

Rwanda Dairy Competitiveness Program II (RDCP II)

Impact Report



Rwanda's dairy industry

Over 75 percent of Rwanda's population relies on agriculture for their income. In fact, agriculture has been one of the main drivers in Rwanda's remarkable economic recovery following the 1994 genocide. According to the World Bank, the country's gross domestic product (GDP) is increasing an average of 8 percent every year. Despite Rwanda's economic progress, the country still faces challenges with food insecurity and malnutrition, particularly with children under the age of five. However, dairy, an emerging growth industry now contributing 6 percent to the nation's overall GDP, is playing a critical role in moving Rwanda forward.

And yet, milk still faces a number of obstacles on its journey from cow to consumer. Farmer lack access to finance, and inadequate infrastructure on and off the farm can affect milk

quality. While farmers look to produce the highest quality product while earning a decent living, at the same time the Government of Rwanda is looking to achieve economic and social objectives through its 2020 vision of becoming a middle-income country.

Feeding into this vision, in 2013, the Government of Rwanda launched the National Dairy Strategy outlining an ambitious and important strategic growth plan for the industry. The strategy is helping address challenges facing dairy, including but not limited to: improving animal genetics, improving animal nutrition, increasing economies of scale to lower production costs, improving quality across the supply chain, and increasing consumer demand.

INDUSTRY TRENDS



From 2008 to 2014, Rwanda's cattle population remained around 1.1 million.

At the same time, milk production tripled.



In 2012, Rwanda was exporting \$85,000 worth of dairy products.

In 2016, this figure grew to \$11.5 million.





The purpose for this report

Since 2007, with funding from the U.S. Agency of International Development (USAID), Land O'Lakes International Development has been working with the Government of Rwanda to institute a dual-pronged approach to build up dairy at both the national and district levels to improve smallholder production, increase consumer demand, and provide regulatory support for safe, high quality products. This report looks back at the impacts and achievements of the \$15 million USAID-funded Rwanda Dairy Competitiveness Program II (RDCP II), implemented by Land O'Lakes International Development from 2012-2017.

ABOUT LAND O'LAKES INTERNATIONAL DEVELOPMENT

Since 1981, Land O'Lakes International Development has applied an integrated approach to international economic development that capitalizes on our parent company's 95 years as a leading farm-to-market agribusiness. We use our practical experience and in-depth knowledge to facilitate market-driven business solutions that generate economic growth, improve health and nutrition, and alleviate poverty. We believe in the value of people and ensuring our work is rooted in honesty, integrity and respect.

As a 501(c)(3) nonprofit organization, our vision is to be a global leader in transforming lives by engaging in agriculture and enterprise partnerships that replace poverty with prosperity, and dependency with self-reliance. Since our inception, we have implemented more than 284 programs and training initiatives in over 80 countries, which have enabled farmers and agribusinesses to become more profitable and to leverage economies of scale through well-functioning cooperatives and producer groups. Funded primarily by USAID and the United States Department of Agriculture (USDA), our programs not only improve production and food security for small farming operations, but they foster innovation, market linkages, and strengthen the private sector. Ultimately, they make small and growing enterprises in developing countries more attractive for investment, and build consumer demand for agricultural products produced by smallholders.

Our history in Rwanda



2007-2011

USAID Dairy Sector Competitiveness Project

Starting in 2007, Land O'Lakes International Development implemented the USAID Rwanda Dairy Sector Competitiveness Project (now referred to as RDCP I) a \$5 million four-year USAID-funded project. During this time, the Government of Rwanda was making significant investments in dairy. These two collaborative factors resulted in boosted productivity and profitability of dairy farms, bolstered milk quality at collection centers, and improved dairy-based nutrition for orphans and vulnerable children.

RDCP I primarily focused on a strong "push" approach by developing the capacity of 1,419 smallholder dairy farmers, including people living with HIV/AIDS. The project primarily worked with farmers from two Districts in Rwanda's Eastern Province, Gatsibo and Nyagatare, to improve milk quality and strengthen the milk collection systems.

HIGHLIGHTS

Establishment of the Dairy Quality Assurance Laboratory, a private lab dedicated to quality testing of dairy products.

A 30-50 percent increase in milk production in the targeted districts (Nyagatare and Gatsibo) as a result of improved animal care and breeding practices.

Over 3,500 people living with HIV/AIDS trained in cooperative management and/or animal husbandry.

2012-2017

Rwanda Dairy Sector Competitiveness Program II

Leveraging the momentum of RDCP I, in 2012 Land O'Lakes started implementing RDCP II, a five-year \$15 million USAID program with the goal of increasing competitiveness of Rwandan dairy products in regional markets. This competitiveness was achieved through multiple pathways including: increasing production and production efficiency, improving market access, improving milk and dairy product quality, and increasing local demand.

