



2017 Case Study



Rut & Hirut

Milk Production and Processing PLC

BACKGROUND

“When I was growing up, every day my father brought me milk to drink. Because of this I can work as I like. I can run. I am healthy. So, when I saw that there was a shortage of milk in Ethiopia, I chose to enter into dairy,” said Hirut Yohannes Darare, Founder and General Manager of Rut & Hirut Milk Cows Breeding Dairy Production & Processing PLC, a dairy processing company located in Chacha, Ethiopia. Hirut’s company sources from over 450 local dairy farmers, 95 percent of whom are women.

After 17 years working for the Ethiopian government, Hirut suddenly found herself unemployed following a change in administration. As she searched for ways to sustain her family, Hirut began selling vegetables to women in government offices in Addis Ababa. With the income she made from vegetable sales, Hirut purchased a small piece of land and two cows from which she started her dairy business.

In addition to her own farm, Hirut began sourcing milk from a handful of her neighbors and distributing it in local markets. However, when she realized that her cost of production outweighed her revenue, Hirut sought out training opportunities to increase the productivity of her cows and the quality of the milk produced. After receiving training from Land O’Lakes and the U.S. Agency for International Development (USAID) in cattle and feed management, Hirut began sharing her knowledge with the farmers who supplied her with raw milk to improve their production. In addition to technical trainings on dairy best practices, Hirut also advised her farmers on the nutritional value of retaining a portion of the milk produced for their families.

As Hirut conducted trainings at farmers’ homes, she couldn’t help but notice that the burden of labor fell almost entirely on women. She said, “the woman cleans the cow, she milks it, she carries the milk to sell and she takes the cow for grazing. All of the work is done by the woman,” she said.

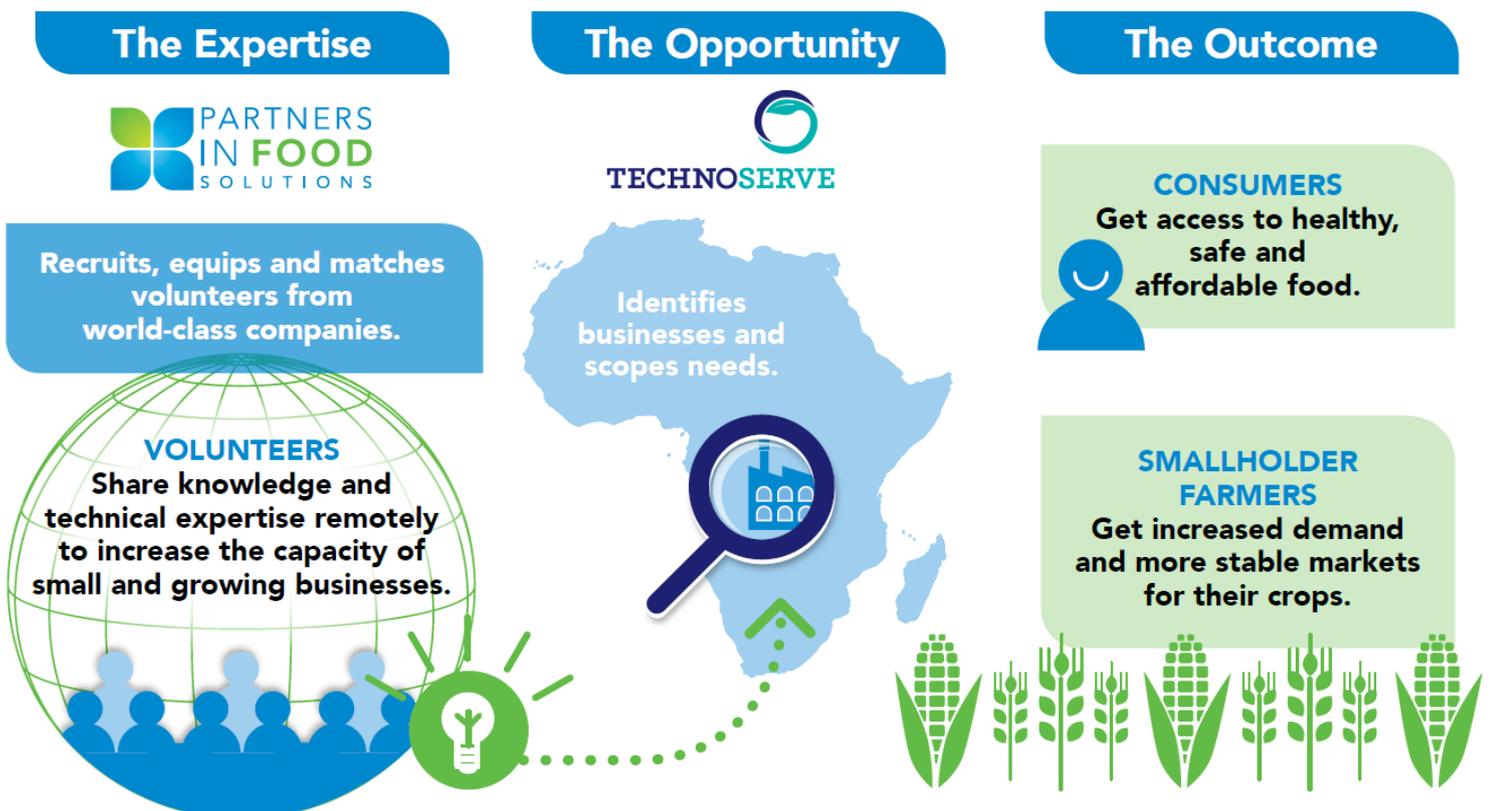
That is why when Hirut officially established Rut & Hirut in 2008, she did it with the goal of improving the lives of farmers, particularly female dairy farmers. Rut & Hirut officially established a dairy processing plant in August 2013 after receiving a loan worth 2.4 million Birr (\$104,575 USD) from the Commercial Bank of Ethiopia, which enabled Hirut to purchase processing machinery with the potential to process 6,000 liters of milk per day. Today, Rut & Hirut produces a wide variety of dairy products, including pasteurized milk, 16 types of cheeses, three flavors of yogurt and three types of butter and cream.

