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**LAND O'LAKES, INC.
COOPERATIVE SUPPORT GRANT
COOPERATIVE AGREEMENT NUMBER PDC-0192-A-00-1045-00**

**ANNUAL REPORT
FOR JUNE 1, 1991 - MAY 31, 1992**

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This annual report for the period June 1, 1991 - May 31, 1992 is submitted by Land O'Lakes in compliance with the reporting requirements specified in Enclosure one, Section F.2.(a), Paragraph one of the Schedule dated July 10, 1991.

I. ACTIVITIES UPDATE

1. AFRICA REGION

A. PROGRAM DEVELOPMENT

- The project development manager traveled to **CAMEROON** (11/91) to build a network of contacts for future collaboration, examine the agricultural sector, and look for possibilities for privatization and the state of the food processing industry in order to determine areas in which Land O'Lakes can offer training and technical assistance. (See I.5.A.)
- The vice president of the International Development Division and the project development manager traveled to **MALI** (1/92) to conduct a preliminary training needs assessment for the dairy sector and advise on the privatization of a state-owned dairy plant.
- The vice president of the International Development Division and the project development manager traveled to **CAMEROON** (1/91) to write a dairy production and processing plan for the Cameroon Cooperative Dairy Association, and to discuss Land O'Lakes' training proposal with USAID and a dairy cooperative.
- The project development manager traveled to **GHANA** (1/92) to conduct a needs assessment for the dairy and feed sectors of Ghana's coastal region.
- The vice president of the International Development Division traveled to **THE GAMBIA** (3/92) to identify possible private sector development opportunities in the dairy and feed sectors.

B. LIMITED PROGRAM SERVICES

- No activity undertaken.
- 1 -

C. DIRECT COST ELEMENTS

	<u>Grant to Date</u>	
	<u>A.I.D.</u>	<u>Match</u>
Program Development	\$38,892	\$3,033
Limited Program Services	0	0
	<u>\$38,892</u>	<u>\$3,033</u>

SUBTOTAL AFRICA REGION: \$41,925

D. PROPOSED ACTIVITIES FOR 6/1/92 - 5/31/93

- A training course will be implemented in **CAMEROON** for four Fulani women in milk handling, storage and processing. Land O'Lakes will pay for their airfare and all translation costs; all other costs will be covered by USAID/Yaounde.
- The vice president of the International Development Division and the project development manager will travel to **CAMEROON** in January, 1993, to meet the new AID staff and promote the dairy cooperative proposal Land O'Lakes submitted in February, 1992.
- As part of a team organized by Africare, the project development manager will travel to **MALAWI, ZAMBIA** and **ZIMBABWE** to identify possible cooperative movements which Land O'Lakes could support.

2. CENTRAL AND EASTERN EUROPE/BALTICS/ASIA

A. PROGRAM DEVELOPMENT

- The project development manager traveled to **MOROCCO** (11/91) to meet with agricultural university and ministry officials to discuss possible dairy development activities.
- The project development manager and the manager of international programs traveled to **ESTONIA, LATVIA** and **LITHUANIA** (12/91) to assess training and technical assistance needs, and to identify needs and possible opportunities for Land O'Lakes in the agricultural sector, especially uses for Innovative Grant program funds allocated to Land O'Lakes.
- The manager of international programs, the project development manager and a dairy production specialist traveled to **THE PHILIPPINES** (5/92-6/92) to evaluate and identify possible cooperative and agricultural development activities in support of the Philippine private dairy sector.

B. LIMITED PROGRAM SERVICES

- Land O'Lakes' director of technical services (a dairy scientist/quality assurance specialist) traveled to **POLAND** (10/91) to lend technical assistance to two dairy plants to identify dairy processing improvements and potential product quality adjustments.

- Land O'Lakes' director of ventures/dairy foods, vice president of foodservice sales/marketing, and director of dairy business development traveled to **POLAND** (10/91) to lend technical assistance in marketing, distribution and new product development, and to identify potential agribusiness partners.

C. DIRECT COST ELEMENTS

	<u>Grant to Date</u>	
	<u>A.I.D.</u>	<u>Match</u>
Program Development	\$26,741	\$4,577
Limited Program Services	11,163	0
	<u>\$37,904</u>	<u>\$4,577</u>

SUBTOTAL CENTRAL AND EASTERN EUROPE/BALTICS/ASIA: \$42,481

D. PROPOSED ACTIVITIES FOR 6/1/92 - 5/31/93

- The project development manager will travel to **MOROCCO** in January, 1993, to develop the cooperative development component of a soil/water conservation project.
- The vice president of the International Development Division and project development specialist will travel to **TURKEY** to follow-up on relationships established in the dairy industry during past in-country and U.S. training and technical assistance assignments.
- Three in-country workshops will be conducted in **THE PHILIPPINES** that will focus on women in dairy production, processing and marketing. (See I.5.J.)

3. RUSSIA

A. PROGRAM DEVELOPMENT

- No activity undertaken.

B. LIMITED PROGRAM SERVICES

- No activity undertaken.

C. DIRECT COST ELEMENTS

	<u>Grant to Date</u>	
	<u>A.I.D.</u>	<u>Match</u>
Program Development	\$ 0	\$ 0
Limited Program Services	0	188,804
	<u>\$ 0</u>	<u>\$188,804</u>

SUBTOTAL RUSSIA: \$188,804

- Match explanation: Land O'Lakes was contracted by a private sector organization, Akkor, to conduct a study to assess the potential for developing a Western-style agricultural cooperative system in the Tula region.

D. PROPOSED ACTIVITIES FOR 6/1/92-5/31/93

- The vice president of the International Development Division, the director of dairy business development, and the director of ventures/dairy foods will travel to RUSSIA to follow up on the Land O'Lakes dairy cooperative study and to explore opportunities for a monetization program.

4. LATIN AMERICA/CARIBBEAN

A. PROGRAM DEVELOPMENT

- No activity undertaken.

B. LIMITED PROGRAM SERVICES

- No activity undertaken.

C. DIRECT COST ELEMENTS

	Grant to Date	
	<u>A.I.D.</u>	<u>Match</u>
Program Development	\$ 1,298	\$ 0
Limited Program Services	0	0
	<u>\$ 1,298</u>	<u>\$ 0</u>

SUBTOTAL LATIN AMERICA/CARIBBEAN: \$1,298

D. PROPOSED ACTIVITIES FOR 6/1/92 - 5/31/93

- The project development specialist will travel to MEXICO in August, 1992, to explore with USAID, FAS and governmental and commercial counterparts ways in which Land O'Lakes can collaborate to strengthen the Mexican private sector's readiness to increase trade under the terms of NAFTA.

5. HEADQUARTERS

A. PROGRAM DEVELOPMENT

- A 1992 divisional planning retreat was held (9/91) to discuss activities and to redefine/refocus the goals and direction of Land O'Lakes' International Development Division.

Women in Development (WID) Program:

- The project development manager attended a Women in Development Conference (2/92) to network with other organizations that focus on women in livestock development and to promote Land O'Lakes' Women in Dairy Development (WIDD) program.
- Land O'Lakes began efforts to create a support group for women in dairy development - a WIDD Committee. The committee's goal is to support activities for the improvement of dairy development for women worldwide.

- As part of the committee development activity, a WIDD brochure was developed (Attachment B) and circulated to solicit interest and participation from organizations and at several functions :
 - Women in Development Conference (Washington, DC)
 - Land O'Lakes' Annual Meeting (Minneapolis, Minnesota)
 - Women in Agricultural Leadership and Development
 - CERES Society
 - agricultural land grant universities
 - interested individuals

- Integrated WID activities funded by existing Land O'Lakes grants and new funding sources:
 - Though Land O'Lakes strongly believes in strengthening the role of women in agriculture and always had a mandate to support women in dairy sectors throughout the world, there has been renewed focus and attention on women in agriculture in its existing development programs in **CENTRAL AND EASTERN EUROPE**. Because of this mandate, Land O'Lakes has identified and supported numerous women involved in the dairy sector: In the first six months of 1992 alone, 217 women were trained in overseas workshops and 13 women participated in U.S. internships from this region, under four different USAID grants.

 - The Cooperative Support Grant provided the opportunity to investigate dairy sectors in countries in which Land O'Lakes did not have on-going activities and offer support to women involved with domestic dairy production. In **CAMEROON**, Land O'Lakes identified four Fulani women who in 1992 will participate in an intensive milk handling, storage and on-farm processing course which will leverage partial mission funding. These women will also learn how to be trainers and will return to train and educate other Fulani in the Bamenda highlands to improve the quality of milk provided to their children and sold on the open market.

 - Under the Cooperative Support Grant Land O'Lakes experts visited several islands in **THE PHILIPPINES** to observe and identify dairy development activities to improve the Philippines' domestic dairy production. (See I.2.A.) Women in the Philippines are integral to the production and processing of milk.

As a result of this visit, Land O'Lakes will implement three in-country training programs in collaboration with the Philippine Dairy Corporation, the Oro Chamber of Commerce, Del Monte Inc.-Philippines and four dairy federations that will focus on women in dairy production, processing and marketing. These activities will receive partial funding from Philippine public and private funding sources in addition to the Cooperative Support Grant. Enrollment will be open to dairy federation members and dairy technicians employed by the Philippine Dairy Corporation from four islands (Luzon, Negros Occidental, Cebu, and Mindanao).

- In ALBANIA, Land O'Lakes had the opportunity to observe the role of women in agriculture and meet with women members of several private farmer organizations. There is a great interest by the women to form their own dairy cooperative and market their fresh milk and soft/hard cheeses in bulk. Land O'Lakes proposes to offer a cooperative development workshop and follow-up training and technical assistance in dairy production, processing and marketing in the near future through an existing Land O'Lakes grant from USAID.

B. ORGANIZATIONAL DEVELOPMENT

- A corporate marketing brochure was produced and distributed in February, 1992.
- International Development designed and staffed a booth for the Land O'Lakes annual meeting in February, 1992.
- A Land O'Lakes Washington, D.C. representative was hired 25% time.

C. LIMITED PROGRAM SERVICES

- No activity undertaken.

D. RESOURCE ENHANCEMENT

- Department employees attended 12 educational seminars.
- A departmental team-building retreat was conducted in June, 1991.

E. EVALUATION

- No activity undertaken.

F. STAFFING

- A full-time project development manager position has been added.
- A part-time project development specialist has been hired.

G. PROGRAM MANAGEMENT

- Department administration is ongoing.

H. LAND O'LAKES' CONTRIBUTION

- Land O'Lakes contributed \$97,530 in 1991 to maintain an indirect cost rate no higher than 48%.

I. DIRECT COST ELEMENTS

	<u>Grant to Date</u>	
	<u>A.I.D.</u>	<u>Match</u>
Program Development	\$74,874	\$ 613
Organizational Development	34,981	62
Limited Program Services	0	0
Resource Enhancement	9,908	0
Evaluation	0	0
Staffing	6,103	0
Program Management	18,149	64
Land O'Lakes' Contribution	0	97,530
	<u>\$144,015</u>	<u>\$98,269</u>

SUBTOTAL HEADQUARTERS: \$242,284

J. PROPOSED ACTIVITIES FOR 6/1/92 - 5/31/93

- Three in-country training programs will be conducted in **THE PHILIPPINES** that will focus on women in dairy production, processing and marketing (see I.2.D.)
- Four Fulani women from **CAMEROON** will participate in an intensive milk sanitation, handling and on-farm processing course in the United States (see I.5.A.).
- The response to the concept of a Women in Dairy Development Committee and Land O'Lakes' WIDD brochure has not been what was anticipated. It is Land O'Lakes' conclusion that it is preferable to combine efforts with the activities of an organization that is on-going and that implements activities for women in agriculture. Land O'Lakes and its technical resources and expertise will be a valuable asset to an organization focused on the development of women in agriculture, specifically dairy. Dialogue is already underway to cooperate, as a branch of their organizations, with Women in Livestock Development and Women in Agricultural Leadership and Development in their on-going activities supporting women in agriculture.
- Land O'Lakes will develop a quarterly newsletter about its international development activities.
- A publication will be produced on linkages between agribusiness development and increased trade for U.S. and developing countries.
- A publication will be produced on a methodology for cooperative dairy development in developing countries.

II. OUTCOMES

Land O'Lakes' Cooperative Support Grant has enhanced the international development program at Land O'Lakes by broadening the scope of its activities geographically. Specific examples which have taken place in 1992 include:

1. **ESTONIA, LATVIA AND LITHUANIA:** Land O'Lakes conducted a rapid assessment and established collaborators in the emerging private dairy sector resulting in customized interventions designed to promote cooperatives. These activities will be implemented under an amendment to the Cooperative Support Grant.

2. **CAMEROON:** At the request of a newly-organized dairy cooperative in the Bamenda Highlands, Land O'Lakes designed a training and technical assistance program in support of the cooperative movement in Cameroon. To date, the USAID mission in Yaounde has agreed to provide partial funding for U.S. and in-country training activities for women in dairy development and pasture management.

3. **THE PHILIPPINES:** At the request of the Philippine Ambassador to the United States, the Secretary of Rural Development and the private sector dairy federations of the Philippines, Land O'Lakes conducted a needs assessment and identified private sector partners to initiate in-country training in support of dairy cooperatives. Partial funding has been obtained from public and private sources in the Philippines to conduct three in-country training courses.

It has also allowed Land O'Lakes to leverage new funding for international development purposes, for example:

- 1) the Cameroon buy-in described above
- 2) funding from the USAID/Yaounde for participant training (see I.5.A.)
- 3) public and private monies in the Philippines to partially fund three in-country training courses (see I.5.A.)

In addition,

Land O'Lakes has obtained seven new cooperative agreements, grants or subcontracts (with two more pending) totaling \$17,948,689

since the Cooperative Support Grant's inception. See Attachment C for a list briefly describing these agreements.

III. PHOTOGRAPHS OF GRANT ACTIVITIES

Several of the activities conducted in the past year under Land O'Lakes' Cooperative Support Grant are illustrated on the following pages.



Several of the Philippine farmers above, pictured in front of their **Northern Mindanao** cooperative, will collaborate with Land O'Lakes to conduct in-country training in the coming year. All are officers of the cooperative, and three are technical staff of the Northern Mindanao Dairy Federation.

Second from the right is **Bong Pelaez**, a member of the executive committee of the Cagayan de Oro Chamber of Commerce, who facilitated Land O'Lakes' visit to the Philippines. His wife, **Beng** (to the left of Bong), is President of the Northern Mindanao Federation of Dairy Cooperatives.

In the background is the member information board which assists the cooperative's recordkeeping on their farmer-members.



A typical, well-used local milk collection vehicle in the Philippines.



Translating for Land O'Lakes' Project Development Manager, Kristin Rens, is one of five artificial insemination (AI) technicians that traveled to Land O'Lakes in 1991 from Cameroon to receive AI training through a customized dairy herd management course. This was one of four presentations that Kristin made to over 500 people in the **Bamenda Highlands of Cameroon** congratulating them on their progress to date, and reinforcing the importance of their continued efforts in cooperative development.

To the left of the translator, facing the camera, is **Lawrence Shang**, director of the Tadu Dairy Cooperative and founder/leader of the Tadu cooperative movement. Lawrence also received training in 1989 grant from Land O'Lakes under a USAID grant in rural extension techniques, cheesemaking and dairy processing.

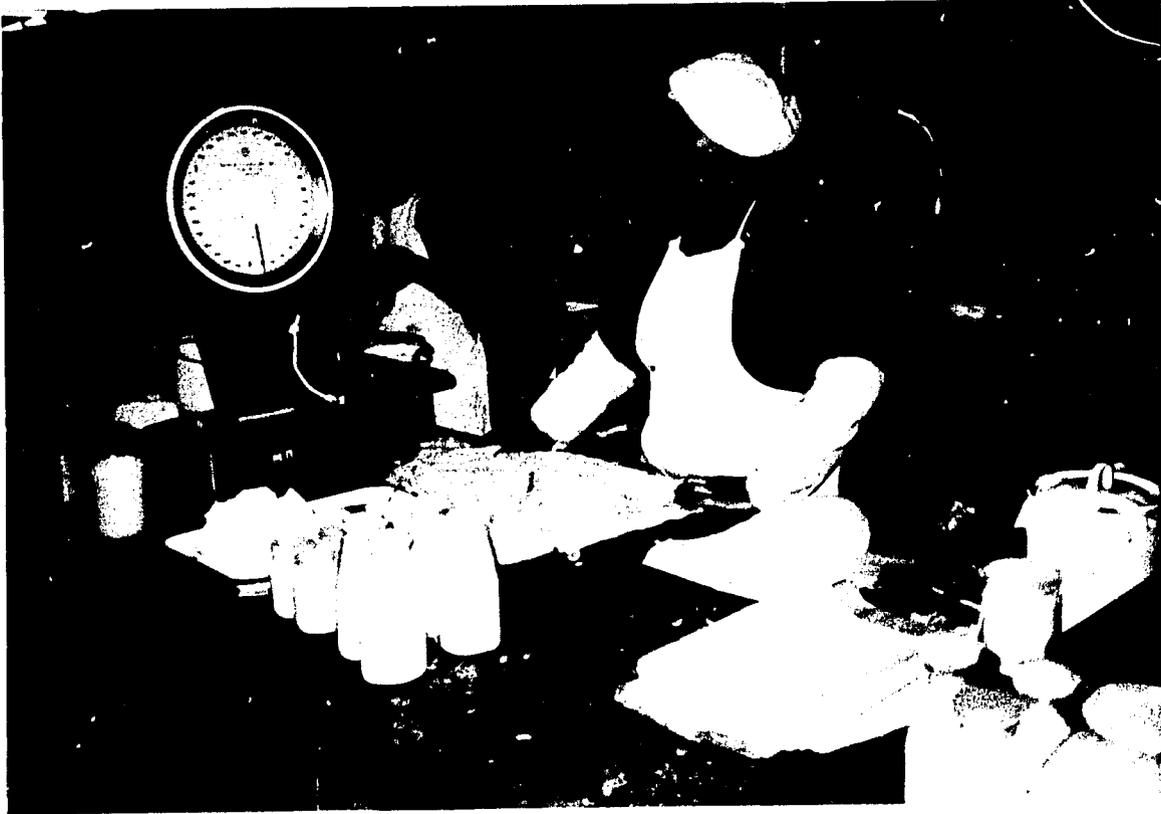


A farmer from Cameroon indicates to Kristin Rens the fresh milk collected in traditional gourds by the women milkers of the Tadu Dairy Cooperative. Kristin impressed upon the men and women of the cooperative the importance of involving the women in the cooperative's business. She told them that the key to their cooperative's development was to give the women a greater role in it.



