<table>
<thead>
<tr>
<th>Section</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reaching Our Goals</td>
<td>3 - 4</td>
</tr>
<tr>
<td>A Message from the Regional Director</td>
<td>3</td>
</tr>
<tr>
<td>Farmer Sustainability</td>
<td>5 - 8</td>
</tr>
<tr>
<td>Hub Sustainability</td>
<td>9 - 14</td>
</tr>
<tr>
<td>Gender Equity</td>
<td>15 - 17</td>
</tr>
<tr>
<td>Hub Model Replication</td>
<td>18 - 19</td>
</tr>
<tr>
<td>Stakeholder Investments</td>
<td>19 - 20</td>
</tr>
</tbody>
</table>
REACHING OUR GOALS

Background

The East Africa Dairy Development Project, Phase II (EADD II) is a five-year program focused on sustainably improving the livelihoods of small-scale dairy farmers by improving their income through enhanced dairy production and market access in East Africa. Based on the successes and learnings of Phase I, the project aims to double the dairy income of 136,000 farming households in Kenya, Uganda and Tanzania, as well as stimulate income growth for an additional 400,000 secondary beneficiaries by 2018.

As in Phase I, Heifer International leads the Phase II consortium which includes: Technoserve (TNS), International Livestock Research Institute (ILRI), African Breeders Service Total Cattle Management (ABS) and World Agroforestry Centre (ICRAF). While Phase I was fully funded by the Bill & Melinda Gates Foundation (BMGF), Phase II encourages the private sector, government and others to invest and participate in the project. Phase II has received significant support from individual donors and works closely with local governments and organizations to make the project sustainable beyond 2018.

Phase II uses the hub model approach to facilitate access to inputs, services, training and markets for small-scale dairy farmers. Farmers organized in Dairy Interest Groups (DIGs) buy shares in a Producer Organization/Hub (PO/Hub) where they sell a dependable, quality supply of milk to dairy processors and receive income in return. They also gain access to credit, as well as private goods and services needed to sustain and grow their dairy businesses.

Phase II Progress

This report presents the progress and impact made by Phase II in 2015 - the second year of project implementation. The data presented in this report is drawn from the annual household survey completed with 30 percent of the baseline sample. As a result, it is indicative of project achievement, rather than providing an absolute measurement of project success.

It is supplemented by data from the Producer Organization Sustainability Assessment (POSA) - a sustainability tracking tool comprised of seven priority sustainability dimensions (financial health; engagement with the output market; access to inputs and services; relationship with the external environment; farmer loyalty; effective and transparent hub leadership and management; on-farm impact). Under each dimension, respective indicators are assigned weighted scores based on their importance in contributing to PO/Hub sustainability. Hubs are assessed on an annual basis.

Despite a slower than anticipated transition between Phase I and II, the project has gained momentum with several key indicators meeting their targets toward catalyzing sustainable impact. At the same time, there have been significant challenges in the new sites,
especially in Tanzania, but also in Uganda. Progress continues to be made in areas that have fallen below target with continuous monitoring to adjust tactics or consider new interventions to accelerate progress.

The social capital development approach was intensified over the past year, and it has injected new energy into farmer mobilization and recruitment. The formation of Dairy Interest Groups at the community level is designed to enhance farmers’ social cohesion toward joining, accessing and benefiting from PO/Hub services. Though in its early stages, social capital is seen to contribute toward stronger Dairy Interest Group and PO/Hub sustainability through improved leadership, ownership and capacity building.

There was a notable increase of farmers adopting climate smart agriculture and sustainable land management practices. This has been attributed to enhanced training and awareness among farmers.

Sustainability assessments were conducted in each Phase II country to direct country-level operational plans and budgets around PO/Hub priorities. The plans are guiding project teams in closing key gaps such as, enhancing the value proposition of PO/Hubs to farmers, and improving market access, governance and financial health.

The 2015 Producer Organization Sustainability Assessment shows that PO/Hub sustainability performance is on an upward trend compared to 2014. Despite slow member registration and a delayed business launch, Tanzania is expected to show accelerated progress in 2016. In Uganda, 85 percent of Phase I PO/Hubs (18 of 21) achieved a score of 50 percent or more, meeting the minimum target to trigger graduation. In Kenya, seven out of the eight PO/Hubs achieved a score of 50 percent, and five PO/Hubs achieved more than 60 percent - denoting readiness to exit the project.
Farmer Sustainability

Farmer sustainability is a key outcome for the project. It is measured primarily through increased milk productivity per cow per day, which ultimately leads to increased milk production and productivity at the household level. To help farmers achieve maximum yield, we promote knowledge and skills in productivity enhancing technologies, climate smart agriculture and sustainable land management practices.