RDCP II applied a market driven approach that continued improving production and developing milk collection centers (MCCs). Throughout the program, RDCP II worked in 17 of Rwanda's districts with focus on the following pillars:

- Farm production and productivity
- Milk and dairy product quality
- Policy and enabling environment
- Market access
- Technologies and business services
- Demand for dairy products
- Investment promotion and export market development

Important cross-cutting themes were integrated into the program, including:

- Women's economic empowerment
- Nutrition and milk consumption
- Access to finance
- Environmental compliance

RDCP II was successful in achieving, and exceeding, most of its results, including the ones listed below in the summary indicator table:

HIGHLIGHTS

Revitalized industry leadership through establishment of Rwanda National Dairy Platform

Championed a quality campaign to attain high standards from producer to consumer

\$6.2 million of new private investments in catalyzing growth of enterprises

Indicators	Target	Actual	Difference
Individuals receiving milk production and quality trained	35,000	63,000	+ 28,000
Farmers using improved technologies	28,000	54,000	+ 26,000
Gross margin per dairy cow (USD)	252	248	- 4
Increase in value of milk sales by farmers	31.5 million	66 million	+ 34.5 million
Increase in dairy income among producer households (USD)	9.5 million	54.3 million	+ 44.8 million
People reached through the milk consumption campaign	600,000	1.6 million	+ 1 million
Females reporting increased self-efficacy	95%	97%	+ 2%
Value of agricultural and rural loans distributed (USD)	1 million	3.2 million	+ 2.2 million
Volume of milk sold by milk collection center (liters)	25.7 million	142.5 million	+ 116.8 million
Value of input used by farmer organization members	7.4 million	32.6 million	+ 25.3 million
Milk marketed under Seal of Quality	35%	68%	+ 33%
Increase in milk that is processed daily	100,000	110,000	+ 10,000

Beyond the numbers

The remainder of this report will dive into key achievements of RDCP II, including summaries of key areas of impact and success stories of lives transformed.

1. Policy and enabling environment

As one of the key pillars to lasting impact across the dairy sector, RDCP II placed great emphasis on improving the enabling environment. Throughout the life of the program, RDCP II partnered with government institutions and dairy actors to implement the following policies:

National Dairy Strategy (NDS)

Upon request by Rwanda's Ministry of Agriculture (MINAGRI), RDCP II conducted various studies leading up to the design and approval of the NDS in 2013. The NDS is the current MINAGRI policy document identifying priorities and preferred approaches to sustainably growing the dairy sector in Rwanda.

Rwanda National Dairy Platform (RNDP)

Recommended by the NDS as the main public private stakeholder interface, RNDP was created by restructuring the Rwanda Dairy Board to become a more inclusive and legally accountable institution representing the interests of the industry.

Dairy sector working groups

Sector dialogue was enhanced through district-based working groups to better understand issues and strategies employed at all levels. The working groups have been instrumental in achieving sector efficiency and filling the knowledge gaps at the implementation level for both private and public sector.

Mastitis control strategy

In collaboration with the University of California, Davis and the Rwanda Agriculture Board (RAB), RDCP II facilitated multi-stakeholder dialogues that led to the development of a strategic plan for national mastitis control. This plan was later adopted by the RAB to spear head programs aimed at reducing prevalence of mastitis in Rwanda.

Artificial insemination training and breeding technology decentralization

RDCP II worked with private service providers to scale up their presence in local communities where the project was inseminating over 10,000 cows. Further, RDCP II worked with the Rwanda Vet Council to train and equip 102 vet technicians to increase the service coverage of artificial insemination across the 17 districts of project implementation.

A WHOLE OF GOVERNMENT APPROACH

RDCP II engaged all levels of government including local mayors, district authorities and national government representatives to help guide the development of local community organizations and cooperative owned MCCs. Dairy working groups were set up at district levels to facilitate important local government engagement. RDCP II also supported industry trade and advocacy groups including the Rwanda National Dairy Platform.

The platform has engaged both local and national levels of government to improve the voice of different stakeholders and help guide important national policy issues. Such efforts have contributed to better alignments of market participants and have paved the way to reach ambitious targets set forth by the Ministry of Agriculture in the areas of dairy production, productivity and milk quality.



Through RDCP II's efforts from 2012-2017,

9

new policies and regulations were analyzed.

5

five of these policies are currently being implemented.



Use of plastic in Rwanda

With the ban on plastics in Rwanda, the cost and quality of dairy packaging is a challenge to the sector. RDCP II worked collaboratively with RNDP to initiate dialogue on finding alternate methods (such as biodegradable plastics) with key agencies including Rwanda Development Board (RDB), Rwanda Environment Management Agency (REMA) and the Rwanda Standards Board (RSB). This conversation is currently ongoing with leadership from RNDP.

Milk consumption and school feeding program

RDCP II engaged with a select team of technical experts to provide input in to MINAGRI's strategy to sustainably scale up existing school milk programs. The program coordinated with RAB to implement the priorities into the strategy.

Ministerial order on milk handling and transportation

Since 2012, RDCP II worked with MINAGRI's Agriculture and Livestock Inspection and Certificate Services (RALIS) to develop, pilot and scale up a national dairy certification program for primary value chain actors. Milk collection centers and emerging dairy businesses (SMEs) needed to adopt and practice basic milk quality control technologies leading up to the award of a Seal of Quality certificate. The award is an intermediary step preparing such businesses to aim for the quality marks provided by the Standards body in Rwanda.

