



UGANDA
PRIVATE SECTOR
DAIRY INDUSTRY
DEVELOPMENT



FINAL REPORT

October 1, 2001 – September 30, 2006

USAID CA # 617-A-00-02-00001-00

Submitted to

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UGANDA PRIVATE SECTOR DAIRY INDUSTRY DEVELOPMENT ACTIVITY

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& LIST OF COLLABORATING PARTNERS**

UGANDA PRIVATE SECTOR DAIRY INDUSTRY DEVELOPMENT ACTIVITY

FINAL REPORT

I. PROJECT OVERVIEW

Land O'Lakes, Inc. was the main implementing partner in the Uganda Private Sector Dairy Industry Project from October 1, 2001 until September 30, 2006 with World Wide Sires and Heifer Project International as collaborating partners. Due to funding cuts, the collaboration with HPI ended in September 2005.

The goal of the activity was to increase dairy sector competitiveness and productivity, which would ensure that milk produced by farmers finds a ready market and that more Ugandans would have access to safe, nutritious milk and milk products.

Originally scheduled to end in September 2004, the activity was extended for two additional years.

The activity utilized a regionally focused implementation strategy with the following key areas of intervention:

1. Market development

- Increase domestic milk consumption, exports and market linkages (farmer to processor and processor to consumer).

2. Processing, marketing and distribution of value-added products

- Increase the variety, quality and availability of value-added milk products.
- Increase processing efficiency and capacity utilization.

3. Milk bulking and handling

- Increase efficiency in milk collection.
- Improve milk quality.
- Reduce milk losses.

4. Production

- Increase availability of milk in milk-deficit areas.
- Increase productivity of commercial milk producers.
- Utilization of natural resource management techniques.

5. Industry organization

- Strengthen the business capacities of producer groups.
- Encourage industry organization and association development to address key constraints to greater economic growth.

6. Policy reform

- Increase stakeholder dialogue with government policy decision makers.

The implementation of the Uganda Private Sector Dairy Industry Development activity adopted a private-sector focus providing technical assistance to commercially oriented private dairy processors and producers and created market linkages between producers, processors, input supply companies, and service providers. Technical assistance was provided in five key areas of intervention: market development, value-added processing, milk bulking and handling, production and industry organization. Although not directly funded under the fourth and fifth years, policy issues were addressed through collaboration with development partners, Government and the private sector.

The Uganda Private Sector Dairy industry Development Activity contributed directly to USAID/Uganda's Integrated Strategic Plan for 2002-2007 and supported USAID/Uganda's Strategic Objective Seven (SO7):

PROJECT SUPPORT OF STRATEGIC OBJECTIVES

SO7: Expanded Sustainable Economic Opportunities for Rural Sector Growth

II. PROJECT PERFORMANCE AND RESULTS

Without the assistance of this project, the dairy industry in Uganda would not have developed at the rate it has not only in the past five years, but since its inception in late 1994. Statistically the project has achieved impressive results, but there are other accomplishments that statistics do not necessarily convey.

These include:

- The dairy farmers in the main milk shed of Southwest Uganda forming an umbrella organization to represent them in the marketing of their milk. They now speak with one unified voice for the first time.
- Adoption of a common software accounting program among dairy cooperatives. This not only provided a level of transparency never before seen in financial management and accounting among the groups, but also allows for the groups to compare their financial results against one another to help toward more efficient operations. Industry norms are also emerging from this practice.
- By organizing under cooperatives, the price received by dairy farmers increased from what they had been receiving when they were unorganized. Prior to this, buyers would often pay different prices to different farmers, but once farmers organized themselves and began communicating with one another, the prices paid to them began to increase.
- In partnership with the Uganda Dairy Development Authority, non-functioning coolers have been repaired bringing much needed infrastructure to the dairy sector.

Evaluation Results

An evaluation of the project was conducted in October 2003. Some of the highlights are the following:

- Total milk production in Uganda, as estimated by the Uganda Dairy Development Authority, increased from 532 million liters per year in 1994 to 1.2 billion liters in 2003 – an average increase of 61 million liters per year. The evaluation calculated that the Land O'Lakes Project was responsible for an increase of 274 million liters between 1995 and 2003 or 30 million liters per year. Although there are potential problems with making this kind of comparison, this data indicates that the Land O'Lakes project is responsible for about half of the increase in milk production in Uganda between 1995 and 2003.
- From 1995 through 2003, Land O'Lakes provided training in grazing and feed management to an estimated 15,800 farmers. At the same time, many of these farmers also began raising more productive, cross-bred cows as a result of extension work by Land O'Lakes and its partner organizations, Heifer Project International and World Wide Sires. Farm level productivity increased exponentially during this time. The evaluation estimated that about 4,800 of these farmers made little or no changes in their dairy farming. However, over 4,700 farmers made changes resulting in an average increase of 80% in milk production per cow and over 2,500 farmers increased their productivity per cow by an average of 150%.