Despite its immense growth early on, Rut & Hirut struggled to reach maximum production potential due to a lack of technical knowledge surrounding production techniques and basic food safety requirements, resulting in poor hygiene around the processing plant which impacted the quality of the final products. Improper handling and storage of cheese after production resulted in a 10 percent loss daily (\$66). Rut & Hirut was also plagued by mechanical challenges, such as missing equipment parts that prevented the processor from using the yogurt processing line in its entirety.

OUR APPROACH

In 2015, Rut & Hirut joined Solutions for African Food Enterprises (SAFE), a TechnoServe program in partnership with USAID and Partners in Food Solutions (PFS), with the aims of increasing the competitiveness of the African food processing sector and expanding the availability of affordable and nutritious foods. PFS is a non-profit organization formed by General Mills to link the technical and business expertise of volunteer employees from General Mills, Cargill, Royal DSM, Bühler, The Hershey Company and Ardent Mills. This program provides knowledge and technology transfer to build the capacity of African food processors, improving availability of nutritious foods and creating market opportunities for smallholder farmers.

HOW IT WORKS



The Expertise



Recruits, equips and matches volunteers from world-class companies.

VOLUNTEERS

Share knowledge and technical expertise remotely to increase the capacity of small and growing businesses.

The Opportunity



TECHNOSERVE

Identifies businesses and scopes needs.

The Outcome

CONSUMERS

Get access to healthy, safe and affordable food.



SMALLHOLDER FARMERS

Get increased demand and more stable markets for their crops.



The interventions TechnoServe and PFS implemented with Rut & Hirut through the SAFE program include:

1 GOOD MANUFACTURING PRACTICES

The SAFE team developed good manufacturing practices (GMP) manuals and provided training to Rut & Hirut staff to ensure that the processor operates within environmental parameters favorable to the production of safe food. As a result of the GMP training, Rut & Hirut installed a foot bath at the entrance of milk processing areas to promote good hygiene and constructed separate washrooms for male and female employees. The processor also implemented an extensive list of standard operating procedures (SOPs), including posting signs with instructions on cleaning equipment and surfaces that come into contact with food, waste management and storage of raw materials and finished products. In addition, the SAFE team worked with Rut & Hirut to establish refrigeration following the production of cheese.

2 INVENTORY & ASSET MANAGEMENT

TechnoServe Business Advisors (BAs) worked with Rut & Hirut to establish an inventory and asset management system after discovering the mismanagement of company property, such as milk cans. BAs also trained Rut & Hirut staff on basic recordkeeping practices in order to track milk rejection rates so that follow-up milk quality training could be provided to farmers. These recordkeeping practices were also used to track Rut & Hirut's alcohol usage during milk quality testing.