Investment Policy with The Rwanda Development Bank

With support from Inspired International, RDCP II conducted market research leading to the development of proposed investment scenarios to motivate potential dairy investors. Further, the program worked with financial institutions to build their understanding of dairy businesses. This led to increased financial access for dairy actors including producers, transporters and processors.

Success story: A foundation built with blocks of cheese

In 1994, a stabilized political environment motivated Samuel Ndoli to move his family back to Rwanda. "We had no security in the Democratic Republic of Congo (DRC), but I could see hope in Rwanda and a brighter future," says Samuel.

Twenty-two years later, it's still difficult for Samuel to talk about his life in Congo, a time when he lost his job and property. He left most of those memories beyond the border. However, two important things have stayed with him: the love of his family, and his passion for dairy.

In the office of Fromagerie la reine, Samuel leans back in his chair and proudly smiles at his 26-year-old daughter, Angelique, as she cuts into the wax casing of a recently matured gouda cheese block. Dressed in a white lab coat, plastic gloves, big rain boots and a face mask – between this and the creamer machine roaring in the background, it's difficult to hear her as she points to the gouda, "See those three small holes in the center of the cheese? The less of these, the better the cheese," Angelique explains. "Three years ago, we saw a lot of holes."

After completing business school in 2012, Angelique returned to her family's home to work alongside her father. At the time, Samuel was processing only gouda cheese. His business struggled to secure more than two reliable buyers due to product quality inconsistency. He lacked several quality necessities, including the right processing equipment, quality testing kits and training.

Later that year, Samuel received a training on how to improve the quality of his products from RDCP II. He shared what he learned with Angelique and his other employees, and

together they integrated these practices into their business. RDCP II also provided a pasteurizer, butter churn, stainless steel tables and milk testing kits to help improve processing capacity for Fromagerie la reine. Now, Fromagerie la reine can take in up to 1,000 liters a day. With the increased productivity, Samuel has expanded his product line to include cheddar, mozzarella, yogurt, cream, butter and fermented milk.

After entering five products at the 2014, 2015 and 2016 Cheese and Butter Expo and competition sponsored by RDCP II, Fromagerie la reine now has 12 reliable buyers, including hotels, restaurants and super markets in Rwanda's capital city of Kigali. Samuel also markets some of his products in neighboring DRC and Burundi.

With these new expansion opportunities, Samuel continues to believe that Rwanda can provide a bright future for his family and business. "My hope is that eventually Angelique will take over the business. With her degree along with the support we received from Land O'Lakes, she will be able to take it to the next level," he says.

"She will be able to take [the business] to the next level."

Fromagerie la reine is just one of the many cheese processors that RDCP II has supported with training and small business grants. These initiatives not only support individual processors, but also dairy cooperatives and over 27, 500 smallholder farmers who supply milk to the processors every day. Fromagerie la reine alone provides an income to 120 local farmers.





MILK COLLECTED
AND MARKETING
INCREASED BY

300%

2. Market Access for Smallholder Farmers

Farmer owned cooperatives form a key part of the milk supply chain and are an important means for farmers to access markets. Yet, when RDCP II began, many farmers were not aggregated in a way to efficiently deliver milk to the market. In response, the program worked to develop new farmer owned MCCs. When the program started, 40 farmer owned MCCs were collecting an average of 16.1 million liters per year. By program close, the amount of farmer owned MCCs increased

to 77 with 48.4 million liters of milk collected and marketed per year.

However, cooperatives faced many challenges related to governance and financial management. RDCP II helped build the capacity of cooperatives and small and medium enterprises by facilitating connections to service providers and by providing a tailored business training using the Land O'Lakes AgPro manual curricula. Sixty-nine dairy related enterprises were reached through this training,

and a number of them significantly improved their business practices. As a result, they saw increased profitability and improved services to members.

For example, one cooperative paid off a debt of one million Rwanda Francs, and assisted members by paying for medical insurance. Because of increased market access, farm-level milk sales increased from \$4.6 million in 2012 to \$66 million in 2016.

3. Smallholder farmer milk production

Smallholder milk is vital to the success of the Rwanda dairy industry. Along with partners African Breeders Services and Total Cattle Management (ABS-TCM), RDCP II focused on improving both farm level production and productivity (efficiency of production). During the course of the program, nearly 54,000 farmers applied improved farm management practices. While focused interventions to improve farm practices were important to the program's success, emphasis was also placed on improving access to quality services and technologies. This was accomplished both by catalyzing new services and technologies through an innovation fund, and by facilitating market linkages between service providers, farmers and cooperatives. Examples of new technologies and services include decentralization of veterinary services, provision of mastitis testing kits, artificial insemination

technologies, and training on improved animal feeding and feed conservation, such as silage making. Because of these efforts, farmers and cooperatives made significant investments – spending an additional \$32.6 million on farm inputs to improve dairy production and marketing over the five-year period.

Overall, improved production and better access to markets led to an increase in farmer milk sales of over \$66 million.