In Albania, private farmers' organizations are developing throughout rural areas. Women are now caretakers of dairy animals.

This woman, standing in front of the barn in the backyard of her home next to Kristin Rens, is the wife of the president of a farmers' association. She expressed great interest in the development of a dairy cooperative for women.



Dairy products such as these (milk, butter, cheese) are brought from a large state farm to be sold at this indoor public market in Riga, Latvia. The price of milk has gone up in Latvia but the quality has not improved. Land O'Lakes is working on improving the quality and resultant shelf life of dairy products.

Outside of this building is an outdoors farmers' market where local produce is sold.



This private farmer and her husband own a highly diversified farm in Latvia on which crops, potatoes, flower bulbs and swine are raised. She stands in front of her feed mixer which is used for mixing swine rations. She and her husband are Latvian entrepreneurs, uncommon in a country which is noted for farmers who are usually highly specialized.



These are farm implements on the farm owned by the Latvian woman and her husband discussed on the previous page. Though these implements are not appropriate or necessary for the size of their private farm, she and her husband invested their financial resources in agricultural machines as a stable investment.

ATTACHMENT 1
TRIP REPORTS

Trip Report
Kristin Rens
Cameroon and Morocco
November 5 - 19, 1991

CAMEROON Nov. 5 - 13

Purpose:

To observe the activities of and explore possible LOL interventions with the Tadu Dairy Cooperative Society in the Bamenda Highlands.

Contacts: Maximangu, J.C., Technical Advisor to the Minister,
MINEPIA
Ernest F. Gibson, ADO, USAID - Cameroon
Jay P. Johnson, Mission Director, USAID-Cameroon
Fonka Shang, Lawrence, President of the National
Assembly of the Republic of Cameroon
Beh Mengue, Jean-Louis, Secretary General, MINEPIA
Olive Shang, Director, Calling the Women, Ministry
of Communications
Ardo IJE JULI, President of TDCS
Divisional Officer of Jakiri (MINEPIA)
Senior Divisional Officer of Bui (MINEPIA)
Col. Ivo, Head Presidential Security Officer,
Owner/Operator of modern farm in Western Province

Observations:

It is very clear to me that the TDCS has the full support of its members, the local and national community, and the appropriate government figures at all levels. USAID has been watching the advancements of TDCS and is very aware of the enthusiasm surrounding this cooperative movement. Jay P. Johnson stated that they would not fund the entire proposal that Laurence and Maximangu presented them but would be interested in seeing a proposal of training and technical assistance that parallels and supports the dairy plant construction and operations.

Recommendations:

I will write a training and technical assistance proposal based on the observations I made, information collected from in-country contacts, development objectives of the cooperative members, Ministries, and USAID. The proposal will be in three phases focusing on production (forage, livestock, milk), plant operations (collection, processing, distribution) and management/marketing through state-side and in-country training over a three year period.

MOROCCO Nov. 14 - 17

Purpose: To determine the need for agribusiness internships, and collaborative opportunities for the up-coming MAPP and SWCP.

Contacts: Abdelhafid Debbarh, IAV/UM Site Coordinator for the Morocco Project, IAV-Rabat
Dr. Abdesselam Eddebbbarh, Professor, Department of Animal Production, IAV-Rabat
Dr. Fouad Guessous, Professor, Department of Animal Production, IAV-Rabat
Dr. Bouchta Saidi, Professor, Department of Food Processing, IAV-Rabat
Steve Clarke, Project Coordinator, OIAP, University of Minnesota
Dr. Richard Jones, Dean, College of Agriculture, University of Minnesota
Dr. Bill Olsen, Professor, Department of Vet. Medicine, University of Minnesota
Charles Uphaus, Ag. Officer, Coordinator of MAPP, USAID-Morocco
Eric Loken, Ag. Officer, Division of Agriculture and Natural Resources, Coordinator of SWCP
Dennis Chandler, Mission Director, USAID-Morocco

Observations:

Talking with the people at the IAV, I hear strong desires to have LOL come in and work with the dairy sector, especially in management at the production and processing levels. IAV/UM are very interested in collaborating with us on the up-coming RFP's for Morocco. USAID is not interested in piece-meal activities but would like to have all development efforts fall under the 2 large grants that will be put in place starting in 1992. AID was pleased to see that we were visiting and still interested in being involved in Morocco. They said that they see opportunities for us in the up-coming grants - it is wise for LOL to collaborate with the "right" organizations. IAV is definitely one of them.

Recommendations:

I recommend that we have an understanding with IAV and the UM that we will collaborate together on the SWCP along with 2 other universities (Utah and Arizona) plus another private organization to act as prime. We need to continue a dialogue with IAV and UM during this process to assure our commitment. I also recommend that we send out a dairy production specialist and myself to Morocco in Feb. after we know exactly what our role is to be in the RFP. As far as the MAPP is concerned, we need to dialogue with DAI and negotiate the agribusiness internship component. The internships could be handled thru LOL and directed to other cooperatives that we are linked with (especially TVG). I will be meeting with Steve Clarke once I return from CA to be updated and to update him on our directions.

Mali Livestock Sector Project II

Observations and Recommendations

**Martha Cashman and Kristin Rens
Land O'Lakes, Inc.**

**January 10-15, 1992
Bamako, Mali**

SCOPE OF WORK:

Land O'Lakes' objective is to familiarize itself with the dairy production and processing sectors of Mali and to recommend appropriate actions and policies for the Government and interventions by the USAID Mali Livestock Sector Project II.

CONTACTS:

- Dick Cook, Washington State University Project Coordinator
- Doral Watts, USAID
- Cheik Drame, Livestock Project Associate, USAID
- Mali Livestock Sector Project II Design Team
- Dr. Ousmane Guindo, Tech. Advisor, Ministry of Livestock
- Bouba Doucoure, President, CAPS
- Mohamed N'Diaye, Financial Secretary, CAPS
- Amadou Bocoum, Secretary, CAPS
- Cooperative Members of CAPS and COLAIBA
- Ms. Dairranee Aicha Maiga, Director of Processing, Mali Lait

EXECUTIVE SUMMARY:

The following is a report of observations and recommendations made by Land O'Lakes on the current dairy production and processing situation in and around Bamako, Mali. The visit allowed Land O'Lakes, experienced in dairy development, to make suggestions for dairy sector studies, technical assistance and training activities. The identified activities can be designed and implemented by Land O'Lakes' in-house experts and farmer-members. Land O'Lakes offers their assistance to the Malian needs and objectives of revamping policy to provide incentive for dairy development, increasing local milk production, improving the current milk collection system and processing operations, and developing cooperative activity. Support for these activities can be arranged through a mission buy-in to Land O'Lakes Cooperative Support Grant or direct mission funding.

1. Government Policy Role

Observations:

The Government of Mali is interested in seeking assistance in privatizing its current role in the dairy industry. The absence of a government policy which stimulates private sector development and competition has created a low-performing dairy production sector and led to a reliance on imported dairy products.

Recommendations:

It is recommended that:

- . a complete dairy sector study be conducted to identify and analyze the current status of the Malian dairy sector. The results of this study would facilitate discussions between the government and private concerns regarding appropriate national policies to stimulate private dairy development. Further, the study would provide recommendations to the industry regarding actions which, if implemented, would respond to the policy mandate(s) and would begin to develop a quality/price responsive system from the farm to the consumer.
- . technical assistance/in-country workshops be offered to private dairy production/processing organizations in the area of private sector-to-government relations. Training objectives should be to facilitate suitable representation, strong communications and understanding of the advantages of private sector involvement at all government levels. It is essential for the private dairy industry to create and maintain reliable dialogue with appropriate government offices and individuals.
- . technical assistance be extended to appropriate government officials and representatives of the private dairy sector to develop a milk quality/price policy to stimulate dairy sector growth and satisfy consumer demand.
- . a sector study be implemented to analyze the current Malian reliance on dairy product importations versus locally produced and processed milk and milk products. The results can be used to determine a realistic policy and an appropriate schedule that will decrease dairy product imports as local milk production and processing develops.

2. Milk Processing

Observations:

The Mali Lait processing plant was purchased used from Senegal, with the help of UNICEF, some twenty years ago. The processing equipment is operable and reasonably maintained, although the overall condition of the plant is poor. The processing director, Ms. Dairranee, states that the maximum output, theoretically, is 30,000 liters/day. Due to low milk production in the Bamako area, the plant is processing an average of

15,000 liters/day. Given the size and present operating activities, there are too many employees working at the plant.

Mali Lait has two trucks that collect milk around Bamako and individual producers also bring milk directly to the plant. Ms. Diarranee states that milk is quality tested on site and an average price of 180 CFA is paid per liter. Members of the Dairy Cooperative Union and several milk producers explained that they have not been paid for their milk by Mali Lait for over three months.

Presently, Mali Lait processes and markets 15 different products varying from reconstituted milk, fresh milk and cream, five flavors of yogurt, and butter. The plant has three packaging lines which are capable of packaging 300, 600, and 1,200 liters/hour. Ms. Diarranee states the availability of packaging materials is not a problem due to the fact that it is manufactured in Mali. The average shelf-life of the milk products is 72 hours. The plant will soon be introducing and marketing two new cheese products in February. Mali Lait sells their products to supermarkets in the Bamako area for a Liquid Milk Equivalent of 275 CFA. The supermarket sells these products to the consumer for a Liquid Milk Equivalent of 300 CFA. Discussions with plant staff and Bamako consumers confirmed that there is a problem with consistent quality control of Mali Lait products.

Recommendations:

It is recommended that:

- . a technical audit of the plant and its operations be conducted to determine the economic feasibility of continuing plant operations and make recommendations for privatization. Human resource requirements would be reviewed according to staffing and technical training requirements.
- . due to the issue of low supplies of fresh milk, a specific study should be carried out focusing on the present milk collection, testing and payment systems. The results of the study will determine the necessary follow-up activities that could be delivered in support of the plant's operational improvement and services to dairy producers/consumers.

3. Milk Production

Observations:

Information concerning milk production has been collected through conversations with the project design team, meetings with various cooperatives, visits to research stations and the three levels of milk producers, and the reading of current studies conducted in the dairy sector. The Mali Livestock Sector Project II objectives for interventions in the dairy sector need to be clarified and agreed upon (see recommendation number one). If the objective is to increase the availability of milk products to the urban populations, there should be

focused, technical training and development offered to the commercial parcs and rural communals. At present, they are producing a higher quantity of milk per head through improved breeding and feeding practices. The commercial parcs also appear to maintain a better overall herd health program. Although the parcs are more intensive, and, therefore have higher production costs their proximity to Bamako cannot be overlooked.

The potential for increased milk production at the village level to satisfy urban demand will be limited until there is increased investment in feeding practices, animal health, village-based collection and chilling points and transportation to the processing plants and urban centers.

If the objective of the project is to increase the per capita consumption of milk throughout Mali, there should be a strong focus on the integration of improved milk production and child nutrition at the village level. It was confirmed through discussions and observations that breeding, animal health, forage production/storage, and milk sanitation are major issues for the producers at the village and communal level. It would not be recommended to focus on these two levels of producers for meeting the needs of urban consumers due to their location, lack of organized collection, lack of refrigeration and transport, and very low milk production/cow (in one case, less than .5 liter/cow/day). There are also cultural constraints one must consider when attempting to improve the production situation at the village level. A major constraint is the prestige of large herd sizes as it relates to feed inputs per unit of production (milk and beef) and the need to cull low/none producers, and the overall societal and environmental impact of overgrazing.

Recommendations:

It is recommended that:

- . an intensive herd management and sanitary milk collection training be provided for the farmers of the commercial parcs. In-country workshops should cover issues of improved milk production, animal nutrition, forage production, genetics and on-farm milk quality/sanitation. Substantially improved on-farm sanitation and milking practices will have the single greatest impact on the quality and shelf-life of milk and other processed dairy products. It will also lead to the establishment of quality price differentials at the farmgate as well as from the consumer.
- . training activities be organized and developed with the collaborative assistance of the commercial parc farmers. In as much as the parcs are currently selling their genetically superior livestock to the communal parcs, they may also be developed and serve as an extension/training outreach center and, perhaps, as future collection points for producers.
- . for improvements at the village level, organization and implementation should be addressed by a village-based organization. The technical training program could be developed by the Center for

Livestock Improvement which would integrate improved milk production, forage management, family nutrition and environmental sustainability. This could be a very good program implementation opportunity for a local NGO such as Re-Ma-Dev or an organization like Peace Corps.

4. Cooperative Development

Observations:

In Mali, private dairy producer cooperatives have only recently been organized. They have been established mainly to improve their access to inputs, improved breeding, influence the price they receive for their products, and to represent producer interests. At present, the cooperatives lack managerial skills and solid administrative direction. There is an overall lack of knowledge and understanding of the benefits and services cooperatives can offer their members.

Recommendations:

It is recommended that:

- . due to their newness and lack of experience, technical assistance be offered to work with the administrators of these newly formed cooperatives in the area of cooperative law, structure, and board of director training.
- . in-country workshops be offered to groups of key producers/processors/marketers of milk and milk products and to members of current dairy cooperatives on general cooperative development and member services.

Yaounde, Bamenda Highlands of Cameroon

Trip Report Observations and Recommendations

Martha Cashman and Kristin Rens
January 16-25, 1992

TRIP OBJECTIVE:

To meet with the Tadu Dairy Cooperative Society members, USAID, and the Ministry of Livestock to determine Land O'Lakes' involvement in support of the Tadu Dairy Cooperative Society's development and impact on Cameroon's dairy sector.

CONTACTS:

- Lawrence Shang, Tadu Dairy Cooperative Society Coordinator
- The Honorable FONCA SHANG Lawrence, President of the National Assembly of the Republic of Cameroon
- Al Hadji Amajoda Adjouji, Minister of Livestock, GOC
- Mr. Maximwangu, Technical Advisor to the Minister
- J.P. Johnson, Director, USAID-Cameroon Agricultural Officer
- Elzadia Washington, Agricultural Officer, USAID-Cameroon
- Fon of Nso
- Mr. Tabe Arampe, Senior Divisional Officer, Bui Division
- Mr. Ntang Jones, Chief of Sector, MINIPIA-Bui Division
- Mr. Foncha, MINIPIA Representative for Tadu Project area
- Members of the Tadu Dairy Cooperative Society (TDCS)
- Members of the Sabga Highland Cattle Breeders Cooperative Society, LTD.

1. Government Policy Role

Observations:

Overall, the government, more specifically the Ministry of Livestock, are and have been supportive of the development of private agricultural enterprises and organizations. The Ministry of Livestock has assisted Lawrence Shang and the TDCS members since the onset of this cooperative effort. Mr. Maximwangu has provided constant guidance and technical expertise in dairy production issues and artificial insemination.

During the course of our discussions with the Fulani herdsman, it was mentioned that there is a large problem with the scarcity of grazing lands due to the encroachment of native farmers and the cultivation of the pastoral lands. This is causing the grazers to lose valuable pasture and forcing them to either overgraze the lands that are available and travel longer distances during trans-humane.

It was also pointed out and observed that there is a large increase in the planting of eucalyptus trees on the pastoral lands especially around streams by individuals wanting to profit from the market demand of

firewood and building supplies. The eucalyptus tree is a species that requires enormous quantities of water and wide spacing requirements for rapid growth. The practice of planting eucalyptus near streams and on valuable pasture has significantly decreased the availability of water sources and foraging areas for grazing cattle.

Recommendations:

The concerns listed above strongly affect the success of the Fulani cattle grazers as they strive to sustain and improve their pastoral practice of cattle and milk production. These are issues only the government of Cameroon can address and identify proper solutions. It is Land O'Lakes objective to bring these issues to the attention of appropriate individuals, as they definitely impact the development and success of improved cattle and milk production in Northwest Cameroon.

2. **Cooperative Development**

Observations:

The main focus of our visit was to meet with the members of the Tadu Dairy Cooperative Society (TDCS) and discuss the areas in which Land O'Lakes can support their efforts and goals of becoming a beneficial and profitable dairy cooperative. It is very clear from our observations and discussions that TDCS is well on their way to reaching these goals. Member enthusiasm and dedication remains high and membership numbers are constantly growing. Great credit must be given to Lawrence Shang who provides sound leadership and clear vision for the cooperative's growth and future success. Also, the USAID-funded training of the four Fulani herdsmen with Worldwide Sires and Land O'Lakes was a tremendous success. The artificial insemination program alone has fostered great interest from the grazers to improve their cattle herds' performance through crossbreeding and to become members of a cooperative which will provide the needed inputs and outlets for enhanced milk and meat production.