- The evaluation also concluded that the average farmer who continued to carry out improved dairy practices made about \$360 in increased net profit from 2002 to 2003. This is a substantial increase when considering that the GDP per capita in Uganda is only about \$1,500. Total increase in farmer income in gross terms from 1995 to 2003 was \$14.1 million.
- It was also estimated that the project generated 1,400 new, full-time-equivalent on-farm jobs per year between 1995 and 2003 as a result of increased milk production.
- The evaluation estimated that Land O'Lakes' promotional activities in 2003 played a major role that year in generating an additional \$105,000 in farm income, 174 new processing jobs and 4.3 million liters of additional processed milk. These estimated impacts occurred before the project stepped up its promotional efforts during the past three years.
- The Internal Rate of Return as of 2003 was calculated to be 19.6%. Extending this out to five and ten more years would bring IRRs of 29.1% and 29.5% respectively.
- It is important to note that the data presented above do not include on-farm project impacts from 2004 through 2006 nor do they include the multiplier effects of the extension work done by Land O'Lakes and its partners. Thousands of farmers who are not counted in the above analysis have adopted improved dairy farm management techniques and have improved the genetics of their herds as a result of the project.

Other Major Results

Organization of Dairy Farmers and Revitalization of Milk Collection Centers

Consistent with the Land O'Lakes project strategy, increasing on-farm milk production was only one step in strengthening Uganda's dairy industry. Organizing farmers and establishing milk collection centers were necessary additional steps to get safe, fresh milk into the marketplace. In the final report for the years of the project up to 2001, project staff estimated that there were only 6 co-ops engaged in milk collection in 1995 in Uganda. By the end of the project in September 2006 there were 105 farmer associations and primary cooperatives to provide local milk collection, cooling, artificial insemination, and other services – 15 in the east, 24 in the Kampala area and 66 in the southwest. These organizations had about 7,600 active members.

Land O'Lakes recognized early on that secondary-level farmer organizations would be needed to realize efficiencies in aggregating milk, providing other farmer services, and strengthening farmers' bargaining power with milk buyers and processors. In Southwestern Uganda, which is the major milk shed area of Uganda; the sixty-six primary cooperatives were formed under seven cooperative unions or secondary cooperatives.

In 2006, Land O'Lakes continued to work with these cooperative unions and the Western Uganda Dairies Association to form the Uganda Crane Creameries Cooperative Union (UCCCU). UCCCU is a third-level cooperative intended to further strengthen the

economies of scale and bargaining power of farmers in the southwest and, potentially, to become a farmer-owned, value-added milk processor.

In the eastern region of Uganda, Land O'Lakes is working with the Eastern Uganda Dairy Farmers and Breeders Association (EUDFBA) at the secondary cooperative level and its members at the primary cooperative level. As more cooperatives develop in this region of the country, they will then fall under EUDFBA to take advantage of economies of scale. The association is comprised of 16 primary associations and cooperatives with a total membership of about 600 farmers.

As Land O'Lakes continues to work in other areas of Uganda, this creation of a secondary level cooperative with primary cooperatives as members will be one of the main strategic focuses.

Value-added Processing

In 1993 Dairy Corporation, Ltd. (DCL), a government-owned company, had a monopoly on milk processing in Uganda. DCL produced primarily one product – pasteurized milk. As of 2006, Land O'Lakes estimated that there were 8 “macro processors” and 58 “microprocessors” in the country producing a wide array of dairy products including pasteurized milk, UHT milk, yogurt, cheese, ghee, butter and ice cream.

Land O'Lakes cannot take credit for all of this expanded and diversified processing, but it has clearly played an important role in bringing it about. The project has provided a variety of kinds of technical assistance to most of these processors, ranging from business and financial planning to quality control to market development. Land O'Lakes also assisted over 30 dairy businesses to form the Uganda Dairy Processors Association, a trade group intended to promote dairy products and to influence dairy policy in Uganda.

Market Development and Increased Consumer Demand

As with the expansion of dairy processing companies, the impact of Land O'Lakes on increasing demand for dairy products is difficult to quantify. The project's promotional activities are very apparent around the country in the form of attractive “So, have you had milk today?” posters, youth-oriented events and contests, and June Dairy Month celebrations.

Overall Impact of the Land O'Lakes Project

Together, these activities have brought about major changes in the supply of, and demand for, dairy products in Uganda. In the process, dairy farmers have seen significant increases in their incomes, dairy processors have expanded in number and size, thousands of jobs have been created, and Ugandan consumers have a wide variety of quality dairy products that they could not have imagined having access to a decade ago.

Statistical Results

Following are various statistics that the project kept track of over the past five years. Some of this tracking was initiated in the first year while other tracking was begun in later years.

Increased Consumption (Sales)

Baseline	Cumulative Totals									
	Year I		Year II		Year III		Year IV		Year V	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
17.2 liters	21.8	21.1	26.4	23.7	31.2	24.6	26.6	26.7	28.2	29.58

Increased Number of Processors Meeting National and International Quality Standards

Baseline	Cumulative Totals									
	Year I		Year II		Year III		Year IV		Year V	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
0	N/A	N/A	N/A	N/A	N/A	N/A	3	3	1	1

Increased Volume of Milk Entering Cold-Storage/Bulking Systems

Baseline	Cumulative Totals									
	Year I		Year II		Year III		Year IV		Year V	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
17,670	37,670	44,609	57,670	74,189	77,670	95,155	110,155	116,364	130,155	107,734

Increased On-farm Productivity

Baseline	Cumulative Totals									
	Year I*		Year II		Year III		Year IV**		Year V	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
North & East = 5				5.2	6.25 (25%)	5.5		8.3	6.9 (25%)	9
Central = 12				12	15 (25%)	12		9.7	15 (25%)	12.9
Western = 11				12	13.7 (25%)	12		9.9	15 (25%)	13.5

* M&E system for production-related indicators revised and improved in Year II

** No target set due to limited funding and duration of Heifer Project International and World Wide Sires activities in Year IV

Increased Membership in Producer Groups Engaged in Collective Marketing.