However, producing more milk in itself does not lead to a sustainable farming business. Therefore, the project also focused on helping farmers improve profitability through improving herd health and animal nutrition. These drivers contributed to 30-50 increases in gross margins per cow. Because of improved dairy farmer businesses, dairy income increased by an average of 192 percent over the life of the program.

ON AVERAGE, DAIRY
INCOME INCREASED BY

192%



Success story: Tripled dairy production, one farmer at a time

Kids playing soccer; chickens at your feet; a cow chomping on fodder– not long ago this same setting was quiet and sedate. “We were only eating one meal a day,” says Eugenie Kawera, mother of five. “The children had no energy – they didn’t play or talk. They threw stones at our cow because it wasn’t milking.”

In April 2015, Eugenie, her husband and two children met three orphans on the road. “They were dirty and thin. It wasn’t a question, we would welcome them in. But with no reliable income, we worried about feeding our family,” says Eugenie.

Living in Kabeza village in Eastern Rwanda, the Kaweras became dairy farmers in 2013 when they received a cow from the Government of Rwanda’s “One Cow per Poor Family” initiative. Not having a background in farming, they weren’t getting much milk from the cow. They lived day-by-day on selling small volumes to a neighboring MCC Hinga Orora Kijyambere through Giramata - Gatunda, an aggregation point that was initially facilitated by RDCP II.

In November 2015, Eugenie attended a training on how to improve dairy cow productivity. Conducted by RDCP II, Eugenie learned about cattle management practices, how to ensure milk quality, and how to co-manage home finances with her husband.

After the training, Eugenie went back and trained her husband on what she learned. Practicing the lessons together, their cow has gone from producing 9 liters a day to 25.

As Eugenie and her husband finish milking the evening batch together, the kids know it’s almost time for supper: rice, beans, vegetables, tomatoes and a cup of milk – they keep 20 percent for home consumption and sell the rest.

Eugenie smiles, “Three meals a day is our new norm. It’s good to be happy.”

“Three meals a day is our new norm. It’s good to be happy.”

In February 2016, members of Eugenie’s village elected her to attend a model farmer training. In six months, she has trained 62 neighboring farmers. Since 2014, RDCP II has trained 1,064 model farmers like Eugenie. These model farmers have gone on to train an additional 12,346 in their communities.



4. Access to finance

At the start of RDCP II, one of the major constraints in the dairy sector was the availability of finance - especially to smallholder dairy farmers and entrepreneurs developing new businesses. Many of these businesses lacked collateral or were deemed high risk because of the lack of a track record.

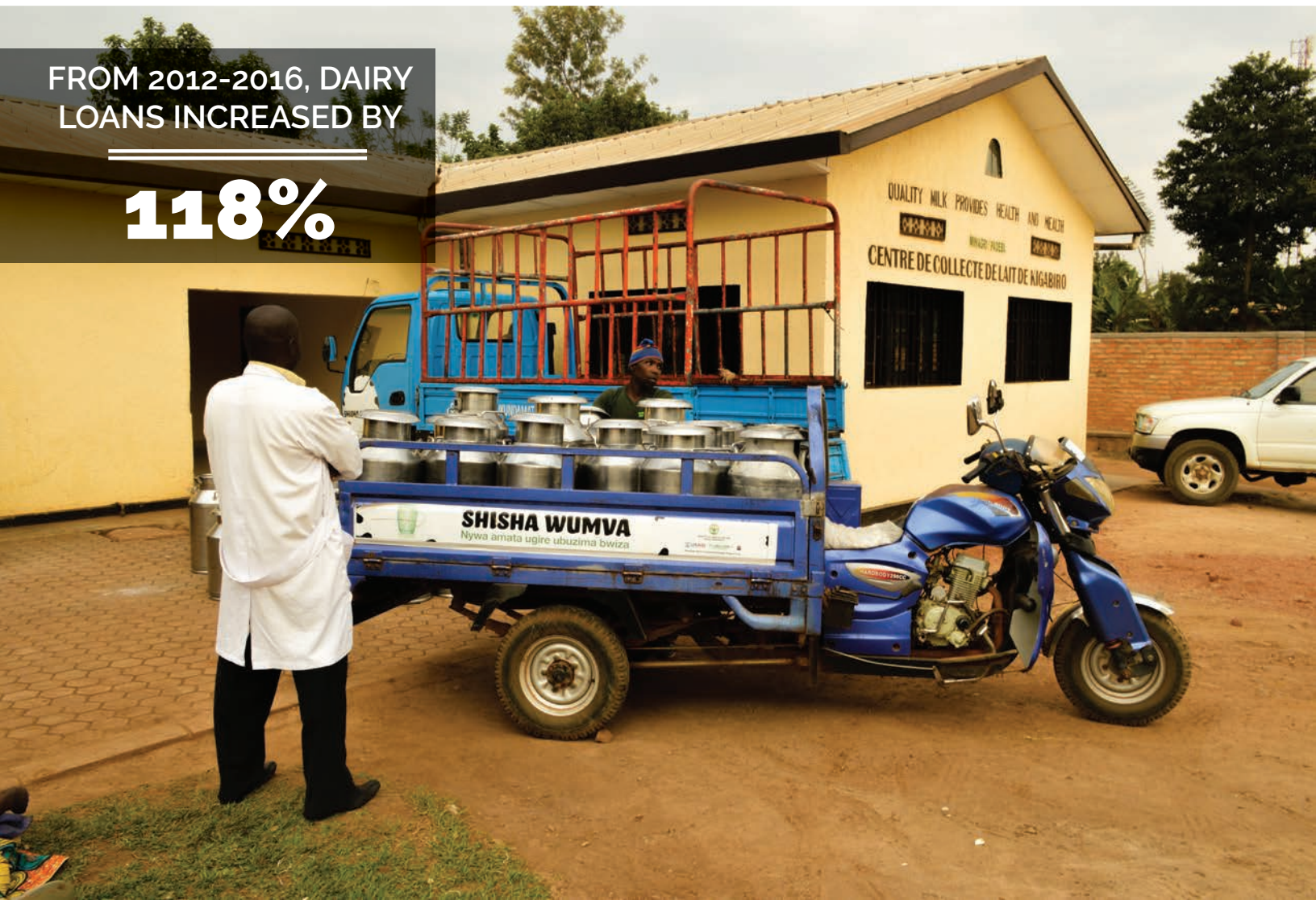
RDCP II's partner, Inspired International, conducted an assessment on financial products and services, as well as the different market segments. One of the major findings was that while some dairy sector lending was occurring, the underwriting practices were resulting in loans being made to some farmers and businesses along the dairy supply chain without appropriate appraisals. Further, existing products were not appropriate for dairy actors given the uniqueness of the industry. Recommendations were made to several financial service providers to adopt different underwriting methodologies that target higher potential opportunities in dairy. In addition the program