Recommendations:

In support of this newly formed cooperative, Land O'Lakes recommends that key cooperative administrators visit Land O'Lakes headquarters and become knowledgeable of the role they must play in order to successfully manage and continue to develop their cooperative's activities. A one- to two-week cooperative leadership program can be developed to include board of directors training, membership relations, accounting and record keeping skills, and specific position training necessary for appropriate cooperative management. The visit would be scheduled during the course of Land O'Lakes' annual meeting, giving these key cooperative leaders the opportunity to meet with members and staff to discuss and observe how a cooperative operates and provides support to their members. This exposure would provide and assist in creating a vision of how these leaders can proceed in forming TDCS's dairy production role in the Bamenda Highlands.

3. Milk Production

Observations:

At present, the Fulani identify three to five of their best milk-producing cows in the dry season and up to fifteen cows in the rainy season to be milked in order to meet the nutritional requirements of their family. The cows produce an average of 2-4 liters of milk per day depending on the season. It is the women's responsibility to collect, process and market excess fresh milk and milk products. Milk is usually consumed or sold in the form of fresh milk or its products, namely sour whole milk, sour skim milk, fresh table butter, and butter oil. Cows are milked by hand in environmentally exposed and unsanitary conditions and collected/processed using indigenous receptacles such as calabash or, in some cases, enamel bowls. The milk is consumed by the family that day or if milk surplus exists (as is the case especially during the rainy season), the women will sell fresh milk or milk products at local markets. The profits of this transaction are used for the purchase of household commodities, clothing, medicines, school fees, etc. Due to these traditional methods of milk handling, the fresh milk and milk products consumed by family members and sold in the market are of poor quality, containing high levels of microbes and foreign particles, resulting in rapid spoilage and possible undesirable health conditions for consumers of these products.

Recommendations:

As the TDCS assists in providing cross-breeding opportunities to the Fulani herdsman, the milk production capabilities of these animals will increase two-fold, possibly three-fold. The Fulani women have an apparent need to improve their collection and processing practices in order to correctly manage and benefit from this elevated production. Land O'Lakes recommends offering a three-week U.S. training program to a group of Fulani women designed to provide an improved, culturally sensitive, sanitary milk collection and processing procedure that they can follow to ensure the delivery of a quality milk product to their families and to the local market. They will increase their profits not only by having more excess milk to sell but, through this training, will be able to offer the consumer a consistent quality milk product which will, in turn, create constant patronage and willingness, by the consumer, to pay a higher price for a higher quality product.

The training program will also include transfer of skills and training of trainer components so that, upon return to the highlands, they will be able to successfully integrate the newly acquired procedure into their situation and be responsible for extending the information onto other women within their district.

4. Milk Processing

Observations:

There is great interest by the Fulani of the future benefits and profitability of increased milk production brought about through selective cross-breeding with exotic breeds. The market demand for

quality milk products at a reasonable price is very high in Cameroon. At present, this demand is supported by the importation of dairy products totalling over four billion CA. TDCS has received financial support from the African Development Bank to construct a small dairy processing plant near Tadu which will rely on the milk production and collection from the Fulani herdsman in the surrounding area. Ground-breaking for the processing plant is scheduled for sometime in 1993. There is a great need for key individuals involved with TDCS to be trained in the areas of milk collection, plant management, plant operations, quality control, packaging, distribution and marketing before construction begins. It will be vital to the success of this processing plant to have highly trained individuals in place at the onset of production to guarantee immediate delivery of a consistent value-added dairy product to the consumer.

Recommendations:

Land O'Lakes recommends two- to three-month U.S. technical training internships for TDCS individuals in the areas cited in the above paragraph. Land O'Lakes can provide "hands-on" experience in comparable Land O'Lakes processing plants plus offer complementary formal training with Land O'Lakes experts in each of the identified areas.

The model for the TDCS plant is that of the processing plant assembled near Banyo built by the Minister of Livestock, Al Hadji Amajoda Adjouji. Upon return to Cameroon, a follow-up training course can be conducted at the Banyo plant to ensure the transfer of skill and complete understanding of each individual's position and responsibilities before production starts at the TDCS plant. After the follow-up training is completed, Land O'Lakes experts can provide technical assistance to the Banyo plant in areas requested by plant staff.

5. Animal Health

Observations:

TDCS members brought to our attention the need for improved animal health practices, especially for the improved crossbreeds. Although superior animals, through crossbreeding they become less resistant to diseases and the environment, therefore requiring increased attention and routine vaccinations. At present, there is a lack of knowledge by the Fulani herdsman as to the essential herd health practices for the improved breeds. Veterinary supplies are not available to the herdsman due the lack of in-country production and to an inefficient distribution system.

Recommendations:

Land O'Lakes recommends offering U.S. training for two TDCS individuals in herd health management through customized technical internships. The internship will be designed to provide formal training with experts knowledgeable in preventative herd health care, diagnosis of diseases, and appropriate treatment. The internship will include "hands-on" experience with Land O'Lakes' Livestock Production Specialists providing the opportunity to practice their newly acquired knowledge, observe how and why a cooperative should offer these services to their members and

learn the needed skills of becoming an effective extension agent. A transfer-of-skill and training-of-trainer component will be provided at the end of the internship to ensure appropriate use and integration of their acquired knowledge and the capability of training other TDCS individuals as need arises.

6. Forage Production

Observations:

TDCS members stated that there is a great need for improved forage production in the highlands. The lack of year-round quality forages due to poor pasture management, availability of alternative forage species and decreasing availability of pasture have resulted in poor animal nutrition and low milk and meat production relative to the animals' genetic potential. Compounding the pasture situation is the severe problem with the bracken fern. This weed has become increasingly dominant throughout the highlands as herdsman overgraze pastoral areas. When consumed over a period of time by cattle, the fern, containing a highly toxic substance especially while green, will cause bloody urine, resulting in decreased production and ultimately death to the animal. A sound solution to rid the highlands of the bracken fern has not yet been identified.

Recommendations:

It is vitally important to the success of the Fulani herdsman and, again, to the introduction of improved crossbreeds that the pastoral areas of the highlands are ameliorated through the introduction of improved forage species and that bracken fern is controlled. Land O'Lakes recommends U.S. training for two individuals from TDCS in pastoral management and forage improvement over a two-to three-month period. A customized training program will be designed to include formal training in forage species, pasture management, and hay/silage cultivation and storage. The individuals will also receive "hands-on" experience by working directly with Land O'Lyakes' forage experts and crop production specialists out in the field. This provides the opportunity to practice their newly acquired knowledge, observe how and why a cooperative should offer these services to their members, and learn the needed skills of becoming an effective extension agent. A transfer-of-skill and training-of-trainer component will be provided at the end of the internship to ensure appropriate use and integration of their acquired knowledge and the capability of training other TDCS individuals as need arises.

SCHEDULE:

Thursday, January 16

22:30 Arrive in Yaounde

Friday, January 17

9:00 Meeting with in the Ministry of Livestock

10:30 Meeting with USAID

12:30 Meeting at National Assembly

17:00 Briefing with Lawrence Shang

Saturday, January 18

7:30 Travel to Bamenda Highlands

15:00 Visit with members of newly form cooperative in Bamenda

18:30 Arrive in Banzo

Sunday, January 19

9:00 Meet Shufai of Sob

10:30 Meet with Fon of Nso

11:30 Visit Banzo Market

13:00 Visit the cattle grazers of Dze-Dzeng

20:00 In-house discussions

Monday, January 20

9:00 Meeting with the Senior Divisional Officer for the Bui Division

10:00 Visit the TDCS cattle breeding center

12:00 Shufai of Tadu

Tuesday, January 21

9:00 Visit with Mr. Ntang, MINIPIA

10:30 Visit the Tadu Breeding Center

12:00 Visit the cattle grazers of the Tadu traditional ranch

Wednesday, January 22

9:00 Meeting with the technical Advisor to MINIPIA, Chief of Sector and entire staff

10:00 Visited Tadu traditional ranch

11:00 Visited the site for the Tadu milk processing plant

15:00 Visit the grazers of Jakiri

Thursday, January 23

8:00 Return to Yaounde

15:00 Arrive in Yaounde

Friday, January 24

10:00 Meeting with USAID/Yaounde

Saturday, January 25

9:05 Depart Yaounde for Douala

10:30 Martha continues on to Paris

12:45 Kristin continues on to Accra, Ghana

CAMTRP1.CSG\1-28-92

Accra, Ghana

**Trip Report
Observations and Recommendations**

**Kristin Rens, Project Development Specialist
Land O'Lakes, Inc.**

January 26-31, 1992

TRIP OBJECTIVE:

Land O'Lakes' objective is to familiarize itself with the agriculture and processing sectors of Ghana and identify areas, via key contacts/organizations and observations, in which Land O'Lakes can offer their assistance in support of private Ghanaian agricultural production/business development.

CONTACTS:

- Joe Goodwin, Director, USAID-Ghana
- Cleveland Thomas, Trade and Investment Program, USAID-Ghana
- Dr. Chong Woon Hong, Agricultural Extension, World Bank-Ghana
- Tawia Akyea, Director, Trade Information, Public Relations and Export Services, Ghana Export Promotion Council
- Edward Dzobouku, Extension Program Monitoring/Evaluation Manager, Forestry Department, Ministry of Agriculture
- Dr. Taylor, Director, Department of Animal Health and Production
- Dr. Mossi, Animal Nutrition Specialist, Department of Animal Health and Production
- Ghana Investment Center
- Wayne L. Haag, In-Country Director, Sasakawa Global 2000
- Sami Toutoungi, Managing Director, Sam and Sam Dairy Production (GH.) LTD.
- Robert Buachie Aphram, Registrar of Cooperatives, GOG
- Steve Y. Dra, Executive Secretary, Ghana National Council on Poultry
- Maj. Gen. Edwin K. Sam (RTD.), Managing Director, Delawin Farms Ltd., Accra-North, Ghana
- Mrs. Unity Essel, Managing Director, Evanlib Farms LTD., North Kaneshie, Ghana
- Brig. (Rtd.) J. Odei, Managing Director, Tema Food Complex Corporation, Tema, Ghana
- Dan Owusu-Afari, Managing Director, Afarwa Farms and Maridav Ghana Ltd., Accra, Ghana

AREAS OF INTEREST

1. CATTLE PRODUCTION

Observations:

Since Ghanaian independence, livestock sector development has been neglected, while the focus has been on cash crops for export and staple food crops to meet Ghanaian consumer demand. Traditionally, cattle are owned and grazed by pastoralists throughout the country, with concentrations found in the northern three regions. There are also urban owners of cattle who hire "cowboys" to manage their herds. The state livestock farms have gone downhill drastically. They used to be used for milk and meat production, demonstration and extension. There has been some work done with the improvement of the indigenous cattle (West African Shorthorn, Ndama, Zebu, Sangha) through selective breeding.

Ruminants are considered low-input animals and are not, traditionally, fed supplements and concentrates. It was also mentioned that water sources for human/animal consumption and irrigation are not sufficient and needs to be improved.

At present, a major problem for livestock production is the lack of pasture/forage, especially during the dry season. Pastoral areas are diminishing due to the encroachment of dwellers and crop production farmers. Presently, the pasture areas the livestock producers use are not managed well - problems with overgrazing and burning.

There does not seem to be a problem with the marketing of slaughter animals. Slaughter animals are transported into the urban markets via trucks and sold to private butchers. It was mentioned that there exists supply competition from neighboring countries and an increasing marketing trend of selling frozen packaged beef.

Recommendations:

The World Bank is funding a National Livestock Development Project to be implemented over a five-year period. There will be an emphasis on animal health (disease control), animal nutrition (improved pasture and use of crop residue), animal breeding and extension. The Bank will be working closely with the Ministry of Agriculture to meet the needs of the Ghanaian farmer in these areas. Areas in which Land O'Lakes could offer assistance in the form of technical assistance and training to this sector are improved pasture/forage management, breeding/artificial insemination, cooperative development and agribusiness management.

2. MILK PRODUCTION

Observations:

Milk is looked at as a by-product of grazing cattle by most owners and herdsmen. Traditionally, milk is collected by the pastoralists who graze cattle throughout Ghana. The indigenous breed used for milk production, White Fulani, is found in large numbers mainly in the central and northern regions of Ghana. They are a dual-purpose animal in which the milk is consumed by the family and, if excess exists, is sold on the local market by the women in the form of fresh/sour milk and butter/ghee.

Artificial insemination is not being utilized to a high extent, due to the low focus/poor market for milk. Nevertheless, there are several exotic/exotic crossbreed herds found in the peri-urban areas, but the number is small. Examples of crossbreeds currently being used or researched are Holstein/Brown Swiss, Holstein/Zebu or White Fulani, Jersey/Shorthorn or Ndama.

Because, in most cases, the animals used for milk are the same animals that are grazed for meat production, they have the same nutritional concerns as were mentioned in the cattle production section. In talking with an owner of 20 Holstein/Brown Swiss, it was stated that it is possible to receive 18-20 liters of milk per day if supplemental feeds are available. This man uses corn silage and top dresses it with a concentrate he imports directly from Germany. To meet the needs of forage during the dry season, he has constructed a three-sided silage pit and buys forages for storage whenever possible. It was stated that since market liberalization, animal health/feed concentrates are readily available but extremely costly.

Recommendations:

The World Bank will include in their National Livestock Development Project a dairy improvement component. World Bank sponsored dairy specialists from Ireland which have visited Ghana and proposed to develop a dairy unit outside of Accra to research and demonstrate improved dairy practices. Land O'Lakes, experts in dairy from the production level to marketing, is interested in offering Ghana's dairy sector assistance in the form of technical assistance and training in order to increase indigenous milk production and improve the milk collection and fresh milk marketing system.

3. MILK PROCESSING

Observations:

There are several milk processors of yogurt, ice cream and evaporated milk which rely solely on imported whole/non fat dry milk for reconstitution. There is one processing plant in Ghana that is presently collecting and processing fresh milk. The plant is owned by a Syrian, Sami Toutoungi, who has been in the business for 14 years - Sam and Sam Dairy Production, Inc. He produces his own milk from a 20-head herd of exotic cattle (Holstein/Brown Swiss cross) and also collects from about 20 "cowboys" that manage herds owned by urban dwellers. He has trained these cowboys in improved sanitation practices and provides collection receptacles at time of milking, therefore ensuring a high quality milk, like his own, for processing.

His processing plant has a total capacity of processing 10,000 liters/shift. At present during the dry season, 4000 liters flow through the plant, where less than five workers process hard and soft cheese, butter, cream and pasteurized milk. Packaging is imported which is of poor quality, resulting in short shelf life. Patronage has been mainly expatriates, hotels, and a few alimentations. He has been working closely with a Swedish company, Alpha Laval, who have designed a small, turn-key, mini-processing plant for Sami that would be able to produce, package (tetra-pak), and store milk products more efficiently. Sami is confronted with credit problems, high interest rates and overwhelming competition with dairy imports. He has been lobbying with the government to lift the 35% sales tax that he must pay for marketing his products--the same tax vendors must pay for selling imported dairy products.

Recommendations:

The absence of a government policy which stimulates private dairy sector development and competition has created low-performing dairy production and has led to a reliance on imported dairy products. Enterprises like Sam and Sam Dairy Production would be much more profitable if the government had the appropriate policy in place supporting indigenous dairy production and processing. At this point, Land O'Lakes recommends the implementation of technical assistance for dairy sector policy reform and a diversified dairy product marketing study/training program with objectives of initiating and increasing consumption of locally produced fresh milk products.

4. POULTRY PRODUCTION

Observations:

While talking with private poultry producers and poultry associations, it was repeated time and time again that the sector is heading into hard times if importation policy and taxation of dressed birds/"spare parts" and basic feed ingredients are not changed to support local production. At present, both backyard and large-scale producers are faced with unbeatable competition from cheap, poor quality importations of poultry meat. The local production of broilers has bottomed out, profitable market existing only at Christmas and Easter. The producers have now focused on layers, due to the unmet demand for eggs by the Ghanaian consumer. Import liberalization has resulted in increased availability inputs - feed components/concentrates and veterinary supplies - but at very high prices. Associations have been formed by private producers in attempts to organize the purchase of inputs and to process and make available feeds year-around in bulk at lower prices.

It was stated that there is a lack of poultry production expertise and implemented poultry husbandry extension. Most producers enter poultry production with a low level of expertise and "learn by doing" which can be a costly experience. Some associations have organized basic poultry husbandry training programs using experts from the MOA and technical institutions.

Another area of concern is the supplies of cereals and necessary feed ingredients which have inconsistent availability mainly due the lack of storage facilities at the farmgate and at the processing level. Commonly, when maize can be purchased, fishmeal can not and vice versa, which leads to

shortages of complete feeds and feeds of consistent protein content. This brings up the third concern. There is a need, as expressed by the producers and associations, for equipment to test the nutritional contents of feed ingredients and packaged feed. There has been frequent problems with decreased production due to inconsistent protein levels in feed. It was stated that producers mixing their own feed and feed processors are "guessing" the protein quantity of maize, fishmeal and soybean meal.

Hatcheries for day-old chicks had been unable to meet the demand, although hatchery managers said that, due to the present situation, business has decreased. Producers said that there are frequent problems with the health and quality of the chicks from some hatcheries. Throughout the poultry sector, it was stated that there is a great need for standards/regulations to be set and monitored in order to provide consistent quality of inputs to the producers and products to the consumer.

Most producers are holding out on increasing their number of birds - both layers and broilers - until importation policy is changed to support local production and bank credit is at a lower interest rate (presently hovering between 28%-33%). The National Council On Poultry has started dialogues with the government as they prepare amendments to the current agricultural policy.

Recommendations:

It has been identified and voiced by producers and associations that there is a need for development activities in poultry husbandry, feed processing, quality control of inputs and poultry products, feed ingredient collection and storage, and association/cooperative development. Land O'Lakes recommends providing technical assistance and in-country workshops in the areas mentioned above, implemented by Land O'Lakes in-house experts. The National Council on Poultry stated that they are very interested in collaborating with Land O'Lakes and are willing to offer in-country organizational/logistical support where necessary.