Baseline	Cumulative Totals									
	Year I		Year II		Year III		Year IV		Year V	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
1,946	2,432	2,681	3,041	6,415	3,801	6,981	7,330	7,495	7,696	7,617

Enterprise Creation

Baseline (number)	Year I		Year II		Year III		Year IV		Year V	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
N/A	N/A	15	N/A	44	N/A	38	23	41	15	29

Employment

Baseline (new jobs)	Year I		Year II		Year III		Year IV		Year V	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
N/A	N/A	219	N/A	154	N/A	131	N/A	N/A	105	125

Household Income

Baseline (\$US)	Cumulative Totals									
	Year I		Year II		Year III		Year IV		Year V	
	Planned	Actual**	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
North & East = 54.7	N/A	213.5	N/A	670	N/A	712	772	699	862	803
Central = 376	N/A	843.2	N/A	596***	N/A	602	682	993	772	1190
Western = (40.2)*	N/A	438	N/A	881	N/A	901	981	1589	1071	1906

* Costs of production exceeded revenue

** Initial jump from Baseline to Year I due to income benefits from in-calf heifer scheme recipients

*** Decrease due to reduction in farm-gate milk price in Central Region

Other Highlights

Cumulative statistical achievements over the last five years included the following:

Market Development

- 55,164,996 consumers reached through radio and print advertising
- 403 School Milk Promotional Activities
- 21 Dairy Days sponsored
- 125 Marketing Road Shows
- 572 Other Dairy Marketing events
- 8 Industry wide market research reports conducted

Processing, Marketing and Distribution of Value-added Products

- 76 Value-added products developed
- 935 Technical Assistance/Consultancies provided
- 39 Linkages developed between input suppliers and processors

Milk Bulking and Handling

- 154 Milk Collection Centers established or expanded
- 186 Technical Assistance/Consultancies provided in proper milk handling
- 45 Market linkages established between MCCs and buyers

Production

- 20,640 Farmers trained in pasture management
- 18,144 Farmers trained in zero-grazing practices
- 11,302 Farm visits occurred
- 1,449 in-calf heifers were distributed
- 189 Breeding or AI seminars conducted
- Over 25,000 AI performed
- 95 Biogas units constructed

Industry Organization

- 346 Cooperatives provided technical assistance
- 30 Cooperatives adopted improved business and financial management practices

Policy Reform

- 2 New policies were passed into law

Conclusion

It is easy to conclude that the impact that the Land O'Lakes project had on the dairy industry was very positive. The industry is now in a position that with further investments it could be a major contributor to the growth of the Uganda's economy, contribute greatly to fighting rural poverty and be one of Uganda's major export products.

III. CHALLENGES AND LESSONS LEARNED

The lessons learned that are listed may extend to the whole life of the project beginning in October 1994 and not just pertain to the time period from October 1, 2001 until September 30, 2006.

1. *Dairy development is a complex and long-term process, requiring a strategic planning and implementation process that is both systematic and flexible.*
This project began with a focus on farmer productivity and basic farmer group organization from its origin in 1994 until 2001 and then evolved to a sophisticated array of activities that addressed all of the major issues affecting the supply of, and demand for, dairy products in Uganda and potential export markets from 2001 until 2006 (and continuing from other funding sources). This approach provides an excellent model of how to develop an agricultural project in a step-by-step manner over a multi-year period so that it eventually has a major impact on a country's economy and the quality of life of producers, consumers and those employed in the agricultural sector.
2. *A private sector approach is an effective way to develop a country's dairy economy.* From the outset, the project was designed as a "Private Sector Dairy Business Development Project." Various agencies in the Government of Uganda were involved in the project as collaborators and technical assistance providers, but USAID funds were administered directly by Land O'Lakes which used them to cover its own staffing and other expenses, hire subcontractors, and provide grants and other forms of assistance to farmers, farmer organizations and dairy companies. This private sector approach operated efficiently and transparently, avoiding the bureaucratic delays and corrupt practices that sometimes characterize development programs funded through government agencies. In addition, the direct funding to Land O'Lakes provided a strong incentive to actively seek additional funding from USAID and other sources in order to keep the project moving forward.
3. *Removing key barriers produces rapid growth in production.* Good strategic research and planning often identify major bottlenecks that can be opened up in a short period of time and with little cost. It makes sense to address these bottlenecks early in the development process in order to have a quick impact and to show the effectiveness of a project. A good example of a bottleneck faced by the project was the lack of infrastructure in 1994 preventing farmers from marketing milk outside of their local areas. There was plenty of demand in nearby urban centers, but the milk wasn't getting there. Land O'Lakes reactivated dormant dairy associations and co-ops to provide a means for local producers to aggregate their milk and to establish or re-establish milk collection centers. This approach had a large, rapid impact on milk production and consumption in the country. The annual volume of milk produced by participants in the Land O'Lakes Project between 1995 and 2006, increased from less than 8 million liters to 39 million liters per year.
4. *Improving genetics and on-farm dairy management has a dramatic impact on dairy productivity and farmer income.* This part of the Land O'Lakes development strategy did not have as rapid an impact as opening up milk markets,