3 SHELF LIFE EXTENSION OF PASTEURIZED MILK

Since Rut & Hirut transports the majority of its dairy products over 65 miles to sell in its three company owned and 10 additional franchised shops in Addis Ababa, the SAFE team conducted an analysis on how to prevent spoilage and improve the shelf life of their milk. As a result, volunteer experts in quality and new product development from General Mills advised on the importance of chilling milk during transport. Rut & Hirut began chilling their milk immediately after pasteurization until it froze and could endure the journey to Addis Ababa.

4 BUSINESS PLAN DEVELOPMENT

The SAFE team worked with Rut & Hirut to create a business plan which outlines the company's vision, mission and strategic goals. This plan was fundamental for communicating company strategy both internally and externally, as well as for acquiring capital from financial institutions.

5 LAUNCHED YOGURT PRODUCTION LINE

When Rut & Hirut purchased new dairy processing machinery, the yogurt processing line did not include a manual and had mechanical issues that prevented the processor from utilizing it for three years. The SAFE team identified the missing and/or broken parts and after replacement, conducted pilots using water to ensure that the machinery operated properly.

6 NEW YOGURT DAIRY PRODUCT DEVELOPMENT

Volunteer experts in quality, research and development from General Mills, are currently developing three types of yogurt formulas to be produced using the updated yogurt processing line. These yogurts will be sold in Rut & Hirut's shops in Addis Ababa.

7 DAIRY EQUIPMENT TROUBLESHOOTING

After the dairy processing boiler failed, leaving Rut & Hirut without a way to process milk supplied by farmers, the processor went from collecting 1,500L of milk a day to only 700L. TechnoServe Food Technologists identified volunteer mechanical engineers in Ethiopia to help find a solution. The boiler is now back up and running.

8 ACCESS TO FINANCE

The SAFE team worked with Rut & Hirut to prepare necessary paperwork and provided advice during the loan application process with several financial institutions in Ethiopia. TechnoServe Business Advisors created feasibility studies that were shared with banks during the review process for loans.



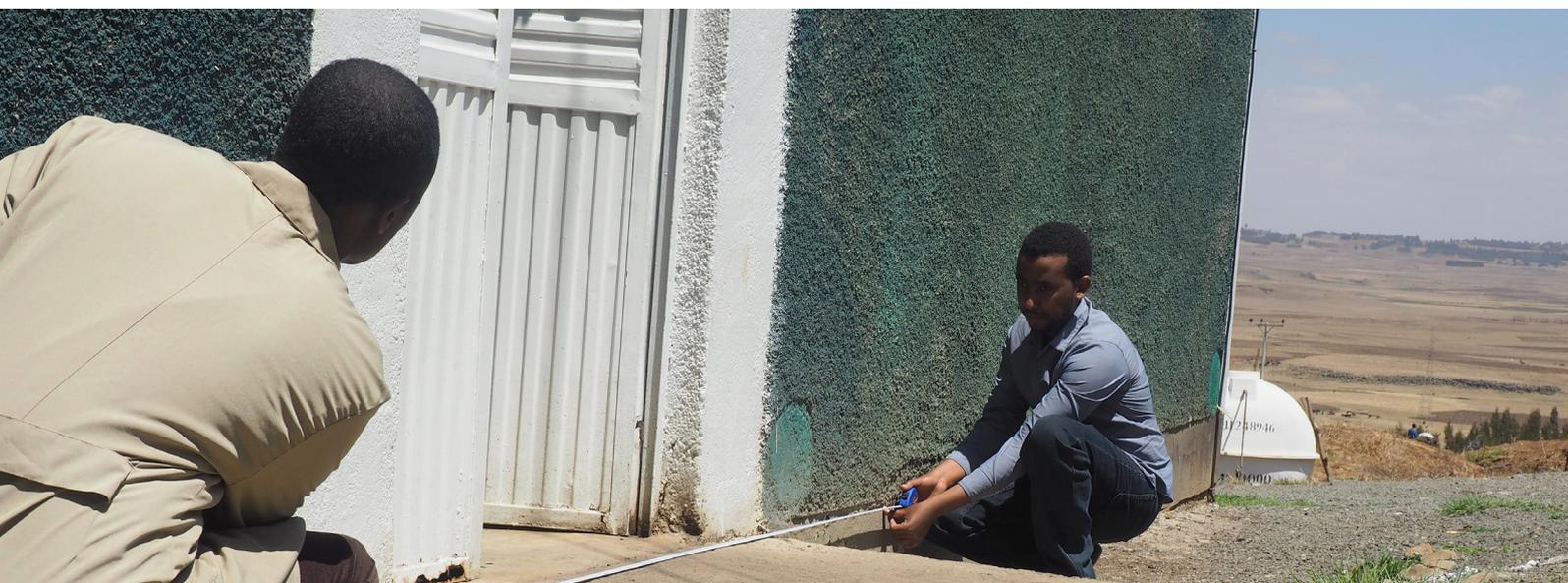
“Having had the opportunity with PFS to visit and note that Rut & Hirut’s yogurt equipment was there but not in use, bring that knowledge back and then see it evolve into a project is the definition of impact, especially when we have expert knowledge to be able to assist their goals!”