5. FEED INDUSTRY

Observations:

It was stated by the Ghana Food Distribution association that Ghana is capable of meeting the demand for cereals for feed production but, due to the poor infrastructure, marketing system and storage, they are able to collect and store only 10% of what is locally produced. Therefore, feed processors are dependent on imported feed ingredients. Trade liberalizations have created constant availability of feed/concentrate components and, in most cases, at lower prices than locally produced commodities. Brig. (Rtd.) J. Odei, Managing Director, Tema Food Complex Corporation, stated that these feed imports create steep, unfair competition, prices that can not be beat by the local producer. In most cases, available imported feed ingredients are subsidized commodities of poor and unreliable quality. His processing plant is pressed by the GOG to buy donor commodities and pay a premium price for low-grade ingredients. There has been problems with the availability of non-contaminated fishmeal. Quality standards and regulations are not implemented, allowing blinded purchases of poor-quality feed ingredients.

White maize and sorghum are mainly grown in the northern regions of Ghana in large quantities. A lack of an organized collection system and economical transportation restricts these commodities from arriving at the feed processing plants in southern Ghana. As mentioned above, there is also a lack of appropriate storage facilities, both at the farm and at processing plants.

Recommendations:

The feed processing industry needs to be studied in order to identify the appropriate levels of imported feed that should enter the country of Ghana that will not hinder but stimulate local production. There also is a need to examine the importation policy, what it restricts, the leniency of import commodity standards/regulation, and sales/import taxation policy. There is a great need for a focus on the improvement of the commodity transportation system. It has been stated that the Ghanaian waterways is under-utilized and could be improved to move products produced in the north to the processors/consumers in the south. The study should help identify an appropriate strategy with goals of creating a Ghanaian feed industry that will market livestock feed, at a manageable cost and of consistent quality available to producers.

6. AGRICULTURAL COMMODITY EXPORT

The Ghana Export Promotion Council has identified several non-traditional agricultural commodities in which they will promote through development programs in each region by creating Export Production Villages (EPVs) funded in part by UNDP. The focus will be on the production cashew nuts, black pepper, pineapple, yams, and horticulture produce. The commodity chosen for each EPV will depend on the traditional practices presently implemented in the region in order to utilize indigenous skills and knowledge and avoid the introduction of a completely new production concept and practice.

It was stated that the processing of fruits and vegetables is an area in need of support, especially for pineapple. Pineapple production is at a level in which export is feasible. But due to the cultivators' choice of variety (sugar loaf versus smooth cayenne), harvesting practices, lack of cool storage, and processors, pineapple remains an untapped potential. There is said to be two pineapple processing plants. One is of small scale and providing owned in which they are processing, packaging and marketing a pineapple/orange juice (25% real fruit juice) labeled "Refresh." The other plant was built in the 1960s, Yugoslavian equipment, located in Nsawan. Apparently, this plant is in poor condition and processing at a very low capacity if at all. Tawia Akyea, Director, Trade Information, Public Relations and Export Services, stated that the export market to Europe (especially hotels) for fresh vegetables during the off season is ready and waiting. The market for processed fruits and vegetables, he feels, also has high potential domestically and internationally. A side note on processing: packaging materials must be imported.

The government has a tax incentive program for the export of agricultural products, which is around 15%, compared to that of the corporate tax of 33%. If the processor also cultivates the commodity, the export commodity tax is completely exempt.

Recommendations:

Land O'Lakes recommends that a private vegetable and fruit processing cooperative take a look at the possibilities in Ghana. There is a need for technical assistance in the area of fruit and vegetable cooperative development, harvesting, collection system development, storage, export preparation/packaging, and processing. It would be beneficial for key individuals in fruit and vegetable production/processing to be exposed to efficient/modern methods used in the U.S. through practical training internships.

Trip Report -- Baltic States

Helen Nelson and Kristin Rens
December 7 - 21, 1991

LATVIA

PURPOSE OF VISIT

To investigate the agricultural sector of Latvia in order to determine areas where LOL can offer its assistance in agricultural development.

Monday, December 9, 1991

1. Meeting with the Ministry of Agriculture

Contacts:

- Antra Grigorjeva, Ministry of Agriculture, Department of Foreign Investment - Translator
- Andris Silars, Chief Specialist, Department of Protocol, Ministry of Agriculture
- Gatis Kruze, Deputy Minister, Ministry of Agriculture
- Valdis Dzenis, Agronome, Department of Agriculture
- Mievaldis Girgalis, Chief, Department of Arable Farming
- Maija Brunovska, Cattle Breeding Specialist, Ministry of Agriculture

Observations/Recommendations:

The three priorities of the government of Latvia are restructuring of the transportation system, improvement of the energy system, and the agriculture sector. The priorities within the Ministry of Agriculture are sugar beets, baby food, equipment for private farmers and training programs (changing the university system to the Western style).

A pre-feasibility study done by a western European firm proposed the development of four model dairy farms tied into a processing plant using modern technology and selling products to the consumers.

The main problems in agriculture at present are the shortages of grain and sugar beets due to the restrictions on importations.

We concluded from the dialogue that the Ministry was placing priority on increasing grain production, reclaiming dormant land into productive land, and offering credit for the purchase of building material and machinery.

Areas of training prioritized in the meeting were agribusiness and specialization. There are two types of farmers: those coming from the large state farms/collective farms who are skilled and farmers who have inherited the land and come from the city knowing nothing.

There are 520,000 dairy cows (95% are Latvian Brown, 5% Holstein). 1.4 million total (beef and dairy). Average production is 12 liters/day, 3600 kilos/year.

AI is used by all farmers. There are 8 insemination centers owned by the State - selling semen for 3-12 roubles per dose.

A replacement heifer costs 4-5000 roubles.

We were given several documents describing the agricultural sector and priorities.

2. Meeting with Director(s) of the Bauska Dairy Association

Contacts:

- Maris Sauts, Technical Director
- Ms. Mirdza Balina, Production Manager
- Andris Dicmanis, General Director

Observations/Recommendations:

This dairy processing plant has been private for one year with an annual profit of 6 million roubles. They have plans to build a new processing unit capable of a total capacity of 200 metric tons/day. Products will be fluid milk, kefir, cream, sweet skim milk curds, yogurt.

At present, total capacity of plant is 160 tons/day but is producing only 70 tons/day, all of which is being sold to the state. The existing plant will be for cheese production when the new plant is completed. They also have two smaller plants at other locations which produce butter when there is a surplus of milk.

Milk is delivered from the large state farms, who also collect from a few private farmers. For the new plant, they foresee collecting more milk from private farmers. Milk from private farmers is better quality than that from the state farms.

At present, they are paying 1 rouble, 5 kopecks to the farmer and selling the value-added product to the state for less: one liter of fluid milk = 60 kopecks - sold in the store for 70 kopecks; sweet cheese = 14 kopecks - sold in the store for 70 kopecks. The prices for these products on the open market are triple the price in the state-operated stores.

These prices are all subject to change in the very near future due to new pricing policies of the government.

When asked what areas would they prioritized for training, they responded, "We need new milk testing equipment in order to analyze milk components. We can then tell the farmers what they are doing wrong and how to improve the milk quality." The milk quality is quite poor, partially due to the fact that they must pasteurize it for a long time at high temps. Also, we learned that the bottled milk has a very short shelf-life, which proves poor sanitation at the production level. People here prefer UHT milk even though most households have refrigeration.

There is a possibility of working through the collectors to implement a Q/QM program for the farmers - very important since all state-owned farms will go private soon. At present, there is also a need for improved processing practices. There will be a need for packaging/marketing training and technical assistance, especially when they build their new plant and need to sell to private shops and individuals.

3. Meetings at two other stops:

Feed Mixing Plant - Musa

Contacts:

- Alexander Michkov, Feed Mill Manager

Observations:

This plant has just rebuilt its mixing unit with funds from the government. It supplies feed mixes for cattle and swine to the entire Republic and individual farmers. Farmers or farms bring in grain and are paid cash by the plant. The total grain sold to the plant dictates the amount of mixed feed they can purchase. All the ingredients for the mixes are purchased locally. The plant stores ingredients in bulk and mixes bulk feed to order.

State-owned Farm

Observations:

Due to the time of day, we were unable to get inside of the buildings but were told that this farm had a 15,000-head swine operation and a 1,600-head dairy operation. All feedstuffs are supplied by the State, and all production is sold to state-owned processing plants and businesses.

4. Meeting with the USAID Representative for Latvia

Contact:

- Richard Peters, TDY - AID Representative to Latvia

His prior post was Quito, Ecuador, and he also lived in Zaire for 5 years. He stated that he was anxious to speak with us after our three-day program. He will be replaced by Gale Rozell on January 8, 1992 - also TDY.

Tuesday, December 10

1. Meeting with MOA - Land Reform and Privatization Education Institutions and Personnel

Contacts:

- Mr. Veitners, Department of Land Transformation
- Sigurds Vigants, Head of Education Institutions and Personnel Department

Observations:

There is no law ownership law currently in place - principles of the law have been drafted and will be put into effect by April, 1992, or sooner. Over the next year, 50% of the land will be in private hands and 50% will stay in State hands. This is what the reform will do in two stages:

Stage I - Land Usage. The land still will be controlled by the state but distributed for usage to a combination of previous owners, state entities, and organizations. This land allocated for use can not lie dormant for more than a year. If so, usage rights will be taken away. There are no cultivation requirements as far as what they must produce. There will be over 200,000 plots of land measured and appropriated to applicants. 1/3 of the applications were from private owners. State farms requested usage rights for 2/3 of state-owned land. The applications for land claims were 1.3 times available land.

Stage II - Land Ownership. By 1996, only 25% of the land should be in state hands. The usage rights will shift to official ownership by 1996.

The Ministry of Agriculture has just been reorganized and is responsible for all agro-industry except forestry.

The MOA is proposing to provide courses for farmer training, administered by the agricultural institutes (agricultural school-26, agricultural technical colleges-16, and agricultural universities-1) at the pagast level. There are 508 pagasts. Parallel to these courses, they are proposing

to develop an advisor service. One problem is that the farmers are not interested in attending these classes. The MOA says it is because they are too busy trying to get their hands on the scarce inputs and making ends meet.

The areas of training that the MOA feels are priority are agribusiness, modern technologies, animal husbandry, and training of trainers.

2. **Meeting with ZEME** - the agricultural newspaper and the Latvian Farmers Federation.

Contacts:

- Viesturs Stoks, Head of the Farmers Center, Board Member of the Federation and as of 1/92, the Managing Director of the Federation.
- Armands Grickus, Director of International Cooperation for the Federation
- Mara Sadovska, Agricultural correspondent for ZEME

Observations/Recommendations:

The Federation is 1 1/2 years old and now has 11,000 private farmer members (about 60% of private farmers) who have an average land holding of 22 ha. They predict that by spring 1992, there will be an additional 25,000 new private farmers. By 1996, there will be a total of 75,000 private farmers.

The role of the federation is to act as a voice of the farmers to the parliament, to translate new laws, etc. made by the government for the farmers, to provide training, to market for the members (they have a registered exportation license), and to distribute a monthly newspaper.

Areas of training they feel are most important: cheap, sustainable agricultural technologies; market economy; how to sell products; quality products/quality packaging; management skills; animal husbandry; and breeding. They would also like to organize their own extension service using farmer members at the pagast level, relying on information from the agricultural education system - this system would parallel the efforts of the MOA. The federation believes that the farmers would listen to them before they would listen to the MOA.

3. **Visit to private farms** - selected by Federation and not typical examples of the average private farms in Latvia.

Contacts:

Observations:

The two farms we visited were stated as being "not normal examples" because they both had a great deal of machinery (more than the collective farms). These farmers had started buying equipment two years ago and continued to upgrade and buy more instead of saving money. This machinery is their cash in the bank. Now the problem is that they do not have enough land to effectively use the equipment - land reform limits the amount plus the fact that they live near a large collective farm that has first "right" to the land that was theirs. They are both members of the federation and stated that it has been very beneficial to be members and that the federation offers great support and is paving the way for private farms and their success.

4. **Dinner with Gatis Kruze**

Kruze is interested in state-side training only - overseas internships/short course/exposure. He clearly stated that U.S. experts would be unable to effectively train in Latvia. His reasons: First of all, Latvia is not "Russia"; they know what they are doing. Secondly, U.S. experts would not be able to understand our equipment and how would they be able to understand our techniques and situations in such a short time period? He felt that the Ministry was the only vehicle through which to provide training. In general, he wants the Ministry to control all international interactions.

Wednesday, December 11

1. **Visit to the open market in Riga**

Due to the time of year, the market is not as busy as in the summer seasons. The major observation made was the differences in prices and quality between the state-supplied products and privately supplied products. Although the private goods were available and the quality of these goods was superior, people still queued for state supplied goods. We were advised that the average salary was 700-800 roubles/month and a pension was 300-400 roubles/month - their income will not allow them to pay the "private" price. There were sellers of fruits from the southern republics asking very high prices for their products. The following prices were offered at the market:

Meat 160/k. bacon from private farms
 45/k. fresh from state
 80-120/k. smoked sausage
 80-100/k. beef from private
 50/k. smoked chicken from private
 70/k. lamb from private
 Dairy 100/k. butter
 50/k. sour cream
 30/k. sweet curds
 Fish 18/each smoked fish from state
 Bread 4-5/k. from state
 6/k. from private - not best quality
 Eggs .60/each from state
 1.60/each private
 Vegetables 3-4/k. potatoes and carrots
 Flowers 6-10/each for carnations
 30-60/each for roses

2. Meeting with the Jelgava Agricultural University

Contacts:

- Imants Geronskis, Rector
- Mr. Direimenis, Director of the Qualification Raising Institute

Observations/Recommendations:

Rector Geronskis will be replaced by Mr. Strykus. The University currently has 6000 students (50% full-time, 50% correspondence) and is very concerned about reforming their curriculum to eliminate unnecessary specialties and meet the needs of present agricultural system.

The Qualification Raising Institute has its focus on re-training in agriculture - to determine who needs to be re-train and the process to re-qualify people. Also, they would like to focus on raising the qualifications of present university staff. Their future focus will be to train the staff of the yet-to-be-organized advisory service. Both contacts stated that they do not work with farmers but work with trainers of farmers.

After explaining that we would like to provide training which will reach private farmers, we requested their cooperation and assistance with the implementation of our training courses. They have well equipped classrooms, dormitories, research farm, and housing for trainers, which the rector offered at no cost.

The priority needs identified in this meeting for private farmers were production problems, how to sell, and agribusiness management.

2. Meeting with Martins Sesks, President, Latvian Dairy Committee

Contacts:

- Martins Sesks, President, Latvian Dairy Committee (LDC)

Observations/Recommendations

The 10,000 plus members of the LDC represent the dairy processing sector. The LDC has asked the Government to restore the local dairy processing plants at the pagast level. The LDC is funded by a percentage assessment of the milk sales of the processing plants.

Their service is to provide information to the members. Because of Martha's previous discussion with him, Mr. Sesks was familiar with LOL's approach and very eager to collaborate with LOL any way LDC could.

Mr. Sesks stated that he felt the training priorities should be as follows: 1) develop milk standards (send him copy of U.S. standards), 2) train milk supervisors and specialists from the University in milk quality, 3) provide business management training to processors, 4) and organize agricultural inputs centers.

SUMMARY OF RECOMMENDATIONS FOR LATVIA

Amendment of the FMC for the Baltic States.

Using the \$100,000 for the training of "Q/QM" type staff for processing plants and work with plant managers to demonstrate the importance of working with farmers on milk quality and the importance of soliciting farmer loyalty.

ESTONIA

Thursday, December 12

1. Meeting with the Ministry of Agriculture

Contacts:

- Rein Nigul, Deputy Minister of Agriculture
- Jaan Leetsar, Chief Director, Estonian Farmers Credit Union
- Arno Kannike, President, Estonian Dairy Association
- Olav Kart, Head of the Department of Science and Education
- Managing Director of Meat Union

Observations:

Introductory meeting at the Ministry of Agriculture and review of our four-day program.

2. Meeting with the Rakvere Meat Packing Company

Contacts:

- Olev Rohumae, General Director, President of Meat Union
- Indrek Lekko, Commercial Director

Observations/Recommendations:

This is the largest meat processing plant in Estonia and is the only plant that fabricates beef. Equipment was purchased and installed in 1990 by a Finnish company which also provided technical support and training both in-country and in Finland.

This ultra-modern processing plant, with 1200 employees, has the capacity of 100 tons/day. Presently, it processes 300 cattle and 1000 hogs in one shift into 32 tons of sausages, 8 tons of ham, and 56 tons of meat. It processes 55% pork, 40% beef, 2% sheep, 3% poultry. A large state farm near the plant transports its slaughter animals to this plant for processing only - picks it up after processing and the collective distributes meat products. 10-15% of the slaughter animals come from private farmers. The prices paid to the farmers fluctuate with inflation.

The product is sold wholesale under general supply agreements with the prices fixed - adjusted monthly/quarterly. Decisions regarding sale of product are made at the plant with government controlling plants profit - it cannot exceed 10-15%. 40% of the processed meat is sold to the state. The demand for Estonia is 90 tons of processed meat, but its in-country grain capabilities allow them to supply only 70 tons.

They have discontinued their trade with the East because Soviet grain supplies have terminated. They stated that the "East" is a black hole. They will take whatever they can get and whatever quality it is. Therefore, marketing is not a priority, as they can not meet their domestic demand and have an outlet for unlimited product.