- but the long-term benefits have been enormous. Training farmers in “zero grazing,” improved nutrition, hygiene and treatment of diseases; and introducing crossbred cows through the “in-calf heifer” program, artificial insemination, and mating exotic bulls with traditional cows have doubled, tripled and, in some cases, quadrupled milk production per cow. This increased production means more income for farmers, more efficient collection and marketing of milk, and more dairy products for consumers.
5. *Farmer cooperatives can create sustainable marketing, processing and other services.* An important part of Land O’Lakes’ development strategy in Uganda has been to build farmer productivity and business skills from the bottom up. As the volume of farmers’ milk increased, their need for markets outside the local community also increased. This created receptiveness to establishing or revitalizing joint marketing activities and milk collection centers through farmer associations and cooperatives. With Land O’Lakes’ help, farmers formed secondary associations to further increase their ability to aggregate and refrigerate milk and to negotiate prices with buyers. Dairy farmers in southwestern Uganda have now transformed their non-profit associations into cooperative unions that operate as dairy businesses. They have recently formed a third-level cooperative, the Uganda Crane Creameries Cooperative Union (UCCCU), to increase their services to members and to consolidate their bargaining role with buyers. Land O’Lakes is assisting UCCCU with the development of a business plan for a dairy plant in Mbarara as well as other commercial activities. The Eastern Uganda Dairy Farmers and Breeders Association is also developing a business plan with Land O’Lakes’ assistance to transform itself into a secondary co-op serving about 600 farmers in the Mbale area. This business development strategy parallels the one being carried out in the southwest.
 6. *Diversified markets and products provide income opportunities and protection from changing economic conditions.* Part of Land O’Lakes’ strategy has been to work with a number of different dairy companies so that farmers would not be dependent on any one buyer for their milk. Similarly, the project has encouraged the development of a variety of dairy products – different kinds of processed milk (including UHT milk), cheeses, yogurts and ice cream – to appeal to different groups of consumers and to position Ugandan dairy products for export marketing. Both market and product diversification provide safeguards against price instability and create opportunities for growth.
 7. *Accountability and transparency are the main ingredients in sustainability.* This is a lesson that has sometimes been learned the hard way in the Land O’Lakes Project. There is a culture of corruption among some Ugandans – as there is in other developing and developed countries. When adequate accountability systems are not in place, board members and managers in some co-ops and associations find ways to mismanage or embezzle funds. Land O’Lakes is working with primary societies and unions to use computerized software – QuickBooks™ – to keep better track of income and expenses and to make each organization’s finances more transparent to its members. Land O’Lakes also has a consultant who is a “turnaround” specialist and has helped several cooperatives that have

- experienced financial problems either through mismanagement or fraud to become profitable.
8. *Partnerships among technical assistance providers and dairy organizations require clear, agreed-upon goals and procedures to be successful.* From 2001 until 2006, Land O'Lakes had a collaborative agreement with Heifer Project International (HPI) and World Wide Sires (WWS). For the most part, this collaboration worked well. HPI and WWS focused on improving farm productivity through increasing the number of cross-bred cattle, providing training in improved dairy farm management, and the training and equipping of technicians to provide artificial insemination services. These farm-level services were a good complement to Land O'Lakes' increasing emphasis on helping to transform farm organizations into successful dairy businesses. Land O'Lakes' work also complemented HPI and WWS work as it took their groups to a higher level that allowed them to market their milk collectively.
 9. *Successful market development requires a flexible strategy that fits changing domestic and export market conditions.* From 2001 until 2006, Land O'Lakes placed a major emphasis on communicating with consumers and encouraging their consumption of dairy products. The project's advertising approach consisted of radio ads, billboards, and a variety of dairy promotion events, including events oriented to children. This array of advertising techniques appears to have been effective in increasing dairy product consumption, although there is no clear data as yet linking the two. The Land O'Lakes Project has also recognized that market development is a lot more than advertising. The project has worked with co-ops and other dairy companies to identify both domestic and export market opportunities. It has also made a concerted effort to increase milk production in milk deficit areas in eastern and northern Uganda by increasing productivity and involving farmers in cooperative marketing in those regions.
 10. *The political context in a country (and in a country's trading partners) plays a major role in the development of a sustainable dairy industry.* Up until the early 1990s, the Government of Uganda enforced a monopoly in which the government-owned Dairy Corporation Limited did all of the dairy processing in Uganda. Since then, the government has taken a number of steps to strengthen the dairy industry by opening it up to private enterprise -- including cooperatives - - and by recently leasing Dairy Corporation Limited to Sameer Agriculture and Livestock Limited. The liberalizing of Uganda's dairy policies resulted in over 35 small and medium-sized dairy enterprises emerging in the past 15 years. Although not all of these companies have been successful, they accounted for 24 percent of Uganda's dairy processing in 2006. There remain, however, several areas in which government policy is inhibiting future growth in the dairy industry. These include an apparent bias by the government favoring Sameer in its negotiations with dairy farmers; limitations on the importation of bull semen; lack of support for a school milk program, and serious problems with the country's electrification and road infrastructure.

IV. SUCCESS STORIES

ESTHER NAMALE RECEIVES A DOUBLE BENEFIT FROM THE ZERO GRAZING PROGRAM

Esther Namale, a farmer in Masaka district in central Uganda, received both a pregnant Holstein heifer and a biogas energy system that runs on cow manure from Heifer Project International, a Land O'Lakes collaborator.