As a result, farmers adopted productivity enhancing technologies (e.g. feed technologies), and animal health and breeding practices (e.g. artificial insemination) to increase milk production at the household level.

Milk production per day is gradually increasing at the household level. In 2015, Tanzania and Uganda reported increases over the baseline; however, a prolonged drought through mid-2015 caused low milk production in Kenya (see graph at right).

Overall, these results show improved performance among dairy farmers who participate in PO/Hubs, and encourages other farmers to participate in the project.

Animal Health

We teach farmers how to take preventive health measures to ensure the wellbeing of their animals, such as methods for disease prevention, disease treatment and milk hygiene.

In collaboration with local government extension officers and Phase II staff, lead farmers trained their peers in general animal management, and livestock

Productivity Enhancing Technologies

The 2015 Phase II Impact Evaluation shows a positive trend in farmers adopting productivity enhancing technologies at farm level. This is a result of the structures and systems for service delivery we have put in place. The increase in adoption of these technologies was attributed to the increased value farmers attached to them and the model of delivery of the trainings which were participatory.

* In Kenya, prolonged drought that lasted until mid-2015 contributed to low milk production.

** Tanzania joined EADD Phase II in 2014 and began measuring increases in milk production against the baseline.
disease prevention and treatment. Farmers received veterinary medicines for animal disease prevention and control, which largely focused on East Coast Fever vaccinations, and worm and tick control.

Additionally, the PO/Hubs developed animal health plans, formed PO/Hub extension committees and recruited extension coordinators, Community Facilitators (CFs) and Community Agro-vet Entrepreneurs (CAVEs). By project end, it will lead to an increase in production and productivity at the household level.

Agro-vets have monitored and reported on disease outbreaks to community and government networks in order to better control the spread and ensure rapid treatment. Below, the Adoption of Animal Health Practices chart indicates that farmers are embracing the techniques that will - over time - lead to increased yield on their farms.

### Feed Plans

We assist PO/Hubs in developing feed plans and ensure that they are utilized by farmers to better address forage choices and storage, concentrates and supplements, as well as land and water use.

In 2015, farmers improved their knowledge and skills in improved pasture production and animal feeding. Feed trainings focused on establishing improved pastures, homemade feed formulation, improved fodder and forage production, feed planning and budgeting, fodder conservation and calf feeding.

The trainings were conducted by Volunteer Farmer Trainers (VFTs) and PO/Hub extension staff. Trainings were also held at pasture demonstration plots established by the volunteer trainers to facilitate hands-on learning. Other trainings included hay making, silage making and using preserved crop residues.

Site-specific feed plans were developed and plans for implementation executed at PO/Hubs, and various feed options were adopted at the farm level to address the feed gap. The Feed Assessment Tool (FEAST) was used to develop 32 feed plans among Phase II sites to address site specific feed needs. As farmers continually adopt the feeding techniques, an increase of milk production is expected at farm level.

### Livestock Breeding

We are addressing breeding gaps through the development of a livestock breeding strategy. This includes reducing calving intervals, advancing genetic potential, and improving calf rearing techniques, among others.

Demand for artificial insemination services increased among the PO/Hubs over the last year. All Phase II PO/Hubs are now providing livestock artificial insemination services. The preference for artificial insemination over bull services increased in Uganda and Tanzania as follows:

- Tanzania from about 5 to 29 percent
- Uganda from about 10 to 25 percent

The adoption of artificial insemination services among farmers in Kenya was in-line with preference at about 44 percent. However, there was a gap between preference and actual adoption in other countries. Adoption rates are at about 9 percent in Uganda and about 2 percent in Tanzania.

The increased preference in Uganda and Tanzania could be attributed to the development of breeding strategies. For example, farmers were trained in reducing calving intervals, advancing genetic potential,

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<th>Adoption of Animal Health Practices</th>
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providing a cold chain for bull semen, and improving calf rearing techniques. It is likely that the higher preference will translate into more farmers adopting artificial insemination as more technicians are trained and equipped to offer the service.