The director is very concerned about his employees and offers them great benefits. He is interested in training programs for supervisors in order for them to manage and motivate staff.

3. Meeting with Agrofirma Pandivere

Contacts:

- Olev Liblikmann, Head Director
- Lembit Solba, Dairy Plant Manager

Observations:

Visited the collective's cheese plant, which produces one kind of white cheese in 5 kilo blocks and sells them to numerous buyers (state and private). Plant equipment was purchased in 1973 from Hungary and has deteriorated. In the high season, it processes 3 tons of cheese and, at present, it is processing one ton of cheese. 10-15% of the milk comes from private farmers. The plant manager claims that they have four grades of milk and that 50% of the milk is "bad" quality - they do reject poor quality milk.

Later, we had a meeting to discuss the future of the Agrofirma. Under new land transformation law, the collective will probably cease to exist, since all land will return to previous owners. The firm will remain with its processing plants and other enterprises, which are numerous. In the Director's opinion, the only need he could identify for farmers is equipment and other inputs - not training.

Friday, December 13

1. Meeting with Science and Education - MOA

Contacts:

- Olav Kart, Department Head, Science and Education, MOA
- Toivo Palm, Deputy Director, Estonian Agriculture Biotechnology Center

Observations/Recommendations:

Talked with Palm about biotechnology needs. The institute is designed to produce and sell vaccines for livestock. They

would like to cooperate on the production of vaccines and they need technology. He has been working regionally with the other Baltics in the coordination of vaccine production for specific livestock health concerns.

Kart provided an overview of the assistance from other countries to Estonia's agricultural sector. Sweden is involved in the development of the agricultural education system (teacher training, study farms) and secondhand machinery. England is offering production internships. Holland is providing pre-mix technology, grass production and potato research. Germany is providing spare parts and advisor training. Finland has multiple programs in advisor training, student exchange, teacher training, and used machinery. He then identified the assistance he views is important from the U.S. The two areas identified are privatization of large farms and long-term academic training. There is collaboration with Geonomics in the area of animal breeding and veterinary medicine.

2. Meeting with the State Land Department - MOA

Contacts:

- Maret Liivak, Lawyer
- Ulle Kullor, Lawyer

Observations/Recommendations:

The land reform law passed in November will return land to previous owners and their heirs. Their land usage law was passed in 1989 and about 6,500 have gained land use rights. The land reform department will determine which lands will remain in state hands, then the municipalities will distribute the balance of the land to private owners. One of the restrictions that concerns agriculture is that the land under cultivation must stay in agricultural production by the new owners over the next five years and can not be sold except to the municipality. The value of land has yet to be determined. There will be fewer private owners than in 1940, when there were 40,000.

3. Meeting with First Deputy Minister of the MOA.

Contacts:

- Maido Pajo, First Deputy Minister - MOA

Observations:

The agricultural property reform land is under review of parliament. It will restore the traditional role of local authorities and determine the distribution of agricultural property.

4. Meeting with the Estonian Land Bank

Contacts:

- Harry-Elmar Volmer, President
- Riho Hagel, Vice President

Observations:

The government of Estonia has given this bank 25 million roubles as a credit source for farmers. There was an additional 100 million roubles for the same purpose given to the Central Bank, which does not currently handle agricultural loans. The president mentioned that his loan officers are not knowledgeable in agriculture, which makes it difficult for them to evaluate a good loan candidate. This is ACIDI's area of expertise.

Saturday, December 14

1. Meeting with the Estonian Farmer Central Union

Contacts:

- Jaan Leetsar, Chief Director
- Renate Poder, Head of Foreign Affairs

Observations:

Gave an in-depth overview of the agricultural history of Estonia. Main responsibilities of the Union at the district level are to assist with economic problems, provide training, and assist with supply problems. They are in opposition to the state farmers and are the voice of the private farmer. Their focus is to restore the five different cooperatives that were in place in 1939: banking, insurance, trading, processing, and utilities.

The Farmers Union feels strongly that it should be the organization responsible for providing extension services to private farmers.

2. Visit to private farm near Saku

Observations:

Bootstrap operation. This farmer previously worked as a bus driver for the nearby state farm. He has 22 ha. on which he produces barley and cabbage. He has ownership of one tractor and leases harvesting and other equipment from the state farm or neighbors. The government gave him a small loan, and he also borrowed from other sources in order to get himself started. His main concerns are how to be a better farmer with what he is producing and what he has available to him. He is marketing his cabbages to stores in town and sold a portion of his barley to the state farm and is hanging on to the rest until the price increases.

3. Meeting at the Tallinn Milk Processing Factory and with the Estonian Dairy Association

Contacts:

- Tiit Kouhkna, Director
- Aare Annus, Technical Director
- Arno Kannike, President, Estonian Dairy Association

Observations/Recommendations:

Presently, there are 21 members of the association. To be a member you must be a processor or belong to a dairy cooperative. The association acts as a voice of the processors to the government and also sees themselves as providers of improved knowledge, training, and a source of assistance with political and economical questions.

The price of milk is fixed by agreement between the processors and the Producers Union and the private sector is just along for the ride but will be noticed when they start producing milk. Until July, the price was fixed by the government. Prices have changes three times since July from 900 roubles/ton to 1400/ton currently and will be 2500/ton in January. This is the price for milk of average quality.

The Technical director identified training needs in knowledge of equipment, technology, energy problems, waste water problems, and planning. At the technical directors' meeting in January, they will discuss training needs and set priorities.

They have had a long and beneficial relationship with Denmark, including a three-phase training program.

Sunday, December 15

1. Visit to Ranna State Farm in Tabasalu

Contacts:

- Kallav Joakit, Manager
- Ruuben Teesalu, Vice-Director
- Tarmo Tikk, Poultry Breeding Manager
- Rein Einer, Chief Engineer

Observations:

This state farm has 10,000 ha., which supports the following enterprises: 1000 cows, 1800 calves, 4 million broiler chickens for their own use and 3 million broilers for other firms. The director wants to keep the farm in one piece to maintain production. But, with the land reform laws, the arable hectares will be under ownership by private farmers - three quarters of the land will be taken away from the farm.

The enterprises will most likely be privatized and the present staff feel there is a great need for training in business management, free market economics, management of inputs and available capital, and the motivation of workers.

We visited one of their larger dairy farms. It seemed to be managed well, animals were in good health and clean, and pipeline was well maintained. They are very proud of the production per cow (5400/year) and bring in new stock from Germany every three years.

2. Meeting with Don Slindon and Dick Magnuson, VOCA

We discussed our meetings which was helpful background for them.

LITHUANIA

PURPOSE OF TRIP

To investigate the agricultural sector of Lithuania in order to determine areas where LOL can offer their assistance towards agricultural development.

Tuesday, December 17

1. Meeting with the Department of International Relations

Contacts:

- Rimas Varkulecichius, Director of the Department of International Relations, MOA
- Onute Babraviciene, Chief Specialist, Foreign Investment and Export Division, Department of International Relations, MOA
- Algirdas Tupe, Interpreter

Observations:

Discussed program and made changes/additions. Explained LOL and ACIDI's objectives and gave brief background on each organization.

2. Meeting with the Department of Food Industry

Contacts:

- Violeta Dailidiene, Sr. Specialist of Dairy Industry, MOA
- Lasiene Nijole, Specialist in Milk and Meat Processing, MOA

Observations:

Violeta explained that most milk is produced on collective farms. At present, an annual total of 3 million tons is processed, which will drop in 1992 to 2.5 million tons due to the collective farm breakdown. Then, 50% of the milk will come from private farms. They plan to improve their collection system by arranging collection points.

The main problem with the milk is that it is poor quality due to poor sanitation practices. The milk is tested for bacteria and butter fat at each collective farm and sometimes from individual farmers.

Every region has a milk processing industry. The bigger cities produce milk products with short shelf life, while the smaller towns are responsible for the production of butter and cheese. Processing problems include packing materials

and know-how, rundown equipment, and poor milk testing equipment.

Lasiene stated that this year there will be 600,000 tons of meat processed and this total will reduce to 560,000 tons next year due to the unavailability of feed. Private farmers are bringing their slaughter animals to collective farms to sell. Of course, this will change next year with privatization, and processors will have to buy on the market.

The processing plants supply to Lithuania and the East consumers 40% pork, 40% beef and 20% poultry. The meat sold to the East is used as barter for fuel, feed and other inputs. The major problem for the meat processors at present is the lack of packaging materials and know-how.

3. Meeting with the Animal Husbandry Department

Contacts:

- Vytautas Bernots, Director of Animal Production Division
- Romualdas Braziunas, Director General of Animal Breeding

Observations:

Vytautas said that Lithuania raised more animals than it could feed because they sold to the East and received feed and fuel for the products. They must reduce number of animals due to the limited trade now with the East.

Milk cows are producing about 3,700 kilos/cow/year. With better feed, he believes that their cows could produce up to 5,000 kilos/cow/year. Feed lacks protein. He said that Lithuania is not behind in breeding - two breeds are used as dual purpose which are the Lithuanian Black and White and Lithuanian Red. There are now 150,000 cows in private hands. Major problems with livestock production are feeding and breeding (getting the good genetics to the private farmers and finding a new source of semen).

4. Meeting with Department of Crop Production and the Lithuanian Institute of Agriculture

Contacts:

- Mr. A. Genys, Sr. Agronomist of Crop Production, MAO
- Dr. Rimantas Dapkus, Director, Lithuanian Institute of Agriculture

Observations:

Rimantas stated that Lithuania is raising too many hogs. They need an extra 1.2 million tons besides what they produce

domestically to support the current numbers. Lithuanian has the potential to increase their grain production but not enough to meet the present need.

The areas they would like assistance in are training in crop production and new varieties in cereals, sugarbeets, flax, potatoes and rape seed. The other area is the need to train farmers how to manage and organize their farm, record keeping and marketing.

There are 44 districts in Lithuania and each district has an advisory group usually made up of an agronomist, plant protection specialist, animal husbandry specialist and an economist. At present, these advisory groups are operating in about 5 districts using state funding. The agricultural academies and schools offer training to farmers and the research institutes offer training to these advisors.

There are two fertilizer plants for nitrogen and phosphorus fertilizers, but they, too, must decrease production due to the closed trading with the East.

The advisory service will most likely be in the hands of the Lithuanian Institute of Agriculture, with Rimantas in charge. He would gladly collaborate if we would decide to train their specialist/train farmers. Facilities are available at the Institute and in each district.

5. Meeting with the Department of International Relations

Contacts:

- Mr. A. Genys, Sr. Agronomist of Crop Production, MAO
- Dr. Rimantas Dapkus, Director, Lithuanian Institute of Agriculture

Observations:

Rimas said that the MAO would like to give training agricultural training to people before they take private ownership of arable land. In 3-4 years there will be 50,000-75,000 private farmers. Now, the average size of a private farm is 13-15 ha - law states that private owners can not have over 50 ha.

He said they would like international support for the improvement of an area up north that is experimenting low agricultural production due to the activities of a cement factory, production and processing of rape seed and sugarbeets, and the improved mixing of feeds which reduce reliance on the East by using by-products from food processing.

6. Meeting with the Department of Agrarian Reform

Contacts:

- Mr. A. Jecius, Director

Observations:

Very confusing. The land reform law is being prepared at this time. They will be dismantling state enterprises completely and giving back assets and land to previous owners, land users, and state farm workers (see English interpretation). Applications are being accepted until December 30, 1991. Land value has been determined at what it would produce of flax over 2.5 years.

7. Meeting with Farmers Union and Department for Private Farmers

Contacts:

- Markas Zingeris, Special Assistant for Foreign Relations, FU
- ?

Observations:

The FU is two years old and has 6,800 members. The benefits of being a member are the opportunity to have access to inputs, the FU bank and their voice represented by the FU in the government. The areas of training they are most interested in are U.S. production and agribusiness internships in the U.S., with technical training, training for agricultural lawyers and bankers, cooperative development. In-country training for farmers in the areas of farm management and building construction, production specialization, and training of women in agriculture.

8. Meeting with AID Representative to Lithuania

Contacts:

- Nedra Huggins-Williams, Ph.D., AID Rep. to Lithuania

Observations:

We briefed her of our visit so far to Latvia, Estonia and the one day in Lithuania. Nedra said that besides our activities, USAID is managing the maize shipment, and VOCA, IESC, and IQC group are setting up in the Baltics. They do not have a budget yet for 1992, yet their focuses will be domestic pluralism, agriculture, privatization and energy.

Wednesday, December 17

1. Meeting with regional officials, mayors, Farmers Union in the Silali of Lithuania.

Contacts:

- Vincas Rupslaikis, Regional Manager of Farmers Union, Silali Region
- Pilypas Petras, assistant Regional manager of Farmers Union, Silali Region
- Alfonsas Bartkus, Mayor of Silali
- Raudonius Juozas, Regional Manager of Silali Municipality

Observations

We briefed each other as to our activities and objectives and exchanged information concerning the situation of farmers in Lithuania and the USA. In this region, the Farmers Union and the Regional Government work quite well together. Silali is very strong in agriculture and in the number of private farmers. The main problem for these farmers is the availability of inputs.

2. Meeting with private farmer in the Silali Region

This farmer has 40 head of cattle in one barn. He milks 15 (average 3,500 li/yr/cow), has several bulls for breeding, the remaining are bull calves, and heifers. He uses individual milk machines and stores his milk in a bulk tank until the collectors arrive. His milk is tested separately and he is paid on the basis of milk fat and bacteria. His milk is not top quality but first quality (1 ruble/li). He has, together with his friend, 84 hectares, which he grows cereals, potatoes, beets, other vegetables, forages and has pasture. He feeds silage, which is mixed with some cereals and peas (pretty good protein content) and hay. It takes 18 months to feed out a calf for slaughter. No health problems.

Without any credits, this man has obtained building materials little by little, and built an addition to the barn. He is in great need of more building supplies, farming implements, and spare parts. When asked what training would be most beneficial to him, he mentioned feeds, farm management, equipment repair, building construction.

3. Meeting with private farmer in the Telsia Region

This farmer also build a brick barn without taking a loan from the bank - incredible. He has 25 hogs and 15 head of cattle in which he milks three. He only has 8 ha, so in order for him to feed his animals, he must buy from others, either in the market or from other private farmers. He has

applied for more land and will know after January 1 whether or not he has obtained more ha. If he is not granted the land, there may be an opportunity to rent or purchase land from the state.

Again, as the other farmer stated, the main problems are inputs: equipment, spare parts, construction materials. This farmer also mentioned improved breeding stock for both cattle and hogs and milking equipment.

There are three divisions of producers that are farming for Lithuania: collective/soviet farms (45%), private farmers (5%), renters (50%). It is these renters, mainly collective/soviet farm-workers, who live on state-owned property and work about 4-7 ha to produce the major percentage of agricultural goods. Their statistics go unnoticed because they bring their milk/slaughter animals to the collective/soviet farms to be collected and their "contribution" is counted in with the State's. We have been told that these farmers will retain their land, even though the land may belong to a previous owner - the previous owner will be given other property.

4. Meeting with Alvydas Mikielionis, Head of Farmers Department, MOA and a board member of the Farmers Union.

He is in the position as the voice of the farmers to the government, and he is doing everything possible to make sure their plight towards privatization is support and not overlooked. He believes that the farmers need access to credit at low interest (2%), possibly through a farmers credit bank. He would like to see the FU act as the source for the needs of the farmers and at the moment has taken their burden on his shoulders. Actually, since the FU is the only organization that truly supports the private farmer, he will be carrying a heavy load for some time.

Thursday, December 18

1. Visit to the Vilnius Dairy Processing Plant.

Contacts:

- Lasiene Nijole, Sr. Dairy and Meat Processing Specialist
- Alvydas Majauskas, General Director, Vilnius Milk Plant
- Saulius Aleksandravicius, Vilnius Milk Plant

Observations:

The General Director explained the plant's capacities and products. In one shift, total capacity is 200 tons. In actuality, 320 is produced. Their products are bottled and boxed milk, kefir, sour cream/cream, ice cream, cottage cheese and baby formula (see labels for breakdown). They receive milk from collective/soviet farms and individual

farmers (which he said is 45% of total). The milk is tested at the collectives and at the plant for bf, sc, and other dirt. The price paid depends on one of the four grades (top, 1st, 2nd, rejected) - most of the milk is of the 2nd grade. The director said this is due to unhealthy cows and unsanitary practices on the farm and while collected (sometime milk is not picked up for several days). This plant distributes the milk to 4-5 state shops and numerous other places. We then toured plant. The Swedes have installed a Tetra Brik packaging equipment. The bottled milk has about a 24-hour shelf life.

Privatization will, in his mind, put the processors in private hands. They have sold 7% of shares to employees-- would like to see 51% of shares in the hands of producers.

2. Meeting with Estonian Dairy Center (like producers union)

Contacts:

- Vladas Lasas, President

Observations:

This is a state-owned organization. Processing plants pay dues which cover most of the administration costs. There are 37 processing plants in Lithuania and 35 are members. He hopes to have producers as members in the future. They are involved with the exportation of some dairy products and the importation of western testing and processing equipment. We had a long discussion of the needs of the processing sector and the producers of milk. It was suggested that we offer technical assistance to one or two plants to identify their inefficiencies and make recommendations. Vladas explained that the processing plants throughout Lithuania are mainly in the same situation, and the problem areas identified at one plant may very likely to be identified in the others. The LOL experts would then hold a seminar with all directors and appropriate others to discuss recommendations and implementation. They offered to cover all in-country costs.

3. Meeting with USAID/U.S. Embassy

Contacts:

- Nedra Williams, USAID Representative to Lithuania - TDY
- Darryl Norman Johnson, Charge d'Affairs, U.S. Embassy

Observations:

Briefed both on our observations and findings concerning mainly the individual farmer (private and renter). Nedra gave us a copy of the interagency agricultural report done by Snell and Palmeroy (see copy).