Ms. Namale with Beauty



... and with her stove that runs on biogas

In 1999, Esther Namale enrolled in a USAID-funded group-training program for low-income farmers that taught participants good animal husbandry practices and environmentally sustainable farm management. The program, coordinated by Heifer Project International (HPI), provided successful participants with an “in-calf heifer” (a young pregnant cow). Participants had to meet several conditions to receive a heifer: They had to construct a secure cow pen. They had to demonstrate that they could provide adequate feed for the cow in the pen. And they entered into an agreement to pass on the cow’s first calf to another eligible participant in the training program. The two major reasons for confining cows in a pen and providing them with feed (referred to as a “zero grazing”) are to produce high milk yields and to protect the heifers and their offspring from tick-borne disease.

Ms. Namable said “I was so grateful to receive the gift of a heifer that I passed on my first two calves to other farmers, not just the one required by the program.”

But that’s only the first part of Ms. Namale’s story. In 2003, she agreed to participate in a loan program sponsored by HPI and Land O’Lakes that enabled her to install a biogas energy unit on her farm. The unit runs on methane gas produced from her cows’ manure. She uses the gas to operate a two-burner stove and a lamp that lights up her living room. The gas is odorless and the two cows, two bull calves and heifer

she now has provide more than enough manure for her energy needs. What's more, the solid waste that remains after the gas has been removed makes an excellent, low-odor fertilizer for her plants. Ms. Namale has agreed to repay the loan by passing on a pregnant heifer to another farmer.

Ms. Namale reports that the zero grazing program has made a huge difference in her standard of living. "I've been able to pay my three children's school fees. I've increased the size of my house and bought more furniture. I don't have to gather and carry heavy loads of firewood." Using biogas rather than firewood also provides an environmental benefit by reducing firewood consumption.

Ms. Namale's story is just one of several thousand that could be told about the benefits of the zero grazing programs in Uganda. Pass it on!

A NEW DAIRY CO-OP EMERGES IN EASTERN UGANDA

With technical and financial assistance from Land O'Lakes, a farmers association with over 600 members is transforming itself into a dairy marketing cooperative.



Eastern Dairy Farmers business planning session conducted by Farmer-To-Farmer Volunteer Hal Handley

Despite a longstanding tradition of cattle raising, eastern Uganda is considered a “milk deficit” region. This is the case for several reasons. The area’s economy has not fully recovered from the civil unrest of the 70s, 80s and early 90s when armed rustlers decimated the number of cattle. In addition, the traditional Zebu cows of the region produce low volumes of milk. Up until the mid-90s, farmers did not have access to training, new practices and improved cow genetics to increase productivity. Most farmers sold unprocessed, raw milk locally, because they didn’t have the means to transport it to larger markets.

With funding from USAID, Land O’Lakes has carried out a step-by-step process in eastern Uganda to assist farmers to increase their milk production and then to develop the means to aggregate their milk and keep it fresh for broader distribution. Land O’Lakes and its collaborators, especially Heifer Project International and World Wide Sires, have trained farmers in improved dairy farm management and have assisted them to access more productive cows through the “zero grazing” program and the use of artificial insemination.

In 2006 Land O’Lakes and the Eastern Uganda Dairy Farmers and Breeders Association began to work on the next big step in dairy development for the region: the transformation of the association into a cooperative union (or secondary co-op). They are in the final stages of preparing a business plan for this transition. The new union will represent about 15 primary co-ops and associations with a combined membership of approximately 600 farmers. One of its key initial functions will be to establish a milk

collection center with a cooler in Mbale. The center will make it possible for farmers in the area to keep milk fresh longer and to sell milk in bulk quantities.

In addition to the business planning assistance, Land O'Lakes has also provided the association with \$10,000 to be used as a revolving loan fund by the union and its member co-ops and associations. This internal revolving loan fund will be used by the union and its member cooperatives to purchase milk testing equipment, milk cans, a computer for proper record keeping and start-up capital.

Land O'Lakes' step-by-step approach to dairy development – beginning with increasing on-farm production and then assisting farmer organizations to improve their access to markets – has worked in the Kampala area and in the southwest. It's now taking off in eastern Uganda.

A DAIRY CO-OP TURNS LOSSES INTO PROFITS

Henry Mutabaazi, a “turnaround specialist” hired by Land O’Lakes has helped Ntungamo Cooperative Union cut operating costs and generate substantial profits after just a few months on the job.



Ntungamo’s new office and milk collection center under construction

Assistance with the recent financial turnaround at Ntungamo Dairy Farmers Cooperative Union (NDFCU) is just the latest chapter in a series of USAID-funded projects that Land O’Lakes has carried out jointly with the co-op since 1999.

The Union started as a primary cooperative in the district of Ntungamo in the 1970s supplying milk to Dairy Corporation Ltd (DCL). Over the years, the milk passing through this cooperative dwindled to the extent that DCL stopped purchasing milk from the co-op and closed the milk collection center. As a result of the closure, milk production stagnated and farmers sold small quantities of milk to individual consumers and traders. By the time co-op members started receiving technical assistance from Land O’Lakes in 1999, the primary cooperative had almost collapsed. There were five other primary societies in the district that were also barely in operation and others that had become dormant with no active members.

Land O’Lakes’ initial focus was to stimulate production by training co-op members in modern animal husbandry; pasture management, group formation, good governance, and the use of artificial insemination. As a result of this training, production went up rapidly and some of the societies restarted their collection and group marketing activities.

In 2002, Ntungamo Dairy Farmers Association was incorporated as a limited liability company representing a number of primary societies in the district. Because of the large volume of milk available to the company, Dairy Corporation Limited entered into a

purchasing agreement and leased milk coolers to the company and a number of its member societies.

