SECRETARY OF STATE, HILLARY CLINTON MEETS MDDA BENEFICIARIES AT LUMBADZI MBG
(PHOTO: JOHNATHAN KAPHELA)

Submitted to

Martin Banda, Agreement Officer Technical Representative
Vincent Langdon-Morris, Senior Agriculture Technical Analyst
USAID/Malawi
NICO House, Capital City, Lilongwe

Submitted by

Land O’Lakes, Inc.
P.O. Box 64281
St. Paul, MN 55164-0281 U.S.A.

August 2012
© Copyright 2011 by Land O’Lakes, Inc. All rights reserved.
MALAWI DAIRY DEVELOPMENT ALLIANCE
USAID CA # 690-A-00-07-00006-00

**Administrative Data**

<table>
<thead>
<tr>
<th>Country</th>
<th>Malawi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Title</td>
<td>Malawi Dairy Development Alliance</td>
</tr>
<tr>
<td>Cooperative Agreement</td>
<td>690-A-00-07-00006-00</td>
</tr>
<tr>
<td>Implementing Agency</td>
<td>Land O’Lakes, Inc.</td>
</tr>
</tbody>
</table>

**Contact Information**

<table>
<thead>
<tr>
<th>Contact in the U.S.:</th>
<th>Meredith Kruger</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Land O’Lakes/Arden Hills, Minnesota</td>
</tr>
<tr>
<td>Phone:</td>
<td>+1 (651) 375-5103</td>
</tr>
<tr>
<td>Fax:</td>
<td>+1 (651) 375-5144</td>
</tr>
<tr>
<td></td>
<td><a href="mailto:meredith.kruger@idd.landolakes.com">meredith.kruger@idd.landolakes.com</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contacts in Malawi:</th>
<th>Derek Mullen</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Land O’Lakes, Inc. / Malawi</td>
</tr>
<tr>
<td>Phone:</td>
<td>+265-1-753341</td>
</tr>
<tr>
<td>Fax:</td>
<td>+265-1-753344</td>
</tr>
<tr>
<td></td>
<td><a href="mailto:derek.mullen@idd.landolakes.com">derek.mullen@idd.landolakes.com</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contact in Regional Office</th>
<th>Brian Dotson</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Land O’Lakes/Kenya</td>
</tr>
<tr>
<td>Phone:</td>
<td>+254-773-106-748</td>
</tr>
<tr>
<td>Fax:</td>
<td>+254-20-3745056</td>
</tr>
<tr>
<td></td>
<td><a href="mailto:brian.dotson@idd.landolakes.com">brian.dotson@idd.landolakes.com</a></td>
</tr>
</tbody>
</table>
# Table of Contents

ACRONYMS ................................................................................................................................................. 4

A. INTRODUCTION & BACKGROUND ........................................................................................................... 5

B. EXECUTIVE SUMMARY ................................................................................................................................. 7

C. PROGRAM PERFORMANCE AND RESULTS ............................................................................................ 12

D. PROJECT SUPPORT FOR USAID’S OPERATIONAL PLANS ................................................................. 12

E. PROGRESS TOWARDS MDDA PERFORMANCE INDICATORS ............................................................. 14

IR1: INCREASED NUMBER OF IMPROVED DAIRY ANIMALS AVAILABLE TO SMALLHOLDER FARMERS .......... 14
IR2: INCREASED ACCESS TO INPUTS AND SERVICES BY SMALL SCALE FARMERS & MBGS ............... 19
IR3: INCREASED PROFITABLE PRODUCTION AND SALE OF MILK BY SMALL SCALE FARMERS AND MBGS .... 27
CIR-PEPFAR (HIV & AIDS, OVC): INDIVIDUAL MECHANISMS STRENGTHENED TO MITIGATE & COPE WITH THE IMPACTS OF HIV & AIDS ............................................................... 32
CIR-GENDER: STRENGTHENED EQUALITY BETWEEN MEN & WOMEN WITHIN HOUSEHOLDS .................. 35
CIR-ENVIRONMENT: STRENGTHENED MECHANISMS IN PLACE TO PREVENT NEGATIVE ENVIRONMENT IMPACTS BY THE DAIRY INDUSTRY .................................................................................. 36

F. ALLIANCE PARTNER COORDINATION ..................................................................................................... 36

G. PROGRAM CHALLENGES & LESSONS LEARNED .................................................................................. 45

APPENDIX A: SUCCESS STORIES .................................................................................................................. 48

APPENDIX B: PROGRAM PHOTOS .................................................................................................................. 57

APPENDIX C: RESULTS FRAMEWORK .......................................................................................................... 60

APPENDIX D: USAID OPERATIONAL PLAN INDICATORS (2007-2012) .................................................... 62

APPENDIX E: MDDA PROGRAM CUSTOMER INDICATORS (2007-2012) .................................................. 63

APPENDIX F: BODY CONDITION POSTER .................................................................................................... 67

APPENDIX G: GENDER SURVEY REPORT (2011-2012) .............................................................................. 68
<table>
<thead>
<tr>
<th>Acronyms</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACE</td>
<td>Agriculture Commodity Exchange</td>
</tr>
<tr>
<td>AFS</td>
<td>Annual Farmer Survey</td>
</tr>
<tr>
<td>AI</td>
<td>Artificial Insemination</td>
</tr>
<tr>
<td>CAHNW</td>
<td>Community Animal Health Nutrition Worker</td>
</tr>
<tr>
<td>CBCC</td>
<td>Community Based Childcare Center</td>
</tr>
<tr>
<td>CDP</td>
<td>Cooperative Development Program</td>
</tr>
<tr>
<td>CIR</td>
<td>Cross-cutting Intermediate Result</td>
</tr>
<tr>
<td>CREMPA</td>
<td>Central Region Milk Producers Association</td>
</tr>
<tr>
<td>CTTBD</td>
<td>Center for Tick and Tick Borne Diseases</td>
</tr>
<tr>
<td>DAHLĐ</td>
<td>Department of Animal Health and Livestock Development</td>
</tr>
<tr>
<td>DCA</td>
<td>Development Credit Authority</td>
</tr>
<tr>
<td>DPAL</td>
<td>Dairy Processors Association Limited</td>
</tr>
<tr>
<td>ECF</td>
<td>East Coast Fever</td>
</tr>
<tr>
<td>FICA</td>
<td>Flemish International Cooperation Agency</td>
</tr>
<tr>
<td>FTF</td>
<td>Feed the Future</td>
</tr>
<tr>
<td>GM</td>
<td>General Mills</td>
</tr>
<tr>
<td>GOM</td>
<td>Government of Malawi</td>
</tr>
<tr>
<td>HS</td>
<td>Heat synchronization</td>
</tr>
<tr>
<td>IGA</td>
<td>Income Generating Activities</td>
</tr>
<tr>
<td>IR</td>
<td>Intermediate Result</td>
</tr>
<tr>
<td>JICA</td>
<td>Japan International Cooperation Agency</td>
</tr>
<tr>
<td>LLR</td>
<td>Lower Level Result</td>
</tr>
<tr>
<td>MAICCC</td>
<td>Mponela AIDS Information and Counseling Center</td>
</tr>
<tr>
<td>MBG</td>
<td>Milk Bulking Group</td>
</tr>
<tr>
<td>MDDA</td>
<td>Malawi Dairy Development Alliance</td>
</tr>
<tr>
<td>MDFA</td>
<td>Mpoto Dairy Farmers Association</td>
</tr>
<tr>
<td>MDI</td>
<td>Malawi Dairy Industries</td>
</tr>
<tr>
<td>MERA</td>
<td>Malawi Energy Regulatory Authority</td>
</tr>
<tr>
<td>MMPA</td>
<td>Malawi Milk Producers Association</td>
</tr>
<tr>
<td>MRA</td>
<td>Malawi Revenue Authority</td>
</tr>
<tr>
<td>NAPHAM</td>
<td>National Association of People Living with HIV &amp; AIDS in Malawi</td>
</tr>
<tr>
<td>NBS</td>
<td>New Building Society (Bank)</td>
</tr>
<tr>
<td>OVC</td>
<td>Orphans and Vulnerable Children</td>
</tr>
<tr>
<td>PEPFAR</td>
<td>US President’s Emergency Plan For AIDS Relief</td>
</tr>
<tr>
<td>PESPS</td>
<td>Private Extension Service Provider</td>
</tr>
<tr>
<td>PLHIV</td>
<td>People Living with HIV &amp; AIDS</td>
</tr>
<tr>
<td>PWL</td>
<td>Prosperity Worldwide</td>
</tr>
<tr>
<td>SHMPA</td>
<td>Shire Highlands Milk Producers Association</td>
</tr>
<tr>
<td>STIs</td>
<td>Sexual transmitted infections</td>
</tr>
<tr>
<td>TPE</td>
<td>Transglobe Produce Export</td>
</tr>
<tr>
<td>USG</td>
<td>United States Government</td>
</tr>
<tr>
<td>VSL</td>
<td>Village Savings and Loan</td>
</tr>
</tbody>
</table>
A. Introduction & Background

Land O’Lakes International Development implemented the USAID-funded Malawi Dairy Development Alliance (MDDA) from January 1, 2007 though May 31, 2012. The objective of MDDA was to increase incomes for rural dairy farmers and participating value chain stakeholders operating in the Central and Northern Regions of Malawi. The program also focused on two of USAID/Malawi’s Operational Plan Objectives of Agriculture Sector Productivity and Private Sector Competitiveness. Furthermore, MDDA facilitated the realization of several additional impacts that contribute to the Feed the Future (FTF) results for Malawi. These include “Improved Economic Performance of the Agricultural Sector” and “Improved Nutrition-Related Behaviors, such as Consumption of Nutritious Foods.”

In order to successfully implement the MDDA program, Land O’Lakes partnered with many private, research, and public sector partners. Some partners include: The Department of Animal Health and Livestock Development, four producer associations, 23 Milk Bulking Groups (MBGs), the Dairy Processors Association Limited (DPAL), four breeders, five feed manufactures, four processors, Airtel, GALVmed, General Mills, GSJ Animal Health and Production Private Limited, New Building Society (NBS) Bank, NICO General Insurance, Nzeru/Esoko, Mponela AIDS Information and Counseling Center (MAICC), the National Association for People Living with HIV & AIDS in Malawi (NAPHAM) and Opportunity International Bank of Malawi (OIBM). MDDA partners, including Land O’Lakes, continued to leverage their own resources toward the successful implementation of the program. The implementation strategies also addressed cross-cutting issues of HIV & AIDS, gender and environmental impact mitigation.

Throughout the life of the program, Land O’Lakes focused heavily on strengthening systems to ensure sustainable growth of the dairy sector. The program worked with key value chain players to expand the number of farmer-owned animals, while ensuring the availability of and utilization by farmers of inputs and services needed to increase production. As part of overall systems strengthening, the program also focused on building the capacity of farmers, MBGs, and associations to run their operations as profitable businesses. Furthermore, farmers were empowered to utilize their larger herd sizes, inputs, services, and their business knowledge to increase efficiencies of the sector from the grass roots level.

The MDDA program was implemented in three phases. Beginning in January 2007 and originally scheduled to end in December 2008, the program was awarded three extensions. The extensions were as follows:

- January 1, 2009 through December 31, 2010
- January 1, 2011 through March 31, 2012
- April 1, 2012 through May 31, 2012

Activities of the original funding (2007 to 2008) focused on building commercially viable businesses in the dairy sector through the provision of 14 grants to animal breeders, veterinary service providers, feed manufacturers, accounting service
providers (to MBGs/Associations) and producer organizations. During the first extension (2009-2010), MDDA leveraged the interventions already put in place to further strengthen the dairy value chain. During the second extension, January 2011 - March 2012, the program focused on building the capacity of farmers, MBGs and associations to run their operations as profitable businesses. The final extension of two months (April – May 2012) enabled Land O’Lakes to build the capacities of both the Central Region Milk Producers Association (CREMPA) and the Malawi Milk Producers Association (MMPA) to continue MDDA activities after the end of the program. MDDA built the capacity of CREMPA to understand the steps of registering as a cooperative; CREMPA decided in February 2012 to register as Malawi’s first cooperative association. For simplicity in this report, January 1, 2011 through May 31, 2012 are referred to as a single extension phase.

Project highlights 2007 to 2012:

- Leveraged a total of $11.2M in non US government funds towards the global development alliance program. This represents an additional contribution of about 200% over the $5.7M USAID funding.
- Worked with the Government of Malawi and the producer associations to create the Malawi National Heifer Pass-On Scheme. This scheme is now a policy that the Government of Malawi wants both current and future dairy programs to follow.
- Directly placed a total of 656 heifers with farmers under both placements and the pass-on program.
- Contracted a veterinary service provider to conduct a heat synchronization and artificial insemination program with 23 MBGs in 2009. A total of 93 calves were born under this initiative. Later in 2011, MDDA implemented Malawi’s first double heat synchronization and artificial insemination program with 204 animals; 134 have been confirmed pregnant (65.7%).
- Promoted the growth of soy beans by dairy farmers as a means of ensuring availability of quality, affordable dairy mash and alternate sources of income for farmers.
- Partnered with Opportunity Bank of Malawi (OIBM) and New Building Society (NBS) to introduce mobile banking services to MBGs. Also launch various dairy loan products in partnership with NBS bank (including gender specific loan products).
- Worked with NICO General Insurance to introduce Malawi’s first livestock insurance product.
- Strengthened the cold storage supply chain by providing a grant to the Central Region Milk Producers Association (CREMPA) and Mpoto Dairy Farmers Association (MDFA) for the repair and/or installation of cooling equipment within member MBGs.
- Conducted cooperative development and business trainings with producer groups and individual farmers (7 producer groups are now registered as cooperatives).
Mainstreamed various crosscutting issues into the dairy value chain, which included:

- Utilizing funding from the President’s Emergency Plan for AIDS Relief (PEPFAR) to mainstream nutrition and HIV activities into the dairy agriculture value chain (including training MBG facilitators in HIV and AIDS awareness and prevention, distribution of condoms through MBGs, hygiene and nutrition trainings at the MBGs, and support to Orphans and Vulnerable Child (OVC) feeding programs through Community Based Care Centers (CBCCs).

- Gender inclusion and women’s empowerment activities.

- Environmental impact mitigation (development and implementation of an environmental manual).

Utilized the ESOKO SMS messaging system to send extension messages to farmers and complimenting it with radio extension broadcasts.

Launched village savings and loans (VSLs) with PLHIV support groups and MBGs.

Launched private extension service models, which helped increase the quality and quantity of extension services available to farmers.

Built the capacity of several local organizations to continue development activities after the end of MDDA (e.g.; CREMPA, DPAL, MAICC, MDFA, MMPA, NASFAM, various private enterprises within the dairy value chain, and farmer producer groups, PLHIV support groups, and CBCCs).

Built the capacity of the Malawi Milk Producers Association to continue with cooperative trainings/support of its members, breeding service provision, national milk marketing campaigns, and use of ESOKO to share information with farmers.

Utilized interactive demonstration and participatory research strategies with private sector players, the Government of Malawi and Bunda College, to promote the adoption of dairy mash as a means of increasing farmer incomes.

This document is the final report for the period of January 1, 2007 through May 31, 2012. Unless specifically stated, all data presented in the report is for the life of the program. This report summarizes progress made, challenges/lessons learned and the coping strategies.

B. Executive Summary

The program has made significant progress since 2007 by working with and building value chain linkages for dairy farmers, associations, input suppliers, service providers and processors. Land O’Lakes continued to respond to various factors throughout the life of the program to introduce creative, effective strategies for development of the dairy sector. Some innovative strategies included:
• Issuing grants to key private sector players, which unlocked bottlenecks within the value chain, resulting in private sector players driving development.

• Partnering with NICO General Insurance to develop and launch the country’s first livestock insurance product.

• Partnering with Opportunity International Bank of Malawi (OIBM) and New Building Society (NBS) Bank on the development and implementation of financial products for farmers to access.

• Purchasing Malawi’s first private license for ESOKO, which enabled dairy farmers to receive extension text messages through their cell phones.

• Launching participatory research and information dissemination strategies at the milk bulking group (MBG) level in partnership with private sector players, the Government of Malawi, and Bunda College.

• Integrating village savings and loans (VSL) methodology with MBGs as a means of increasing savings and incomes, while building strong governance and reporting structures needed for effective operations of cooperatives.

• Developing radio extension broadcasts, under which lead farmers explained to other dairy farmers how they operate successful businesses.

• Utilizing MBGs to integrate cross-cutting interventions addressing HIV and AIDS, gender inclusion, nutrition and environmental impact mitigation into the beneficiary communities through the dairy value chain. One output from these interventions includes the donation of milk by MBGs to community based childcare centers (CBCCs) operating within their communities.

The program has achieved most of the targets that were set during the life of project. The most significant results achieved during the program include:

• **Increasing the national dairy herd size:** A total of 1,661 dairy animals were made available to the small holder farmers through placement, the pass-on program, the provision of artificial insemination and from breeding farms. This contributed to the overall increase in the national dairy herd size.

• **Milk production and formal sales:** By the end of the program, MDDA farmers had produced 15.4 million liters of milk, of which 11.1 million liters (worth $4,062K) were collected by the MBGs. The remaining 3.7 million liters were sold through informal sales during the life of the program. Of the 11.1 million liters collected by the MBGs, 10.4 million liters of raw milk were sold to the processors from the milk bulking groups working with the MDDA 2007 - 2012.

• **Dairy mash sold:** The MBGs sold a total volume of 1,276 tons of dairy mash worth $346K during the life of MDDA, against the target of 913.7 tons and $293K respectively.
**Financial services:** The MDDA also focused on building the capacity of the MBGs by linking them to various financial services and institutions during the life of the program, including:

- NICO general insurance, which provided livestock insurance services to the dairy farmers. Land O’Lakes required all the heifer beneficiaries to insure the animals before passing them on to another farmer.
- NBS Bank has been offering a variety of banking services, such as mobile banking, loan facilities and savings accounts.
- ESOKO network: This initiative enabled farmers to receive extension text messages through their cell phones. Messages included advice on animal husbandry, record keeping, nutrition and health.