4. Meeting at the Parliament

Contacts:

- Jonas Macys, Deputy of the Supreme Council of the Republic of Lithuania, Deputy Chairman of the Committee of Agriculture

Observations:

He is a strong supporter of the private farmer and was very interested in our observations. He confirmed that the land cultivated by the renters will stay in the hands of these farmers and other land will be given to the previous owners. He also stated that as of yesterday, 100,000 applications had been received for land. Jonas predicted that there will be 30,000 private farmers by next year. The government can only hope to support 10,000 with credit and equipment. The budget for the private farmer is at present 150 million roubles - the FU asked for 650 million.

The government has signed an agreement with GFR to receive the new/used farm machinery which belonged to East Germany. Russia allowed equipment in this year but he is doubtful for next year. What is the solution? Joint venture with western equipment manufacturers.

Lithuanian's cooperative law is being prepared. It should be in place by spring of next year. He would like to see that 51% of shares for processing plants are in the hands of producers. This could be possible if the farmers who receive "checks" (dividends to state farm workers after collective/soviet farm breakdown) buy shares instead of state machinery and buildings. This is the farmers' decision.

Jonas will be in Wisconsin during January and February to study cooperatives. I think it wise to invite him to LOL.

5. Meeting with Department of International Relations

Contacts:

- Jonas Macys, Deputy of the Supreme Council of the Republic of Lithuania, Deputy Chairman of the Committee of Agriculture

Observations:

ACDI and LOL briefed the Director and others of their observations and possible interventions.

Intervention Concepts for the Baltics

I. LATVIA

A. Problem Statement

Presently, the milk being collected from state farms (85%) and private farmers (15%) is of low quality, according to the several processors and dairy experts met by LOL staff in Latvia. Sanitation and feeding practices at the farm level are poor, resulting in milk of quality that is unacceptable to the processors. Also, due to the new land reform laws and Latvia's mandate towards privatization, more and more milk will be produced by individual private farmers versus the larger state and collective farms.

Processors recognize that their success depends upon the quality and quantity of milk produced by their farmers. Currently, the only interaction between the farmer and processor is milk collection. In most cases, higher quality milk produced by private farmers is brought to the larger farms for collection. Milk is tested, in bulk, for butter fat and bacteria, and payment is made to the state farm, based on a four-grade system. Milk is tested periodically when collected from individual farms. In both cases, there are no efforts being made by the government nor the processors to offer these farmers advice for improving their production practices.

B. Proposed Intervention

As the number of private dairy farms increase and the larger farms dissolve, processors will need to develop an improved collection, testing and advisory system. It is also necessary for processors to solicit farmer loyalty by providing better services and price incentives to their producers.

The Latvian Dairy Committee (LDC), headed by Martin Sekes, represents the milk processors and producers of Latvia. This organization, along with support from the Jelgava Agricultural University, are interested in collaborating with Land O'Lakes to offer milk quality workshops to milk supervisors.

The LDC is in constant contact with processors throughout Latvia. Martin Sekes has offered to assist LOL with the identification of appropriate participants for the milk quality workshop. The Rector of the Jelgava agricultural University has offered their facilities as the headquarters for the training. From observations made of the classrooms and available equipment, they appear more than adequate for training purposes. Room and board is available on campus for both participants and trainers. There is also a study farm

several kilometers from campus which can be used for practical training if necessary.

The course would require the assistance of two LOL staff qualified to teach on-farm sanitation and feeding practices and improved collection systems. Two 2-day courses in milk quality (modeling the Q/QM approach), which would include classroom and practical application activities over a two-week period. The two LOL experts could also meet with the directors/managers of processing plants for a one-day seminar to highlight the need and benefits of training existing collectors or hiring staff to be responsible for advising farmers of improved practices.

C. Proposed Workshop Itinerary

Day 1	LOL trainers arrive
Day 2	LOL trainers meet with Ministry of Agriculture and LDC
Day 3	LOL trainers tour processing plant and farms
Day 4	LOL trainers hold seminar for plant directors/managers
Day 5	LOL trainers begin 2-day workshop on milk quality
Day 6	Milk quality workshop plus training of trainers
Day 7	off
Day 8-13	Repeat of first week
Day 14	LOL trainers return to Minnesota

II. ESTONIA

A. Problem Statement

The Estonian dairy processing technology and equipment, in general, is about 20 years behind that of Western countries. It was clearly stated that most Estonian plants need to improve their plants' production efficiency, manage available inputs, and response to consumer demands. The Technical Director of the Tallinn Dairy Plant, Aare Annus, expressed great concern of a training need in knowledge of equipment maintenance, equipment efficiency, new dairy technology, plant energy problems, plant waste water problems, improved packaging and planning. At the next technical directors meeting in January, Aare will solicit and prioritize the areas of training needs from other technical directors throughout Estonia and make this list available to LOL.

The Director of the Tallinn plant, Tiit Kouhkna, acknowledged that training in plant efficiency is his priority and stated that it would benefit the many processing plants in Estonia that are in the same situation. Arno Kannike, President of the Estonian Dairy Association, reiterated the importance of dairy production in Estonia and the need to collaborate with Western dairy processors in order to benefit from their know-how and possible assistance.

B. Proposed Intervention

Both Arno Kannike and Tiit Kouhkna recommend Aare Annus for a technical internship with Land O'Lakes. Aare possesses dedication to his job and is characterized by his director and those he works with as a leader and progressive. A two-phase intervention is proposed consisting of a technical internship in the U.S., followed up with technical workshops in Estonia assisted by one LOL expert and the trainee.

Specifically for phase 1, Aare could come to LOL for a 1-month internship which would entail technical training in the areas mentioned above, hands-on training in one of LOL's processing plants producing similar products as the Tallinn plant, and training of trainer activities.

Phase 2 would consist of a 1- to 2-day workshop of technical directors delivered by Aare and an LOL expert. The Estonian Dairy Association is willing to assist in the coordination, and the Agricultural University of Tartu will arrange classroom facilities, equipment, and room and board for participants and trainer. The LOL expert could also offer two days of technical assistance to several identified dairy processing plants to complete this 7- to 8-day in-country activity.

C. Proposed Internship, Workshop and T.A. Itinerary

Internship

- Week 1&2 Overview of LOL.
Tour of several LOL processing facilities
Meetings with LOL staff to discuss equipment
maintenance, equipment efficiency, new dairy
technology, plant energy problems, plant waste
water problems, improved packaging and planning.
- Week 3 Hands-on training and observation in LOL
processing plant(s).
- Week 4 Complete practical training.
Training-of-trainer activities.
Plan workshop w/identified LOL staff.
Return to Estonia.

Workshop and T.A.

- Day 1 LOL expert arrives
Day 2 Meet with Estonian Dairy Association
Tour several plant(s)
Day 3 Begin workshop for technical directors
Day 4 Workshop for technical directors
Day 5 T.A. to identified plants
Day 6 T.A. to identified plants
Day 7 LOL expert returns to Minnesota

III. LITHUANIA

A. Problem Statement

The dairy processing sector in Lithuania is, like the entire economy, having a difficult time as they work through their privatization process. State-owned enterprises will be privatized through offering share holdings to employees, producers and the general public; through joint ventures; buy-outs, and, possibly after the law is in place, a cooperative business. Most of the 37 processors in Lithuania are using 20- to 30-year-old processing equipment. It functions but there is a great need for improvements and replacement of various parts and processing materials.

It was explained that, in general, the 37 processing plants are in a similar situation. All processing plants are in definite need of maximizing their operations - identifying their inefficiencies. The President of the Dairy Center stated that, of course, in most cases the inefficiencies would be removed by replacing old equipment with new technology. This is impossible due to the lack of hard currency and budget constraints. The functioning equipment at present can be more efficient through cost and noncost improvements. Due to the fact that the employees of these plants have been working with the same separator, pasteurizer, etc. for the past 20 years, it is difficult for them to have an objective eye to identify the areas of inefficiency. The processors are very eager to work with Western experts as they prepare to operate in a privatized economy in which competition demands for efficient processing, maximization of inputs and a quality product.

B. Proposed Intervention

The Dairy Center, which is an organization of dairy processors and lead by Vladas Lasas, state that the major problem is identifying the plants' operating efficiencies and prioritizing the needed changes. In a discussion with plant managers, engineers and production managers, along with the president of the Dairy Center, it was mutually determined that they would like Land O'Lakes to offer experts to assist in the identification of operating inefficiencies.

In an attempt to support the privatization of the agricultural sector of Lithuania, Land O'Lakes proposes to work with the dairy processors in assisting them with the improvement of their plants' current production and management. Two Land O'lakes experts will visit and evaluate two dairy processing plants that best represent the remaining 35 and identify their inefficiencies. The recommendations made by the LOL experts will be presented in detail to the managers of the two processing plants. Then, these recommendations and possible implementations will be introduced, through a seminar approach, to the other 35 plant

managers and other appropriate employees (to be determined by the Dairy Center and plant managers).

It is understood and accepted that not all 37 processing plants will survive the privatization process. The identifying the inefficiencies of the plants and determining the costs of improvements will also assist the managers in their decisions of future production and competition on the open market.

Vladas Lasas, President of the Dairy, has offered to cover all in-country costs and logistics for this Land O'Lakes technical assistance. Classroom facilities and appropriate presentation equipment are available in Vilnius and can be arranged in other regions of Lithuania if necessary.

III. Proposed T.A. and Recommendation Seminar

Day 1	LOL experts arrive
Day 2	Begin inspection of plant I
Day 3	Inspection of plant I
Day 4	Inspection of plant I
Day 5	Meet with plant I Managers and give recommendations. Travel to plant II.
Day 6	Begin Inspection of plant II
Day 7	Inspection of plant II
Day 8	Inspection of plant II
Day 9	Meet with plant II Managers and give recommendations. Travel to seminar site.
Day 10	Break
Day 11	Recommendation Seminar
Day 12	Appropriate follow-up
Day 13	Return to U.S.

Land O'Lakes, Inc.

Interoffice Correspondence

From: Dave Gray - 3140
Bob Tenner - 3090

Date: November 7, 1991

To: Martha Cashman - 2010
Dave Eckholm - 660
Helen Nelson - 2010
Al Wanous - Poland

Subject: POLAND VISIT

This forwards Ventures' report on our visit to Poland to conduct a preliminary feasibility assessment regarding establishment of a profitable fluid milk joint venture.

BACKGROUND

Land O'Lakes Dairy Foods Ventures Department conducted a preliminary joint venture feasibility assessment in Poland during October 15-18, 1991 based on the following:

- Poland's recent independence is moving them toward a free market economy.
- Poland is a large (38 million people) relatively well developed East European country with a large dairy industry.
- Land O'Lakes International Development Group has an extensive on-going development project in Poland (funded by USAID) to assist in the development and improvement of the Polish dairy industry.
- Land O'Lakes Agricultural Services sees strong business potential in Poland and has thus begun a dairy feed business in Paslek, Poland.
- The Dairy Foods Division is beginning to recognize the potential to develop profitable international dairy-based businesses via export and non-export ventures.
- The Ventures Department has responsibility to coordinate Dairy Foods' international activities, including screening and identification of opportunities and development of international business strategies.

The itinerary, activities, and key contacts for this three day assessment are detailed in Exhibit I.

CONCLUSIONS

The following conclusions are based on this preliminary farm-to-market survey over the three day visit. Substantial validation would be required based on further in-depth study.

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POLAND VISIT

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1. **There appears to be a very large opportunity to establish a profitable fluid milk joint venture in Poland.**
 - **Consumption of milk is large**
 - **Domestic milk is poor quality (48 hour life)**
 - **All required know-how is available**
 - **Infra structures to handle fluid milk are improving**
 - **Imports of fluid milk (UHT) have captured 30% of the volume, despite pricing four times higher than domestic**
 - **Branding and promotion of fluid milk is undeveloped**
 - **Fluid milk production facilities are in place**
 - **Low raw ingredient costs (\$5.00/cwt) and U.S.-level retails at \$.60-.80/liter**

2. **A profitable fluid milk joint venture opportunity would be realized long term rather than short term.**
 - **Many small changes in the dairy system need to occur, such as improved quality/quantity milk production, consistent milk refrigeration from farm to market, conscientious quality control, milk processing to U.S. quality/safety standards, rapid/efficient distribution, effective in-store merchandising and promotion, attitudinal changes throughout the industry and among Polish consumers.**
 - **A joint venture would need to start on a relatively small scale to carefully implement the changes noted above and monitor quality execution.**
 - **A substantial, yet undetermined, investment would be required (estimated range \$500,000 to \$3,000,000).**

3. **The long term political and economic stability of Poland is a critical success factor.**
 - **Currently, relative political stability at the national level seems evident. Local political leadership, however, is in a state of change.**
 - **Economically, the current 40% inflation rates and 60% interest rates present difficult hurdles for any new venture.**
 - **Conversations with some business people during our visit pointed to the need for a much more efficient and supportive banking system.**
 - **Ownership of many Polish dairy companies/coops is unclear or changing at this time.**
 - **Many potential venture partners could be crippled by current debt loads.**

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4. Any technically advanced dairy organization should follow these next steps to definitively assess the potential for a profitable fluid milk joint venture should be.
 - Conduct consumer research to determine consumer need and willingness to pay a higher price (between \$.20 and \$.60/liter) for a fresh, top quality, 16-day shelf life domestic milk (currently priced between \$.15-\$.20/liter).
 - In-depth economic analysis to determine short and long term cost and pricing parameters.
 - A comprehensive venture partner survey to assess willingness, capabilities, efficiencies and liquidity of prospective dairy operation partners.
 - Analysis of competitive sources of funds and viable joint venture formats to accurately determine required resource commitments.

OBSERVATIONS/KEY FINDINGS/COMMENTS

The following observations, findings and comments are based on the meetings, discussions and tours conducted during the three day visit to Poland.

Quality Fluid Milk - The current Polish milking systems (mostly cans, some bulk tanks) should be adequate to produce high quality milk provided proper sanitation, herd health, and refrigeration procedures are consistently applied. Extensive producer, hauler, processor training/monitoring will be needed. Some of this training is underway via Land O'Lakes International Development. Some will be conducted by Land O'Lakes Ag Services Feed Business representatives.

On-farm equipment upgrades (e.g. cooling tank repair or placement, new pumps or hoses) may be required for some producers. Some collection centers may also require upgrading for quality improvements.

Distribution - Reliable 35°F-40°F refrigerated warehousing and distribution will be a critical success factor in establishing a quality fluid milk joint venture. Currently, on-farm cooling of milk is spotty. Milk is hauled in insulated, but not refrigerated, tankers. While plants have refrigerated holding tanks, finished product is shipped in non-refrigerated trucks. Most dairy distributors do not have refrigerated trucks delivering at store level.

In-store, fresh domestic milk is oftentimes stored unrefrigerated on the floor in front of the dairy shelves. Refrigerated coolers and shelves in the dairy sections (branded, Arneg) seemed to be turned off or warmer than 40°F. Cooler thermometers were not visible, if extant.

Retailing - Food retailing will change dramatically over the next few years in Poland. Large European grocery chains (e.g. Billa from Austria is already testing in Warsaw) will expand rapidly. The high population density of Poland would make large scale grocery retailing very efficient.

Currently, grocery retailing is dominated by small, aging grocery markets or corner stores operating on a direct store-door delivery basis.

Large retailers should influence up-graded refrigerated warehousing and distribution for dairy and other refrigerated foods. The manager at Billa in Warsaw, and other small store owners, recognized the need for better, more consistent quality dairy products, well marketed and distributed through a refrigerated system.

Prior to the national development of a refrigerated distribution network, the establishment of a fluid milk joint venture may need to plan on handling/distributing their own products on their own refrigerated trucks and to monitor refrigerated in-store placement.

Promotion - Promotion of domestic Polish dairy products appears to be extremely undeveloped. Brand names, beyond coop or plant name and location, is non-existent. While both broadcast and print media are in place and accessible to consumers, it appears many promotion tools are going unused, e.g. television and radio commercials, newspaper/magazine advertising and couponing, in-store point of sale merchandising, and well positioned, attractive packaging.

Imported products are the exception. Promotion via most of the marketing elements cited above is underway.

Incentive Systems - Establishing incentive systems to drive individual performance and initiative should be considered a mandatory part of a joint venture plan in a fluid milk operation. The scope of an incentive system should be all inclusive from dairy farm producers (buy prices) and farm employees through procurement, quality control, processing and distribution. Rewards for quality performance and dis-incentives for marginal performance must be clearly understood to drive a fluid milk joint venture to success. We believe such a system (e.g. profit sharing) is one of the only ways to overcome the initiative-depleting effects of the long-standing communist culture in Poland.

Synergies with Ag Services - For any technically advanced dairy organization, there would appear to be substantial synergies in establishing a fluid dairy joint venture in the same geographic area and facility as Land O'Lakes Ag Services.

- There appears to be an adequate milk supply in the region.
- There are small, medium and large markets nearby in which to test and expand.

- Ag Services business will bring revenue to the facility owners allowing them to invest in their facility.
- Ag Services field efforts in feed should improve the quality and quantity of milk among producers and encourage larger herds, thus fueling the fluid milk joint venture.
- Fluid milk and other fluid dairy products that are value-added will improve revenues to the facility owners and enable payment of higher milk prices to producers, which should encourage more cows and Ag Services feed sales.

INDICATED ACTION

With the observations and preliminary conclusions detailed above, we would recommend we moving forward on the consumer research, in-depth economic analysis, sources of funds survey.

Please advise with questions, comments or concerns.