By 2006, NDFCU had become a secondary cooperative made up of 15 primary cooperative societies with 1,500 active members. Out of the 15 primary cooperative, eight have milk collection centers with coolers and seven are pick-up points without a chilling facility.

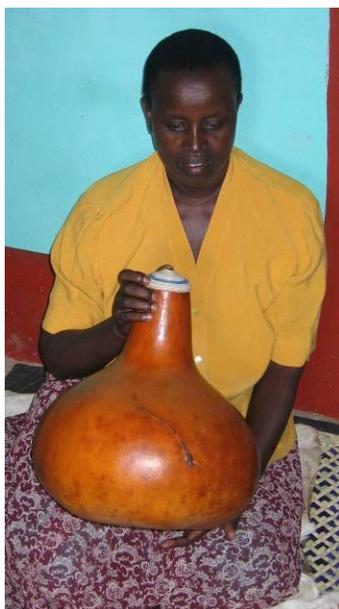
Land O'Lakes served as a technical assistance partner throughout this growth period, providing board training assistance, legal advice, assistance in the negotiations with DCL, and training in milk hygiene at the farm level and at milk collection centers. The Union now has the best quality milk in the region and has attracted interest from all three UHT milk-processing companies in Uganda, because of the high quality milk requirements for UHT processing.

Despite (or, perhaps, because of) Ntungamo's rapid growth in members, production and quality, the co-op was barely breaking even in 2004 and the first half of 2005. With the agreement of the co-op, Land O'Lakes hired Henry Mutabaazi, a Ugandan consultant with both dairy industry and financial management skills, to serve as interim manager of the co-op. The results were remarkable. Within the first two months on the job in late 2005, Mutabaazi had helped the co-op to change from a marginal financial status to a very profitable one. By early 2006 the co-op had made a profit of over 100 million Ugandan shillings (about \$54,000 US). The co-op is now building its own office and cooling center to replace an overcrowded rented facility.

With the help of Land O'Lakes, Ntungamo Dairy Farmers Cooperative Union has come a long way -- from a virtually defunct cluster of primary societies in 1999 to a profitable and growing secondary cooperative with 1,500 members in 2006.

NYAKAHITA GHEE PROCESSORS HAS MORE DEMAND THAN IT CAN MEET

Esther Byenaro lives in a fairly remote rural area near Mbarara. The company she co-owns is a major supplier of ghee to Kampala's supermarkets. They like the quality of the company's ghee, its attractive packaging, and its reliability as a processor.



The first step in making ghee



Ms. Byenaro in her packaging and sales office

One of the first programs Land O'Lakes carried out when it began its USAID-funded dairy project in Uganda in 1994 was the training of women in dairy-related cottage industries, such as the production of yogurt, cheese, ice cream and ghee -- a dairy product with the consistency of butter that is used in cooking. Ghee has a long shelf life and does not require refrigeration.

Esther Byenaro and thirty other rural women from the Mbarara area were in one of these early classes. Ms. Byenaro's small homestead did not have (and still doesn't have) electricity. Since she already had extensive experience in traditional ghee processing, this was the business activity she chose.

Twelve years later, Ms Byenaro's ghee processing business is thriving. She and a marketing partner in Kampala own Nyakahita Ghee Processors. The company has nine primary suppliers of partially processed ghee – all of whom are women who were in the 1994 training program. Other farmers and traders also sell partially processed ghee to the company.

Land O'Lakes assistance to the company has gone well beyond the initial training. Since then, the project has helped Ms. Byenaro to develop an effective marketing strategy that has included an attractive logo and packaging materials, and the targeting of Kampala supermarkets as outlets for her products. These supermarkets now account for about 90% of all of the company's sales. Most of the rest is sold locally, including through a small shop on the Mbarara-Kampala Highway.

As of September 2006, the demand for the company's ghee was far greater than the supply. This is primarily due to low milk production during the dry season. Ms. Byenaro would like to expand her purchasing of partially processed ghee during the rainy season in order to build up an inventory that she can sell at higher prices during the dry season. With Land O'Lakes help, she is seeking a reasonably priced loan so she can increase her rainy season purchases and inventory build-up.

According to Ms. Byenaro: "I wouldn't be in business if it weren't for Land O'Lakes."

MADDO DAIRIES IS DOING GOOD AND BEGINNING TO DO WELL

After starting operations in 2003, MADDO Dairies went through some tough financial times. Thanks to technical assistance from Land O'Lakes and support from other organizations and individuals, the company is turning the corner toward profitability.



Margaret Namusisi, Sophia Nasuna, and Father Senkayi in front of the factory

The Catholic Diocese of Masaka backed into the dairy processing business. The diocese started out in the late 1990s working with Heifer Project International (HPI) to distribute about 300 high producing, in-calf heifers to local farmers. The resulting increase in local dairy production led to a need to find markets for the surplus milk. The result was the start-up of MADDO Dairies Ltd. in 2003.

Unfortunately, not enough careful business planning went into launching the company and it had major financial problems during its first year of operation. The USAID-funded, Land O'Lakes Dairy Project came to the rescue with technical assistance in financial and operations management, processing and marketing. Other donors and supporters provided financial assistance.