Phase II also facilitated the establishment of rural centers equipped with artificial insemination equipment to increase access to services. According to the 2015 Phase II Impact Evaluation, the success rate for artificial insemination conception was more than 75 percent in each Phase II country.

We also developed breeding plans to guide service delivery in the PO/Hubs. The main objective is to ensure the availability, accessibility and affordability of genetic improvement materials and services to more farmers in order to improve local herd performance.

**Climate Smart Agriculture and Sustainable Land Management**

Farmers adopted climate smart agriculture and land management practices such as, water harvesting, tree planting and the use of compost manure. Farmers planted tree seedlings to promote on-farm green vegetation cover and carbon sequestration.

Lack of water has been one of the largest single reasons for low cow productivity in dry seasons, according to a study that was completed with various value chain actors. Addressing this is key to reducing seasonality in milk production. The adoption of water harvesting practices is becoming a positive trend in the project area (see graph at right).

**Production Seasonality**

To reduce the affects of seasonality on milk production, we focused on bridging the dry season feed gap, ensuring increased and consistent milk productivity per cow/per day and production per household throughout the year. As farmers continue to adopt these practices, production will increase and less variation will occur during regular dry seasons.

In Kenya, there was no reduction in seasonality, most likely due to the prolonged drought and later the El Nino rains. The reduction in seasonality increased from a target of 0.41 percent to 0.48 percent.

In Uganda, a decline in production seasonality was recorded from a target of 0.59 percent to 0.34 percent. This improvement is attributed to farmers’ increased awareness and skills in improved pasture management and feed planning, dry season feeding strategies, maize stover urea treatment, silage making and homemade feed formulation. The baseline percent for seasonality was recorded at 0.47 percent in Tanzania. The project will use the current achievement to measure future progress.

**Social Capital Development**

Social capital development supports farmer mobilization, and creates and builds social and economic systems. Social capital brings togetherness,
harmony and a peaceful coexistence among members of a community. It reinforces the values of the community, mobilizing them to take action toward their own development.

The social capital development approach is based on our proven Value Based Holistic Community Development (VBHCD) model - a set of values and principles that guide communities to self-reliance, foster local capacity, contribute to the local economy and build key community networks.

Values Based Holistic Community Development uses our 12 Cornerstones for Just and Sustainable Development to help project participants reflect deeply upon their own plans for the future, question deep-rooted conditioning and biases, foster trust, and strengthen community connections.

Since the introduction of a revised social capital development model in August 2015, PO/Hub extension and social capital development systems and structures were developed and strengthened through the recruitment of 421 Community Facilitators. Additionally, 121 Community Agro-vet Entrepreneurs have been trained and equipped

Community Facilitators and Community Agro-vet Entrepreneurs provide ongoing capacity building to selected Dairy Interest Groups at PO/Hub level on the following topics:

**Community Facilitators**
- Dairy group formation and management
- 12 Cornerstones
- Participatory Self-review and Planning (PSRP)
- Savings and credit
- Water, Sanitation and Hygiene (WASH) practices
- Gender justice
- Farmer exchange visits
- Human nutrition
- Cooperative membership

**Community Agro-vet Entrepreneurs**
- Animal health management
- Artificial insemination services
- Fodder and forage
- Milk quality
- Records management
- Business management

**Dairy Interest Groups**

In 2015, about 7,500 farmers were organized into 303 Dairy Interest Groups where they are benefiting from extension services offered by the Producer Organization Extension Coordinators, Community Facilitators and Community Agro-vet Entrepreneurs. The small and exclusive Dairy Interest Groups provide a framework for information sharing, resulting in increased business relationships between the PO/Hubs and farmers. The groups are increasing group-based savings and credit, efficient and effective coordination of project activities, and collective decision making.
Hub Sustainability

During the last year, we engaged 57 PO/Hubs across the project area (Kenya-8, Uganda-37, Tanzania-12). Of these, 36 PO/Hubs were newly engaged by the project. Twenty-three of the 36 developed business plans to guide their operations (Kenya-8, Uganda-16, Tanzania-7).

Several hub development and strengthening activities were carried out in the three countries. These included registering six Tanzanian PO/Hubs as cooperative societies, as well as training 10 Ugandan PO/Hub managers and accountants in business plan implementation and financial management. Ten board of directors were trained on leadership, record keeping and general business operations. These trainings will significantly improve PO/Hub leadership and management, and ensure increased member loyalty.