Dave

Bob

RTT:tm
Attachments
cv\intl\poland

Exhibit I

VISIT TO POLAND

Preliminary Feasibility for Fluid Milk Joint Venture

ITINERARY

<u>DATE</u>	<u>DAY</u>	<u>TIME</u>	<u>ACTIVITY/PERSON/TITLE/ORGANIZATION</u>
10/15	Tues	9:00 pm	Meet with Al Wanous and Dave Eckholm to discuss objectives and itinerary.
10/16	Wed	8:00 am	Visit to LOL offices, meet driver and interpreter.
		9:30 am	Visit FDPA. Meet with Mr. Bose, CFO, to discuss objectives, status of Ag Economy, status of FDPA projects.
		10:30 am	Meet with Jacek Slotala to discuss dairy operation and get directions to farm.
		11:30 am	Depart for farm in Ilawa.
		4:00 pm	Visit/tour farm in Ilawa.
		5:00 pm	Visit stores in Olsztyn and Ostroda area.
		7:00 pm	Arrive at Zajazd Wiatrak hotel near Elblag.
10/17	Thur	8:00 am	Breakfast meeting to review prior day and current itinerary.
		9:00 am	Travel to Paslek.
		9:30 am	Meet with Dairy Operation director, Janus Tatarynowicz, and vice director, Andrezej Andruszkiewicz to discuss dairy operation from procurement through marketing to retail.
		11:00 - 1:00 pm	Tour plant facilities: Milk receiving, fluid milk operation, butter production, quark processing, cheese operation.
		1:00 - 4:00 pm	Visit state farm and breeding center, tour private family farm, visit and examine milk collection center.
		4:00 pm	Check stores in Paslek travel back to Warsaw.
		8:00 pm	Arrive Warsaw.

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Poland Itinerary

<u>DATE</u>	<u>DAY</u>	<u>TIME</u>	<u>ACTIVITY/PERSON/TITLE/ORGANIZATION</u>
10/18	Fri	8:00 am	Meet Al Wanous and interpreter at Victoria Hotel to begin grocery store checks in Warsaw.
		9:00 am	Visit Billa (Austria grocery chain). Discuss operations, distribution, dairy category, tour store.
		10:00 - 12:00 noon	Visit smaller retail grocers and former state run store.
		12:30 - 1:30 pm	Wrap-up discussion of observations and initial conclusions, exploration of synergies between Ag Services' Paslek project and a potential Dairy Foods fluid milk joint venture.
		1:30 pm	Depart for Warsaw airport.

12.

**POLAND TRIP
OCTOBER 5-12, 1991**

Monday, October 7, 1991 at Wabrzezno - Gint Behrens and Al Wanous

Al and I met with Vice President Marian Dzugosz, Plant Manager Stanislaw Jagodzinski, and Laboratory Manager Elzbieta Kolubinsua. We discussed whole milk powders and fat bases and how well they dried.

Tallow dries better than butterfat.
Skim dries better than whey.
High fat is stickier than low fat.

They do dry 26 to 28% fat whole milk, but they also have some sticking in the cones of the dryer and the primary collector. This was visually verified by looking at the primary cone--it was "all beat up" from the pounding that people gave it to unstick it from the outside by hammer vibration.

With the above in mind, we changed our target formula from 30-42-28 (fat-skim-whey) to 26-44-30. We will run it on Tuesday. If that works well, we will go to a 26-37-37 on the following run. The 26-37-37 will have essentially the same cost impact on a finished CMR as the originally desired 30-42-28 but being lower fat, it should have slightly less tendency to stick. The real drawback of a lower fat formula is that there is less room for lower priced dry ingredient rejects in the final dry blending step.

Our fat will be 98% tallow stabilized with 0.01% TenoxR and 2% lecithin. Our first run fat base will be made from equal volumes of cold liquid skim and cold liquid sweet whey with fat added just before the dryer to give us 26% in the powder.

Attached are tentative ingredient costs and process.

Tuesday, October 8, 1991 at Wabrzezno - Gint Behrens and Al Wanous

The test run followed the procedure outlined October 7 using 8,000 of liters whey and 8,000 liters of skim milk.

Everything went well for the first two hours. During the last hour the powder moisture went very high for unknown reasons, and caused immediate caking several times just before running out of product. Corrections will be made before Wednesday's test run. These will include:

1. Higher dryer exhaust temperature (93-94°C instead of 90-91°C).
2. Hotter temperature of condensed product to dryer (65°C instead of 53°C).

3. Observation of the balance tank before the dryer so we do not have variation in flow to the dryer--perhaps due to foaming and loss of prime in the feed pump.

Product yield on this run was about 96% of theoretical. Bags were coded with the Land O'Lakes system of 1280 with the 1 standing for 1991 and the 280 being the day of the year, in addition to the weight and product code FB 26-44-30 as indicated by this formula on October 7 report.

Wednesday, October 9, 1991 at Wabrzezno - Gint Behrens and Al Wanous

This test run used 5,000 liters of whey and 5,000 liters of skim milk. A second load of whey had high acidity so it was rejected. The load accepted had a Sox-Henkel acidity of 4.6 and the skim milk had an acidity of 6.3 which is average for them, at least on this date.

This run was plagued with problems.

1. The powder was sticky for the whole run--the fat was 31% not 26% as targeted.
2. The powder cooler was changed to obtain more cooling but in their system, the accompanying loss of negative caused plugging under the drying chamber from which we never completely recovered on this short run.
3. The skim milk whey blend became progressively more denatured or curdy out of the evaporator and final heater before drying. This denatured protein will not tie up fat and lactose very well so, of course, contributed to the above.

The next days run will include:

1. A push for better/closer fat control.
2. A return to the former no-cooling of the powder.
3. Neutralization of the whey with NaOH.
4. Testing to determine rennet activity.
5. Keeping the whey and skim milk in separate tanks and drawing product simultaneously and equally to the evaporator.

Thursday, October 10, 1991 at Wabrzezno - Gint Behrens

This run used 8,000 liters of whey and 8,000 liters of skim milk and kept in separate tanks. The whey was cooled to 5°C and neutralized to Sox Henkel 3.0 with 1½ Kg of NaOH beads.

The whole run performed as expected--very good. There was no coagulation or curdling of the blend in the evaporator.

Fats on the powder were 29% and 24% and then raised, but the tests were not complete when we finished drying and left. The first moisture was 2.5% with later ones expected to be lower. (Exhaust air temperature was 92-93°C.) The dryer was very nice and with only a light dusting of powder at the end of the run.

The powder was cooled during the run to 86°F. This was the only deviation from the plan and it was a "healthy" deviation.

We made about 45 bags of powder at 25 Kilo each which makes for a very good yield.

The plant should be able to make good quality powder in the future with no or very little more technical assistance. (Some may be required when they upgrade the whey handling system between the plants.)

Friday, October 11, 1991 at Paslek, Poland - Gint Behrens and Al Wanous

We discussed technical aspects of testing dairy powders and meeting specifications of different types. Some items of real concern were moisture, correlation of various titratable acidity methods, pH, and granulation. They were satisfied with the results of the discussions.

Processes for casein and caseinate were explored as well as processing, composition, and utilization of casein whey. Suggestions were made that Paslek will explore further in the months ahead so their process may be optimized.

CALCULATED COSTING

Tallow \$.49/Kg
Lecithin \$ 1.47/Kg
Premix \$23.74/Kg
Skim \$.977/Kg
Whey \$.81/Kg
Drying Charge ?
Glymaxine \$.854/Kg
Blending Charge ?

Fat Base 26-44-30 \$.6576/Kg
Fat Base 26-37-37 \$.6109/Kg
Fat Base 30-42-28 \$.6525/Kg

22-17 Maxicare Type WFB 26-44-30 \$ 628.30 ingredient cost
22-17 Maxicare Type WFB 26-37-37 \$ 608.36 ingredient cost
22-17 All Milk WFB 26-44-30 \$ 702.87 ingredient cost
22-17 All Milk WFB 26-37-37 \$ 709.34 ingredient cost

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TIME

- 8:00 AM - Melt tallow, add 0.01% antioxidant and 2% lecithin to tallow and mix.
- Noon - Pump 6,000 liters fresh separated whey into tanker and haul to drying plant.
- 12:30 PM - Unload and cool through plate to 5°C or less. Run ph.
- 1:00 PM - Blend equal volumes of 5°C skim (8.8 - 9.0% T.S.) with 5°C whey 6.3-6.5% T.S.
- 1:30 PM - Pasteurize mixture to evaporator.
- 1:45 PM - Meter (normalize) fat blend into condensed mixture to obtain 26% fat in powder.
- 1:48 PM - Spray dry like whole milk powder at 450 Kg/hr.
- Ongoing - Pneumatically cool and transfer powder to bagger.
- Ongoing - Bag into poly lined low cost bags and palletize.
- 5:00 PM - Complete test run.
- Ongoing - Test powder per instructions.

LAND O'LAKES AGRA INTERNATIONAL

FAT BASE TESTING

Liquid Testing

Liquid Skim Milk -	Regular plant test
Liquid Whey -	Temperature, Acidity + pH, Odor, Solids
Fat -	Odor, Color

Powder Testing

Acidity/pH -	First and last sample
Fat -	Every 40 bags/approximately every 2 hours
Scorched -	Every 40 bags/visual is OK
Flavor/Odor -	First and last sample
Protein -	One per day
Bacteria -	One per day
Coliform -	One per day
Lumping and Specks -	Every bag by bagger person

G. C. Behrens
10/8/91

Philippines Trip Report
Land O'Lakes International Development Division
May 25 - June 6, 1992
LeRoy Koppendrayner
Helen Nelson
Kristin Rens

SCOPE OF WORK:

To evaluate the dairy sectors of four Philippine islands (Luzon, Cebu, Negros Occidental, Mindanao) and identify development interventions necessary for the improvement of indigenous dairy production.

CONTACTS:

Luzon (Southern Tagalog Region)

- Richard A. Johnson, Ph.D., Deputy Director, USAID - Philippines, Manila
- Kenneth A. Prussner, Chief, Office of Natural Resources, Agriculture and Decentralization, USAID, Manila
- Robert Hood, Senior, Project Economist, Asian Development Bank, Manila, Philippines
- Joemari D. Gerochi, President, Philippine Dairy Corporation, Manila
- Naomi Torreta, Operations Manager, Philippine Dairy Corporation, Manila
- Buenaventura A. Malabayabas, Nutrition Specialist, Philippine Dairy Corporation, Manila
- Sta. Maria Dairy Farmers Cooperative, Bulacan
- Dr. Teofilo Dulay, Director, Dairy Training Research Institute, University of the Philippines at Los Banos Laguna Dairy Cooperative

Cebu

- Grace Cenas, Project Manager, Philippine Dairy Corporation, Cebu City, Cebu
- Gloria Noynau, Veterinarian, Philippine Dairy Corporation, Cebu City, Cebu
- Arturo Marquez, Plant Manager, Philippine Dairy Corporation, Cebu City, Cebu
- Dr. Adrian Vista, Chairman, LICON-Federation of Dairy Producers Cooperatives, Chairman of Tayid Dairy Cooperative
- Gregorio Carolino, Plant Manager, LICON-Federation of Dairy Producers Cooperatives
- Tayid Dairy Cooperative, Cebu
- San Vicente Dairy Cooperative, Cebu
- Yati Dairy Cooperative, Cebu
- Benson Dakay, Executive Vice President and Chief Executive Officer, Shemberg Marketing Corporation, Cebu City

- Rolf Achas, Senior Production Manager, Shemberg Marketing Corporation, Cebu City

Negros Occidental

- Daniel Lacson, Negros Occidental Governor
- Carlos Tupas, Executive Vice-President and Chief Operating Officer, Victoria Milling Company, Inc., Negros Occidental
- Virgilio Flores, Vice President, Agriculture, Victoria Milling Company, Inc.

Northern Mindanao

- Eduardo "Bong" Pelaez, Dairy Farmer, Cagayan de Oro City, Northern Mindanao
- Cecilia "Beng" Pelaez, President, Northern Mindanao Federation of Dairy Cooperatives, Cagayan de Oro City,
- Dr. Araceli Albarece, Project Manager, Region 10, Philippine Dairy Corporation
- Jed Dante, Food Technologist, Region 10, Philippine Dairy Corporation
- Manolo de Leon, Plant Manager, Dairy Processing Plant, El Salvador
- Manolo Fortich Dairy Cooperative
- Maluko Dairy Cooperative
- Dalwangan Dairy Cooperative
- El Salvador Dairy Processing Plant
- Arsenio Sebastian III, President, Cagayan De Oro Chamber of Commerce and Industry Foundation, Inc, Cagayan de Oro, Northern Mindanao
- Nasser Chaves, Provincial Director, Department of Trade and Industry, Province of Bukidnon
- Adrian Pabayo, Director, Employee and Community Relations, Del Monte Philippines, Inc., Bugo, Cagayan de Oro City

Davao City

- Arlene D. Marquez, Project Manager, Philippine Dairy Corporation - Davao City
- Carlito Guarizo, Overall Management Technician, Philippine Dairy Corporation - Davao City
- Hyde Duran, Veterinarian, Philippine Dairy Corporation - Davao City
- Julius Oxaves, Chairman, Federation of Davao Dairy Farmers' Cooperative, Davao Milk Processing Plant, Malagos, Baguio District Davao City
- Ralito Taxco, Plant Manager, Davao Milk Processing Plant, Federation of Davao Dairy Farmers' Cooperative
- Melba Principe, Chairman, Calinan Dairy Farmers Cooperative, Calinan, Davao City
- Domingo Del Fierro, Chairman, Wangan Dairy Cooperative, Calinan District, Davao City
- Enrico Cabrera, Chairman, Riverside Dairy Farmers Cooperative, Calinan District, Davao City
- Dr. Roberto Puentespin, Veterinarian, The Orchid Ranch Veterinary Diagnostics, Inc., Davao City

EXECUTIVE SUMMARY:

The following is a report of observations and recommendations made by Land O'Lakes on the current dairy production and processing situation on four areas of the Philippines. The visit allowed Land O'Lakes, experienced in dairy sector development, to make recommendations for dairy sector technical assistance and training activities. These recommendations include activities that can be designed and implemented by Land O'Lakes' in-house experts and farmer-members to support the development of the Philippine dairy sector. Land O'Lakes offers its assistance to the Philippines' needs and objectives of increasing local milk production, improving dairy processing operations, product marketing, and strengthening cooperative activity. Support for these activities could be arranged through a mission buy-in to Land O'Lakes Cooperative Support Grant or direct mission funding.

AREAS OF INTEREST:

1. Government Support to Domestic Dairy Production

Observation:

There is a total absence of regulations for the importation of dairy products into the Philippines. The present government policy allows the importation of 99.5% of the milk and milk products consumed in the Philippines. This incurs an estimated expenditure of 300-350 million U.S. dollars of dairy imports annually. The potential of producing more milk locally is great in the Philippines. The development of the dairy sector will continue to be suppressed until government policy sets import quotas and provides supportive policy and incentive for production at the local level.

The Department of Agriculture has three organizations currently active in supporting the dairy sector: the Philippine Dairy Corporation (PDC), the Bureau of Animal Industry (BAI), and the University of the Philippines' Dairy Training and Research Institute (DTRI) at Los Banos. All three organizations face budgetary constraints and operate separately from each other inhibiting effective dairy extension activities and consistent in-the-field technical support and recommendations to the current 1000 dairy producers. The technicians from PDC, BAI and DTRI that we observed have good knowledge and theoretical background in dairy production but have a very low practical skill level. The better animal science technicians have left the government sector to work for the private sector.

Recommendations:

The government of the Philippines must change its importation policies on dairy products to stimulate domestic production. The Shahani Dairy Bill, prepared in 1986 by Former Secretary of Agriculture Carlos Domingos, proposes the creation of a National Dairy Authority to provide direction for the development of the dairy industry to the government and the private sector. The bill was presented to the Aquino administration but not adopted. The Shahani Dairy Bill should be reviewed, updated and presented to the new administration. This bill is politically supported by the incoming administration. Expressing the importance of new policies for increased domestic dairy production should not be passed by. At the same time, the Philippine Dairy Corporation, the dairy federations and primary dairy cooperatives need to come together and form a strong voice of support for domestic dairy production.

It was observed that the Philippine Dairy Corporation is the most active in providing support and incentive for domestic dairy production. PDC staff are interested in benefitting from "hands-on" internships in order to sharpen and upgrade their skills for improved practical application. Land O'Lakes is able to respond to these needs and proposes one- to two-month internships for PDC staff, Dairy Federation Employees, and cooperative members in three areas:

- animal nutrition and animal husbandry
- small-scale dairy processing
- dairy product marketing and alternative packaging

Land O'Lakes will customize the internships to meet the exact needs of the participants through informal discussion with dairy experts, "hands-on" training, and cooperative development, training-of-trainer and transfer-of-skill activities.

2. On-Farm Dairy Production

Observations:

Dr. Dulay, DTRI, stated that there are currently 30,000 head of dairy cattle in the Philippines. The best indicator of milk production is what we heard directly from the farmers. They stated averages of 3-6 liters/day/cow, with exceptions of a few farmers who claimed 10-12 liters/day with New Zealand Holstein/Sahiwal cross (usually 50%-50%). The Department of Agriculture reports a national herd average of 5 liters/cow/day.

From our visits to numerous small-holder farms, it was observed that there is a great need for improved management of dairy production. Methods such as "cut and carry"

provide animals with inconsistent nutrition, which is a major hinderance to increasing production. Average rations consisting of chopped banana trunks, sugar cane tops, spent-grain from breweries and various forages (napier grass, rice straw treated with urea) and feed concentrates lack balanced applications. Frequently, the rations are offered to the animals in water, which reduces dry matter intake.