**Pass-on heifer policy document:** One of the major achievements of the MDDA was the contribution it made towards the development of the heifer pass-on policy. The document which stipulates the criteria that is used in selecting the pass-on beneficiaries has been adopted by the Government of Malawi, Associations, MBGs and other organizations.

**The MDDA external evaluations:** Kadale Consultants conducted external program evaluations in 2010 and 2011. The firm presented the 2011 evaluation results to USAID and other donor organizations, representatives of the Government of Malawi and key dairy sector private stakeholders.

The 2010 evaluation focused on the activities conducted in 2007 through 2010. Major findings and recommendations include¹:

- The MDDA had an ambitious set of targets across a wide range of indicators, based on an innovative approach impacted on directly and indirectly. The evaluator recommended that Land O’Lakes should reduce the number of indicators and ensure they were well focused with more direct impacts. The MDDA addressed this finding by either removing or rewording some of the indicators. See Appendices D and E.

- The evaluation highlighted some key debates in dairy sector development in Malawi. These included the promotion of pure- versus cross-bred animals; manufactured feeds compared to low cost feeds such as brans and oilseed cakes; and bulls versus AI services. The report recommended that Land O’Lakes invest some resources in evidence-based trials of alternative approaches and models. After the evaluation, the MDDA implemented a number of evidence-based activities, such as a dairy mash demonstration and Private Extension Service Provider models.

The 2011 evaluation was a follow-up to the 2010 evaluation. It focused on the 2011/12 extension period, comparing findings with those of the 2010 evaluation. The findings for the evaluation were then presented to a wide range

---

¹ Source: 2010 Evaluation Report, Kadale Consultants
of public and private dairy stakeholders, including USAID. Major findings include:

- The program experienced two significant external challenges that negatively impacted milk yields: the breakdown of AI services due to liquid nitrogen and breakdown of the formal market in the Northern Region when Northern Dairies Industries ceased operations.
- The MDDA introduced strong evidence-based approaches to encourage adoption of appropriate technologies (e.g.; dairy mash demonstrations and promotion of private extension service models); the successor dairy programs should expand upon evidence-based approaches.
- The program adapted strategies to take advantage of new opportunities (e.g.; launch of ESOKO and village savings and loans).

**Lessons and successes observed:**

- The program saw dramatic increases in farmers’ and MBGs’ access to inputs and services. Land O’Lakes feels this change occurred primarily due to:
  - Utilizing grants as a catalyst for the private sector to drive development of the dairy value chain.
  - Strengthening linkages between private sector input and service providers and producer groups.
  - Using practical, participatory demonstrations like the feed demonstration and open day conducted on September 8, 2011 at Chitsanzo Dairy Farmers Cooperative to enable farmers to understand their incremental returns on investment in dairy inputs.
  - Trainings MBGs and farmers in business management and record keeping.

- For effective implementation, dairy development activities should focus on:
  - Expanding dairy herds around large milk bulking groups with at least 80-100 improved dairy animals that are along established milk collection routes;
  - Graduating medium-sized MBGs to large groups so they generate enough income to pay for cooling equipment and provide inputs/services to farmer members;
  - Increasing individual farmer herd sizes.

- Male farmers register their wives as dairy farmers because they believe programs only place animals with women. When placing animals, there is need

---

2 Source: 2012 Evaluation Report, Kadale Consultants
3 MDDA observed that most farmers have problems managing more than 3 animals. Subsequent USAID programs may wish to further strengthen inputs/service delivery through the MBGs or community service providers/entrepreneurs to enable farmers to overcome this limitation.
to focus on the selection criteria provided by the Government of Malawi (land size, kraal, etc.) to ensure the entire farm is capable of caring for the animal.

- Farmers using improper animal husbandry practices can benefit from practical, hands-on trainings at MMPA’s dairy farm school, located at Katate Dairy Farm in Lilongwe.

- The MDDA has learned that the MBGs are a very effective means through which to integrate cross-cutting interventions into communities. The program saw remarkable achievements in nutrition, HIV and AIDS, gender and environmental impact mitigation interventions that were mainstreamed into the program. The MDDA reached an overwhelming majority of farmers and their surrounding communities with HIV and AIDS prevention messages. The program utilized local partner organizations such as the National Association of People Living with HIV and AIDS (NAPHAM) to provide HIV Testing and Counseling (HTC) services the program beneficiary communities. Furthermore, the MDDA also began an intervention in nutrition through which the MBGs donate fresh milk to the CBCCs as part of their social responsibility to their communities.

- The MDDA reached its program targets for both milk yields per cow per day and the total milk production. Total milk production would have further surpassed the target if it had not been for interruptions within the AI supply chain and unfavorable market forces due to problems at Malawi Dairy Industries (MDI) and Northern Dairies Industries (NDI)4. To address these issues, the MDDA implemented the following interventions using private, non-US government funding aimed at either increasing or maintaining the milk yields and the total production:
  
  - Issued a matching grant of $10K to MMPA5 for the purchase and importation of a liquid nitrogen machine (capacity to produce 40 liters per day).
  - Purchased 15 liquid nitrogen canisters, which were donated to MMPA for use in its for-profit artificial insemination (AI) service provision supply chain.

---

4 Both processing plants suffered from frequent breakdowns of processing equipment. Land O’Lakes worked with both processors to provide technical advice aimed at improving operations at both facilities. NDI did not implement the marketing and investment suggestions made through MDDA, and it eventually ceased operations. A variety of advice was provided to MDI, including information on how to access the USAID support Development Credit Authority (DCA) to access loans needed for equipment upgrades. MDI accessed the loans but struggled to pay for all of the taxes on the equipment; the Government of Malawi increased duty under the zero deficient budget while the equipment was in transit to Malawi. At the end of the program, MDI struggled with cash flow problems, which resulted in irregular collections of milk and payment to MBGs. The national fuel shortages also negatively impacted MDI.

5 MMPA contributed $59K or 85% of its own resources towards the purchase of the machine.
- Conducted two heat synchronization and AI services programs within the MBGs.
- Placed 656 dairy animals with farmers.
- Implemented three natural breeding options as alternatives to AI services.

- National fuel shortages during the second half of the program negatively impacted the implementation of planned activities because the staff could not always travel as planned. Land O’Lakes staff addressed this by combining trips of different technical groups and utilizing both ESOKO and radio broadcasts to reinforce extension messages.

C. Program Performance and Results

For further details on program performance, see Appendix C for the Results Framework, Appendix D for the USAID Operational Plan Indicators (2007-2012), and Appendix E for the MDDA Program Custom Indicators (2007-2012).

Overall, the program has achieved most of the targets that were set from the inception of the program in 2007. However, it should be noted that some inconsistencies exist in how the 2007-2008 figures were reported, as the baseline figures for specific key indicators of the program were overstated. The MDDA revised the baseline figures and the targets for specific indicators in 2009 and 2011. In addition, some indicators were dropped and others were added in 2009 and 2011 based on feedback from external evaluations; Appendices D and E provide an overview of the program performance for the life of the program.

D. Project Support for USAID’s Operational Plans
(Refer to Appendix D for details)

1. Number of Individuals receiving HIV & AIDS prevention interventions

The program targeted 9,100 individuals with HIV and AIDS prevention interventions. The MDDA, through master trainers, Mponela AIDS Information and Counseling Centre (MAICC) and the National Association for People Living with HIV/AIDS (NAPHAM), reached a total of 16,753 individuals (184.1% of the target). Land O’Lakes realized this success due to strategies such as utilization of Master Trainers, who conducted trainings within MBG communities, as well as through provision of subcontracts to NAPHAM and MAICC to implement HIV & AIDS activities in the MBGS and CBCCs. This indicator is also reported as an MDDA customized indicator (refer to CLLR-P1).

2. Number of Orphans and Vulnerable Children (OVC) served by OVC programs (OVC receiving nutritional support through milk production)

The MDDA program has reached 3,509 OVCs over its lifespan against the target of
3,650 OVCs (96.1%). The program did not achieve the target because less milk was produced by the MBGs during the implementation period than planned, so less milk was available for the CBCCs. A total of 26 CBCCs benefited from this initiative.

3. Number of farmers, processors, and others who have adopted new technologies or management practices as a result of USG assistance

During the life of the program, 7,034 individuals against the target of 3,858 adopted new technologies or management practices including:
- Adoption of pasture establishment
- Fodder conservation through conservation of hay/groundnut bales and digging of silage pits
- Livestock insurance
- NBS loans
- ESOKO registration

The large favorable variances are due to the introduction of technologies that were not included in the original target (such as ESOKO Networks).

4. Number of additional hectares under improved technologies or management practices as a result of USG assistance

This indicator was introduced in 2009 with a target of 500 hectares (baseline 0) subjected to improved technologies or management practices. The MDDA reached 502 hectares by the end of the program.

5. Number of individuals who have received short-term agricultural sector productivity training with USG assistance (sex-disaggregated)

The MDDA provided various short-term agricultural sector productivity trainings to 20,324 farmers during the life of the program. The target for this indicator was 14,564. The trainings included:
- Pasture management
- Financial and business management
- Household labor division
- Gender-based business management
- Milk hygiene trainings
- Co-operative development
- Human rights in relation to women
- Animal husbandry
- Safe pesticide soya production

6. Number of HIV care and support associations provided with economic strengthening capacity building

This indicator was introduced in 2011. The MDDA started a village savings and loan (VSL) program within support groups for people living with HIV and AIDS (PLHIV) as a means of empowering them economically. The MDDA reached its target by
establishing 12 VSL groups with PLHIV care and support groups during the life of the program.

E. Progress Towards MDDA Performance Indicators

IR1: Increased number of improved dairy animals available to smallholder farmers

Land O’Lakes facilitated the expansion of the dairy herd size with new and existing farmers as a means of meeting the demand of processors for more milk, further increasing household incomes and nutrition. The sector will further reap the benefits of productive efficiency resulting from increased economies of scale as the national herd size continues to grow. Over time, this will result in cost efficiencies for players throughout the value chain. Furthermore, as the sector grows it will generate new employment opportunities for people living in milk producing communities. Land O’Lakes and its partners under MDDA implemented the following major strategies to increase the local dairy herd size within Malawi:

- Issuance of sub grants to Malawian breeding farms.
- Establishment of Malawi’s National Heifer Pass-On Scheme, which is a government approved policy managed by MMPA and the regional dairy producer associations.
- Placement of in-calf heifers and first time calving animals with new dairy farmers.
- Support of the association-owned (CREMPA, MDFA, and MMPA) for profit AI service supply model (procurement of liquid nitrogen machine, important of liquid nitrogen, purchase of canisters, training of community AI technicians).
- Utilization of private, non-USG funds to conduct two heat synchronization (HS) and artificial insemination (AI) programs within MDDA supported MBGs.
- Placement of pure breed dairy bulls with MBGs as backup options when there are problems with AI service delivery (e.g.; lack of liquid nitrogen).
- Establishment of two, low cost local breeding farms, one at Lilongwe Bridge and one at Gondoli, under which pure breed jersey bulls were placed with two farmers who had 30-40 free range local zebu cows. CREMPA allowed farmers who received a pure breed jersey heifer from MDDA to pass-on a bull to these two new breeders. The breeders’ herds were vaccinated against east coast fever. The breeders castrated and/or sold all of their local bulls, and they will pass-on their first 50% female calves to CREMPA designated
farmers in 2012/13. These breeders will be free to sell future cross breeds to farmers within their communities (resulting in lower costs to farmers).

- Establishment of various MMPA supported community cross breeding units under which farmer groups receive local zebu cows and a pure breed dairy bull. This low cost strategy enables small farming groups to establish their dairy businesses. These are groups that will over several years utilize their own resources to graduate into larger MBGs.

- Placement of bulls with 9 farmer groups or breeding units who had large herds of grazing zebu and cross animals. Under this initiative, nine bulls were placed with nine breeding units, and the improved bulls were able to service the grazing cows. All of the bulls were sourced locally by CREMPA through the pass-on program.

In total, 1,661 cows were made available to farmers during the program; 438 of these were from breeding farms, 345 through heifer placements, 567 through artificial insemination and 311 through pass-ons. Through both placements and pass-ons, a total of 656 heifers were directly placed with farmers. The table below shows the breakdown of animals made available to the farmers under MDDA:

<table>
<thead>
<tr>
<th>Method</th>
<th>Number of animals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breeding farms</td>
<td>438</td>
</tr>
<tr>
<td>Placements</td>
<td>345</td>
</tr>
<tr>
<td>Artificial insemination</td>
<td>567</td>
</tr>
<tr>
<td>Pass-ons</td>
<td>311</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,661</strong></td>
</tr>
</tbody>
</table>

The following lower level results (LLRs) helped to foster herd expansion at both the MBG and household levels.

**LLR 1.1: Improved AI services available to farmers**

*Note regarding the temporary breakdown of AI services during MDDA:*
AI service delivery was seriously inhibited during the latter half of MDDA because of breakdowns at the government’s liquid nitrogen facility. This negatively impacted both milk yields and planned increases in the national dairy herd size. Land O’Lakes worked with MMPA and the various regional producer associations to address the shortages. The Alliance met with several key stakeholders, including potential private investors, in hopes of making liquid nitrogen provision more sustainable. Unfortunately, there was little interest in private sector development because of the desire of some donors and the Malawi Government to repair/purchase the government’s plant. In addition, there were some projects that
purchased liquid equipment during the timeframe. In all cases, installation and operation of the equipment was delayed. Land O’Lakes and MMPA (with support from FICA) developed and implemented several short, medium, and long term strategies to address the situation.

Short term strategies:
- MDDA imported liquid nitrogen from Zimbabwe through AFROX (formerly BOC Gas). This proved problematic at times because of a lack of foreign currency, which prevented AFROX from delivering the liquid nitrogen as agreed. In such cases, the program worked with SSLPP to import liquid nitrogen directly from Zambia.

Medium term strategies:
- Land O’Lakes utilized private, non-USG funds to fund a second HS and AI program conducted by GSJ (in 2011).
- MMPA, CREMPA, and Land O’Lakes implemented a variety of natural breeding options as backup to AI.

Long term strategies:
- Land O’Lakes utilized private, non-USG funds to issue a grant to MMPA under which the association purchased a liquid nitrogen machine capable of producing 40 liters per day\(^6\). The machine will be operational shortly after the program. MMPA farmer members now have ownership of their own liquid nitrogen supply.
- Land O’Lakes utilized the same non-USG funds to purchase 15 new liquid nitrogen canisters for AI technicians (to expand the number of technicians providing AI services and to replace old canisters that were leaking).
- MDDA partnered with JICA to train 13 new AI technicians.
- MDDA had GSJ conduct refresher trainings with 58 AI technicians in both the Central and Northern Regions under two separate heat synchronization and artificial insemination programs.
- MMPA, CREMPA, and Land O’Lakes implemented a variety of natural breeding options as backup to AI.

The MDDA also undertook the following activities to address the liquid nitrogen scarcity, all of which were privately funded:
- Issued a matching grant of $10K to MMPA for the purchase and importation of a liquid nitrogen machine (capacity to produce 40 liters per day). Historically, because of government intervention and that of various non-business programs, it was difficult to establish a private sector liquid nitrogen program. Moving forward, MMPA farmers now have ownership of their own liquid nitrogen.
- Worked with Afrox, a private supplier of gases in Malawi, to import the liquid nitrogen from Zimbabwe in the absence of liquid nitrogen production in

\(^6\) The grant was for $10.0K; MMPA paid the remaining $52.8K balance of the $62.8K machine.
Malawi. This was a short term business solution until private sector production in Malawi commenced.

- Purchased 15 liquid nitrogen canisters, which were then donated to MMPA for use in its for-profit artificial insemination (AI) service provision supply chain.
- Funded a double heat synchronization and AI services program at selected MBGs.

The following activities under LLR 1.1 were implemented during the life of the program:

**AI Service Delivery**

“AI Service Delivery” is reported as the number of cows pregnant because of heat synchronization (HS) and artificial insemination (AI) activities. This indicator was added in 2011. Land O’Lakes used private funding to contract GSJ, a local private veterinary service provider, to inseminate a total of 458 animals during the life of the program, 2977 of which were confirmed positive through pregnancy diagnosis testing. Since the indicator was added in 2011, a total of 147 animals (98% of target) were confirmed pregnant.

In 2009, the MDDA conducted a single heat synchronization and artificial insemination program. Land O’Lakes and GSJ partnered again in 2011, taking lessons from the 2009 HS and AI activity to conduct another, more cost effective program with seven medium-to-large MBGs in the Central Region. Under this second program GSJ conducted a double heat synchronization (HS) service, a new technique to Malawi. Under this agreement, GSJ conducted AI refresher trainings with and utilized local artificial insemination technicians during both the 2009 and 2011 programs. This strengthened the capacities of existing community-based technicians to provide AI services in the future.

The following revised strategies were incorporated under the 2011 HS and AI program:

- A large geographic area for implementation makes it difficult to inseminate the animals at the correct time. Under the 2011 agreement, GSJ focused on only seven selected MBGs in the Central Region. The reduced area of coverage helped to create additional savings for use in other herd expansion activities.
- Many farmers have older animals that have calved three or more times, which made it more difficult for the animals to conceive. The MDDA, with GSJ, decided to use a double heat synchronization technique as a means of increasing the likelihood of conception in these older animals.
- Farmers needed to ensure their animals were of optimal body conditions to increase the likelihood that AI services will result in conception and

---

7 Number consists of 150 and 147, which were the number of animals confirmed pregnant during both the 2009 and 2011 HS programs, respectively.
birth of a healthy calf. GSJ, MMPA, and Land O’Lakes worked together to develop and print a Chichewa language animal body condition poster, which included pictures (see Appendix F). This poster helped the farmers understand the benefits and detriments of animals with various body conditions. It also enabled farmers to visualize the optimal body conditions for dairy animals. Furthermore, to increase the adoption of these best practices, Land O’Lakes, through private funding, initiated a contest that encouraged proper management practices. Under the contest, farmers from the MBGs that received the AI services from GSJ and who delivered an average minimum daily amount of 15 liters per day for a one month period were entered into a raffle for various dairy related prizes.