MADDO Dairies Ltd. is now operating a 1,200-liter per day, micro processing dairy plant in Masaka, about 80 kilometers west of Kampala. The company buys milk from two dairy farmer associations and from individual local farmers. It processes the milk into flavored and non-flavored milk and three different types of flavored yogurt—vanilla, strawberry and chocolate. MADDO is currently owned and managed by the Catholic

Diocese of Masaka as a development project. The diocese eventually plans to pass on 80% of the ownership to farmers and retain 20% ownership for the diocese.

MADDO Dairies is not out of the woods yet. The company still needs to improve its operating efficiency. But it's getting close to turning a profit thanks to Land O'Lakes assistance, hardworking staff, committed farmers and friends.

As Father Senkayi, MADDO's manager, said: "The company isn't just about making money; it's about providing income for farmers and employees, and producing healthy products."

To accomplish these goals, however, the company needs to be profitable. That's where Land O'Lakes' continuing business development assistance comes into play.

A LARGE DAIRY FARM BECOMES A SUCCESSFUL DAIRY PROCESSOR

Jesa Farm Dairy was successful even before the assistance of the Land O'Lakes Dairy Project, but the project has helped this medium-sized dairy processor in three important ways – securing milk from small producers, assisting it to receive a health quality certification for its dairy products, and helping it to improve its marketing strategy.



Farmer delivering milk to Jesa Farm Dairy

Jesa Farm Dairy is one of the largest and most-mechanized dairy farms in Uganda with well over 300 head of exotic dairy cattle. It is a family-owned business that started out as a farm in the late 1980s with no intention of getting into processing. However, when James Mulwana, the managing director of the farm, and his staff failed to find a good market for its milk, the family decided to process it themselves. They installed a 20,000-liter capacity processing line, the smallest unit they could find on the market at that time. In order to make more efficient use of the processing plant, Jesa Farm began an “out grower” program a few years ago with nearby small farmers. Land O'Lakes helped with the training of these farmers to improve their productivity, genetics, and milk hygiene and group formation. In addition, this farm uses World Wide Sires semen that has contributed to the increased productivity on the farm.

As of September 2006 there were 61 out growers, 50 of whom have formed an association. The association has started an input supply shop and has hired its own extension worker. The company deducts the extension worker's salary from payments to farmers. Through assistance from the company in the form of a guarantee, the association's supply shop now stocks feed concentrates and farmers are supplied with

feed and drugs on credit. According to Emmanuel Iga, the Jesa Farm's veterinarian, there is the potential to add 70 small-scale dairy farmers to those currently supplying milk to Jesa Farm Dairy before the plant would reach full capacity.

To assist in improving quality of dairy products in Uganda, Land O'Lakes extended a grant to Jesa Farm Dairy so that the company could become certified as a "Hazard Critical Control Point (HACCP) compliant company," an internationally recognized quality standard. Land O' Lakes has also provided technical assistance in writing up the standard operating procedures the company is to follow to ensure that it remains HACCP compliant.

In terms of market development, Land O'Lakes has assisted Jesa Farm Dairy in several ways.

- As a member of the Uganda Dairy Processors Association, Jesa has benefited from the generic advertisements sponsored by Land O'Lakes that have increased awareness of milk and dairy products in Uganda.
- Jesa has participated directly in training sessions on marketing provided by Land O'Lakes. These sessions have assisted Jesa to build its own branding program, including participating in shows, trade fairs and promotions in large supermarkets.
- The training has also encouraged Jesa to diversify its product mix. The company used to process only pasteurized milk. It now produces eleven products -- three varieties of pasteurized milk, and eight yogurt products.

As Mr. Iga mentioned, "When I was growing up there wasn't any yogurt in Uganda. Now it's a very popular and healthy choice for young people."

The lesson from this story is that even a large and successful dairy company such as Jesa Farm Dairy has benefited from the Land O'Lakes Dairy Project. This assistance to Jesa Farm Dairy has also benefited nearby small dairy farmers, consumers and the Ugandan economy.

BEFORE-AND-AFTER STORY

A Success Story on the refurbishment of milk coolers in Luwero/Nakasongola areas

Background

Milk collection, cooling and bulking infrastructure are still key constraints to the development of the dairy sector in Uganda. A substantial amount of raw milk collected from the countryside does not go through the milk cold chain and as such, this raw milk will be of poor quality.

Milk directly from a cow is thirty-seven degrees Celsius. It needs to be chilled down to four degrees Celsius as soon as possible. If not, warm milk provides excellent conditions for bacteria to thrive and multiply.

The Nakasongola/Luwero milk shed is among the milk producing areas in the country that lacks milk-bulking infrastructure. Farmers in these areas have been experiencing up to fifty percent losses of their milk. USAID provided funds for the development of two new milk collection centers in this milk shed.

Land O'Lakes, working with the Ugandan Government Dairy Development Authority (DDA) conducted a survey on bulking infrastructure problems in the country. This revealed that there were many milk coolers lying idle in the countryside that were still in repairable condition. Some of these coolers dated as far back as the 1960s. These are coolers that were installed in the 1970's by the then government owned Dairy Corporation.



One of the abandoned coolers in Nakasongola/Luwero milk shed.

Land O'Lakes Interventions

After assessing the condition and the repair costs for each of the coolers, Land O'Lakes, using funds that had been allocated for the purchase of two new coolers, instead was able to repair ten coolers.



A cooler being repaired at the Land O'Lakes' Office in Kampala.

The cooler tank shells are virtually indestructible, so the repairs consist of installing new condensers, tubing, milk paddles and a control board.