supported banks to develop new products that would better meet the needs of a growing base of dairy farmers and entrepreneurs.

Initial uptake was slow, but innovative financial providers like Urwego Opportunity Bank worked closely with the program and developed improved ways to better serve dairy market players. The amount of lending gradually accelerated over the subsequent years and by project end, \$3.2 million of additional incremental financing had been made to producers, local traders, wholesalers, and other market participants. In addition, 320 dairy businesses and individuals accessed financial support to make new investments and upgrade facilities. From 2014 to 2016, the trend of increasing loans to the dairy industry accelerated by 118 percent between 2014 and 2016.

FROM 2012-2016, DAIRY
LOANS INCREASED BY

118%



Success story: Dairy coop grows with investment

Around every hillside of Rwanda, it's easy to spot a cow or a bicyclist carrying a milk container. So it may come as a surprise that dairy was once considered a high risk investment for financial institutions. With so many factors threatening the reliability of the dairy value chain, banks weren't confident that they would see returns on their investments. As a result, businesses struggled to get ahead.

Mr. Patrick Byabagamba has been a dairy farmer in East Africa his whole life. He understands the challenges that so many face. Like how long distances can easily turn morning milk sour, and how finding a reliable milk buyer is difficult without formal relationships. These factors and more make for inconsistent incomes – not an ideal equation for a bank. For Patrick and others, a cooperative model was the answer. After participating in an informal association for ten years, he and eleven other farmers legally registered and joined the Dukunde Amatugo Cooperative (CDA) in 2007.

This business decision opened a number of opportunities for CDA members. By doing business together, they held each other accountable for the quality of their product. They now have reliable daily buyers, including schools, local businesses and Inyange, Rwanda's largest dairy processor.

As the years went by, CDA saw progress, but they still struggled with inefficiencies. One being a \$1,000 monthly rental fee for a truck that transported their milk to Inyange. CDA knew that buying a truck would be more cost effective, but the banks were wary of investment.

RDCP II helped CDA make this connection by working with institutions like Urwego Opportunity Bank (UoB) to establish a path for low-risk, high impact investments to reliable dairy stakeholders like CDA.

"Land O'Lakes mobilized us to consider service to dairy farmers. We had worked with agricultural partners in coffee and crops before, but never dairy. With standards now in place across the dairy sector, we were ready to try with dairy value chain players," says Jackson Munyaneza, UoB Financial Officer. "We now work directly with the cooperatives and local Small Micro Financing Institutions to get them the loans they need."