In addition to the HS and AI program, Land O’Lakes used private donor funding to purchase 15 liquid nitrogen canisters, which were provided to Malawi Milk Producers Association (MMPA) as support for its new, for-profit AI service provision model. AI technicians under this initiative have inseminated 802 animals. Based upon prior experience, MMPA estimates 160 animals will calve because of the services received.

In total 1,260 animals have been inseminated through GSJ, CREMPA and MDFA since 2007, resulting in 567 calves born.

Training for Artificial Insemination (AI) technicians

The MDDA, in collaboration with Japan International Cooperation Agency (JICA) and Malawi Milk Producers Association (MMPA), held an artificial insemination training for 13 artificial insemination technicians. These technicians will continue providing private-sector AI services to farmers in the Central and Northern Regions of Malawi after the MDDA closes down. The associations purchase the semen from MMPA, which is provided to the trained technicians to use for AI service delivery to their farmer customers. The AI technicians receive a commission from the associations for each animal they inseminate. Services rendered increase both the commercial dairy herd and the amount of milk produced per animal per day (due to breeding of higher end breeds).

LLR 1.2: Increased quantity of cows placed with farmers

---

8 The figure is calculated based on these assumptions; Each animal will need 3 inseminations and the conception rate is 0.6. Therefore, this figure was calculated as follows; (100/3)*0.6
9 The program realized a 45.0% success rate in the number of calves born during animals inseminated (calculated as 567 calves / 1,260 animals inseminated).
10 These are new technicians trained. Under both GSJ and JICA partnerships, a total of 71 AI technicians received training under the program (13 under JICA and 58 under GSJ).
The indicator “Number of additional cows donated to small scale farmers” was introduced in 2011 to show the number of improved animals placed as a result of the final cost-extension. Although this was not a previous indicator, MDDA placed 428 improved animals with farmers prior to 2011. A total of 656 animals were provided to farmers during the life of the program through heifer placements and under the pass-on program. A total of 228 animals were placed (vs. a target of 78) since the indicator was added.

The MDDA also provided grants to breeding farms as a means of increasing the number of improved dairy animals available within Malawi. During the initial program funding period of MDDA (2007-2008), the program provided grants to six breeding farms. The grant recipients purchased both pure breed and zebu livestock, which they used for breeding. In January, 2012 MDDA held a meeting with grant recipients. Two of the six breeders attended and provided the following updates:

- Peacock Farms used the grant and its own resources to purchase 150 animals. To date, Peacock has a herd size of 268 animals. Peacock has sold six heifers and 46 steers for a total of $25.6K.
- Nachali used the grant to purchase 63 local heifers and 120 local female goats for cross breeding. By the end of the program, Nachali had sold off all of its goats and remained with 170 cattle. Nachali has sold 180 goats and 110 cattle for about $16.9K. Nachali receives less for its cattle because it has low end dairy crosses.

Another grant recipient sold her dairy business to Lilongwe Dairies, which now operates a farm in Mchniji District.

**IR2: Increased access to inputs and services by small scale farmers & MBGs**

MDDA worked to ensure commercial sustainability of the dairy sector by building the capacity of private sector input and service providers to provide essential, cost-effective technical and business development services required by farmers and other players in the dairy value chain. Throughout the program, the MDDA continued to build the capacities of input and service providers as a means of ensuring that their products and services were available to farmers. The service providers were divided into two categories – production service providers and financial service providers. Production service providers included individuals or businesses providing veterinary and extension services; it also included farmers, MBG leadership, and association leadership. Financial service providers included businesses providing banking and insurance services.

During the life of the program the MDDA worked with various input and service providers to ensure that smallholder dairy farmers have access to fairly priced, quality and appropriate inputs and services. In 2007, the MDDA provided grants to
14 input and service providers for business expansion. The table below shows details for the grants:

<table>
<thead>
<tr>
<th>Type of Input/Service</th>
<th>Business Name</th>
<th>Grant Funds per category ($ US)</th>
<th>Personal Investment ($ US)</th>
<th>Loan Funds ($ US)</th>
<th>Total Overall Expansion ($ US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Veterinary Medicine</td>
<td>GSJ, Share Care and BVM</td>
<td>191,285</td>
<td>139,643</td>
<td>42,857</td>
<td>373,786</td>
</tr>
<tr>
<td>Feed Manufacturing</td>
<td>Ndatani, LAPE and Transglobe</td>
<td>170,623</td>
<td>703,767</td>
<td>110,000</td>
<td>984,389</td>
</tr>
<tr>
<td>Accounting</td>
<td>Corporate Governance Center</td>
<td>50,000</td>
<td>11,856</td>
<td>73,571</td>
<td>135,427</td>
</tr>
<tr>
<td>Cattle Breeding</td>
<td>Beckwood Dairy, Nachali Farms, Kakoma Estates, Peacock Enterprises, Sheng Enterprises, Bunda Trading and Siparo Farms</td>
<td>337,056</td>
<td>167,346</td>
<td>131,419</td>
<td>635,821</td>
</tr>
<tr>
<td>Totals</td>
<td>14</td>
<td>748,964</td>
<td>1,022,612</td>
<td>357,847</td>
<td>2,129,423</td>
</tr>
</tbody>
</table>

On January 20\textsuperscript{th}, 2012, the MDDA held a meeting for grantees to provide the status of their businesses. Three breeders made presentations (Nachali, Peacock and Kakoma), as well as two feed manufactures (Ndatani and LAPE) and two veterinary service providers (GSJ and BVM). Representatives from USAID and the two farmer regional associations, CREMPA and MDFA, also attended the meeting. Meeting highlights included:

- With the Land O’Lakes grant, Nachali increased its stock from 65 to 170 animals. Peacock purchased 156 heifers using the grant, and increased its stock to 268 animals.
- Ndatani Investment successfully expanded its production capacity using the grant funds to procure an urea mineral blocks making machine, maize mill motor, and for the implementation of an accounting system to enhance financial management and control. Match funding was applied towards office and storage structures and motor vehicles. Today Ndatani has outlet shops in the Central and Northern Regions, and it provides extension services free of charge to its farmer customers.
- In 2009 Ndatani received another grant of about $93K from the United States African Development Foundation (USDAF) to further expand its business operations. Ndatani continues to link its MBG cooperative customers to the USDAF grant mechanism, so they can use the funds to hire staff and expand their operations. Ndatani understands that its sales will increase in line with expansion of its MBG cooperative customer businesses.
• Share Care Vet Limited opened satellite shops in Lilongwe and Mzuzu.
• GSJ Animal Health & Production Limited established a veterinary and service provision system in the Central and Northern Regions of Malawi. It has trained over 1,100 farmers in prevention, control and treatment of various diseases. It also conducted two separate HS and IA programs under MDDA. Although the Northern Region Office is now closed, it continues to sell veterinary supplies to farmer organizations, livestock commercial farms, local veterinary supply companies, Government, and NGOs. GALVmed also contracted GSJ to conduct a nationwide campaign promoting the east coast fever vaccine. Further, GSJ received a contract from the Government of Zambia to capture wild buffalo at Vwaza National Park.
• The grantees indicated that the MDDA program helped to intensify the networks among themselves. For instance, it helped to form a very good working relationship between the breeders and the veterinary service providers.

**LLR 2.1: Improved technical capacity of production service providers**

Various activities aimed at building the technical capacity of production service providers were deployed by the MDDA during the life of the program. Some key activities included: Development of cost sharing models for private extension service providers (PESPS), providing cooperative trainings, providing follow up support to MBGs to register as cooperatives and supporting MDFA’s first audit under its new constitution.

This indicator was added in 2011, and it was tracked as the percentage of farmers trained by CAHNW and PESPS who have adopted best practices in animal husbandry; for the life of the program, 62.3% of beneficiaries adopted best practices in animal husbandry, against the target of 60.0%.

Since this indicator was established, Land O’Lakes partnered with three Central Region MBGs on the piloting of two private extension service provider (PESPS) models. These models enabled the farmers to receive quality and timely private extension services such as treating sick animals, encouraging farmers to dip their animals, and helping during calving. The first model was launched at Machite and Dzaonewekha MBGs. Under this model, a bonus was provided to private community animal health nutrition workers (CAHNWs) based upon the ability of their MBGs to provide predetermined quantities of quality milk to Lilongwe Dairies (as agreed upon by the processor and MBGs). These are indicated in the “Target” column in Table 2 below. The program paid a cost share to the MBG to get started, and the cost was fully taken on by the MBG by the end of the program.

The table below shows the success rate of each PESP in achieving the total liters of milk collected (“Achieved” column) against the proposed target for each month.
Table 2 (July 2011 – Feb 2012)

<table>
<thead>
<tr>
<th>Month</th>
<th>MACHITE</th>
<th>DZAONEWEKHA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Target</td>
<td>Achieved</td>
</tr>
<tr>
<td>Jul</td>
<td>19,500</td>
<td>20,217</td>
</tr>
<tr>
<td>Aug</td>
<td>21,000</td>
<td>25,492</td>
</tr>
<tr>
<td>Sep</td>
<td>22,500</td>
<td>17,145</td>
</tr>
<tr>
<td>Oct</td>
<td>22,500</td>
<td>16,456</td>
</tr>
<tr>
<td>Nov</td>
<td>21,000</td>
<td>16,028</td>
</tr>
<tr>
<td>Dec</td>
<td>18,000</td>
<td>11,131</td>
</tr>
<tr>
<td>Jan</td>
<td>16,500</td>
<td>10,964</td>
</tr>
<tr>
<td>Feb</td>
<td>16,500</td>
<td>15,571</td>
</tr>
</tbody>
</table>

The results show that Dzaonewekha has been successful in achieving the monthly target over a period of six months but failed in the last month to achieve the target, due to a breakdown of the power transformer that was repaired in March 2012. The PESPS at Machite achieved the target for the first two months of the initiative, but then a breakdown in the cooling equipment resulted in a shortfall. It took the MBG over two months to repair the equipment because shortages in foreign exchange made it difficult for them to source spare parts. Machite increased milk collections in the month of February after the problem was resolved, resulting in reaching 94.4% of the month’s target. They have resumed the PESPS model, which they will fully pay for after the end of the program.

Under the second model, which was launched at Namwiri MBG, a private extension worker received a salary after providing support to farmers. The MDDA program paid a cost share to the MBG for the PESP, which was eventually taken over by the MBG.
Land O’Lakes also helped in building the capacity of farmers by training some lead farmers as Community-based Animal Health and Nutrition Workers (CAHNWs). 58 farmers from 17 milk bulking groups of CREMPA and MDFA participated in the training. The topics covered during the training included dairy cattle housing, pasture establishment and management, and animal health and nutrition.

Land O’Lakes trained CAHNWs, who in turn provided trainings to 2,133 farmers (891 females and 1,242 males) on:
- Fodder conservation
- Use of dairy mash
- Kraal maintenance
- Record keeping
- Proper animal health practices (deworming and dipping)
- Pasture establishment

**LLR 2.2: Improved technical capacity of feed manufacturers**

During the life of the program, farmers purchased 1,276 tons of supplementary feed worth $346.0K, against the target of 913.7 tons and $292.7K, respectively. The positive results can be attributed to the following interventions that the MDDA had put in place throughout the implementation period:

- The MDDA issued grants to three feed manufactures (Ndatani, LAPE and Transglobe) as a means of expanding their businesses.
- The MDDA worked with three feed manufacturers (Asumi, Ndatani and Transglobe) to develop a recommended feeding rate for dairy mash. The feed manufacturers have started disseminating documentation with recommended feeding rates inside of bags of dairy mash.
- The dairy mash feed demonstration and open day held in September, 2011 helped the farmers to better understand the benefits of investing in supplementary feed. This also strengthened the relationships between farmers, MBGs, and input suppliers.
- The program provided business and financial management trainings to MBGs and farmers, which enabled training participants to better understand how proper investments in supplementary feed can increase profits. This has resulted in MBGs ordering more feed for their members.
- MDDA utilized a combination of ESOKO text messages and radio broadcasts to promote the adoption of animal husbandry best practices, including the use of supplementary feeding. Weekly radio broadcasts through the ZODIAK network utilized lead farmers to explain how and why their businesses are successful. Farmers from CREMPA, MDFA and SHMPA are benefitting from this program.

The graph below shows the trend of feed purchased between 2009 and 2012 by MDDA partner feed suppliers.
The recipients of the feed grants significantly ramped up their production and sales toward the end of MDDA’s first funding cycle (a reason for the first extension). For this reason, the above graph excludes data for 2007-08. For the 2009 to 2012 period, data showed an increase in the quantity of feed purchased.

**Soy production:** The MDDA worked with smallholder farmers in promoting soybean production for use in self-prepared feeds on the farm and also for sale to the feed producers. 1,161 farmers from CREMPA and MDFA participated in soy production activities. A total of 192.6 metric tons of oilseed valued at $57.0K was produced during the 2009/2010 growing season, against the target of 403.1 tons and $288K. The under-target actuals can be largely attributed to erratic rains, which were especially unpredictable in the northern region, resulting in decreased production and high farm gate crop prices, which encouraged farmers to side sell (not report production figures).

**LLR 2.3: Strengthened financial services available**

This indicator was added in 2011. The MDDA measured the number of small scale farmers having access to financial services including loans and livestock insurance, as well as opening of NBS, ESOKO and VSL accounts and MRA trainings. The indicator was introduced in 2011 as a direct measure for ensuring the commercial sustainability of the MBGs post-program completion. The MDDA reached 3,909 farmers, representing 144% of the target after the establishment of this indicator. Before this indicator was introduced, the MDDA reached a total of 527 individuals, reaching a cumulative total of 4,436 individuals during the life of the program.

**Livestock Insurance:** The MDDA facilitated the introduction of livestock insurance to farmers, which has been implemented by one of Malawi’s leading insurance companies, NICO General Insurance. A total of 1,655 farmers, representing both
smallholder and larger commercial farms, paid premiums worth $748.0K to insure their animals worth $879.1K. NICO has paid claims amounting to $13.0K. The table below shows the details of livestock insurance:

<table>
<thead>
<tr>
<th>Classification of Clients</th>
<th># of policies sold (new or renewed policies)</th>
<th>Total policy value paid by NICO in the event of animal loss (US$)</th>
<th>Total premium value already paid by farmers to insure their cows (US$)</th>
<th>Amount paid out in total claims (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smallholder farmers</td>
<td>1,327</td>
<td>527,644</td>
<td>59,888</td>
<td>13,000</td>
</tr>
<tr>
<td>Larger commercial farms</td>
<td>328</td>
<td>351,428</td>
<td>14,884</td>
<td>0</td>
</tr>
<tr>
<td>Totals</td>
<td>1,655</td>
<td>879,072</td>
<td>74,772</td>
<td>13,000</td>
</tr>
</tbody>
</table>

**NBS Loan Products:** The MDDA, in collaboration with NBS, introduced two loan products to the dairy farmers; the first being the livestock insurance loans\(^{12}\), followed by general dairy loans\(^{13}\). To date, approximately $6.8K of insurance loans have been issued by NBS to 127 individuals. In addition, NBS has issued general loans amounting to $15K to 27 beneficiaries, with an average loan of $0.6K per person. Cumulatively, 363 individuals (122 females and 241 males) have access to loans. This comprises of individuals that received loans and those that were made aware of the loan facilities.

**NBS Mobile Banking:** NBS Bank continued to market its Bank on Wheels facility with MDDA dairy farmers. A total of 750 farmers (343 females and 407 males) have utilized the service. The farmers have saved $29.1K under the NBS mobile banking facility through the life of the program.

**ESOKO:** Although MDDA had initially planned to work with Airtel Money, Land O’Lakes abandon this intervention when it became evident that delays by the Reserve Bank of Malawi to approve the license to bank through cell phones would deter implementation during the life of the program. As a result, the team switched focus to procure a license for ESOKO Networks Limited. ESOKO\(^{14}\) is a platform that enables the delivery of targeted extension messages; MDDA’s messages included:

- Proper animal husbandry practices
- Reminders to farmers to request MBG updates in financial and operational reporting

---

\(^{11}\) Source; NICO general insurance

\(^{12}\) Livestock insurance loans- the product through which farmers can get loans from NBS for payment of the livestock insurance.

\(^{13}\) General loans – These are loans which are open to all farmers and offer a monthly interest rate of 3%.

\(^{14}\) [http://www.esoko.com/](http://www.esoko.com/)
• Health information (malaria prevention)
• Reminders to farmers to listen to weekly extension radio broadcasts

ESOKO also has a service through the Agriculture Commodity Exchange (ACE) through which weekly market information for commodities can be sent to farmers. Land O’Lakes did not implement this service for dairy markets, as they are already pre-established between MBGs and processors. Future USAID programs may wish to invest in linking dairy farmers to other commodity price information, as many dairy farmers grow the crops tracked by ACE\(^{15}\). The MBGs can be used to bulk and sell commodities as an additional income source for themselves and their farmer members. Land O’Lakes used private, non-USG funds to extend MMPA’s ESOKO license through September 4, 2013.

In total, 913 farmers (294 females and 619 males) signed up to receive dairy management extension messages through ESOKO during the life of the program.