Results

All of these coolers will be handed over to farmer groups on a payback scheme so a sense of ownership is established. The money collected will go into a fund that DDA will use to repair more coolers.



A newly refurbished cooler ready for a farmer cooperative.

With the establishment of these collection centers, the problem of milk spoilage as a result of a lack of cooling facilities will be resolved. Farmers will also benefit from the collective marketing of their milk using the newly installed coolers and quality of raw milk reaching the market from these centers will be much improved.

Attachment A

COOPERATION WITH IMPLEMENTING PARTNERS AND LIST OF COLLABORATING PARTNERS

Joint activities with sub-agreement partner World Wide Sires

Consortium partners held numerous discussions throughout the reporting period for efficient harmonization of activity implementation. Some areas of joint participation were dairy promotions and joint training to farmers.

Joint activities with NAADS, IFPRI, environment organizations

Collaborations and joint activities continued with:

- District Officials (NAADS) most particularly during field trainings and disease control issues
- NEMA – Environmental Impact Assessments for new plant start-ups and MCCs
- Quality Chemicals – Farmer trainings
- Send A Cow – Livestock Productivity
- NARO, ICRAF and ECOTRUST – Agro forestry technologies and environmental management
- Ministry of Agriculture, Animal Industry and Fisheries – Livestock Development
- National Animal Genetic Resource Center and Data Bank – Animal Breeding
- Departments of Agriculture & Veterinary – Assessing best program farmers nationwide

Other collaborating partners

HealthPartners

Collaboration continues with the Bugusege and Hambana, Kabale, and Kasheshi Health Plan schemes.

ACDI/VOCA

The activities of the Farmer-to-Farmer volunteer were discussed in the Market Development Section. A close working relationship with this program continues and a list of volunteer assignments for the new fiscal year was established.

SCOPE

Strengthening the Competitiveness of Private Enterprises (SCOPE) is a USAID-funded activity aimed at supporting Uganda's efforts to increase its competitive position in the global marketplace. SCOPE supports business leaders in various high priority sectors, one of which is Dairy sector by bringing together the key private sector players that agree to work together.

The Uganda Dairy Processors Association is currently working on the development of strategy for export markets in conjunction with SCOPE.

Rural SPEED

Work continues with the Rural SPEED and the Uganda Microfinance Limited to establish access to financial services for farmers in the rural areas of Rushere and Kazo who are members of the Ankole Dairy Products Limited.

Legislative Support Activities

Collaboration with USAID funded Legislative Support Activity project to assist LOL clients to improve their lobbying skills.

French Embassy – ACSS Project

Ongoing collaboration with ACSS to support dairy development activities in Mbarara District and support to the Uganda Dairy Processors Association and Uganda National Dairy Farmers Association.

Send A Cow

Public Private Alliance activity with Agen I Kristo producer group in the North.

DANIDA – ASPS Project

Joint collaboration of development activities is taking place in Sembabule District. ASPS continues to provide financial and technical support to the Dairy Development Authority. On going collaboration continues on conducting a dairy sub-sector survey with the aim of directing and focusing development resources to maximize returns for sector development.

CORDAID – Gouda Gold

CORDAID, a development agency based in the Netherlands, is currently funding the start-up of two farmer-owned and managed milk collection centers in to supply milk to the Gouda Gold cheese processing plant in Luzira, Kampala. Land O'Lakes and World Wide Sires are providing technical assistance to the two milk collection centers.

NSARWU/UPHOLD

Assessed the milk production, processing and distribution practices in the Community Based Integrated Nutrition Program funded by USAID/UPHOLD. This resulted in providing training in hygienic milk production and handling, value-added processing and cooperative development training.

COLLABORATING PARTNERS

- Government of Uganda
 - Ministry of Agriculture, Animal Industry and Fisheries
 - Dairy Development Authority
 - National Animal Genetic Resource and Data Bank
 - Ministry of Health
 - Ministry of Education and Sports
 - Ministry of Gender, Labor and Social Development
 - Ministry of Tourism, Trade and Industry
 - Ministry of Foreign Affairs
 - Ministry of Finance, Planning and Economic Development – Population Secretariat
 - Uganda National Bureau of Standards
 - Uganda Export Promotions Board
 - National Agricultural Research Organization
 - Uganda Revenue Authority
 - SGS
 - Bank of Uganda
- Plan for Modernization of Agriculture
- National Agricultural Advisory Services
- Makerere University
- Mbarara University of Science and Technology
- ICRAF
- VI Tree Planting Project
- ECOTRUST
- Africa Development Foundation
- The HIV/AIDS Support Organization
- Uganda National Farmers Federation
- National Environment Management Authority (NEMA)
- Private Sector Foundation
- Private Sector Marketing and Promotional firms
- Private Sector Business Services providers
- Uganda Manufacturers Association
- Commercial outlets such as supermarkets, gas station convenience stores (e.g. Shell Select, Total, Metro, Shoprite, Payless, etc.)
- Rural SPEED project
- Local banks and leasing facilities (*DFCU*, Centenary, Pride Uganda, Barclays, UMU)
- Dairy equipment and input supply companies (Terrapin, Primacy)
- Uganda Veterinary Association
- Uganda Cooperative Alliance
- HealthPartners
- ACDI/VOCA

- ILRI
- IFPRI
- IITA/Food net
- French Embassy
- Africa 2000 Network
- CORDAID
- Religious institutions (Church of Uganda, Catholic Church, United Methodist Church)