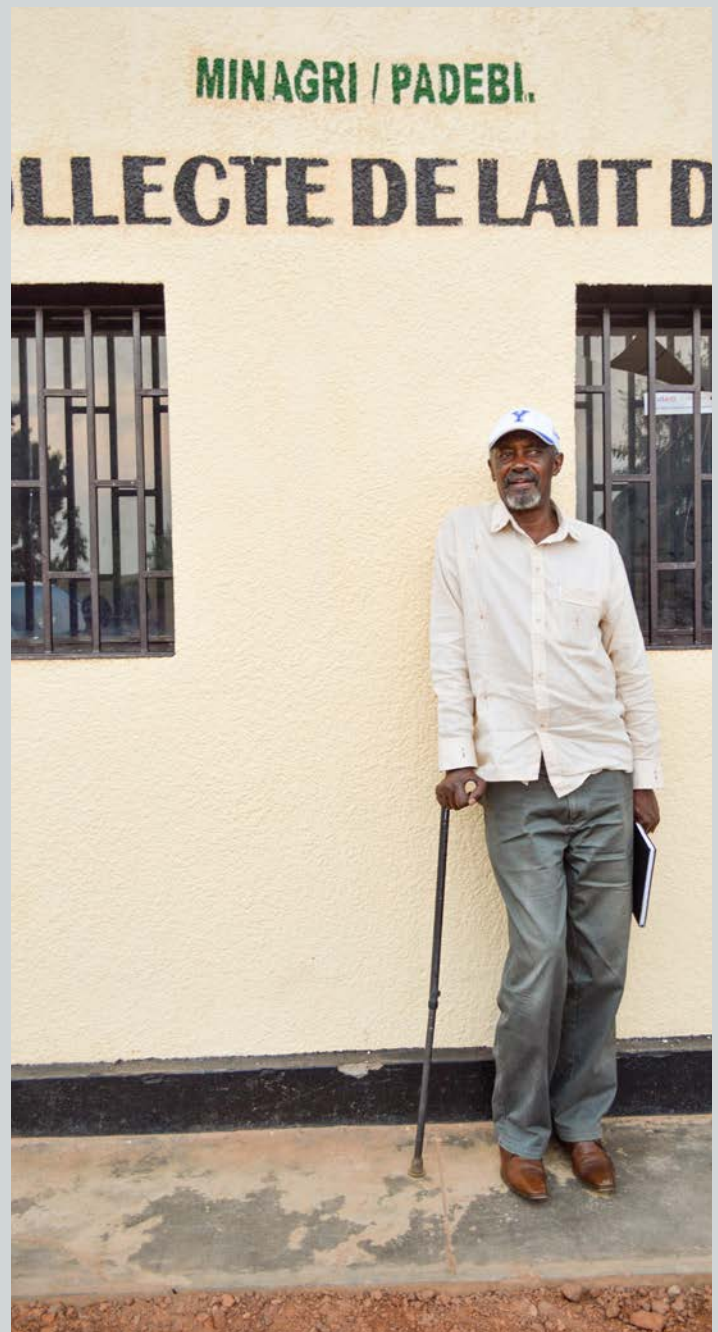
In 2014, UoB provided CDA a \$29,000 (23 million Rwandan Francs) loan to purchase a truck to transport their milk from the cooperative's MCC to Inyange. They are now making payments of \$600 a month to UoB, nearly half of what they were paying previously for the rental. With demonstrated credibility as a business, UoB is now also distributing loans to individual cooperative members.

"In collaboration with the bank, 36 of our members have received a loan to grow their dairy business. This benefit is attracting new members to the cooperative. In 2007 we had

12 members. Today we have 157. And during this time our production has accelerated from 50 liters a day to 4,000," says Patrick.

"In 2007 we had 12 members. Today we have 157."

Since July 2014 UoB has distributed 500 million Rwandan Francs in loans to farmers and cooperatives in three Rwandan districts (Rwamagana, Musanze and Rubavu). Loan recipients have purchased cows, equipment, transportation vehicles and tricycles to expand their dairy businesses. While this lending program by UoB is new, not one loan has been defaulted to date.



TOTAL MILK
MARKETED UNDER
SEAL OF QUALITY

68%



5. Food safety

During the RDCP II program, consumer demand increased for higher quality cheeses, yogurts and other value added dairy products. At the same time, consumers faced increasing concerns about the safety of food, including dairy products.

To help address quality and food safety issues along the supply chain, RDCP II utilized a multi-faceted approach. In partnership with the University of California – Davis and University of Rwanda, RDCP II trained microbiologists and final year students in the veterinary faculty helped to improve the capacity to monitor and treat mastitis – an infection of the udder which causes excessive bacteria

to build up in milk leading to huge economic losses.

RDCP II facilitated the transfer of knowledge of best practices and technology applications to the professors and students, and demonstrated mastitis testing and mitigation on model farms. Quality improvement efforts across the supply chain resulted in twelve new milk quality assessment technologies and protocols utilized by farmers, transporters, and processors. Competitions were instituted between MCCs to help drive better performance in milk quality. The program also implemented the first ever Seal of Quality program supported under the

SEAL OF QUALITY

A quality certification awarded by MINAGRI to ensure that milk quality is maintained along the supply chain.

ministerial order on milk handling, transportation, and retail. The Seal of Quality certificate is awarded to different actors in the milk supply chain – providing recognition and reward for businesses and farmer groups that met standards and requirements for safe handling and retail of milk. Over the life of the project, 68 percent of total milk was marketed by coops under the Seal of Quality program.

Success story: Milk quality creates a dairy chain reaction



Milk is a fragile commodity. Cleanliness, proper storage, temperature control – any mishandling from farm to processor can cause contamination or bacteria counts to rise, resulting in spoiled milk. In Rwanda, smallholder farmers and dairy businesses require proper equipment and training in milk handling and processing to produce a better quality product. Not long ago, farmers simply couldn't reliably deliver substantial quantities of milk to buyers. And without a reliable supply, farmers suffered to make an income, as did every piece of the dairy supply chain.

