Inclusiveness of the small holder farmer is the key success factor for Ethiopian agri business development

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Breaking with traditions

At Ruth and Hiruth Milk Production and Processing enterprise in ChaCha area of Amhara region in Ethiopia the owner of the milk processing facility, Hiruth Yohannes (see photo 1) recalled, "I began business by retailing some vegetables at a village level. I started the dairy business in 2006 after her husband passed away with two cows and managed to collect upto 15 Liters of milk per day from a few smallholder women farmers. Back then, I used to dream of expanding. Now the business is bigger, I supply the market with 4,500 Liters of milk daily". Since 2013 she is the owner of a 4,500 liters a day dairy processing plant in the ChaCha area, buying milk from over 400 small holder farmers via 3 collection centres of her own and from 2 diary cooperatives.

Photo 1 Hiruth Yohannes showing her stock of povarlone cheese.

Hiruth is mainly targeting the Addis Ababa market but it is her vision "to expand distribution of pasteurized milk to more regions." Hiruth is an Ethiopian business woman who began her dairy business in 2006. She started with two cows of her own and collecting 1 to 15 liters of milk from a few smallholder women farmers in her vicinity.

Hiruth enterprises collects milk from 400 small holder dairy producers, contributing to the improvement of the livelihood of over 2000 people in the ChaCha area. Hiruth also created employment for many community members in her processing plant and at her collection centers. She produces dairy products: cheeses (povorlone, cheddar, gouda, feta, ricotta, cottage and smoked), pasteurized milk, cream, butter and yoghurts and sells directly to restaurants and supermarkets in the Addis Ababa area and she has her one own diary outlet in the countries capital with the name: Tsega and Familiy. What is her secret of success?

Traditional chain interventions fail, processing facilities < 50% used

Why is Hiruth different? Some key figures: Ethiopians produced 3.3 billion liters of milk in 2011/2, worth $1.2 billion and imported an additional $10.6 million of dairy products.[1] At 19 liters per annum, per capita (population about 93,9 million (July 2013 est[2].), annual milk consumption is well below the world average of 105 liters and the African average of about 40 liters.[3] However, Ethiopia has the largest cattle population in Africa, at 52 million, including 10.5 million dairy cattle.[4] The demand for dairy products in Ethiopia is very volatile because of the prevalent fasting days (which in some cases can be up to 260 days per year. During a 2-month religious fasting season about 50% of the Ethiopian population refrain from consuming dairy and animal based products). Due to this fasting season, raw milk purchases by processors and consumers is fluctuating making it risky for small holder farmers to invest in dairy production. As a result, Ethiopia has 10 million dairy cows which on average only produce 1,5 liters of milk a day for 180 days a year, which is amongst the lowest in the world (Figure 1). Consequently, Ethiopia increasingly imports dairy products into the country[5].

[1] Production data from FAOSTAT, 2011, import data from UN COMTRADE, 2011
[2] www.indexmundi.com (26-1-2014)
[3] FAOSTAT, 2007
[4] Livestock and Livestock Characteristics, 2012; FAOSTAT, 2011
[5] Value Chain Analysis for Ethiopia, USAID's Agricultural Growth Program – Livestock Market Development project, 2012

Country	Yield (KG)
Republic of South Korea	9,616
Israel	9,583
United States of America	9,118
Sweden	8,152
Algeria	1,320
Egypt	997
Sudan	378
Ethiopia	**270**
Tanzania	174

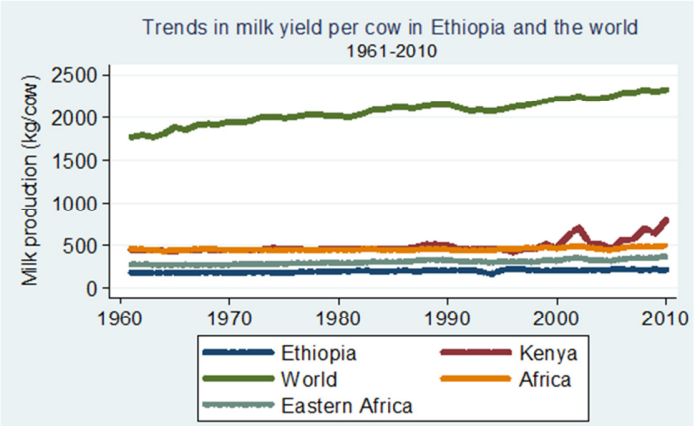

Table 1: Productivity per Cow[6]

Figure 1: Trends in Milk Yield per Cow[7]

The Ethiopian dairy value chain is characterized by both formal and informal channels. Only 5% of the milk produced in Ethiopia is sold in formal commercial markets.[8] There are twenty three (23) formal dairy processors active in Ethiopia and their new processing facilities are in various stages of development. These processing facility operate at a utilization ranging from 50 to 60% of their total processing capacity[9]. The challenges which lead to a lower capacity utilization are lack of reliability milk supply and demand fluctuations (peaks and valleys) created by the fasting seasons. Overall, the market for dairy products is on the growth trend owing to reasons such as population growth, increasing urbanization and increasing income levels. The economy has experienced strong and broad based growth over the past decade, averaging 10.6% per year in 2004/05 - 2011/12 compared to the regional average of 4.9%. Expansion of the services and agricultural sectors account for most of this economic growth. Private consumption and public investment explain demand side growth. The government aspires to reach middle income status over the next decade[10].