During the year, Ugandan PO/Hubs secured financing worth more than $500,000, including capital loans worth about $240,000 from the Uganda Development Bank. Also, the Ugandan government invested more than $226,000 in two PO/Hubs (Kiboga and Dwaniro) for the purchase of capital equipment. Fourteen PO/Hubs also raised more than $50,000, mainly from shares and grants.

Tanzanian PO/Hubs raised more than $9,000 in shares. This investment indicates the growing confidence investors place in the dairy sector. However, there is
still a need for additional strategies that incentivize market actors to invest more in Tanzania’s hubs and its dairy value chain.

In Kenya, about $49,800 was accessed as loans among three PO/Hubs. The loans were used to expand the PO/Hubs’ businesses, including the purchase of land and a milk chilling tank.

**Business Performance**

PO/Hub milk collection volumes continued to fluctuate mainly due to seasonal variations (see graph on page 9). In Uganda, there was a major increase (136 percent) in milk volumes in 2015 compared to 2014. This is attributable to the onboarding of the southwest cluster of PO/Hubs and ideal weather conditions. In Kenya, milk collection volumes were 20 percent higher in 2015 compared to 2014 due to an increased number of milk suppliers to the PO/Hubs, and increased production (after the drought) as a result of El Nino rains.

Uganda’s PO/Hubs bulked 18.5 million liters, or about 5 million gallons, exceeding the 2015 target by 12 percent. In Kenya, aggregated volumes totaled 16 million liters, or a little more than 4 million gallons, which was below the country’s annual target by 19 percent. Only three PO/Hubs in Tanzania’s Njombe cluster were conducting joint milk businesses. Their milk volumes remained nearly constant at about 1.2 million liters, or about 3 million gallons, throughout 2015. The Njombe cluster is characterized by favorable weather conditions year-round, making the PO/Hubs capable of supporting consistent milk productivity.

**Hub Profitability**

Overall, Kenya saw the highest milk prices, ranging from 33 to 48 cents per liter (see graph below). These prices can be attributed to industry competition, and the level of PO/Hub development and size with relatively higher supplier power. Uganda reported the lowest prices, which ranged between 25 and 41 cents per liter. Milk prices were largely affected by seasonal variations, with dry spells characterizing higher prices because of milk scarcity and vice versa. Ugandan non-chilling PO/Hubs received higher prices than chilling PO/Hubs because non-chilling PO/Hubs sold the highest portion of their milk to informal traders. In Tanzania, prices ranged between 27 and 33 cents per liter.

Prices were significantly affected by exchange rates since the regional currencies lost greatly compared to the dollar, especially for Uganda and Tanzania.
In Kenya, 2015 revenues ($5,187,320) were 7 percent higher than in 2014 because PO/Hubs handled large volumes of milk, are well-established, are able to negotiate prices, and the dairy industry is competitive compared to other countries. In Uganda, a sharp 81 percent increase in 2015 sales ($4,107,360 total) can be attributed to the addition and inclusion of new clusters in the analysis. Tanzania's sales remained mostly consistent throughout the year at about $30,000 per month.

Heifer-supported PO/Hubs realized milk revenues totaling $11 million in 2015 compared to $7.3 million in 2014 - an overall 52 percent increase. Out of the total sales in 2015, farmers received the following percentage of payments for milk deliveries:

- Kenya - 80 percent
- Uganda - 78 percent
- Tanzania - 80 percent

Despite two PO/Hubs in each country recording net losses for 2015, all three countries reported overall positive net profit margins for the year:

- Kenya - 2.9 percent
- Uganda - 13.97 percent
- Tanzania - 3.3 percent

The PO/Hubs that reported net losses in Kenya experienced governance issues and had a large defaulted payment at the Kapcheno PO/Hub. Kapcheno farmers set up a new cooperative to start afresh. In Tanzania, PO/Hubs had high operation costs, while Uganda had low business volumes due to start-up in the last six months.

**Addressing Challenges**

Addressing the challenges that affect project impact is of highest priority for the East Africa Dairy Development team. Understanding region-specific challenges is vital for implementing project adjustments that will get us back on track.

To incorporate more farmers in the project, we are documenting lessons learned from the PO/Hubs that offer services (in-house and out sourced) and rapidly replicating these approaches in other PO/Hubs. Additionally, we are fast tracking the roll out of social capital development to ensure that services reach farmers in Dairy Interest Groups and that accurate record systems are maintained. As a result, the project anticipates a significant increase in direct beneficiaries in 2016, which will positively impact the key outcomes of the project.