*Village Savings and Loans (at MBGs level)*\(^{16}\): The MDDA facilitated the establishment of 50 VSLs with 1,202 individuals (759 females and 443 males) from 11 MBGS. 367 individuals were from the Northern Region, and 835 were from the Central Region. To date, the groups have saved a total of $23.7K. Land O’Lakes identified and trained 25 master trainers (trainer of trainers) from the targeted MBGs, so that they can continue to provide support to the VSL groups after the program ends. The master trainers established 24 of the total 50 VSLs in both regions. By the end of the program, the Magomero VSL group, which was established in June 2011, reported to have paid out $2.8k. The table below shows a summary of the VSLs groups:

| OVERALL SUMMARY OF THE VSL GROUPS |
|----------------------------------|------------------|------------------|------------------|
|                                  | CENTRAL REGION   | NORTHERN REGION  | TOTAL            |
| Number of VSL groups formed      | 35               | 15               | 50               |
| Total membership                 | 835              | 367              | 1,202            |
| Total savings ($US)              | 15,750           | 7,962            | 23,711           |
| Total amount loaned out ($US)    | 6,362            | 5,992            | 12,353           |
| Number of Trainer of Trainers    | 15               | 10               | 25               |

*Malawi Revenue Authority (MRA):* MDDA worked with MRA to develop a training program to teach Central Region MBGs about the various taxes they pay and the

\(^{15}\) Land O’Lakes did not link farmers to commodity market information, as ESOKO was established during the last year of the program and there was insufficient time for this under MDDA.

\(^{16}\) The VSL initiative started with HIV care and support groups, but after feedback from MBG members, MDDA decided to scale up this initiative at the MBG level. These numbers exclude VSL activities with HIV care and support groups.
importance of paying such taxes. The MRA trainings reached 867 farmers (356 females and 511 men) from 14 Central Region MBGs. During the training, it was observed that farmers had little to no knowledge of the taxes they were paying (e.g.; withholding tax and VAT), and farmers did not know that they were financing the government. Farmers in the Central Region discovered that, through the MBGs, they were paying 3% in withholding tax when they were legally only required to pay 2%. As a result, MMPA, with support from Land O’Lakes, hired an accounting firm to provide guidance on how to address this situation and how to minimize the overall tax burden for all dairy farmers. The accountant, Price Waterhouse Coopers (PWC), recommended that farmers should register their groups as cooperatives and that MMPA get tax exemption from the Ministry of Finance to help minimize tax payments for dairy producers. It was also noted that SHMPA pays taxes at PAYE rates\(^\text{17}\) while Central Region MBGs pay the withholding taxes and the Northern Region does not pay taxes. This initiative to build MMPA’s capacity will help create standard tax payments for all farmers in the industry.

**IR3: Increased profitable production and sale of milk by small scale farmers and MBGS**

*Total milk production volume and value:*  
The indicator on total production has four components, which include total liters produced, milk collected by the MBGs, value of milk collected by the MBGs and milk sold through informal sales. The total production of milk during the life of the program was 15.4 million liters, out of which 11.1 million liters (worth $4,061K) were collected by the MBGs. Of the 11.1 million liters collected by the MBGs, 10.4 million liters of raw milk was sold to the processors from the MBGs working with the MDDA from 2007-2012. A mini-survey (conducted every quarter) aimed at estimating milk disposal showed that the remaining 3.7 million liters (25%) were sold through informal sales during the life of the program.

The graph below summarizes the trend of milk production over the past 10 quarters.

\(^{17}\) PAYE or “Pay as You Earn Tax” is income tax rates (of about 30%).
Overall, the graph shows a decrease in milk production. This downward trend can be largely attributed to the break down in the liquid nitrogen supply chain, resulting in unavailability of AI services in Malawi for almost two years. Lack of stable markets (particularly in the Northern Region and with MBGs selling to MDI in the Central Region) also contributed to the decline. During 2011-2012, MDI stopped collecting milk from the MBGs. The MDDA deployed a number of activities to ensure that the milk production was maintained in the short-term and will increase in the long-term. As a result of these interventions, Land O’Lakes believes that milk production levels were less volatile during the final five quarters of the program. The following are some of the interventions that were put in place:

- Placement of animals: The MDDA placed additional animals and also supported AI services provision, which led to an increase in the number of animals producing milk.
- Increase in the purchase and use of dairy mash, as result of the feed demonstration and open day. There is a direct correlation to animal nutrition and both milk yields and fertility.
- MDDA utilized various means of communication (such as ESOKO, radio broadcasts and PESPS), to promote the adoption of animal husbandry best practices with farmers, under the premise that healthier animals produce more milk.

**Household income from milk sales for participating dairy farmers**
Household incomes from milk sales during the life of MDDA were $1,289K vs. a target of $912K. Household income from all sources was $2,014K vs. a target of $1,362K for the same period.
**Increase in number of MBGs operating above the break-even point**
During 2007 and 2008 seven MBGs operated above their break-even point vs. a target of five MBGs. The indicator was removed in 2009.

**Increase in value of investment by public, private and non-governmental organizations in the dairy sector**
The MDDA brought a total of $11.2M in leveraged funds towards the program vs. a target of $2.6M during the life of the program. This represents a 430.8% favorable variance for the Global Development Alliance program. The indicator was removed in 2009.

**Number of people employed in the dairy market chain**
A total of 4,440 people vs. a target of 3,217 were employed under the dairy value chain as a result of the MDDA during the life of the program.

**LLR 3.1: Improved business capacity of farmers**

Land O’Lakes utilized tools from its Cooperative Development Program (CDP) to strengthen the capacity of the Executive Members of all MDDA MBGs in 2010. A total of 68 Executive Members from all 23 MBGs received business management and governance training as a means of better supporting the milk bulking and cooling facilities. To further strengthen the capacity of the farmers, the MDDA trained 1,583 farmers (834 females and 749 males) in business management, financial management and governance. As a result of CDP trainings, 7 MBGs filed to become registered as cooperatives and 1 MBG was registered as an association with the Ministry of Trade and Industry.

In addition, CREMPA, one of the regional farmer associations, decided to register as a cooperative, with assistance from Land O’Lakes. CREMPA received cooperative trainings from the Ministry of Industry and Trade, and a Land O’Lakes CDP expert from Uganda conducted a cooperative training for CREMPA and MMPA staff and leadership.

MDFA adopted a new constitution following the CDP trainings provided by MDDA. Under the new constitution, the association is required to annually undergo an external audit. There was also need to audit the new milk processing business. Land O’Lakes supported MDFA by hiring an auditing firm to audit the financial records for MDFA for the 16 month period ending December 31, 2011. The audit findings have been shared with the MDFA leadership, so the association can improve both its financial record keeping and human resource systems.

This indicator was added in 2011 to track farmer profitability at bigger MBGs. During the last year of the program Land O’Lakes conducted an assessment of the profitability of four target MBGs (Chitsanzo, Dzaonewekha, Machite, and Magomero). From January – March 2012, the results indicated that the net income for the four MBGS before deduction of MBG/association fees and loans was approximately 56%. While this is high, it is lower than the 62% figure for the previous quarter (July to December 2011) and 64% for January to June 2011. The
decrease in the net income is likely due to an increase in expenses, particularly the cost of dairy mash, which accounts for 46% of total expenses. From January to March 2012, the price for dairy mash increased from MK2,700 to MK3,200 (18.5%), while the prices for the milk sales did not change, pinching farmers’ profits. MMPA is working with the processors to negotiate price increases on the sale of milk for its member MBGs and continues to look for other ways in which it can increase the profitability of milk for dairy farmers.

**LLR 3.2: Milk production increased**

The indicator under this lower level is average daily milk yields for improved cows. The target for this indicator was 12.2\(^{18}\) liters per improved animal per day. The program achieved this target at the end of the program, reaching 12.2 liters per day.

**LLR 3.3: Improved market access**

*Total volume of milk supplied to dairy processing plants by MBGs*

A total of 10.4 million liters, versus the target of 9.8 million liters, have been sold to processors throughout the life of the program.

The chart below shows that the amount of milk sold to the processors more than doubled between January 2010 and March 2012. This data was not collected prior to 2010. The graph below shows the total liters collected by processors:

\[\text{The target was revised with permission from USAID in 2009 after realizing that the baseline figure from 2007 was overstated.}\]
The graph above shows an increase in the milk collected by the MBGs during the life of the program, though there was a slight decrease in the milk collection from the MBGs by both Lilongwe Dairies and MDI in the final two quarters. This relates to the overall decrease in the milk production during the last quarter of the program as explained above.

**Lilongwe Dairies:** Milk collection decreased by 10.1%, from 355,000 liters for the October through December 2011 quarter to 319,000 liters during the January through March 2012 period. The decrease was mainly caused by breakdowns of cooling equipment and/or power supply at Machite, Dzaonewekha and Lumbadzi MBGs, which took months to repair (as previously explained in LLR 2.1 regarding PESPS). As such, the farmers stopped bulking their milk at the cooling center. Milk collection from Machite MBG decreased from 43,625 liters in December 2011 to 33,473 in March 2012. In the same period, Dzaonewekha milk collection decreased from 51,847 liters to 25,903 and Lumbadzi milk collection decreased from 48,971 to 30,388. These trends will likely reverse after the program, as the cooling equipment has been repaired as a result of the PESPS program.

In light of these numbers, it is important to note that overall, the milk sales to Lilongwe Dairies has more than doubled between 2010 and 2012. This is a result of the capacity building MDDA has provided to Lilongwe Dairies’ farmers and MBGs, along with the fact that Lilongwe Dairies continues to be a regular outlet and timely payer for milk. In addition, Lilongwe Dairies started collecting milk from four of the largest MBGs that previously sold their milk to MDI.

**MDI:** The processor experienced cash flow problems over the past two years, which negatively impacted the willingness of farmers to supply the processor with milk. Four of the MDI MBGs switched to Lilongwe Dairies during the last year of MDDA.

**MDFA:** MDFA opened a processing plant earlier in 2011 in an effort to address the market challenges in the Northern Region. The Mpoto Dairy Farmers Association has seen an increase in milk collection, from 24,666 to 41,735 liters for its mini-processing plant, comparing March 2011 to March 2012, respectively. Though the processor is facing cash flow problems, it continues to collect milk; it is the only processor currently available in the north. MDFA hopes to continue expanding capacity to 1,000 liters per day, as it better understands its new processing business venture.

**Northern Dairy Industries (NDI):** This processor had cash flow problems for the past two years. NDI closed its facilities during the 2011/12 extension period because of ongoing equipment failure and cash flow problems. NDI is in the process of liquidating its assets.

Land O’Lakes anticipates that formal market sales from MBGs to processors will continue to increase because:
Lilongwe Dairies, which has doubled its processing capacity to 2 million liters per month\textsuperscript{19}, will seek out additional Central Region MBGs to provide it with milk. Many MBGs currently working with MDI are in discussions with Lilongwe Dairies to start providing it milk.

Land O’Lakes utilized private, non-USG funding to issue a small grant to MMPA for the purchase of a liquid nitrogen machine with capacity of approximately 40 liters per day. The grant was for $10.0K; MMPA paid the remaining $52.8K balance of the $62.8K machine. Approximately $30.0K of the MMPA balance has been paid through a non-interest loan received by Lilongwe Dairies. MMPA, in partnership with CREMPA, will run the plant as a private business and will ensure liquid nitrogen will be available to farmers well after the end of the program. The associations will purchase the semen at an affordable, non-subsidized market price from the associations and use it for sustainable, profit driven AI service delivery to their farmer customers\textsuperscript{20}.

MDDA handed over the ESOKO system to MMPA for its use as a means of promoting animal husbandry best practices and other extension related text messages through farmer cell phones.

*Percentage of milk rejected by dairy processors:*

The program had a target of 0.7% of milk rejected by the processors. MDDA surpassed this target with a rejection rate of 0.1% at the end of the program. This positive trend likely relates to the trainings that the program has been conducting in the MBGs. As such, the MBGs are becoming more serious about the quality of milk they are willing to accept from farmers.

*Increase in processing plant capacity utilization of raw milk:*

The target for this indicator was 28.0%. MDDA achieved 43.4% at the end of 2010, at which time the indicator was removed based upon feedback received by the external evaluator\textsuperscript{21}.

**CROSS CUTTING ISSUES**

**CIR-PEPFAR (HIV & AIDS, OVC): Individual mechanisms strengthened to mitigate & cope with the impacts of HIV & AIDS**

HIV & AIDS significantly impact dairy farmers and the communities in which they live. In June 2009, MDDA started mainstreaming HIV-related activities, to mitigate

\textsuperscript{19} Lilongwe Dairies was producing almost 1 million liters of milk per month at the end of the program (about 50% of the plant’s new capacity).

\textsuperscript{20} The liquid nitrogen cost is included within the cost of the AI services.

\textsuperscript{21} See the 2010 external evaluation report for more information.
and cope with the impacts of this disease into its programming, and as a means of strengthening systems at the household, MBG, and community levels. The major objectives of the interventions were:

- To increase HIV & AIDS awareness among the dairy farmers and the surrounding communities, thereby contributing to the reduction of HIV & AIDS transmission.
- To reduce/mitigate the impacts of HIV & AIDS on orphaned and vulnerable children through provision of nutritional support.
- To improve the livelihoods of the People Living with HIV & AIDS (PLHIV) through economic empowerment.

**CLLR-P1: Improved HIV & AIDS behavior change strategies in place**

The MDDA, through master trainers, MAICC (Mponela AIDS Information and Counseling Centre) and NAPHAM (National Association for People Living with HIV/AIDS), reached a total of 16,753 (184.1% of the target) individuals with HIV & AIDS prevention interventions during the life of the program in 376 sessions. The MDDA deployed the following activities as a means of exceeding the target:

Land O’Lakes staff conducted trainings that utilized three kits from the Hope Kit Set: (1) Journey of Hope, (2) Have a Healthy Baby and (3) Bambo WA Chitsanzo (for men) during the life of the program, and 69 farmers (3 from each of the 23 MBGs) were trained as HIV & AIDS Master Trainers using the USAID-funded BRIDGE Project training kits. The volunteers were selected based upon their interest in HIV issues and their ability to acquire and impart knowledge. MDDA community level Master Trainers have provided HIV & AIDS prevention and behavior change messaging to 12,250 people (7,519 females and 4,731 males), including farmers and surrounding communities during the life of the project.

MDDA partnered with the NAPHAM and MAICC to conduct HIV awareness campaigns and HIV testing and counseling (HTC) within the dairy farming communities (including through the MBGs and CBCCs). A total of 3,731 individuals (1,822 females and 1,909 males) were reached by NAPHAM and MAICC, out of which 1,791 individuals accessed the offered HIV testing and counseling services during the life of the project.

Land O’Lakes also collaborated with Population Services International (PSI) in HIV/AIDS prevention activities through social marketing of female and male condoms. The milk bulking groups were utilized as outlets; the MBGs received condoms which were sold to the farmers and the surrounding communities. By the end of 2010, a total of 854 condoms were sold to 754 individuals. The activities and the indicators under this intervention were dropped during the 2011/12 extension period based upon the recommendation from the 2010 MDDA final evaluation. This activity was implemented in order to improve availability of HIV and Sexually Transmitted diseases (STI’s) prevention services and products in MBG communities.
CLLR-P2: Improved services available to OVC through community resources

The MDDA, in close collaboration with the MBGs in the Central and Northern Regions of Malawi, also began an intervention in nutritional support of 27 CBCCs located within MBG communities. Under this strategy, the food secure MBG members donate a portion of their total milk production back to their communities through CBCCs. Cumulatively, the MBGs have donated 15,629 liters of fresh milk to the CBCCs, versus the target of 16,000 liters. The figure is lower than the target because when the target was set for the 2011/12 extension period, the program did not factor in the two months period for school holidays. The target would have been met if these two months of school closures were previously considered. The donated milk has benefited a total of 3,509 OVCs over the life of the project.

Land O’Lakes also provided the following support to the CBCCs:

- Trained 916 caregivers in milk hygiene and nutrition under 56 training sessions.
- Provision of food preparation equipment:
  - 21 cooking pots and 13 milk churns were distributed to 21 CBCCs
  - 20 food thermometers were distributed to 20 CBCCs
  - 19 pedal bicycles were distributed to 19 CBCCs as a means of easing transportation challenges faced by the CBCCs when collecting milk from MBGs.

CLLR-P3: Strengthened economic capacities of PLHIV

Land O’Lakes has mainstreamed many important cross cutting issues throughout the program as a means of empowering dairy communities to address their own challenges. One such strategy consisted of the introduction of village savings and loans (VSLs) with support groups for People Living with HIV (PLHIV). The strategy was introduced in 2011, and by the end of the program, the MDDA reached its target by establishing 12 VSL groups with PLHIV and support groups. Cumulatively, 278 members from all 12 groups have saved a total of $10.0K since the initiative; $3.7K (37.4%) has been loaned out to members.

The table below shows details of VSL savings with PLHIV care and support groups:
Land O’Lakes strongly believes that gender equality results in improved households. MDDA mainstreamed gender into all of its activities. The program helped beneficiaries to better understand the importance of people from both genders sharing household work and decisions, including having access to and determining how to spend money.

In 2008 and 2009, the MDDA conducted gender studies within the MBGs to better understand the roles that women play in their homes and communities, particularly as they relate to dairy activities. In efforts to address some of these challenges, the MDDA, in collaboration with the Ministry of Gender and Women Development, created training tools which were used to train the MBGs in various gender issues. In 2010 and 2012, the MDDA conducted trainings and follow up studies, which were aimed at assessing the impacts of the trainings. See Appendix G; for a gender detailed report.

Activities aimed to address findings of the gender studies during the life of the program included:

- 1,033 (466 females and 537 males) received training in labor division and the importance of equally dividing labor by gender at the household level; later, 265 individuals (103 females and 162 males) received a refresher course in gender and the importance of labor division.
- 328 women (109.3% of target) received human rights training under the program.
• The MDDA also strengthened the capacity of women by training 253 females in gender-based business management (representing 101.2% of the extension target). MDDA modified the cooperative development program (CDP) module and combined it with training materials provided by Peace Corps to make the lesson material appropriate for the target population of women. The training aimed to provide the women with knowledge and skills needed to further increase their participation in household and business financial decisions. Specific topics included: how to plan and start a business, business management and record keeping.