Hiruth started her processing plant in ChaCha in 2012 following a bank loan from the Development Bank of Ethiopia. Before the construction of the processing plant, Hiruth collected milk from around Addis Ababa and processed it (at her home) into different varieties cheese. Why is she successful? To address this questions we will dive a bit deeper into the way the dairy sector operates in Ethiopia and how Ms. Hiruth has managed to create a competitive position.

Need for a new approach to bridge demand and supply

The Ethiopian dairy production and market systems face typical constraints that exist throughout the agricultural sector in Ethiopia in particular and developing countries in general. Productivity at 1.5 liters per cow per day is relatively low owing to reasons such as poor genetics, insufficient access to proper animal feed and poor management practices. Furthermore as the critical distribution elements such as milk collection, chilling and transport are not well organized it leads to lower economies of scale. As a result transaction costs are high, and up 20-35% of milk is spoiled or otherwise lost. On the value addition side, lower utilization of the processing facilities is leading to relatively high production costs. All the above indicated status-quo conditions results in an end consumer price for pasteurized milk which is at the same level as in the US (where the average BDP per capita is about 40 times that of Ethiopia[11]).

Opportunism leads to stand still

Core to these problems is the lack of a good supply chain for small holder producers to get their milk to the market. Business-to-business relationships both at the upstream and the downstream of the value chains are not well developed in some cases

[6] Ethiopia data is IBID, all data is for production year 2006 – 2008, from Statinfo.biz <http://statinfo.biz/Geomap.aspx?act=6243&lang=2>
[7] FAOSTAT, 2011
[8] Livestock and Livestock Characteristics, 201
[9] Value Chain Analysis for Ethiopia, USAID's Agricultural Growth Program – Livestock Market Development project, 2012
[10] The World Bank, Ethiopia Overview; http://www.worldbank.org/en/country/ethiopia/overview
[11] GDP per capita, PPP (current international $), World Development Indicators database, World Bank

and non-existent in most cases, making it very risky for small holder producers to invest in production and productivity. Though investments at a small holder level could enhance the milk productivity it makes less sense to do so in a less established value chain and in a market where the demand volatility is rather very high.

Investments in soft skills and trust represent a good base for a ROI

In order to overcome the above mentioned chain wide problems a new value chain development model was introduced and developed in Ethiopia that particularly focusses on strengthening the Business to Business (B2B) relationships to enable win-win opportunities for all chain players (ie., producers, processors and consumers[12]). The new development model builds upon the existing production systems in Ethiopia with and focusses on market driven business relation development for small holder farmers and looks at ways to increase productivity, limit transaction costs, reduce spoilage and investments .

A new B2B development model based on trust building

Hiruth however, has found a way to overcome both challenges: how to improve the quantity and quality of the milk production and how to overcome the volatility in the consumption during the year. Hiruth has received support from USAID's Livestock Market Development project to develop her business and supply chain. This holistic approach was the key for her success, more precise establishing business relationships with her suppliers: 450 suppliers supply 4,000 liters a day to Hiruth. Amongst them only two suppliers are relatively big ones supplying about 250 liters a day and the rest are small scale dairy producers supplying an average of 8litres/day. Hiruth receives her daily raw milk from 2 cooperative unions and 3 Hiruth owned collection centers. In addition to milk collection, the collection centers also carry out quality control before purchasing the milk from the producers (see photo 2). In essence, Ms. Hiruth's success was derived out of her ability to establish a supply network based on partnership.

Photo 2 A producer delivers the dairy raw milk at one of Hiruth's collection centers, where the quality is checked.

Photo 3 Milk/cream separation at Hiruth's processing plant.

The other challenge was to overcome the consumption fluctuation. The USAID project also supported with the technological side of processing milk into dairy products and thus enhancing both the value and shelf-life at the same time. Inessence, the USAID project support enabled producing pasteurized milk, wide varieties of cheese (Povorlone, Feta, Cheddar, Cottage Ricotta, Gouda, Smoked) and other dairy products (Butter, Cream, Yoghurt) (see photo 1).

How to achieve, the details of success

However, the above described procurement and processing strategy alone does not guarantee Hiruth's raw milk supply of the required quality and quantity. Hiruth has to regularly compete with other buyers and competitive informal market for her milk supply. In order to overcome these challenges, Hiruth has reached out to her producers in a number of different ways but the guiding principle being establishing a long term win-win relationships with small holder dairy producers. The key actions are:

[12] Visser, P. M. Steen e.a. (2012). *Pro-poor value chain development. Private sector les innovative practices in Ethiopia.* SNV Business Organisations and their access to markets BOAM Program.