In Kenya, PO/Hubs offer at least one service, but most have multiple services (e.g. milk transportation and marketing, training and extension services, animal health care, savings and credit schemes, agro-vet services). Although most of these services are well-established and are serving members adequately, some continue to experience milk diversion, especially during dry spells when informal traders offer higher prices compared to PO/Hubs. To address milk diversion, we are focusing on reducing the effects of seasonality on milk production (see page 7).
Ugandan PO/Hubs have had two challenges in increasing active membership. First, some PO/Hubs have a lower value proposition to members given the few services they offer, coupled with long distances to the PO/Hub location (more than 10 kilometers, or about 6.2 miles). Sites in the southwest had weak schemes for incentivizing active membership, especially where PO/Hubs are overburdened with asset debt repayments. As a result, members limit or stop supplying milk through PO/Hubs to avoid deductions for debt repayment.

We are working to ensure more value proposition to members by setting up Business Development Services which will increase member loyalty. We are also encouraging PO/Hubs to minimize debt capital by increasing member investment through share capital. Other models are being explored including leasing assets as opposed to buying.

Uganda’s second challenge is incomplete supplier data. Most farmers use transporters to deliver their milk to PO/Hubs. As a result, in many cases it is only the transporter’s name that is captured at the PO/Hub, leaving out all the names of active suppliers. Therefore, large numbers of farmers who are benefiting from the PO/Hub by supplying milk are not recorded in the PO/Hub records. This has resulted in a lower number of active suppliers than expected.

Phase II is rolling out a system where each transporter will be required to provide a list of the farmers he or she acts for, and to record each of their respective milk volumes before any milk is accepted at the PO/Hub. Additionally, the use of services not paid for with the check off system needs to be captured accurately. This will be addressed by capturing services used at the Dairy Interest Group level.

In Tanzania, the length of time taken to organize farmers, improve business profitability and mobilize required capital for PO/Hub services, has resulted in most PO/Hubs not yet having established services. However, two PO/Hubs have linked their members to agro-vet providers, while another has an established village bank. In addition, one PO/Hub is formulating dairy meal for its members from locally sourced raw materials with advanced plans to start an input shop.
2015 Producer Organization Sustainability Assessment

According to the 2015 Producer Organization Sustainability Assessment (see graph below), PO/Hub performance is on an upward trend in Kenya and Uganda. Tanzania’s performance increased marginally between 2014 and 2015. Most PO/Hubs in Kenya and Uganda have been supported by our project for at least five years, while Tanzania has been supported since 2014.

Five Kenya PO/Hubs were in stage IV (i.e. achieving the targeted 60 percent score) denoting that they are ready to graduate, or exit the project (see graph on page 14). The other three Kenyan PO/Hubs have been experiencing difficulties that emanate from governance issues and thus affected their performance.

The majority (eight) of PO/Hubs in Tanzania were in stage I. This is expected given most of Tanzania PO/Hubs were first engaged in 2015, and registration of the cooperatives didn’t complete until the end of the year.

In Uganda, the majority of the PO/Hubs (15) were in stage IV while 13 were in stage III. The increase in stage IV PO/Hubs in Uganda can be attributed to the new Phase II PO/Hubs in the southwest cluster, which were pre-existing and have operational business structures.

Eleven PO/Hubs were prepared to graduate from the project in December 2015, however their exit was postponed to incorporate social capital development initiatives. This will ultimately allow the project to reach a greater number of households.

We plan to support these PO/Hubs to close gaps that were identified during the 2015 Producer Organization Sustainability Assessment. We will focus on strengthening relationships between PO/Hubs and buyers through contracting, increasing member loyalty and enhancing governance.

Kenya Dairy Farmers Federation

In 2015, the Kenya Dairy Farmers Federation (Kdff) generated $173,612 of its $241,925 targeted revenue. More than $132,000 was used for Phase II-related activities, while the remaining revenue supported administrative activities.
The newly launched feed mill generated the highest income in the last quarter than previous quarters. The Kenya Dairy Farmers Federation earned revenue from the following sources:

- Membership fees
- Remittance per liter sold by a PO/Hub
- Feed mills
- Ear tags
- Animal semen for artificial insemination
- Milk proceeds from the New Kenya Cooperatives Creameries (NKCC)
- East Coast Fever vaccinations

The Kenya Dairy Farmers Federation is currently working to change its status from an organization primarily focused on PO/Hub advocacy to one that also undertakes commercial activities.