CIR-Environment: Strengthened mechanisms in place to prevent negative environment impacts by the dairy industry

The environmental monitoring indicators were not included in the original agreement but were added in 2009 at the request of USAID in accordance with regulation 22 CFR 216. This LLR measured the following two indicators: “Percentage of smallholder dairy farms passing the MDDA environmental compliance test” and “Percentage of MBG cooling facilities passing the MDDA environmental compliance test”. Regarding the percentage of smallholder dairy farms passing the MDDA environmental compliance test, during the 2011/2012 extension period, 89.8% of farmers passed, which is approximately 20% over the target of 75.0%. For MBG facilities, the achievement in December 2011 was 88.8%, which is also about 20% over the target of 75.0%. The program attributes these exceeded targets to the various trainings that were provided to the beneficiaries.

The program provided training to farmers in:

• Safe pesticide use (safe handling of chemicals, determining proper dosages of acaricides, preventing run-off water bodies and properly disposing of pesticides)
• Milk hygiene
• Animal husbandry

F. Alliance Partner Coordination

Coordination with Regional Farmer Associations

CREMPA: Land O’Lakes collaborated with the Central Region Milk Producers Association in a variety of capacities throughout the life of the program. Key examples include:

o Association capacity building grant: In 2007, the MDDA signed a grant agreement with CREMPA. The scope of work for the grants included 1) hiring an Association Coordinator through a cost share arrangement to provide business management support, 2) developing the National Heifer Pass-on Scheme policy document, 3) conducting a milk bulking group assessment and baseline survey, and 4) establishing artificial insemination/cattle breeding centers.
Cooling equipment maintenance grant: In 2010, the MDDA awarded a grant to CREMPA to be used in the maintenance of the cooling facilities for the 14 MBGs. This need was identified when the program observed a breakdown in the cold storage chain for raw milk.

Heifer placement: Land O’Lakes fully partnered with CREMPA from 2009 onwards, during the placement of the in-calf Jersey heifers with new farmers under the National Heifer Pass-on Scheme. CREMPA participated in the identification of eligible farmers and in the training of the selected farmers. During the heifer placement for 2011, the Chair of CREMPA travelled to South Africa, where he helped inspect and select the animals before travelling back with them to Malawi (the trip was funded with private, non-USG funds). This equipped CREMPA with the knowledge needed if the association decides to import animals on its own.

Coordination of pass-on program: Land O’Lakes worked with MMPA and CREMPA to identify and prepare for the pass-ons. In addition, CREMPA worked together with Land O’Lakes to develop a model through which individual farmers of large herds of zebu can participate under the heifer pass-on program by receiving a bull calf and passing along later a cross bred heifer calf to CREMPA farmers. One bull was placed at each Gondoli MBG and Lilongwe Bridge MBG. Refer to LLR 1.2 and LLR 2.2 for more information.

Trainings: The MDDA partnered with the association during the provision of various trainings during the life of the program. The trainings included animal husbandry, milk hygiene, fodder conservation and grass promotion.

With support from the MDDA, MMPA bought 27 local zebus from Malawi and placed them with three cross breeding units under CREMPA. The 27 local zebus will be crossed with the pure breed dairy bulls. Under this model, farmers will keep the calves born and pass on the zebu cows to other farmers within their cross breeding units. This low cost breeding model is effective for new groups that have minimal investment capital at group level.

Land O’Lakes used private funding to contract GSJ to provide AI and heat synchronization (HS) services within the MBGs in the Central and Northern Region.

Training in ESOKO: Staff from CREMPA and MMPA attended ESOKO training that was organized by Land O’Lakes. This will enable MMPA to better manage the system, which Land O’Lakes handed over to the association in May 2012.

Motorcycle: The MDDA utilized private funding to purchase a motorcycle, which was provided to CREMPA. This was to support the increase in herd expansion through provision of timely extension services to the farmers.
**Assisted CREMPA in cooperative registration process:** During the final few months of the program, CREMPA decided to register as a cooperative. USAID approved an extension in April and May of 2012 to help facilitate with additional trainings for the association. Land O’Lakes engaged a cooperative development expert from Eastern Africa to train CREMPA and MMPA in the detailed aspects of being a cooperative. The program also trained MMPA so both associations can support additional member groups that are or want to become registered as cooperatives. The staff of CREMPA and MMPA now have the skills needed to conduct CDP trainings with their member MBGs and to provide cooperative knowledge support and monitoring to these groups. CREMPA will apply for cooperative registration after the end of MDDA, once it receives approval from all of its member MBGs.

**MDFA:** MDDA collaborated with the Mpoto Dairy Farmers Association in the following key activities:

- **Heifer placements and Pass-ons:** Land O’Lakes fully partnered with MDFA on the successful placement of the in-calf pure dairy heifers with new farmers under the National Heifer Pass-on Scheme throughout the implementation period. MDFA was involved in the identification of eligible farmers and training of the selected farmers. MDFA also worked closely with Land O’Lakes in the identification of animals to be passed-on throughout the implementation period.

- **Association capacity building grant:** In 2007, the MDDA signed a grant agreement with MDFA. The scope of work for the grants included 1) hiring an Association Coordinator through a cost share arrangement to provide business management support, 2) completing a heifer scheme pass-on strategy, 3) conducting a milk bulking group assessment and baseline survey, and 4) establishing artificial insemination/cattle breeding centers.

- **Cooling equipment maintenance grant:** In 2010, the MDDA awarded an in-kind grant to CREMPA to be used in the maintenance of the cooling facilities for the 9 MBGs. This need was identified when the program observed a breakdown in the cold storage chain for raw milk.

- **Support of association’s milk processing plan:** In 2011, Land O’Lakes provided a 4 ½ month transport grant to MDFA for support of its new mini-processing plant. MDFA was chosen because it is the only processor of milk in the Northern Region, after NDI closed in 2011. The grant was to enable MDFA to surpass its breakeven level of production, so it would have enough cash flow for operational expansion after the start up phase.

- MDDA provided guidance to MDFA on how to utilize its own resources to address its milk transportation challenges, due to its new milk processing facility. As an outcome of these discussions, the association utilized its own funds to purchase a vehicle and maintain its existing vehicle.
- **Audit Support:** MDFA adopted a new constitution following CDP trainings provided by MDDA. Under the new constitution, the association is required to annually undergo an external audit. There was also need to audit the new milk processing business. Land O’Lakes supported MDFA by hiring an auditing firm to audit the financial records for MDFA for the 16 month period ending December 31, 2011. The audit findings have been shared with the MDFA leadership, so the association can improve both its financial record keeping and human resource systems.

- **Office Space:** Further collaboration was demonstrated in MDFA’s generosity to provide office space to the Land O’Lakes staff as part of their contribution to the development of dairy in their region. MDFA did not charge Land O’Lakes rent; utility costs were, however, shared between the organizations.

- **Shire Highlands Milk Producers Association (SHMPA):** Activities include:
  - Land O’Lakes worked with SHMPA to roll out the ESOKO platform in the Southern Region. This is helpful to MMPA, as the national level association wishes to utilize the platform after the end of MDDA. 100 SHMPA farmers receive extension text messages through ESOKO.
  - Land O’Lakes partnered with MMPA and SHMPA on an initiative under which Price Waterhouse Coopers (PWC) provided both associations tax advice on how to minimize the tax burdens paid by dairy producers. PWC recommends that MBGs become registered as cooperatives to minimize their tax burdens, which entails MMPA getting a blank waiver from the Ministry of Finance to avoid farmers being taxed at “pay as you earn” (PAYE) rates. Both MMPA and SHMPA have developed a strategy, which they will implement after the end of MDDA.

**Coordination with Dairy Processors Association Limited of Malawi (DPAL)**

Dairy companies comprising the Dairy Processors Association Limited of Malawi continue to partner with the program as a ready market for raw milk.

- **Establishment of DPAL:** In 2007, the MDDA assisted in the registration of Dairy Processors Association Limited (DPAL) through the provision of a grant. The association was registered as Dairy Processors Association Limited, with directors from the following dairy processors: 1) Dairibord Malawi, 2) Lilongwe Dairies Limited, 3) Katete Farms, 4) Northern Dairies Limited, 5) Malawi Dairy Industries Limited, 6) Suncrest Limited, and 7) Mweramkaka Dairies.

- **Marketing consultant:** Land O’Lakes engaged the services of its Regional Market Specialist, based in Nairobi Kenya, to assist the association with preparing the procurement of the market audit survey. The specialist worked with the processors and the association coordinator in teaching them how to
complete an appropriate scope of work for a retail market audit and how to pre-select the most adequate organizations to carry out the work.

- **National Milk stakeholders meeting:** In 2011, Land O’Lakes helped in linking DPAL to FICA for funding during the national milk stakeholders meeting.

- **Promoting DCA:** Land O’Lakes linked MDI to the USAID Development Credit Authority (DCA), under which it received a commercial loan needed to purchase new processing equipment.

- **Promotion of PESPS:** The MDDA partnered with Lilongwe Dairies in support for the PESPS initiative, which provides a bonus to private extensionists based upon the ability of their MBGs to provide pre-determined quantities of quality milk to Lilongwe Dairies (*Refer to LLR 2.1*).

- **Value chain financing:** Lilongwe Dairies issued an interest free loan to MMPA, which was used in the purchase of a liquid nitrogen machine (*Refer to LLR 3:3*).

### Coordination with Malawi Milk Producers Association (MMPA)

Throughout the program, Land O’Lakes supported the Malawi Milk Producer’s association. Specifically, Land O’Lakes conducted the following activities:

- Assisted MMPA to buy 27 local zebus from Malawi and placed them with three cross breeding units under CREMPA. The 27 local zebus will be crossed with the pure breed dairy bulls. Under this model, farmers will keep the calves born and pass on the zebu cows to other farmers within their cross breeding units. This low cost breeding model is effective for new groups that have minimal investment capital at the group level.

- MMPA staff attended an ESOKO training in preparation for the association to take over ownership of the platform, which took place right before the end of MDDA.

- MMPA attended the cooperative training that was conducted by the CDP expert from Land O’Lakes in Uganda. MMPA will ensure continuance of these trainings after the end of MDDA.

- Land O’Lakes utilized private donor funding to purchase 15 liquid nitrogen canisters, which were provided to Malawi Milk Producers Association (MMPA) as support for its new, for-profit AI service provision model.

- Land O’Lakes continued partnering with MMPA to source liquid nitrogen and develop long-term strategies to address the shortage within the country. MDDA utilized private, non-USG funding to provide a modest grant of $10K to MMPA to source a liquid nitrogen machine and expand its overall artificial
insemination (AI) service provision to farmers. MMPA provided its own funding to cover approximately 85% of the cost of the machine.

- MDDA partnered with MMPA and Heifer International to create an advertisement during World Milk Day on June 1, 2011. The advertisement was aimed at promoting milk consumption among different age groups.

- MDDA worked with MMPA to develop and disseminate extension messages through ESOKO and ZODIAK radio.

- MDDA worked to develop the capacity of MMPA to conduct its own future advertising campaigns. Together, MMPA and Land O’Lakes designed and placed 3 drink milk billboards along high volume roadways (2 in Lilongwe and 1 in Mzuzu). They also created and ran advertisements on Zodiak radio, and placed “drink milk” stickers on minibuses travelling around Lilongwe and between major cities within the country (see photo: Appendix B).

**Coordination with DAHLD**

DAHLD continued to be an important partner of the Malawi Dairy Development Alliance. Highlights of activities include:

- **Field Support**: MDDA collaborated closely with DAHLD’s Assistant Veterinary Officers (AVOs) from various Milk Bulking Groups throughout the life of the program. The AVOs played a critical role in ensuring that the placed animals were being well cared for and that the beneficiaries were receiving additional training in good animal management practices. In addition, the extension workers also assisted in helping the farmers file claims with NICO insurance.

- **National heifer policy**: The MDDA worked with the government of Malawi in developing the National Heifer Pass-on Strategy. The strategy was developed to enable CREMPA and MDFA to properly manage the pass-ons.

- **Feed demonstration and open day**: Land O’Lakes partnered with DAHLD in the implementation of the feed demonstration and open day at Chitsanzo Dairy Farmers Cooperative (refer to LLR 2.2 for more information).

**Coordination with Input Suppliers and Service Providers**

During the life of the program, the MDDA worked with various input and service providers to ensure that smallholder dairy farmers had and will continue to have access to fairly priced, quality and appropriate inputs. In 2007, the MDDA provided 14 grants to the input and service providers to expand their businesses (for more information, refer to IR 2).

**Feed**

- **Feed demonstration**: The MDDA worked with feed manufacturers in the
implementation of the feed demonstration, which took place at Chitsanzo. Three feed manufacturers (Asumi, Ndatani and Transglobe) participated in the feed trial by providing portions of free dairy mash to the participating farmers. Two of the three manufacturers also hosted a booth during the corresponding farmer open day, during which representatives of the manufacturer interacted with the farmers and sold their products.

- Because of the dairy mash feed demonstration and open day held in 2011, farmers better understood the benefits of investing in supplementary feed. This also strengthened the relationships between farmers, MBGs, and input suppliers. For instance, Ndatani Feeds opened a depot in the Northern Region because of requests made by farmer representatives who attended the farmer open day. As a result of the feed demonstration, the MDDA reported an increase in the purchase of dairy mash by the farmers. MDDA observed during follow up visits in 2012 to the farmers who participated that all of the remaining 11 cows\(^{22}\) that participated under the feed trial were pregnant, which helps demonstrate the correlation between proper animal nutrition and fertility.

- **Feed curriculum:** MDDA worked with the feed manufacturers in compiling information on best dairy feed management for dissemination by the suppliers along with their dairy mash.

- In 2008, the three grantee businesses working in animal feed supply benefitted from the expertise of the Senior Regional Animal Production Advisor from the Land O’Lakes Regional office based in Nairobi, Kenya. The consultant visited Transglobe Produce Exports, Lakeshore Agro Processors Enterprise, and Ndatani Investments, assisting them in the areas of feed formulation and marketing. He also visited farmers to understand their needs and assist in bridging the gaps found between the farmers and feed manufacturers.

**Veterinary Services:**

Land O’Lakes used private match funding to contract GSJ to provide AI and heat synchronization (HS) services in all supported MBGs of the Central and Northern Regions. A total of 458 animals were inseminated, of which 297 were confirmed pregnant during the life of the MDDA.

**Livestock Insurance:**

Land O’Lakes partnered with NICO General Insurance to launch the country’s first livestock insurance product with dairy farmers. A total of 1,655 smallholder farmers and larger commercial farms paid premiums worth $74.8K to insure their animals

\(^{22}\) The 12\(^{th}\) farmer sold her animal several months after the demonstration. She used to proceeds to buy a dairy heifer, which she believed would generated higher milk yields.
worth $879.1K. NICO has paid claims amounting to $13.0K; (see LLR 2.3 for more information).

Financial Services:

- **NBS Loan Products**: NBS was committed to ensuring that the dairy farmers had and will continue to have access to its products. The MDDA, in collaboration with NBS, introduced two loan products to the dairy farmers: livestock insurance loans and general dairy loans. To date, approximately $6.8K of insurance loans have been issued by NBS to 127 individuals. In addition, NBS has issued general loans amounting to $15K to 27 beneficiaries, with an average loan of $600 per person. Cumulatively, 363 individuals (122 females and 241 males) have had an access to loans.

- **NBS Mobile Banking**: NBS Bank continued to market its Bank on Wheels facility with MDDA dairy farmers. A total of 750 farmers used the service to date. The farmers have saved a total of $29.1K under the NBS mobile banking facility throughout the life of the program.

- **Opportunity International Bank of Malawi (OIBM)**: The MDDA also partnered with OIBM in 2007. The aim was that the bank should provide banking services to the farmers, including the mobile banking. Unfortunately, this did not work, and the MDDA replaced OIBM with NBS.

- **Airtel Malawi**: The MDDA had initially planned to partner with AIRTEL Malawi to roll out the ZAP product with the farmers. The possibility to work with AIRTEL was later dropped by the MDDA as the approval for their product was delayed by the Reserve Bank of Malawi to the point where the MDDA could not implement the activity within the remaining period. Instead, Land O’Lakes formed a successful relationship with ESOKO.

- **MRA**: MDDA worked with MRA to develop a training program under which MRA taught the Central Region MBGs about the various taxes they pay and the importance of paying such taxes. MRA reached out to 867 farmers, of which 356 were females and 511 were men. After the trainings, MMPA, with support from Land O’Lakes, hired an accounting firm to provide guidance to MMPA on how to address this situation and how to minimize the overall tax burden for all dairy farmers. Price Waterhouse Coopers (PWC), the hired firm, recommended that farmers should register their groups as cooperatives and that MMPA requests consistent minimal taxes be applied to dairy producers by the Ministry of Finance.

Coordination with General Mills

The following activities were accomplished using the General Mills Funding support:

- **Number of animals placed**: During the 2011-2012 period, the MDDA exceeded its target of 78 by placing 87 pure bred dairy animals with
smallholder farmers (48% of the farmers are females). The target of placing 75% of the animals in female headed households was not met because not all women that were assessed met the minimal criteria necessary to take care of the animal. Out of the 87 that were purchased and placed, 67 animals are in milk. To date, 56 live calves have been born, 32 of which are female and will be passed-on after the program. The number of calves is expected to increase as more animals will calve down. In addition, MDDA utilized General Mills funding to place 11 pure bred bulls with local breeding units as a means of further increasing the number of animals that will be available to farmers after the program. MDDA also utilized General Mills funding to help strengthen the regional producer associations’ pass-on program, resulting in an additional 52 animals being passed on to new farmers. In total, 133 animals have been placed through pass-on program.

- **Number of animals inseminated:** Land O’Lakes utilized the private match funding to contract GSJ to provide AI and heat synchronization (HS) services within MBGs in both the Central and Northern Regions. To date, a total of 297 animals became pregnant under this initiative.