Inyange Industries is Rwanda's largest dairy processor. Like all other dairy processors in Rwanda, quality issues hindered business growth and innovation. "We used to reject 60 percent of milk coming from MCCs across the country. This limited our ability to both increase milk volumes as well as create value-added dairy products," says Chris Kabalira, Marketing and Sales Manager at Inyange.

Recognizing the need to address the root of the problem, in 2012, RDCP II started working with stakeholders across the dairy supply chain to address issues of milk productivity and quality. Farmers received on trainings on milk

production and quality, and MCCs and cooperatives received training and equipment to improve their dairy business operations.

"Our milk processing volume has increased from 20,000 liters a day to 100,000."

Since the start of RDCP II in 2012, Inyange has seen a dramatic increase in quality and quantity of milk produced by smallholder farmers. "Rejection at the MCCs is nearly zero percent. As a result of the improvements in quality, our milk processing volume has increased from 20,000 liters a day to 100,000," says Chris.

As a result, Inyange has been able to create new products which include: pasteurized milk, UHT, flavored milk, ghee, salted and unsalted butter, and yogurt. "In fact, Rwanda never used to have locally-made butter. We always imported. Today, our Butter products are on the shelves and are liked very much," says Chris. "It's exciting to watch the number of dairy products increase. And I'm happy to support an industry that makes local, healthy products and support farmers."

The increase in number of products has not only strengthened Inyange's business, but also the lives of farmers across the country. "Support a Rwandan farmer is our slogan and we believe in it," says Chris. "We pay over 5 billion Rwandan Francs (\$6.2 million US) to farmers every year. In the Eastern Province of Nyagatare alone, on an average day we provide reliable income to 1,753 farmers. When we do well, farmer's live better – it works both ways."

Milk is and always will be a fragile commodity, and so Inyange and other processors will continue to face challenges. However, young visionaries like Chris see the industry as full opportunity "RDCP II has added so much to the industry. The training of farmers has solved so many problems especially around milk production and quality. This program has really paved the way for the industry to grow."

For the first time, Rwandans are now enjoying a variety of locally made products, like cheese, butter, reduced fat milk and a strawberry yogurt.

6. Increased Consumer Demand

Increasing smallholder milk production during the course of RDCP II was in direct response to increased market demand for dairy. RDCP II contributed to increasing market demand in several ways, namely:

Shisha Wumva

The Shisha Wumva dairy consumption campaign used a variety of tactics including radio slots, floats in parades, billboards and signs across the country and community outreach. Following this effort, the program focused on targeted messaging towards different segments of the population in both rural and urban communities on the importance of milk consumption and household nutrition.

Urunana radio programming

RDCP II partnered with Urunana Development Communications – a local organization and leader in behavior change communication to drive behavior change in milk consumption and family nutrition. The radio program utilized a combination of their popular radio program series, Urunana, as well as in village theatre production

A combination of both Shisha Wumva and Urunana campaigns reached over 1.6 million consumers and have helped drive consumer demand for dairy across the country and raised awareness of the nutritional benefits of milk and milk products. Per capita consumption of milk has also greatly increased from approximately 40 liters in 2012 to 59 liters by 2016.



SHISHA WUMVA

1.6M

**CONSUMERS
REACHED**



To meet increased consumer demand, both small and larger sized private dairy enterprises have had to innovate both in product development and distribution. Product innovations are rapidly occurring in the market as exemplified by recently introduced cheese varieties, such as ricotta, halloumi, gruyere as well as different types of flavored yogurts and butter products.

One of the most transformative innovations in the market has been through processors Inyange Industries and Crystal Industries, who have both invested in innovative new distribution systems that consists of a series of specialized milk kiosks, called "Milk Zones," where individuals can purchase high quality, pasteurized milk using their own containers in quantities they can afford.

RDCP II has worked extensively to catalyze private sector investments from both small, medium and large businesses. Private sector investments have been an important driver in the transformation of the dairy industry – over the course of the program an additional \$6.2 million has been invested in the industry.

The project also utilized platforms such as the Annual Cheese and Butter Expo, National AgriShow and the annual Private Sector Trade Expo to improve the marketing and branding capabilities of dairy businesses. By 2016, 78,000 additional liters of milk per day were being processed in Rwanda, helping to meet a growing need for milk used in value added products.



Success story: Milk plays a dramatic role

It's 7:30am. Already hours into her day, Agnes crouches down with a baby swaddled at her back to milk the family dairy cow. She nods as another woman's voice emits from a radio hanging nearby. It's Murebwayire, her favorite radio soap opera character on Urunana. On today's episode, Murebwayire is pregnant and secretly saving some of the morning milk for her own consumption. If her husband knew, he would be upset. He doesn't understand that milk has health benefits for her and their future child. Agnes, also a farmer, can relate.