1. Hiruth provides feed to her suppliers: feed availability is a major constraint in the Ethiopian dairy sector.
2. Hiruth provides not only the feed but she provides it on a credit based to be paid back to her by milk sales. This reduces the risk for producers to invest in feed.
3. Hirtuh set up together with the feed supplier training to her suppliers on the benefits and use of additional animal feed.
4. A crucial element of Hiruth's outreach is that she buys the milk from her suppliers every day, independent of fasting seasons during which Ethiopians consume little animal based products and the majority of buyers do not buy from producers.
5. By a transparent quality based payment system (2 grades including the quality criteria per grade, transparently announcing prices for the grades of milk, and quality control done at the collection center in the presence of the supplier).
6. Hiruth pays a higher price to her suppliers for better quality milk.
7. Contracts with the 2 cooperatives she is buying from. However, in the Ethiopian context that is not a major guarantee as there is no enforcement and in many cases an intention to sell.

The mentioned key actions are also the base for building trust. Trust needs a good base and a good transaction and operational experience which are offered by the principle that Hiruth adopts.

Furthermore, this transaction building approach provides a guaranteed market for the milk producers motivating them to make the necessary investments. Also of specific relevance is Hiruth's strategy to focus on quality of the milk defined by bacterial count and fat. While a lower bacterial count lower's her raw material wastage levels while higher fat content enables her better value extraction [through value addition].

Quality-Incentive alignment

Hiruth introduced the quality based payment system, mainly on fat content, for her milk supply. The accepted milk is classified into 2 grades based on the criteria of bacterial count and fat content and the better graded producers are compensated with 9,00 birr[13] while the other graded suppliers get 8,60 birr per liter.. This progressive incentive mechanism motivates the milk producers to focus on quality and carry out investments such as purchase of better quality feed, lower adulteration and better storage conditions for the milk. As a result of the quality based payment system, the rejection rate of milk has decreased very soon after introduction from 7,5% to almost 0% .

Besides, Hirtuh supplies high quality animal feed to her suppliers on credit in order to increase the volume of milk produced. Due to the better feed availability, producers now get 2 to 3 liters of additional milk per cow per day, resulting in 5 US$ additional turn over and 2.5 US$ additional income per day, more than doubling their income from dairy production. Farmers make use of the feed supply opportunity and invest in better animal feed, due to the embedded service: they know that Hirtuh supplies the feed for the reason buying more milk from them. Besides the availability of feed, Hiruth also jointly with the feed supplier provided training to her supplier on the benefit of using animal feed and the positive effect of animal feed on milk production.

Hiruth gets assured milk supply in terms of both quality and quantity; producers have an assured and well compensated market with almost no rejections and leading to a better products in terms of quality and price for the consumers: a win-win situation for farmer processor and consumer.

How to apply the B2B development framework

Based on Hiruth's case study it can be concluded that the key success factor for the B2B development framework is the private business person able to build relations in the chain. Bridging the huge market potentials and constrains in the supply chain by building trust, creating long term partnerships, economies of scale and most importantly creating win – win opportunities for all chain players including consumers. A holistic market and business driven approach with key elements: innovation to increase production and quality at the level of the farm, input supply and farm services, new logistic concepts to collect farm products from smallholders to create major flow of products, new governance structures based on quality controlled supply, fair share and transparency and embedded services (input supply, veterinarian, training etc.) for small holders, product diversification to create high added value and extended shelf life and new contract forms and loan systems.

[13] 1 US $ = 19 Birr (rate 26-1-2014)

Hiruth's inclusive business model with embedded services shows us: product diversification, offering an assured market for the milk producer by having a daily and accessible procurement system (this is different from the informal market and other processors), provision of feed via the established milk collection centers, feed on credit and repayment with the daily sales of milk, training the producers through? the feed supplier, quality aligned incentive system leading to higher volumes of milk supply, lower investment risk for the farmers because of assured market This whole package of chain actions increased the level of trust between the small holder farmers and Hiruth. Hiruth signed supply contracts with two cooperative unions which could enable her to procure all/most of the milk supply from the cooperative unions.

What are the next steps and challenges that Hiruth faces?

Hiruths main challenge is access to working capital. Due to the fasting seasons, which lasts to up to 2 months during which a significant part of the Ethiopians consume no animal based products, Hiruth sells limited quantities of pasteurized milk, and dairy products while she continues to buy from her suppliers to keep the business relationship and fully use her processing capacity. During that period she produces butter, cheeses and yoghurts but hardly sells. At the same time she pays her suppliers every two weeks for the supplied milk. Supermarkets only pay her every 45 days for the milk and dairy products she delivered and sold to them. The bank loan she obtained needs to be repaid as well thus her liquidity problems are significant as a result of these three reasons.

This implies that Hiruth requires a working capital for a 3 month period of turnover and repayment of her bank loan. This is Hiruth's main challenge. Next steps are for Hiruth with support from USAID's Livestock Market Development project to discuss with the financial sector to overcome her liquidity problems.

And other challenge is Hiruth sees opportunities to serve other areas of the country (other urban areas foremost). For this she will need to develop an additional business plans and gain access to additional funds and finance. Main element is further expanding her collection by setting up additional collection centers. USAID's Livestock Market Development project is supporting her in this regard as well.