- **Number of female headed households receiving insemination services for their cows or pass-on cows:** 81 female headed household received insemination services from GSJ’s HS, and 102 female received insemination through AI program. Cumulatively, 183 female headed household received insemination services.

- **Support to purchase liquid nitrogen machine:** General Mills funding was used to pay for approximately 20% the cost of a liquid nitrogen machine that MMPA purchased to mitigate the country’s ongoing shortage of liquid nitrogen and breeding services, which have inhibited the expansion of the national herd size over the past several years. This machine will be integrated into the association’s AI service delivery supply chain. It is important to note that the association utilized its own funds to pay for the other 80% of the machine cost, which underscores its commitment to providing sustainable services to its farmers.

- To date, 67 cows have calved, producing 148,293 liters of milk valued at $67,266. Based upon previous experience with farmers in Malawi, MDDA anticipates that the imported cows will produce approximately 235,000 liters of milk valued at $107,000 during the first production cycle. Additionally, the inseminated cows will produce approximately 504,000 liters valued at $228,000 during the upcoming production cycle. In total, private, non-USG funding will result in $480,000 in milk income during the first production cycle.

- MDDA worked with all farmers to encourage the empowerment of women in the decision making processes within the household. A recent study indicated that women and men of dairy families equally share household chores, and women continue to have increasing influence in decisions made
within the household. For these reasons, MDDA believes women’s empowerment continues to increase and an overall gender balance is being realized, in large part because of General Mills funding.

The following were the lessons learned from the implementation of the activities above:

- Due to the breakdown of milk producer association’s liquid nitrogen plant, progress of the insemination program was limited. Land O’Lakes imported liquid nitrogen as a temporary measure to ensure adequate supply. Land O’Lakes also provided a matching fund grant of $10K (less than 20% of the total value) to MMPA to procure its own liquid nitrogen machine. The plant now has a capacity of about 30 liters per day.
- Because of gender equality trainings promoted by Land O’Lakes, beneficiary dairy farming households tend to share responsibilities and decisions more equally between men and women than before the trainings.
- MDDA dairy farming households tend to be much larger than the national average. This is attributed to the larger incomes of dairy farming operations, which enables households to care for a larger number of family members (including extended family members who are older, chronically ill, and/or orphaned).

**Coordination with Peace Corps**

Land O’Lakes partnered with two Peace Corps Volunteers at Chitsanzo MBG, who provided technical support to the cooperative. Land O’Lakes also received business training materials developed by Peace Corps in Tanzania. These materials were modified and incorporated into MDDA business trainings for VSL group members.

**Coordination with PEPFAR Partners**

**MAICC and NAPHAM**

MDDA partnered with the National Association for People Living with HIV & AIDS in Malawi (NAPHAM) and Mponela AIDS information and Counseling Center (MAICC) to conduct HIV awareness campaigns and HIV testing and counseling (HTC) among the CBCC members and the surrounding communities. A total of 3,731 (1,822 female and 1,909 male) individuals were reached by NAPHAM and MAICC. Of the total that were reached through awareness campaigns, 1,791 individuals accessed the counseling and testing services offered. NAPHAM reached 2,846 and MAICC reached 885 through presentations, drama, music and personal testimonies of people living with HIV. *For details refer to CIR-P1.*

**G. Program Challenges & Lessons Learned**

MDDA made great progress over its implementation period. This section outlines challenges and lessons learned during the life of the program.
1. Participatory approaches to research and development can be very effective. Farmer exchange visits and open days with private sector players can help strengthen linkages. The MDDA registered a number of successes from the feed demonstration and the open day that was conducted at Chitsanzo MBG in the fall of 2011. Farmers learned firsthand benefits of using supplementary feed. These then resulted in an increase of the dairy mash sales and also the opening of new markets. For instance, Ndatani Feeds opened a depot in the Northern Region because of requests made by farmer representatives who attended the farmer open day.

2. Establishment of the heifer pass-on policy document assisted in herds expansion during the life of the program. The pass-on policy document provides the criteria in determining the beneficiary of heifer.

3. MBGs are very effective means through which to target cross cutting interventions into communities (e.g.; nutrition, HIV & AIDS, gender and environmental impact mitigation), as they are strong, respected and in most cases trusted institutions that farmers own and engage with on a regular basis.

4. Grant mechanisms are effective tools for encouraging rapid growth of a sector and ownership by private value chain players. Once private sector players are linked and empowered, they drive development on their own. For example, Ndatani, one of the MDDA grants, assisted in linking Chitsanzo and Magomero MBGs to USADF.

5. MBGs that received CDP training from Land O’Lakes expressed interest to change their registration to become cooperatives. As a result, seven MBGs used their own resources to hire Government of Malawi employees from the Ministry of Trade and Industry to help them with cooperative registration. Many MBGs appreciate the benefits of registering as cooperatives (including CREMPA, which is in the process of becoming Malawi’s first Cooperative Association).

6. Land O’Lakes observed a high demand for VSL services from MBG communities after launching the initiative with the PLHIV groups. As a result, the program expanded its VSL activities to the MBGs. Through this initiative, the MDDA also learned that VSLs can compliment cooperative trainings, as farmers realized the benefits of working together, keeping records, savings, and ensuring regular cash inflows/savings, even when animals are not producing milk.

7. Scarcity of liquid nitrogen was one of the major challenges that the program encountered. This negatively affected both milk yields and increases to the herd size.

8. Farmers selling milk through Malawi Dairies Industries (MDI) and Northern Dairies Industries (NDI) encountered problems selling to and collecting proceeds from their processors. NDI closed operations during the 2011/12 extension period because of ongoing equipment failure, while MDI stopped collecting the milk from the MBGs on a regular basis. This forced the farmers to sell their milk
informally. The MDDA undertook various approaches to address this challenge, including:

- MDDA hired a consultant to provide advice to NDI on how to change its business model to become more profitable (not adopted by NDI).
- Worked with MDI on an option to collect milk from the North; despite efforts, it did not work (MDFA took a loan for which the MBGs were not aware. Farmers stopped selling through MDI because net proceeds were less than expected, making it difficult for MDFA to pay back their loan).
- The MDDA transport grant to MDFA’s processing plant, the sole processor in the northern region.
- The MDDA referred many potential investors interested in dairy processing to the north for investment.
- Met with LLW Dairies to judge interest in collecting milk from Northern region, but Lilongwe Dairies had a minimum of 5,000 liters per trip, which the Northern Region was not able to supply; this could be revisited as an option for future investment after MDDA closes.

9. The MDDA observed the need for regular reinforcement of financial literacy trainings and follow up in order to ensure proper record keeping at both the MBG and farm levels. Land O’Lakes addressed this through provision of cooperative trainings and the use of lead farmers to train other farmers in record keeping. Farmer financial literacy is key to building and maintaining sustainable linkages with the private sector and MBG cohesion; also, people can make better decisions when they utilize proper record keeping.

10. Land O’Lakes observed that farmers who received trainings often did not have a forum through which to share the lessons they had learned. The program addressed this by providing t-shirts to farmers with a statement in Chichewa language the indicates the training they attended, along with the statement “Ask me what I learned.” This strategy created a means through which individuals would know who attended the trainings, and trainees could wear them when they wanted to share their knowledge with others.

11. Fuel shortages continued to negatively impact the implementation of planned activities because the staff could not always travel as planned during the 2011-2012 extension period. Land O’Lakes staff addressed this by combining trips of different technical groups and utilizing ESOKO to reinforce training messages.

12. Shortages of forex in the country also negatively affected the implementation of various activities. For instance, the ability of private sector partners to import equipment and supplies was limited (e.g.; delays in repairing cooling equipment, as with Machite which waited two months to get its equipment repaired).
Appendix A: Success Stories
My kid was one of the children in this village who was refusing to go to a CBCC, but with the milk donations program, she is now able to go. We no longer force her; she goes voluntarily to school.

- Leckford Mbota, parent

According to the 2010 Demographic and Health Survey, 47% of children in Malawi are malnourished. When children do not get the nourishment they need, their growth and development can be stunted, and their ability to learn impaired. In the area surrounding Magomero Milk Bulking Group (MBG), schools struggled with attendance and families struggled to provide the variety of sustenance their children needed.

The nearby Magomero MBG was established and income secure; the group had been collecting excess milk from its members. With technical assistance from Malawi Dairy Development Alliance (MDDA), the group found a way to utilize this excess milk to give back to their community.

At the recommendation of Land O’Lakes, Magomero MBG began donating milk to school children in the area under three Community Based Child Centres (CBCCs) in 2011, namely Mbazi, Kasusu and Takondwa. Now, 239 students receive seven liters of milk each day at the CBCCs.

Apart from the health benefits that milk provides, the milk donations have also helped to increase pupil enrollment in schools covered by the three CBCCs. Parents and children alike see the added benefits of attending school.

Because of its wide success, Magomero MBG plans to continue its CBCC milk distribution even after the overarching MDDA project closed in May 2012.
I am a very happy person today because of one reason, a cow. I am no longer living in a rented house. My kids are no longer chased from school for lack of fees.

- Dupu Mhlanga, Doroba MBG Chairperson

Dupu Mhlanga, a farmer and father of four from Dika Village in northern Malawi, always worried about money; he lived in a rented house, he couldn’t supply inputs for his farm and he was unable to pay school fees for his children. Alongside food shortages each year, Dupu’s rent was continually raised and his children were chased from school for failing to pay their school fees.

In 2000, Mhlanga’s life began to change when he joined the Doroba Milk Bulking Group (MBG), and in 2009, with the generous support of the United States Agency for International Development (USAID), he received a pure, Jersey dairy cow from Land O’Lakes’ Malawi Dairy Development Alliance (MDDA) Program. With the cow, Mhlanga’s income improved; he went from having zero dairy income to realizing 20 liters of milk per day, which translated into almost $4 per day from milk sales. Land O’Lakes also trained Mhlanga as a Community Animal Health Worker (CAHW), a skill that benefits Mhlanga’s dairy farming as well as his community’s.

Once Mhlanga’s income stabilized, he decided to diversify his business beyond dairy by investing his income into an agriculture business; that way, if he hit hard times in one business, he may be able to make up for his losses in income in another area. He bought three pigs at $25 each and ploughed manure into his fruit garden of oranges, guavas, mangoes and apples. His initial investments were successful, and Mhlanga was able to venture into additional businesses, including chicken and turkey rearing, as well as bee keeping and growing drought resistant crops such as cassava and sweet potatoes. Mhlanga now runs a shop as an extension of his dairy and crop productions.

Today, Mhlanga is an excited businessman who has accomplished his goals through USAID’s support.
Years ago in Malawi, support services for dairy farmers were rare and intermittent. Though 13 farmers received cows from the Government of Malawi in 1980, which began the Magomero Milk Bulking Group (MBG), the lack of training and sustained services left farmers and their families continually at risk of losing their primary source of income. According to Chairperson of the group, Mc. Ronald Ingiloni, “Since there were no support services regarding animal husbandry practices from the government or the private sector, the MBG lost all of its cows, and beneficiary families were hit by poverty again.”

Land O’Lakes began supporting Magomero MBG in 2004 with the donation of 73 heifers. Since this time, Land O’Lakes has improved the lives of MBG members through livestock insurance, mobile banking, outreach messages, HIV & AIDS services, environmental impact mitigation strategies, and animal husbandry trainings. Ingiloni recalls, “If it was not for Land O’Lakes we could not have been in existence by now. The MDDA program has instilled a sense of ownership into us.”

Through these improvements, Magomero MBG now has 212 dairy animals, as well as 11 employees, including the manager, accountant, milk buyers, a clerk and two security personnel. Milk collection has also improved over the years; the MBG has seen a rise in milk collection from 133.3 liters per day to about 1,100 litres or more per day. This translates to about 36,500 litres per month. The MBG attributes this to the intensive extension services and business management trainings that Land O’Lakes has been providing.
Since 2009, Malawians have suffered from crippling fuel shortages. They typically wait in long lines at filling stations only to pay exorbitant prices, and few agricultural extensionists can budget for travel to visit farmers and provide hands-on training or advice.

Through the Malawi Dairy Development Alliance (MDDA), implemented by Land O’Lakes International Development, some dairy farmers in northern and central Malawi discovered an innovative approach to acquiring new skills without the need for travel – using their mobile phones and radios.

Funded by the United States Agency for International Development (USAID), MDDA focuses on increasing the incomes of nearly 3,400 rural dairy farming households and other actors along the value chain, and improving the competitiveness and sustainability of the commercial dairy sector.

Land O’Lakes designed 10-minute radio sessions on dairy production and marketing to improve waning milk yields and transmitted them weekly on the Zodiak Broadcasting Station. Successful farmers from local milk bulking groups led the radio discussions on topics such as animal husbandry, business management, fodder conservation, supplementary feeding and milking techniques.

Land O’Lakes collaborated with Esoko, a Ghana-based information service provider, which set-up and deployed a series of SMS that informed isolated farmers of the program’s start times. Esoko, which currently works in 16 African countries to connect smallholder farmers to market information, also sent out post-program SMS to summarize the broadcasts and leave farmers with the information provided during the shows at their fingertips.

“I rush to my radio whenever I receive the text message. I listen keenly to the radio, and the message that comes after the broadcast helps me to remember the issues that were being discussed,” said farmer, Patrick Nyamasauka.

By connecting with Esoko, Land O’Lakes linked over 900 farmer-members of three major milk producer associations – Central Region Milk Producers Association (CREMPA), Mpoto...
Dairy Farmers Association (MDFA) and Shire Highlands Milk Producers Association (SHMPA) – to valuable information using SMS and radio.

Patrick Chigoloweza, a member of the Lumbadzi Milk Bulking Group says he benefitted from these services, “It is easier to access extension information through Esoko. Previously we used to struggle to get dairy farming and business information.”

The five-year MDDA project has strengthened 14 private sector input suppliers and four dairy producer associations to support the growth of the smallholder dairy industry in Malawi. The alliance’s partners invested $15 million in either cash or in-kind resources toward the goals of the overall project. Land O’Lakes has helped increase milk productivity by 32 percent and dairy farmers earned on average 67 percent more income from dairy farming as a direct result of their active participation in MDDA.
FIRST PERSON

Campaign Encourages Malawians to Drink Locally-Produced Milk

Land O’Lakes worked with a 16,000-member milk producer group to promote dairy.

In 1993, a popular Got Milk? campaign in the United States showed celebrities drinking milk and promoting the benefits of dairy. Campaigns like this are common in America, but in Malawi - one of the world’s poorest countries - they are rare. Only 15% of the population consumes milk and 60% of its dairy products are imported.

In 2011, the 16,000-member Malawi Milk Producer’s Association (MMPA) sought to change this, by launching a dairy promotional campaign. They wanted to remind Malawians not only of the nutritional benefits of milk, but also to encourage the sale of locally-produced dairy products. MMPA hoped that boosting sales would help sustain the commercial viability of milk bulking groups.

Funded by the United States Agency for International Development (USAID), the goal of MDDA is to increase incomes of dairy farmers living in Malawi’s northern and central milk sheds. Through the Malawi Dairy Development Alliance (MDDA), Land O’Lakes International Development provided technical support to MMPA that culminated in a Drink Milk promotion.

Using billboards, stickers on minibuses and radio adverts, the campaign displayed Drink Milk messages in Malawi’s two official languages – English and Chichewa– and in Tumbuka, a language spoken in the North. MMPA erected billboards in the capital, Lilongwe, and Mzuzu, the country’s third largest city. They also placed stickers on minibuses that zoom around Lilongwe and to connecting cities including Zomba, Blantyre and Mzuzu.

“When these stickers were put on the minibuses, there was ongoing debate around the minibus terminal regarding the importance of drinking milk. It was exciting to see how people remembered what they learned in school a while ago,” said minibus driver, George Bandawe.

Jonas Gonani, who drives a minibus on the Likuni route, echoed George’s remarks, “We have been discussing how milk is good for health, especially for [the] growth of [our] children. This initiative is very important to make people aware of the importance of drinking milk.”
In addition to the minibus promotions, the Zodiak radio station touted messages about the benefits of dairy in English and Chichewa and featured MMPA’s Treasurer, the Likuni Milk Bulking Group’s Chairperson, and a dairy farmer, Miriam Tsonga. She encouraged consumers to buy milk produced by MMPA’s farmer-members in the 60-second adverts.

The campaign is proving to be effective. Herbert Chagona, MMPA Project Manager, said, “I am receiving positive [feedback] over adverts placed on the minibuses, billboards and on the radio. Farmers are really excited that we are promoting locally produced milk…This campaign has given me a platform to negotiate price increases with processors such as Lilongwe Dairy.” The collaboration with Land O'Lakes also helped build MMPA’s capacity to carry out similar campaigns in the future, without assistance.

Made possible by the American People through USAID, the Malawi Dairy Development Alliance has succeeded in boosting milk yields by 32 percent and increasing incomes of farmers by nearly 25 percent. Through technical support, Land O'Lakes provided trainings in best practices, such as pasture management, animal husbandry and gender-based business management, to over 16,000 farmers. The program also helped build the capacity of milk bulking groups, milk collectors and processors to make dairy more widely available to local consumers.

MMPA and its member regional associations intend to continue promoting milk sales and consumption after the end of MDDA.
Evelyn Nyirenda, a 47-year old mother of five in Mzimba district, lived a difficult life just a few years ago. Evelyn was entirely dependent on maize farming for her income and her family’s consumption; because of unpredictable environmental factors and the high price of farm inputs, she could never grow enough to meet her family’s needs. Every day, Evelyn worried how her family would survive.

In 2004, Evelyn received a Fresian dairy cow from Land O’Lakes through a cow distribution project at Lusangadzi MBG, as part of an overall effort to develop dairy business in Malawi. While milk sales and manure for her maize fields helped Evelyn to get on her feet, she was still unable to save enough money to insure the cow. This lack of insurance left Evelyn at constant risk; if something happened to her cow, she would lose her only reliable source of income.