Urunana, which aired its first episode in 1998, is a popular radio program with an estimated 70 percent listenership in Rwanda. With one national language, varied literacy rates and a strong storytelling culture, radio is the preferred form of receiving information here. With each episode taking place in the fictional Rwandan village of Nyarurembo, public health messages are weaved into the everyday drama and comical moments of a typical Rwandan household.

"Health doesn't exist in isolation," says Sylvia Muteteli, Program Coordinator of Urunana. "It's built into our social behaviors, the day-to-day of how we live.

By meeting people where they are, we have the ability to positively influence behavior, attitudes and misconceptions."

In 2015, RDCP II collaborated with Urunana to educate people about the health benefits of milk consumption.

As Urunana does with every campaign, the research started in the village. "We send a writer to eat, sleep, cook and milk cows alongside a host family. This is how we make each character relatable, and realistic. And this is where we noted opportunities for messaging around four main themes: milk consumption and nutritional benefits, milk hygiene, handling during transportation to the MCC and responsibility sharing between wife and husband," says Sylvia.

Using each of these themes across six episodes, people like Agnes not only learn how to transform seemingly small moments of their every day, but also talk about it with friends and family. "I love talking about the latest episodes with the ladies at the market. We chat about the drama, but the real life transformations too. Like how drinking milk can make our children healthy," says Agnes.

RDCP II also took Urunana to its fans

by organizing eight public performances. In one community, nearly 80 percent of the population (4,500 people) attended. Here, listeners received t-shirts with milk consumption messages, watched their characters live, got illustration brochures on nutrition and shared how the show has impacted their lives. One man commented, "Before, I would sell all of my milk. Now I spare some for my family; health comes first."

"Health comes first."

In the last year, it is estimated that Urunana has reached nearly 8.5 million people across Rwanda. Though the milk consumption campaign ended in September 2016, Sylvia believes it will have a lasting impact.

"Along with efforts on behalf of the Government of Rwanda, activities like these are contributing to reduced malnutrition rates in Rwanda. We are at 38 percent down from 44 percent just three years ago (Rwanda Demographic Health Survey, 2015)." According to Sylvia, we have a long way to go, and many more public health messages to share through storytelling.

7. Women's economic empowerment

Throughout the life of the program, RDCP II encouraged the participation of women across all aspects of the program. The project supported development of women led businesses – particularly business service providers who play a vital role in supporting farmers and cooperatives. A catalytic innovation grants fund was used to pro-actively support such high potential women entrepreneurs.

In addition, the program made intentional efforts to weave in gender training and sensitization at different touch points in farmer trainings and through cooperative development efforts.

Also critical was highlighting successful examples of where women obtained

the highest levels of leadership. This ranged from the exemplary work of Ms. Agnes Mukangiruwonsanga, president of IAKIB – one of the most successful dairy cooperatives in the country, to excellent leadership of Florence Umurungi, Chairperson of the Rwanda National Dairy Platform.

As a result of program interventions, 97 percent of women reported an increase in self-efficacy.

97%

OF WOMEN REPORTED AN
INCREASE IN
SELF-EFFICACY





Future of Rwanda dairy

Land O'Lakes and USAID investments have made significant impact by helping build a more vibrant and dynamic dairy industry while also improving the lives of tens of thousands smallholder dairy farmers. Yet, there are many opportunities that await in order for the Rwanda dairy industry to achieve its full potential outlined in the National Dairy Strategy. A few examples include:

Consumer demand must continue to increase. Future efforts will need to continue to develop end markets and promote innovative products that meet diverse consumer needs. The Shisha Wumva and Urunana campaigns were very successful at reaching both urban and rural audiences and helping drive consumption from 40 liters a day per person to 59 liters a day by end of project. Still, more efforts are needed to increase per person consumption to 80 liters a day by 2020. And more is required by the private sector to more effectively market and target messaging to new and emerging segments in the Rwanda dairy market.

Milk quality has seen significant improvements, however both positive and negative reinforcement by MINAGRI will be required to signal the importance and seriousness of this issue. Incentives for high quality and compliance to standards can be best rewarded through market incentives including promotion and marketing of such enterprises. Likewise, where there are compromises in quality and food safety issues – appropriate and fair punishments must be levied.

Farmer productivity needs to continue to increase so that dairy farming is a more profitable business. To reach

the Government of Rwanda's production goals by 2020, crossbreed cows need to produce 9.2 liters a day and 13.3 liters for pure breeds. This can be achieved, but farmers need access to affordable, high quality inputs and services. Decentralized services such as artificial insemination and early diagnosis and treatment of prevalent infections such as mastitis remain critical. These factors should remain priorities for the Rwanda Council of Veterinary Doctors.

Farmer groups and cooperatives need to be further strengthened to improve service delivery to members and to market milk to buyers. The advocacy of value chain actors through the RNDP is critical to properly addressing the industry issues as they emerge. Ownership and accountability is important amongst value chain actors to objectively dialogue about their respective roles from farm to fork.

Private sector investment must continue for the industry to scale up. It's important to incentivize such entrepreneurs who command a great deal of knowledge of the local dairy industry to stimulate an increase in both innovation and value addition. Local entrepreneurs will motivate larger industry players to acquire and set up confident of the prevailing conditions for business.

