers are rewarded better for their milk as opposed to the exploiting brokers. Farmers benefit as well from the extension services and trainings carried out by the enterprise team.

Key words: Brokers, Comrades, dairy, prestige fresh

Résumé

Research shows that about 80% of milk produced in Kenya is sold raw without any value addition. Njoro sub-county in Kenya is not an exception. It lacks adequate processing facilities. It has only one cooling plant in Njoro town. A huge amount of milk is therefore hawked around the county especially with people who have very little skills on milk quality assurance. Comrade Dairy and Food enterprise (CDFE) team identified lack of value addition in the dairy value chain in the sub-county as a business opportunity. In order to turn the opportunity into a real business venture, the enterprise was established as small-scale dairy processing plant capable of adding value to 250 liters of milk per day. This is in bid to help in bulking farmers' milk, processing it and then marketing. Farmers are also trained on hygienic milking and animal husbandry so as to make efficient milk productivity. Increased milk productivity translates to high farmer income and consistent supply to the processing plant. The current product portfolio of the enterprise is yoghurt and maziwa-lala (sour or cultured

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Introduction

An annual growth rate of 4.1% makes Kenya's dairy sector the fastest growing sector in the country. This is in comparison to a 1.2% annual growth rate of the country's agricultural sector (IFAD, 2006). The sector contributes approximately 6-8% of the country's GDP (USAID/GoK, 2009). In this sub-Saharan Africa region, the sector's growth rate is the fastest with about 85% of the total dairy cattle population in Eastern Africa (ILRI, 2000). Milk production is estimated at 3.43 billion litres annually (RoK, 2015) from an estimate dairy cattle population of 4.3 million kept both under extensive, semi-intensive and intensive systems of production (Mbugua *et al.*, 1998). About 56% of this milk production comes from small holder farmers who own 80% of the total dairy cattle herd (Peeler and Omore, 1997). The rest, 44%, comes from 20% in large dairy farms and indigenous herd (Omore *et al.*, 1999). Approximately 80% of the 3.43 billion litres produced is traded informally. Majority of it comes from small holder farmers. Milk is sold at as low as 25/- a liter (1US\$ = 107.85 Kenya Shillings) to brokers and some well-established dairy processors. This price is way below the average cost of producing a litter of milk in Kenya which ranges from 26.2-34.0 shillings. This problem is brought about by lack of adequate processing plants that would do milk value addition. The few that are in the country have to transport milk very long distances which increases the transportation cost, an expense which is transferred to the farmer. Due also to limited technical knowhow on efficient milk production farmers still produce less per unit area.

The aim of establishing Comrade Dairy and Food Enterprise was therefore to work towards improving farmers' productivity through extension services so as to improve dairy farmers' income in Nakuru County in Kenya through bulking, processing and then marketing the dairy products.

Methodology

Farmers are organized into a cooperative that supplies milk to CDFE enterprises. On reception of this milk several tests are carried out to ascertain the quality of the milk. The tests include acidity test, organoleptic test, lactometer test, alcohol test, clot on boiling test and peroxide strip test. Only good quality milk is accepted for processing. This milk has a density of 1.026-1.032g/cm³, Lactic acid 0.14-0.18, alcohol test negative, wholesome and free from debris or objectionable flavours. This milk is recorded in terms of litres supplied to the processing unit. Poor quality milk is rejected. The farmers whose milk do not meet the quality standard are advised on how to improve their milk. Farmers' milk is paid off after every one week at a much better price that aims to encourage the farmer to produce more.

Accepted milk is put into a refrigerator awaiting processing. Immediately just before processing subjective test are also done to ascertain that the milk quality has not depreciated. This milk is then added value by processing into Prestige Fresh Milk, Prestige Fresh yoghurt and Prestige Fresh maziwala (sour milk). The process lengthens milk shelf life to 45 days. During this period, milk products are marketed and sold to various clients. The market is segmented according to the economic status and their taste and preferences. This has informed the diversification of the products. The current product portfolio includes 500 ml sour milk and yoghurt, 250 ml for yoghurt and any other as per customer demand usually sold as bulk yoghurt or sour milk

The current target market is primary, secondary and tertiary institutions in and around Egerton University and the general public of Njoro, a sub-county in Nakuru County of Kenya. Guilford pilot plant of Egerton University, the major competitor, only produces one flavour in 500 ml packages. As such, CDFE produces smaller packages of 250ml and in at least three varied flavours to cater for the affordability and the varied preference aspect. In this pilot project, farmers supplying to CDFE are trained on animal husbandry, hygienic milk production, feed formulation, livestock feeding and record keeping. This aims at optimizing milk productivity and thus attracting more income to the farmers. In the enterprise vision, it is anticipated that farmers will benefit from credit facilities commensurate to their milk supply. This is in bid to improve farmer's capacity not only to produce efficiently but also much more.

Discussion

Since its inception in 2018 CDFE has worked directly with its farmers. Farmers' milk productivity has increased. This translates to increased dairy farmer income at least by KSH 4 and at most KSH 8 per liter of milk. This has resulted in farmers increasing their dairy herd so as to improve their production. This project is long-term and the expectation of the enterprise is that it will result into great social impact. One such impact is creating more employment opportunities especially for the youth and women. This will improve livelihoods at household levels and curb bad vices from the youth.

Based on current experience so far, a farmer must be made the focal point of any agro processing enterprise set up. This is because they are the producers of the major raw materials for any agro processing. The focus should be on how to improve farmer's productivity. It can be done through offering extension services, trainings on livestock management, record keeping and post-harvest management e.g. of milk to prevent wastages after milking. Farmers when organized in groups benefit more because they improve their bargaining power. This will eliminate the exploitation by brokers which is rampant in most agricultural value chains in Kenya.

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