Evelyn joined the community Village Savings and Loan (VS&L) group at Lusangadzi MBG and managed to obtain a loan worth $25, which helped cover the cost of insuring her cow and lessen the risk for Evelyn and her family. Evelyn has continued to invest in her savings, and she currently holds $34 in the group bank, which allows her to get a loan at three times this amount.

Further, as she is now able to buy feed for her cow, Evelyn’s has witnessed an increase in milk production, from 8 liters per day to 15 liters per day, further boosting her income and financial security.

Evelyn’s future plans are to build a good house and have another dairy cow.
Appendix B: Program Photos

Clockwise from Top: Farmers delivering morning milk wave hello. Rhoda Amos and her family show off their new Jersey heifer. NICO gives a presentation on cattle insurance. Village Savings and Loan training.
Clockwise from Top: Ambassador Jackson visits one of MDDA’s milk bulking centers. A farmer smiles upon receiving her new cow. A full tank of fresh milk being picked up at Magomoro bulking center.
APPENDIX C: Results Framework

Malawi Dairy Development Alliance
Jan 2011 - Mar 2012

Objective: To increase incomes for rural dairy farmers and participating value chain stakeholders operating in the Central and Northern Regions of Malawi

IR 1*
Increased number of improved dairy animals available to smallholder farmers

IR 2*
Increased access to inputs & services by small scale farmers and MBGs

IR 3*
Increased profitable production and sale of milk by small scale farmers & MBGs

LLR 1.1
Improved AI services available to farmers

LLR 1.2
Increased quantity of cows placed with farmers

LLR 2.1
Improved technical capacity of production service providers

LLR 2.2
Improved technical capacity of feed manufacturers

LLR 2.3
Strengthened financial services available

LLR 3.1
Improved business capacity of farmers

LLR 3.2
Milk production increased

LLR 3.3
Improved market access

* Note: Crosscutting issues impact all intermediate results. For simplicity of reporting, the results framework for crosscutting issues is listed separately on the following page.
## Results Framework

**Malawi Dairy Development Alliance**  
**2011 - 2012**

### Cross Cutting Issues:

<table>
<thead>
<tr>
<th>CIR-PEPFAR (HIV/AIDS &amp; OVC)</th>
<th>CIR-Gender</th>
<th>CIR-Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual mechanisms strengthened to mitigate and cope with the impacts of HIV/AIDS</td>
<td>Strengthened equality between men and women within households</td>
<td>Strengthened mechanisms in place to prevent negative environmental impacts by the dairy industry</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CLLR-P1</th>
<th>CLLR-P2</th>
<th>CLLR-P3</th>
<th>CLLR-G1</th>
<th>CLLR-G2</th>
<th>CLLR-E1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved HIV/AIDS behavior change strategies in place</td>
<td>Improved services available to OVC through community resources</td>
<td>Strengthened economic capacities of PLHIV</td>
<td>Financial empowerment of women strengthened</td>
<td>Dairy farming responsibilities between men and women more equally shared</td>
<td>Increased number of private sector stakeholders complying with environmental checklists</td>
</tr>
</tbody>
</table>
## APPENDIX D: USAID Operational Plan Indicators (2007-2012)

### PROJECT NAME: MALAWI DAIRY DEVELOPMENT ALLIANCE (CA # 690-A-00-07-0000-00)

### Operational Plan Indicators (2007-2012)

<table>
<thead>
<tr>
<th>Name of indicator</th>
<th>Program Targets</th>
<th>End of program achievement</th>
<th>% of Target Achieved</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Number of Individuals receiving HIV/AIDS prevention interventions</strong></td>
<td>9,100</td>
<td>16,753</td>
<td>184.1%</td>
<td>Target achieved. The large favorable variances is due to the use of a trainer-of-trainers model that enabled the program to reach more beneficiaries than originally expected.</td>
</tr>
<tr>
<td><strong>2. Number of OVC served by OVC programs (OVC receiving nutritional support through 1% of milk production)</strong></td>
<td>3,650</td>
<td>3,509</td>
<td>96.1%</td>
<td>Target not achieved. The target did not consider that school is closed 2 months of the year for holiday; otherwise the target would have been met.</td>
</tr>
<tr>
<td><strong>3. Number of farmers, processors, and others who have adopted new technologies or management practices as a result of USG assistance</strong></td>
<td>3,858</td>
<td>7,034</td>
<td>182.3%</td>
<td>Target achieved. The large favorable variances is due to the introduction of technologies that were not included in the original target (such as ESOKO Networks).</td>
</tr>
<tr>
<td><strong>4. Number of additional hectares under improved technologies or management practices as a result of USG assistance</strong></td>
<td>500</td>
<td>502</td>
<td>100.4%</td>
<td>Target achieved</td>
</tr>
<tr>
<td><strong>5. Number of individuals who have received USG supported short-term agriculture sector productivity training with USG assistance sex-disaggregated</strong></td>
<td>14,564</td>
<td>20,324</td>
<td>139.5%</td>
<td>Target achieved. The favorable variances is due to more farmers attending trainings than originally expected.</td>
</tr>
<tr>
<td>Number of women</td>
<td>6,356</td>
<td>11,302</td>
<td>177.8%</td>
<td>Target achieved</td>
</tr>
<tr>
<td>Number of men</td>
<td>8,208</td>
<td>9,022</td>
<td>109.9%</td>
<td>Target achieved</td>
</tr>
<tr>
<td><strong>6. Economic Strengthening: Number of HIV care and support associations provided with economic strengthening capacity building</strong></td>
<td>12</td>
<td>12</td>
<td>100.0%</td>
<td>Target achieved</td>
</tr>
</tbody>
</table>
### Appendix E: MDDA Program Customer Indicators (2007-2012)

**PROJECT NAME:** MALAWI DAIRY DEVELOPMENT ALLIANCE (CA # 690-A-00-07-0000-00)

#### Appendix D:

<table>
<thead>
<tr>
<th>ID</th>
<th>Name of indicator</th>
<th>Unit of measure</th>
<th>Baseline</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Value</td>
<td>Year</td>
<td>Program Target</td>
</tr>
<tr>
<td>1</td>
<td>Number of cows pregnant because of heat synchronization (HS) and AI activity</td>
<td>Number</td>
<td>0</td>
<td>2011</td>
</tr>
<tr>
<td>2</td>
<td>Number of additional cows donated to small scale farmers</td>
<td>Number</td>
<td>0</td>
<td>2011</td>
</tr>
<tr>
<td>3</td>
<td>Mortality rate of calves born to heifer scheme cows</td>
<td>% calves per year</td>
<td>n/a</td>
<td>2007</td>
</tr>
</tbody>
</table>
### IR 2: Increased access to inputs & services by small scale farmers and MBGs

#### LLR 2.1: Improved technical capacity of production service providers

| Percentage of farmers trained by CANKW and PESPS who have | Percentage | 0 | 2011 | 60.0% | 62.3% | 103.8% | Target achieved. Indicator added in 2011. |

#### LLR 2.2: Improved technical capacity of feed manufacturers

| Volume and value of dairy supplementary feeds | Volume (tons/year) | 107.5 | 2007 | 913.7 | 1,276 | 139.7% | Target achieved. Indicator wording revised in 2011. |
| Value ($US (thousands) / year) | 20.7 | 2007 | $292.7 | $346.0 | 118.2% |  |

| Volume and value of oilseed crop yield per year for stock seed production for 23 MBGs | Volume (tons/year) | 0 | 2009 | 403.1 | 192.6 | 47.8% | Targets not achieved. Farmers in the Northern Region had problems with the variety of soya grown (as the crop did not do well with the wet climate). Also many farmers informally sold the soya, which resulted in under reporting of the achievement. Indicator was dropped in 2011 because during 2011-2012 extension period, program focused on herd expansion and increases in milk yields. |
| Value ($US (thousands) / year) | 0 | 2009 | 288.0 | 57.0 | 19.8% |  |

#### LLR 2.3: Strengthened financial services available

| Number of small scale farmers having access to financial services (disaggregated by sex) | Individuals | 0 | 2011 | 2,709 | 3,909 | 144.3% | Target achieved. Added in 2011, but before this indicator was introduced the MDDA provided financial services to 527 farmers. Cumulatively 4,436 farmers have gained access to financial services. |
| Females | 0 | 950 | 1,848 | 194.5% |  |
| Males | 0 | 1,129 | 2,061 | 182.6% |  |

#### IR 3: Increased profitable production and sale of milk by small scale farmers & MBGs

| Total milk production volume and value | Total production (in millions) Liters (millions) | 0 | 2007 | 14.2 | 15.4 | 108.5% | Target achieved |
| Milk collected by MBGs | Liters/year (millions) | 1.476 | 2007 | 10.5 | 11.1 | 105.7% | Target achieved. |
| Value of milk collected by MBG (thousands) | $US | 385.4 | 2007 | 3,921.7 | 4,062.0 | 103.6% | Target achieved. |
| Sold through informal channels | Liters (millions) | 0 | 2009 | 2.7 | 3.7 | 73.0% | Target not achieved. This component of the indicator was added in quarter four of 2009. The desired direction of change was negative. |

| Household income from milk sales for participating dairy farmers | $US/year ('000) (Milk Income) | 0 | 2007 | 912 | 1,289 | 141.3% | Target achieved. Indicator was reworded in 2011 |
| $US/year ('000 (total HH inc) | 0 | 2007 | 1,362 | 2,014 | 147.9% |  |

| Increase in number of MBGs operating above the break-even point | Number | 3 | 2007 | 5 | 7 | 140.0% | Target achieved. Indicator was reworded in 2009. |

| Increase in value of investment by public, private and non-governmental organizations in the dairy sector | $US per year (millions) | 0 | 2007 | 2.6 | 11.2 | 430.8% | Target achieved. Non-USG program partners invested significant amount of money to the dairy value chain through MDDA during the life of the program. Indicator was dropped in 2009. |

| Number of people employed in the dairy market chain | Number per year | 0 | 2007 | 3,217 | 4,440 | 138.0% | Target achieved. Indicator was reworded in 2011 |

#### LLR 3.1: Improved business capacity of farmers

| Average net income percentage of farmers in 4 targeted MBGs with improved cows producing milk | Percentage | 42.2% | 2011 | 44.0% | 56.1% | 127.5% | Target achieved. Indicator introduced in 2011. Higher percentage of net income will result in profitable production of milk by small scale farmers |
### LLR 3.2: Milk production increased

<table>
<thead>
<tr>
<th>Description</th>
<th>Unit</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average milk yield for improved cows in MBGs</td>
<td>Liters / animal / day</td>
<td>9.0</td>
<td>12.2</td>
<td>100.0%</td>
</tr>
<tr>
<td>Indicator target was revised after baseline study in 2009</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### LLR 3.3: Improved market access

<table>
<thead>
<tr>
<th>Description</th>
<th>Unit</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total volume of milk supplied to dairy processing plants by MBGs</td>
<td>Liters / year (millions)</td>
<td>1.4</td>
<td>9.8</td>
<td>106.1%</td>
</tr>
<tr>
<td>Target achieved. The desired direction of change was negative. The was reworded in 2011 to make it clearer to reader.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### CIR-HIV/AIDS & OVC: Individual mechanisms strengthened to mitigate and cope with the impacts of HIV/AIDS (PEPFAR)

<table>
<thead>
<tr>
<th>Description</th>
<th>Unit</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of individuals trained in HIV prevention education</td>
<td>Number</td>
<td>0</td>
<td>9,100</td>
<td>184.1%</td>
</tr>
<tr>
<td>Target achieved. Indicator reworded in 2011. Exceeded target because trainer of trainer model was more effective at reaching individuals than originally planned.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of HIV prevention education sessions conducted</td>
<td>Number</td>
<td>0</td>
<td>162</td>
<td>232.1%</td>
</tr>
<tr>
<td>Target achieved. Indicator reworded in 2011. Exceeded target because trainer of trainer model was more effective at reaching individuals than originally planned.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increase in the percentage of MBG membership reached through prevention services</td>
<td>Percentage</td>
<td>0</td>
<td>25.0%</td>
<td>120.0%</td>
</tr>
<tr>
<td>Target achieved. Indicator dropped in 2011 following the recommendations from the program external evaluation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increase in the number of HIV prevention service outlets</td>
<td>Number</td>
<td>0</td>
<td>62</td>
<td>145.2%</td>
</tr>
<tr>
<td>Target achieved. Indicator dropped in 2011 following the recommendations from the program external evaluation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increase in the number of male and female condoms distributed and number sold</td>
<td>Number</td>
<td>0</td>
<td>800</td>
<td>106.8%</td>
</tr>
<tr>
<td>Target achieved. Dropped in 2011 as per the external evaluators feedback</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### CLLR-P2: Improved services available to OVC through community resources

<table>
<thead>
<tr>
<th>Description</th>
<th>Unit</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of OVC served by MBG-implemented HIV activities</td>
<td>Number</td>
<td>0</td>
<td>3,650</td>
<td>96.1%</td>
</tr>
<tr>
<td>Target not achieved. The target did not consider that school is closed 2 months of the year for holiday; otherwise the target would have been met. Removed the word increase in 2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of OVC support centers receiving milk</td>
<td>Number</td>
<td>0</td>
<td>22</td>
<td>122.7%</td>
</tr>
<tr>
<td>Target achieved. Removed the word increase in 2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of liters of milk donated to OVC support programs</td>
<td>Number</td>
<td>0</td>
<td>16,000</td>
<td>97.7%</td>
</tr>
<tr>
<td>Target not achieved. The target did not consider that school is closed 2 months of the year for holiday; otherwise the target would have been met. Removed the word increase in 2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of nutrition, milk handling and hygiene education</td>
<td>Number</td>
<td>0</td>
<td>42</td>
<td>133.3%</td>
</tr>
<tr>
<td>Target achieved. Dropped in 2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total number of people trained in milk handling and hygiene, and nutrition</td>
<td>Number</td>
<td>0</td>
<td>555</td>
<td>165.0%</td>
</tr>
<tr>
<td>Target achieved. Removed the word increase in 2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Number</strong></td>
<td><strong>2011</strong></td>
<td><strong>Target</strong></td>
<td><strong>Achieved</strong></td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>----------</td>
<td>------------</td>
<td>--------------</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>278</td>
<td>115.8%</td>
<td>Added in 2011</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>12</td>
<td>100.0%</td>
<td>Added in 2011</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>10,000</td>
<td>1041.7%</td>
<td>Added in 2011</td>
<td></td>
</tr>
</tbody>
</table>

**CIR-HIV/AIDS & OVC: Individual mechanisms strengthened to mitigate and cope with the impacts of HIV/AIDS (PEPFAR)**

<table>
<thead>
<tr>
<th><strong>Number</strong></th>
<th><strong>2011</strong></th>
<th><strong>Target</strong></th>
<th><strong>Achieved</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
<td>252</td>
<td>101.2%</td>
<td>Indicator introduced in 2011</td>
</tr>
<tr>
<td>32</td>
<td>328</td>
<td>109.3%</td>
<td>Indicator introduced in 2011</td>
</tr>
</tbody>
</table>

**CIR-Environment: Strengthened mechanisms in place to prevent negative environmental impacts by the dairy industry**

<table>
<thead>
<tr>
<th><strong>Number</strong></th>
<th><strong>2011</strong></th>
<th><strong>Target</strong></th>
<th><strong>Achieved</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>33</td>
<td>1</td>
<td>100.0%</td>
<td>Indicator introduced in 2011</td>
</tr>
<tr>
<td>34</td>
<td>75.0%</td>
<td>119.7%</td>
<td>Indicator wording revised in 2011</td>
</tr>
<tr>
<td>35</td>
<td>75.0%</td>
<td>118.4%</td>
<td>Indicator wording revised in 2011</td>
</tr>
</tbody>
</table>
APPENDIX F: Body Condition Poster

MALAWI DAIRY DEVELOPMENT ALLIANCE

Kupina maorekedwe a ng’ombe za mkaka ndikofuna kuti tione tsetse kuti ng’ombe za thu zikutopetsa mkaka wakwanira kuti ziberekanu mayenera ndi kuti zitipatse nthu ndi lochuluka. Pali mijezo yosiyanisiana imene magwiribidwa nthiko poweza maorekedwe. (Miyezo ndi yapakali pa 1 ndi 5) ndipo mijezo yomweneza pa nthawi ina ilionse ya ng’ombe ili motere:

1. Nthawi yoferaka: 3.5 to 4.0
2. Masiku 30 mpaka 60 ikukamidwa mkaka: 2.5 to 3.0
3. Masiku 60 tsanapange ‘dirayi’: 3.0 to 3.5
4. Pa nthawi yofera ‘dirayi’: 3.5 to 4.0

Dziwoni: Tikamadyetsa ng’ombe yathu tione tsetse kuti isamachepeze pa mulingo wa 2.0 ndipo isapitile mulingo wa 4.0

MUYEZO WA 1.0 (NG’OMBE YOWONDA KOTHERATU)
- Ng’ombe imakhala yowonda kwambiri
- Ng’ombe yisangaperi mkaka ndipo singapange hiti.
- Ng’ombe iha kugwiridwa ndi mataenda mosavuta.
- Nthiwa kuwene nga nthili ilionse payokha.

2.0

MUYEZO WA 2.0 (NG’OMBE YOWONDA)
- Ng’ombe imakhala yowonda
- Ng’ombe iha kukha kooyadwa koma sampingera mkaka wambiri ndipo sipanga hiti movota
- Nthilita ziaona nga mosavuta koma kuwerenga nthiwa kuwoneka pan’yo.

3.0

MUYEZO WA 3.0 (NG’OMBE YABWINO)
- Uku ndiyo muyeza wotu mtumika nthawi zambiri
- Nthilita zina kha zobiaka ngakhale zimaoneka pan’yo.