Animals appeared to be in fairly good health but are obviously not receiving sufficient energy. There is access to veterinary supplies and services through PDC at a subsidized price or no cost to the farmer. Even so, sound animal health practices pertaining to mastitis are not properly controlled by PDC technicians and farmers, resulting in poor milk quality. PDC offers breeding services at no cost to the farmer. The choice of semen is: 1) locally collected of various breeds and crossbreeds, and 2) imported semen distributed from Australia and New Zealand (Holstein/Sahiwal frequently used). It was observed that cows are calving at two-year intervals and farmers are using bulls to clean-up, letting us presume that the artificial insemination conception rate is very low.

Recommendations:

PDC has technicians currently working with dairy farmers in the field. As mentioned above, they lack practical experience and up-dated skills. Through the proposed Land O'Lakes internships, several technicians can receive training focused on the production problems plaguing the dairy farmer. The internship provides "training-of-trainer" activities so the interns are able to return to their country capable of disseminating information on to other technicians. Land O'Lakes proposes in-country "training-of-technician" workshops to ensure the transfer of skills of the interns and dissemination of information to the dairy farmer. The workshop would entail the collaboration with PDC, dairy federations, local Chamber of Commerce Foundations, and interested private businesses. In the case of Northern Mindanao, PDC, the Cagayan de Oro Chamber of Commerce and Del Monte-Philippines, Inc. have offered to provide support for participant lodging, per diem, transportation and training sites for the workshop. Land O'Lakes will solicit USAID financial support for the salary, overseas/domestic travel and per diem for two Land O'Lakes experts. The workshop will be combined with in-the-field technical assistance to workshop technicians to provide focused attention on the production problems of their individual situation.

The collaboration between the government agencies and the private sector in Mindanao can be used as a model for additional training workshops to be replicated in Northern Mindanao and on other islands throughout the Philippines interested in developing their domestic dairy production.

3. Dairy Processing

Observations:

The facilities observed on three of the islands visited varied in capacity levels and operational efficiencies. In Sta. Maria, the plant was about 20 years old, fairly maintained and operating at approximately 5% capacity. The Cebu, Northern Mindanao and Davao processing plants have been built recently with Japanese development funds, equipped with APV processing equipment and with operational capacities of 300-500 liters/hour. All three plants have the capacity to process a variety of milk products (pasteurized and flavored milk, white cheese, butter, condensed milk, lactoflan, pastillas). Presently, the plants are operating at a low level due to the lack of raw milk being collected. Maintenance and cleanliness in the plants is excellent. Packaging for these products are plastic sachets, cups, bottles and various wax paper and cellophane and in various sizes. The employees of all three plants have a good level of technical understanding of processing but are under utilized due to lack of milk and a market. It was also observed that the current numbers of employees at the plants is appropriate for plants operating at full capacity.

Recommendations:

In June, the newer plants will be receiving technical assistance from APV in plant operational efficiencies. In October, VOCA will send a volunteer from Wisconsin with cheese-making expertise to work with the processing plant in Northern Mindanao to assist in developing new cheese products.

All four plants are interested in receiving information and enhancement of skills in small-scale dairy processing, dairy product development and alternative, low-cost, environmentally safe packaging. These are areas that Land O'Lakes' Research Technology and Engineering Division can provide training and technical assistance. Customized internships for PDC specialists at Land O'Lakes have been proposed to address these issues. As with the on-farm production workshop, a similar training approach can be implemented with the assistance from PDC, Chamber of Commerce, Land O'Lakes, and a processing plant for hands-on training. The workshop will include technical assistance where the Land O'Lakes expert will work with workshop participants at several different plants in order to address specific problems.

4. Dairy Product Marketing

Observations:

According to a PDC study, the general public is consuming about 16 kg per capita annually of imported/reconstituted products. This is only 53% of the daily allowance recommended by the Food and Nutrition Research Institute. The general public seems unaware of the nutritional benefits of fresh milk. By our calculations, based on the population of 30,000 head of dairy cattle in the country, the average daily production of 5 liters, the human population of 64 million and their average consumption of milk, the total consumption of fresh milk is in the Philippines is 0.2 ml per capita per day. Surprisingly, the consumers that we talked to are very supportive of the possibility of consuming locally produced milk from the Philippines versus imported/reconstituted dairy products.

Currently, the Federations are paying the farmer 8.5 pesos per liter of milk. The processed milk product is then sold to the consumer for 20-25 pesos/liter (pasteurized milk). The Federations are attempting to identify niches in the consumer market but are having a difficult time competing with the imported and reconstituted products that saturate the market at reasonable prices. The Northern Mindanao Federation of Dairy Cooperatives has effectively used school milk programs as a consumer for their fresh and flavored milk. All Federations are pushing their products door to door and seeking interest from local industries, restaurants, conference centers, etc.

Recommendations:

One recommendation for the improvement of product sales is to refine milk production and processing in efforts to reduce the break-even cost per liter of pasteurized milk. Ultimately, there needs to be an aggressive campaign by PDC, the Dairy Federations and the primary cooperatives to advertise the nutritional value of fresh milk products versus imported/reconstituted milk products. Creative marketing plans, sales and distribution are areas that Land O'Lakes has strong expertise. The Land O'Lakes model used for dairy production and processing can be used again in this situation. Internships at Land O'Lakes in marketing, sales and distribution will be customized to meet the specific needs of the PDC staff/plant specialists and the Philippine situation. The trained interns will return and transfer their newly acquired skills to others like themselves through in-country workshops to "train-the-technician." The workshop can be implemented with the assistance of PDC, the Chamber of Commerce, and Land O'Lakes with an identified site for practical training. The model includes follow-up technical assistance to several processing plants to work on individual marketing issues.

5. Dairy Cooperative Strengthening

Observation:

PDC has been instrumental in the development of the dairy sector on three Philippine areas. Through PDC's assistance, dairy cattle have been dispersed to farmers and four dairy processing plants have been constructed. As a result, four Dairy Federations on three different islands in the Philippines have been created: Katipunan ng Kooperatibang Maggagatas Ink. in Luzon, Northern Mindanao Federation of Dairy Cooperatives in Northern Mindanao, LICON Federation of Dairy Cooperatives in Cebu, Federation of Davao Farmers in Davao. Each federation has organized primary cooperatives who manage the collection of milk from their farmer-members. PDC continues to support the federations, processing plants and primary cooperatives through human resources, subsidized operational costs, feeds, and other agricultural inputs.

Recommendations:

The dairy cooperative members in the four federations are truly committed to the improvement and success of domestic milk production. The existing federations and primary cooperatives provide excellent models for other groups interested in organizing a similar movement. Land O'Lakes strongly supports cooperative activity and sees the dairy cooperatives on these three islands as vitally important for the development and sustainability of the Philippines' self-sufficiency in milk and food security. As with every activity that Land O'Lakes implements, there is a focus on cooperative strengthening and its benefits to the farmer members and surrounding community. During the U.S. internships, a cooperative development component will be an important part of the interns' preparation as trainers. During the in-country workshops, a focus will be on cooperative strengthening through activities emphasizing member involvement and responsibilities.

**Joint Cooperation Between
the Province of Negros Occidental and Land O'Lakes, Inc.
Domestic Dairy Production Development**

Concept Paper

June, 1992

A. Problem Statement

The Province of Negros Occidental relies heavily on the importation of milk products and by-products to meet the consumer demand for milk. At present, there is no viable dairy sector in Negros Occidental. The highlands surrounding Bacolod City possess ideal climate and productive arable land sufficient for sustaining small-holder dairy production. There are farmers currently involved with agriculture in this area who have indicated an interest in improving their economic situation through dairying.

Governor Daniel Lacson has provided incentive and support for local development of the province's agricultural and industry sectors for a two-fold purpose: to improve the peoples' standard of living and economic stability and to increase the province's self-reliant capabilities. Governor Lacson strongly supports the belief that Negros Occidental requires a domestic source of liquid milk and milk products and encourages the opportunity for farmers to improve their source of income through the dairy industry.

B. Concept

1. Long-Term Development Goal

The vision for the Province of Negros Occidental is to develop a network of smallholder milk producers and strategically located cooperative milk collection, processing and marketing units that will comprise a basic component of the province's efforts to be self-reliant and economically stable.

2. Objectives

- To decrease Negros Occidental's dependence on imports for its milk needs by increasing domestic milk production and introducing fresh milk products to the local market.
- To increase incomes of the rural Negros Occidental population by preparing interested farmers in dairy production.
- To secure the supply of fresh milk especially for the vulnerable age groups and improve the level of nutrition for the people of Negros Occidental.

3. Strategies

The first recommended activity, implemented by Land O'Lakes, is an in-depth assessment of the area surrounding Bacolod to evaluate the possibility of supporting dairy production. The study will take into consideration the climate, arable land, water source, infrastructure, availability of feeds, processing capabilities/interest within the industry sector, and marketing opportunities.

If the study indicates that all components for the development of a dairy sector exist, the following model could be implemented:

- the training of farmers interested in dairy production through PDC and Land O' Lakes,
- the construction of small-holder units located close enough to each other to share a common cooling unit and collection facility,
- the allocation of dairy animals, purchased from dairy farmers throughout the Philippines, to the trained farmers,
- the establishment of a cooperative unit through which the farmers could purchase and/or share farming equipment and feed supplies,
- the delivery of raw, cooled milk to the Victorias Milling Company's sweetened condensed milk processing plant. In parallel, the farmers will begin to develop a market for their fresh milk in Bacolod City.

Over time, as production and demands for fresh milk increase and the Victorias plant continues to process condensed milk, the farmers will create sustainable and viable businesses and improved their standard of living.

Land O'Lakes has experience in assisting in the development of dairy sectors worldwide. Through conversations with Governor Lacson, the Victorias Milling Company and consumers in the Bacolod City area, Land O'Lakes feels as strongly as Governor Lacson that a domestic dairy sector has great potential and is long overdue in its development.

ATTACHMENT 2
LAND O'LAKES'
WOMEN IN DEVELOPMENT BROCHURE

WOMEN IN DAIRY DEVELOPMENT



*Request for participation in the formation of an advisory committee focused on
issues facing women working in the dairy sector.*

LAND O LAKES[®], INCORPORATED

Women tend to be the caretakers for dairy animals throughout the world. Yet, little development attention has been directed to them. Land O'Lakes International Development Division has a mandate to strengthen the role of women in dairy development.

Land O'Lakes proposes the formation of a committee made up of members interested in international dairy development that would perform the following activities:

1. Design and create a women-in-dairy-development data base to be used by Land O'Lakes and other organizations in need of current dairy development information and advice.
2. Identify key issues that put constraints on the development of women in dairy.
3. Assist Land O'Lakes and other organizations with concepts/ideas of strategies to target the development of women producers in dairy and related groups.
4. Organize regional workshops which cover the strategies developed by the committee and offer training-of-trainers courses.
5. Identify women in developing countries to be trained in dairy by Land O'Lakes staff and other dairy experts.

Committee members will receive, on a quarterly basis, materials which identify special requests for assistance in areas that committee members can contribute.

Committee members can participate in annual meetings in which they will highlight the achievements of their collaborative efforts over the year and set the agenda for the following twelve months.

Some committee members will be asked to participate in the regional workshops structured towards the improvement of the role of women in dairy.

This is a new organization which will play an important role in the development activities of Land O'Lakes and other organizations that assist women in dairy production. If you are interested, please fill out the form below and send it to the Women in Development Specialist, International Development, Land O'Lakes, Inc., P.O. Box 116, Minneapolis, MN. 55440-0116 or call 612/481-2106.

Name: _____

Address: _____

Telephone: _____ (work) _____ (home)

Background: _____

Please send to Women in Development Specialist, International Development, Land O'Lakes, Inc.,
P.O. Box 116, Minneapolis, MN, 55440-0116, USA.

LAND O LAKES[®], INCORPORATED

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LAND O'LAKES, INC.
COOPERATIVE AGREEMENTS, GRANTS AND SUBCONTRACTS
RECEIVED SINCE 6/1/91

U.S.A.I.D. COOPERATIVE AGREEMENT:

1. Client: U.S. Agency for International Development
Food for Peace and Humanitarian Assistance
Office of Program, Policy and Management
Washington, DC

Grant name: Planning Assistance Grant
Contract no.: PDC-0801-A-00-1095-00
Implementation period: 1991-1992
Funding level: \$80,000
Contract officer: Ed Thomas
Telephone number: (703) 875-1170

Description: To develop a strategic plan that will aid in determining the feasibility, manageability and use of Title II monetized commodities in microenterprises and dairy development.

U.S.A.I.D. GRANTS:

1. Client: U.S. Agency for International Development
Europe Bureau
Development Resources/Food Systems
Washington, DC

Grant name: Agricultural Cooperative/Business
Development and Training in Central and Eastern
Europe

Contract no.: EUR-0024-G-00-1072-00
Implementation period: 1991-1994
Funding level: \$4.0 million (an additional \$4.0 million pending)
Contract officer: James Snell/Abdel Moustafa
Telephone number: (202) 647-7212

Description: To conduct U.S. and in-country agribusiness training and technical assistance, including leadership training, in Poland, the Czech and Slovak Federal Republic, Bulgaria and Hungary. Activities are pending in Romania, Albania, Estonia, Latvia and Lithuania.

2. Client: U.S. Agency for International Development
Europe Bureau
Development Resources/Food Systems
Washington, DC

Grant name: Restructuring Agriculture and Agribusiness: Private
Sector Program for Poland
Contract no: EUR-0024-A-00-2042-00
Implementation period: 1992-1995

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Funding level: \$4.57 million
Contract officer: James Snell/Kathryn Stratos
Telephone number: (202) 647-7167

Description: To provide management training through regional forums and U.S. and in-country seminars, and technical assistance, to small and medium agribusinesses in Poland to assist in the development of a more competitive agricultural system.

SUBCONTRACTS:

1. AID Contractor: Agricultural Cooperative Development
International
Capitol Place
50 F St. NW, Suite 900
Washington, D.C. 20001
Grant Name: Agribusiness Exchange Program for Central
and Eastern Europe
Contract no.: N/A
Implementation Period: 1991-1994
Funding level: \$1.5 million
Contact: Sandy Blanchard
Telephone Number: (202) 638-4661

Description: Land O'Lakes will conduct U.S. and in-country training programs for participants from Poland, Hungary and the Czech and Slovak Federal Republic in agribusiness-related topics. U.S. training consists of twelve three-month internships annually in agribusinesses related to participants' interests. Twelve in-country training courses will also be conducted annually.

2. AID Contractor: Humphrey Institute for Public Affairs
University of Minnesota
301 19th Avenue South
Minneapolis, MN 55455
Grant name/number: Management Training and Economics Education for
Central and Eastern Europe; Grant Number EUR-0029-G-00-
1051-00; Project Number 180-0029
Contract no.: N/A
Implementation period: 1991-1992
Funding level: \$532,079
Contact: Randy Zimmerman
Telephone number: (612) 626-8176

Description: As a member of a consortium led by the University of Minnesota's Humphrey Institute of Public Affairs, Land O'Lakes will conduct training as part of an AID cooperative agreement to provide management training and economics education in Central and Eastern Europe. Land O'Lakes will conduct courses in general business

management, management of small and medium size businesses, training of trainers and training in video management.

3. Contractor: AKKOR
Moscow, Russia
Contract no.: N/A
Implementation period: 1991-1992
Funding level: \$220,000
Contact: Vladimir Bashmachnikov
Telephone number: 7-095-204-40-27

Description: A study in the Russian Republic to examine the establishment of a model private dairy cooperative modeled after the Land O'Lakes system, complete with a procurement, processing, distribution and marketing functions.

4. AID Contractor: Jamaica Agricultural Development Foundation
Kingston, Jamaica
Contract no.: N/A
Implementation period: 1992
Funding level: \$45,000
Contact: Mrs. Cecile Jarrett
Telephone number: (809) 929-8090/-2

Description: Seven young Jamaicans are participating in the Jamaica International Agriculturalist Program as agribusiness interns in the United States in dairy production (six months) or processing (three months). They are being hosted by Land O'Lakes farmer-members and agribusinesses within Land O'Lakes' cooperative network. A staff member of the JADF will also receive training in agribusiness management/cooperative development/extension. Two Jamaicans designated by the JADF will receive para-veterinary training.

PENDING:

1. Client: U.S. Agency for International Development
Food for Peace and Humanitarian Assistance
Private and Voluntary Cooperation
Washington, DC
Grant name: Farmer-to-Farmer Program
Contract no.: (pending)
Implementation period: 1992-1995
Funding level: \$2.0 million
Contract officer: (pending)
Telephone number: (pending)

Description: Land O'Lakes will place 128 Farmer-to-Farmer volunteers in Russia and Ukraine over three years in collaboration with the National FFA Foundation and over 50 collaborating U.S.

agricultural organizations. The project is designed to assist Russia and Ukraine to reform their agricultural systems and increase private farm production and income. Volunteers will assist in the development of model agribusinesses; institutionally strengthen private farmer organizations to support farmers in post-harvest storage, processing and marketing; and work with reform leaders and progressive managers in the privatization of collectives and state-owned enterprises.

2. AID Contractor: Development Alternatives, Inc.
7250 Woodmont Avenue, Suite 200
Bethesda, MD 20814
Grant name: Morocco Agribusiness Promotion Project
Contract no.: N/A
Implementation period: 1992-1997
Funding level: \$1,001,610
Contact: Doyle Peterson
Telephone number: (301) 718-8699

Description: Land O'Lakes will provide six person months of short term technical assistance in Morocco over five years in animal livestock and feed production. Eighteen agribusiness internships will also be provided with the project objective of improving Morocco's capacity to train agribusiness managers to meet the needs of the private sector.

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