- Michelle Egger, Scientist at General Mills & PFS Client Lead for Rut & Hirut

“In the beginning, there was a man that came to pick up his daughter’s payment and I said, ‘Oh your name is not here. She must come to pick the money.’ He was very angry. Now when I see him he is thanking me because he has seen the improvement in his family,” said Hirut.

Hirut has not only been striving to make a difference in her community. After writing a letter to the Bill and Melinda Gates Foundation about the poor quality of local cattle breeds, Hirut has become a spokeswoman for the necessity of artificial insemination across the entire country. “One day, they showed up and said, ‘you asked for artificial insemination.’ I said, ‘I asked for all of Ethiopia, not just for me!’” Hirut has since spoken at multiple events, even traveling internationally to spread the word for the need of improved cattle breeds in Ethiopia.

“What is unique about Hirut is that she is very enthusiastic about working with female farmers and contributing to improve the entire dairy value chain. I am excited every time I travel to Chacha because I know she will take any new knowledge and really make an impact,” said TechnoServe Food Technologist, Simon Hailu.



LOOKING FORWARD

Rut & Hirut recently gained word that they will be the recipient of a \$268,255 grant provided by USAID’s Agricultural Growth Program-Livestock Market Development to acquire a chilling tank that will expand capacity from 3,000 liters to 7,000 liters per day, providing a market opportunity for over 700 milk producers in Chacha. TechnoServe Food Technologist Simon Hailu (pictured above) has been working with Rut & Hirut on a plant expansion plan in order to accommodate the new machinery acquired from the grant.

IMPACT

“When you invest in a woman, the whole family feels the impact. Even the cow. Now that these women have a market to sell their milk, they have their own money and more time to spend on other tasks,” said Hirut.

Since participating in the SAFE program, Rut & Hirut has experienced the following:

- **Increase in processor revenue:** Improved quality and increases in the sale of pasteurized milk, cheese and yogurt, has resulted in a 199 percent increase in revenue (from \$149,646 USD to \$447,531 USD).

- **Reduction in costs:** Through the introduction of the asset management system and recordkeeping, Rut & Hirut is able to track the location of their milk cans. As a result, they are no longer losing an average of 7.7 cans per year and instead are saving 2,400 Birr (\$104) annually. The tracking system has also cut Rut & Hirut’s monthly usage of alcohol during milk quality testing in half, from 80 to 40 liters per month and the rejection rates for milk have decreased from 10 percent per day to zero percent, saving an additional 21,120 Birr (\$916) annually.

- **Access to finance:** TechnoServe Business Advisors assisted Rut & Hirut in acquiring a 1.1 million Birr (\$49,887) loan from Enat Bank through a partnership with USAID that is aiming to provide more loans to female entrepreneurs.

- **Increased shelf life of dairy products:** The shelf life of Rut & Hirut’s milk increased from three to seven days after chilling during transportation. In addition, by storing their cheese in refrigeration after production, Rut & Hirut no longer experiences a 10 percent loss of cheese due to cracks and instead are receiving an additional 1,500 Birr (\$65) per day.

- **Increased farmer incomes:** On average, farmers each supply seven liters of milk per day to Rut & Hirut for which they are paid 75 Birr/liter. When farmers sell locally, they only earn on average 37.5 Birr/liter. If their milk is rejected, farmers can then use it to prepare local cheese for which they earn approximately 37.5 Birr.

- **Improved hygienic conditions:** Though it is difficult to quantify the direct business impact of adopting GMPs, the visual difference in hygiene is evident. Rut & Hirut employees now wear proper uniforms, the equipment in the plant is organized, the floors are sterilized and there are separate washrooms for male and female employees.

BY THE NUMBERS



200%

Increase in payments to farmers



199%

Increase in processor revenue



139%

Increase in production capacity



\$49,887

Finance mobilized