4.0

MUYEZO WA 4.0 (NG’OMBE YONENEPETSAYA)
- Ngakhale ambiri amafuna kuti ng’ombe zawo zifike muyeza umenewu nthawi yeti zikubereka, katukutuku akunetsa kuti ng’ombe za muyeza umenewu zimakwasa pan’yo ndipo zimavutika poberaka.
- Nthilita zina kha zobiaka ndipo sizimaoneka.

5.0

MUYEZO WA 5.0 (NG’OMBE YONENEPETSAYA)
- Ng’ombe imenei’ndiyenepetsa kupyla muyeza.
- Ng’ombe za muyeza umenewu zimavutika katenga bere.
- Nga zatenga bere, zimavutika kwambiri poberaka.
# Table of Contents

1.0 INTRODUCTION ................................................................. 3  
2.0 METHODOLOGY ............................................................. 4  
2.1 Data collection, entry and analysis ........................................ 4  
2.2 Objectives of the study ...................................................... 5  
2.3 Specific objectives of the analysis ........................................ 5  
2.4 Limitations .......................................................................... 5  
2.5 Gender analysis ................................................................... 5  
3.0 RESULTS AND DISCUSSION ................................................. 6  
3.1 HOUSEHOLD IDENTIFICATION ........................................... 6  
3.1.1 Education Level .......................................................... 6  
3.1.2 Marital status ............................................................... 7  
3.1.3 Household type ............................................................. 7  
3.2 ACTIVITY PROFILE FOR THE RESPONDENTS .................... 7  
3.2.1 Productive activities ...................................................... 8  
3.2.1.1 Crop related activities .............................................. 8  
3.2.1.2 Dairy related activities ............................................. 9  
3.2.2 REPRODUCTIVE ACTIVITIES ......................................... 10  
3.3 ACCESS TO AND CONTROL OVER RESOURCES .................. 11  
3.4 GENDER TRAININGS ......................................................... 12  
3.5 WOMEN PARTICIPATION AND EMPOWERMENT ................... 13  
4.0 CONCLUSION AND RECOMMENDATIONS .......................... 13  
5.0 APPENDIX ......................................................................... 14  
5.1 MDDA 2012 QUESTIONNAIRE ............................................ 14
1.0 INTRODUCTION

Land O’Lakes is implementing the USAID-funded Malawi Dairy Development Alliance (MDDA), which aims to increase incomes for rural dairy farmers and participating stakeholders by building economies of scale in milk production, collection and processing, and meeting demand for affordable, locally produced dairy products. The program utilizes milk bulking groups (MBGs) as a means of mainstreaming cross-cutting issues within farmer communities.

MDDA started mainstreaming gender activities within the general communities of dairy farmers in 2008. The overall goal was to enhance participation of women, men, girls and boys for sustainable, equitable household and community development.

In 2008 and 2009, the MDDA conducted gender studies in the MBGs to better understand the roles that both men and women play in their homes and communities as they relate to dairy. The two studies revealed a number of gender issues and constraints that women in dairy farming are facing. “Gender issues” refers to a situation when inequality and differences exist between women, men, girls and boys purely on the basis of being female or male. The following were some of the findings from the two studies:

1) Men do not allow their wives to attend meetings, even when they themselves (men) already hold such positions, as they fear that women are being lured into relationships with other male leaders;
2) Women’s workload usually prohibits their effective participation. Most women, regardless of the positions they may hold with the MBGs, will still be expected to do most of the household chores like cooking, cleaning and collection of water;
3) Most women like to use money to buy basic needs for the home, including clothes for the family, food, and paying school fees for children. On the contrary it was also found that most men spend money on alcohol, extra marital affairs or even marriage to a second wife;
4) The studies also revealed that money was not equally shared among the women and men. In some cases, men brought home half of their milk payments at the end of the month, without explaining to their wives how the other half has been spent. This caused misunderstandings in most families.
5) Women are usually left out of the decision making process. Women also lack access to resources and information, despite their active participation in all three categories of work (community, productive and reproductive). Most
men believe that women cannot make wise decisions because women are less educated and men as head of families are in control of every decision.

Various interventions were developed and implemented based upon the findings drawn from these two studies. Some of the interventions included development of the gender training manual and also conducting gender trainings in the MBGs. The MDDA also utilized a gender expert from the Ministry of Gender and Women Development to train the Land O’Lakes staff. The staff then became master trainers for the MBG communities.

In 2010, the MDDA conducted gender trainings in all the 23 bulking groups, which were followed by studies in 2010 and 2011/2012. Through the studies Land O’Lakes was able to assess the impacts of the trainings on the gender roles, access to resources, decision making and also use of time. All the trainings were conducted with an aim of addressing the above mentioned gender issues. This report will present the findings for the 2011/2012 study and comparisons to previous studies will be made as appropriate.

2.0 METHODOLOGY

2.1 Data collection, entry and analysis

The data was collected using the Harvard analytical framework. The study was conducted in 11 milk bulking groups, 5 in the north and the other 6 in the central region. Three members of staff from Land O’Lakes participated in data collection. Secondary information from Land O’Lakes data files and the 2009, 2008, 2010 gender reports was reviewed to complement the collected primary data. Primary data was collected using semi-structured questionnaires. The interviews were open-ended, but based on a set of key questions. A total of 71 people were interviewed. The data was analysed using the Microsoft excel.

2.2 Objectives of the study

The main purposes of this study were to assess the impact of the gender trainings that were conducted and to see if there were changes in any of the gender issues that were identified during the 2008 and 2009 study.

2.3 Specific objectives of the analysis

The specific objectives included:

1) To analyze the roles and responsibilities of men and women at the household and community levels;
2) To assess the impact of gender trainings that were conducted among the dairy farmers.
2.4 Limitations
Shortage of fuel limited the team to conduct all or the planned interviews. As a result, 71 households out of the planned 100 were visited representing 71%.

2.5 Gender analysis
Gender analysis is a process used in examining the differences between the roles that women and men play, including:
- The different levels of power they hold,
- Their different needs, constraints and opportunities, and
- The impact of these differences on their lives.
For the purposes of this study, the Harvard analytical framework was used to analyze both the division of labor and the component of access to control over resources. This analysis will assist in answering the following questions:
- Who does what?
- Who has access to and control over resources and services?
- Who makes decisions in the household?
- What are the reasons behind these differences in gender?

3.0 RESULTS AND DISCUSSION
This section presents the findings of the study. The findings include demographic data of the interviewed households, gender roles, responsibilities, and women’s participation in community groups. Furthermore, results on the impact of gender training have also been presented.

3.1 HOUSEHOLD IDENTIFICATION
Household identification included the education level, marital status, and household type.

3.1.1 Education Level
Education is considered to be one of the most dominant indicators towards development. Education helps to improve one’s ability to receive and understand information. Furthermore, education promotes increased economic productivity, higher family incomes, reduced fertility rates, and improved health for the families.

Table 1. Education Level

<table>
<thead>
<tr>
<th>Educational level</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Females</td>
</tr>
<tr>
<td>Adult literacy(^1)</td>
<td>0</td>
</tr>
<tr>
<td>No Education</td>
<td>2.8</td>
</tr>
</tbody>
</table>
Overall, the level of education of members from the sample households was higher for males than females. The results showed that 36.6% males had completed their primary education and 31.0% females had done so. 14.1% of the males had completed secondary education school, and 11.3% of the females had done so.

### 3.1.2 Marital status

Findings from the study revealed that 84.5% of the respondents were involved in a monogamous marriage while 4.3% indicated that they were involved in a polygamous marriage. There was an increase in respondents for monogamous relationships when compared to the 2010 study of 72.0%. The polygamous percentage remained unchanged from 2010.

**Table 2. Marital Status of the respondents**

<table>
<thead>
<tr>
<th>Marital status</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Divorced</td>
<td>4.2</td>
</tr>
<tr>
<td>Monogamous</td>
<td>84.5</td>
</tr>
<tr>
<td>Polygamous</td>
<td>4.3</td>
</tr>
<tr>
<td>Separated</td>
<td>1.4</td>
</tr>
<tr>
<td>Single</td>
<td>1.4</td>
</tr>
<tr>
<td>Widowed</td>
<td>4.2</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100.0</td>
</tr>
</tbody>
</table>

### 3.1.3 Household type

Household type is important in planning because in most cases it reveals who the household decision-maker is. As per Table 3, 54.9% of the households are headed by men, while women-headed households constitute 45.1%.

**Table 3: Household type**

<table>
<thead>
<tr>
<th>Household type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female headed</td>
<td>45.1</td>
</tr>
<tr>
<td>Male headed</td>
<td>54.9</td>
</tr>
</tbody>
</table>
3.2 ACTIVITY PROFILE FOR THE RESPONDENTS

Gender roles are distinct in any society. In each society, there are definitions of what women and men of that society are expected to do in their adult lives. Children are socialized to internalize these roles. Girls and boys are prepared for different yet specific roles. In most Malawian villages, when a man is seen doing women's tasks, other members of society regard him as stupid or dull. On the other hand, when a woman does what is presumed a man's task, such a woman is regarded as tough or strong. The perceived and attained gender roles within the communities concerning traditional marriage are similar in the fact that the main desire is for the husband to be the sole financial provider, while the wife is the primary caregiver and homemaker. For the purposes of this study the discussion on gender roles focused on how the gender trainings have changed various roles and responsibilities at the household level.

3.2.1 Productive activities

This involves the production of goods and services (farming, fishing, employment and self-employment) for consumption and trade. The study focused on two major productive activities – the crops related activities and the dairy related activities.

3.2.1.1 Crop related activities

The 2008/2009 studies did not look at the crop related activities, which were added during the 2010 study. Crop production is one of the major productive activities in Malawi. Almost every household in the rural areas are involved in the growing of one or more crops. A number of crop related activities were analyzed collectively, including: land preparation, sowing, transplanting, weeding, application of pesticides/fertilizer, harvesting, storage, shelling, milling, packaging, transport and selling. Figure 1 below shows the results of the crop related activities.

Figure 1: Crops activities by gender
During the 2011/12 survey women accounted for 57.3% of the crop related activities versus 55.3% for men. The figures for women and men were 76.1% and 69.3% for women and men respectively during the 2010 assessment.

### 3.2.1.2 Dairy related activities

Results clearly indicate that there are no significant differences in the way the dairy related activities are undertaken by women and men. In 2011/2012, 56.6% of the dairy activities are done by women while 57.1% are done by men. Figure 2 shows the results of dairy related activities by gender.

Figure 2: Dairy activities by gender:

Overall, 2011 results for crop and dairy related activities highlight a significant improvement in the way responsibilities are shared among the beneficiary
households from 2010 to 2012. There is an increase in the percentage of activities shared between men and women in comparison to the previous studies.

**3.2.2 REPRODUCTIVE ACTIVITIES**

Reproductive activities involve the care and maintenance of human life within the household. This type of work is not paid for but it is crucial for human survival. For the purposes of this study, the activities included; caring for children, food preparation, and firewood collection, water collection, sweeping and selling of produce. Figure 3 below show the results on household related activities;

**Figure 3: Household activities by gender**

![Household activities by gender](image)

In 2011/2012, an overwhelming percentage of household activities (77.5%) were performed by women versus 33.3% by men. The results show a significant improvement in the division of labour at household level compared to the 2010 results. The improvement relates to various gender interventions that the MDDA has been implementing including the gender trainings.

**3.3 ACCESS TO AND CONTROL OVER RESOURCES**

*Table 4: Decision making and access to resources*
From the results in Table 4 above, it is evident that there is mutual consultation between men and women in household decision making. 50.7% of decisions regarding renting of land for farming, 77.5% on the use of bicycles and 57.7% on the expenses are made mutually between men and women. There has been a very big improvement in the area of decision making compared to what was reported from the studies conducted in 2008 and 2009. The 2008/2009 study, which indicated that most women were usually left out of decision making despite their active participation in all three categories of work (community, productive and reproductive).

The study also examined access to resources. The table indicated that women have minimal access to family earnings (28.2% for women vs. 78.8% for men). This means that although women have more influence in the household decision making process, then have limited access to the income.

### 3.4 GENDER TRAININGS

A total of 92.9% of the respondent indicated that they attended gender training. It was observed that the gender gap for sharing of productive and reproductive activities closed as a result of the gender trainings.

**Table 5. Who attended gender training?**

<table>
<thead>
<tr>
<th>Attend</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>66</td>
<td>92.9</td>
</tr>
<tr>
<td>No</td>
<td>6</td>
<td>7.1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>71</td>
<td>100.0</td>
</tr>
</tbody>
</table>

For instance, people traditionally viewed household related activities such as food preparation, sweeping and caring for the children as women’s roles. Respondents who attended the trainings were asked whether the training had positive impacts. A majority of them responded the major benefit was an equal division of household
labor between women and men, as men can now freely perform household chores without any fear.

### 3.5 WOMEN PARTICIPATION AND EMPOWERMENT

To date, women account for 49.9% of the membership in the dairy farming activities implemented by Land O’Lakes. This figure has increased from 47.0 in 2009 to 49.9% in 2012. Out of dairy farmers that own and milk their animals, a higher proportion of women had cows (57.5%) versus 42.5% for men. In addition, the MDDA continued to provide an opportunity for the women to participate fully in various activities. For example, the various trainings that were conducted by the MDDA targeted both men and women which helped in boosting the knowledge and skills of women in various areas. There were a number of women who were trained as Community Animal Health and Nutrition Workers (CAHNWs), (5 women and 53 men) and HIV/AIDS facilitators (35 women and 27 men). The results clearly show that the MDDA interventions did not only empower women economically, but they also helped women to attain leadership positions within the bulking groups. As of March 2012, 5 of 23 MDDA bulking groups were led by female chairpersons compared to 3 in 2009.

### 4.0 CONCLUSION AND RECOMMENDATIONS

There appears to be improvement in the division of labor between women and men (especially for productive activities). This improvement emanates from the trainings that the MDDA provided to the farmers in all the 23 MBGs. In addition, the results show that the MDDA activities continued to empower women socially, culturally and economically. Future interventions should focus on household access to resources as a means of further empowering women.

### 5.0 APPENDIX

Malawi Dairy Development Alliance (MDDA) 2012 QUESTIONNAIRE FOR THE HOUSEHOLD INTERVIEWS

Name of MBG: _______________________________________________

SECTION A – HOUSEHOLD IDENTIFICATION

1. Name of respondent: ______________________________
   Sex_______(F/M)
2. Age of respondent: ____________________
3. Marital Status: (1) Single  (4) Divorced/separated  
(2) Monogamous  (5) Widowed  
(3) Polygamous

4. Household type: (1) Male headed  
(2) Female headed  
(3) Child headed

SECTION B: EDUCATION QUALIFICATION
5: Do you read and write (1) Yes  (2) No

<table>
<thead>
<tr>
<th>Q</th>
<th>Level of education</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. No Education</td>
</tr>
<tr>
<td></td>
<td>2. Primary Education</td>
</tr>
<tr>
<td></td>
<td>4. Secondary</td>
</tr>
<tr>
<td></td>
<td>5. Tertiary</td>
</tr>
<tr>
<td></td>
<td>6. Adult literacy</td>
</tr>
</tbody>
</table>

6 What is your highest education level achieved

7 What is highest education level of your spouse

SECTION C: GENDER ANALYSIS

(I): ACTIVITY PROFILE
8) Who does what? For you to determine involvement in particular activities use scores the as follows:
0 for no involvement;  
1 for sometimes involved; and  
2 for mostly involved

<table>
<thead>
<tr>
<th>Activity</th>
<th>Children &amp; Youth</th>
<th>Women</th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crop production (choose either Maize or soya)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task: Land preparation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task: Sowing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task: Weeding</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task: Application of pesticides/Fertilizer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task: Harvesting</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Task: threshing
Task: Packaging
Task: Transport to market
Task: Selling

DAIRY PRODUCTION ACTIVITIES
Task: Feeding
Task: Fetching Water
Task: Milking
Task: Transport to MBG
Task: Khol cleaning
Task: Provide water to the animal
Task: Heat detection
Task: Fetching feed for the animal
Task:

(II) HOUSEHOLD ACTIVITY PROFILE 2; who does what? Use the following scores
0 for no involvement;
1 for sometimes involved; and
2 for mostly involved

<table>
<thead>
<tr>
<th>Activity</th>
<th>Children and youth</th>
<th>Women</th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food preparation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water collection</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firewood collection</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caring for the children</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Selling produce</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Washing Plates/clothes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sweeping</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(III) ACCESS AND CONTROL
10a) who decided on what of crop to be grown on your family land last growing season?

1) Husband 2) Wife 3) children 4) Both Husband and wife

b) Did you rent the land to other people last season?
1) Yes 2) No

c) If yes, who made the decision to rent the land?
1) Husband 2) Wife 3) children 4) Both Husband and wife

d) Do you employ labor at your household?
1) Yes 2) No

e) If yes, who decides how much to pay and when to employ?
1) Husband 2) Wife 3) children 4) Both Husband and wife

f) Who authorizes the use of bicycle, oxcart (or any other asset, probe)?
1) Husband 2) Wife 3) children 4) Both Husband and wife

g) Does everyone use it when they need it?
1) Yes 2) No

h) Who keeps the family earnings?
1) Husband 2) Wife 3) children

I) who decides on the expenditure on the incomes?
1) Husband 2) Wife

What kinds of expenditure are in charge of?

11a) did you attend gender training that was conducted by Land O’Lakes.
1) Yes 2) No

If no go Question 12 if yes go to question 11b
b) Has there been any change in these activities for the last six months. *(Ask the interviewee to mention the changes and record them in the spaces below)*

If no go to question 12, if yes ask question 11c

**12) WOMEN PARTICIPATION TO DAIRY FARMING (if the focus group discussion has been conducted at that MBG do not ask this question as they will be covered during the FGD)**

a) Are there any obstacles to women participation in dairy farming? *[Prompt, lack of time, family disapproves]. List all possible reasons.*

b) What are some of the benefits of women participation to dairy farming?

__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________