**Dairy Market Strategies in Uganda and Tanzania**

In 2015, we finalized the Uganda dairy market strategy through which plans were developed to increase milk consumption and strengthen value chain coordination. The Uganda Dairy Development Authority agreed to adopt the strategy at the national level. The market strategy is a key input for the Uganda Dairy Development Authority to drive the government’s national consumption strategy and to boost consumption. Collaboration and development will continue in 2016.

To develop a dairy market strategy in Tanzania, we collaborated with representatives from government agencies, ministries, the World Bank and the private sector. The strategy will increase consumption of locally produced milk and milk products through educational consumer campaigns, improved quality, unified policies and improved supply chains.

Under the leadership of Heifer International’s CEO, Pierre Ferrari, the project is actively exploring ways to incentivize key market actors to adopt various elements of the market priorities. The team, including Mr. Ferrari, conducted a transformative workshop in Tanzania in early 2016. The goal of the workshop is part of the ongoing initiative to deliver a focused, innovative plan to drive increased milk production by creating additional processing opportunities through increased demand and consumption of milk and other dairy products.

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**PO/HUBS BY STAGE**

**2015 PRODUCER ORGANIZATION SUSTAINABILITY ASSESSMENT REPORT**

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<th>Uganda</th>
<th>Tanzania</th>
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<tr>
<td><strong>Stage IV</strong></td>
<td>5</td>
<td>15</td>
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*Source: Heifer International*
Gender Equity

Gender mainstreaming creates positive changes in attitudes and behaviors that enable women to be actively involved in decision-making at the household and PO/Hub levels. Gender-based interventions and strategies were integrated in social capital development initiatives to increase outreach to women farmers through the Dairy Interest Groups at PO/Hub level.

Women’s Decision-Making Power

Women’s decision-making power at the household level significantly improved over the 2014 baseline, according to a 2015 Phase II household survey (see graph on page 16). Women’s decision-making power increased in the following areas:

- Land cultivation
- Morning milk proceeds
- Evening milk proceeds
- Livestock sale proceeds
- Control of productive assets

Most noteworthy are the increases in women’s decision-making power over proceeds from milk and livestock sales, with Kenya and Uganda more than doubling percentages. Additionally, women in Kenya and Tanzania gained substantial decision-making power and control of production assets.

Kenya

Through Dairy Interest Groups, gender champions were engaged and trained to educate households on the importance of equal decision-making power over family resources. The trainings addressed the negative myths and cultural practices that were largely responsible for gender inequality. Educational community-based radio programs provided a wider outreach, which triggered mass discussions and responses on women’s and youth’s inclusion in decision-making.

In addition, trainings on land utilization, land rights and ownership of resources broadened household discussions on the importance of involving women in decision-making for income from milk sales.
Uganda

The recruitment of 110 gender champions (47 women and 63 men) and entrepreneurial trainings promoted women's economic empowerment among local PO/Hubs. Emphasis was placed on farming as a family business, and resulted in participants identifying ways to improve their businesses starting at the household level.

Value-adding products were identified as a key strategy toward increasing women's incomes. Through a partnership with the Yoba for Life Foundation, 31 women's groups were trained and are now engaged in the production and marketing of probiotic yogurt. These skills are being used by women and youth at various levels (i.e. individual, household, group and PO/Hub). Of the 15 PO/Hubs making yogurt, a total of $1,758 was recorded as weekly gross sales with a profit margin of 30 percent. This initiative received an additional $800,000 from Yoba to expand in other project sites in 2016.

Women's groups were trained and supported to formalize and expand their savings and credit groups into Village Savings and Loan Associations and cooperative societies. This provides additional financial services, products and opportunities to members who do not have access to formal financial services.

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**WOMEN PARTICIPATION IN DECISION-MAKING AT THE HOUSEHOLD LEVEL**

2015 East Africa Dairy Development Phase II Household Survey*

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* According to our 2015 Global Impact Monitoring data, women participating in second year projects are reporting an increase in control over productive assets from 17.20 percent at baseline to 60.92 percent – a 43.72 percent increase. Likewise, the majority of first year projects reported increases from 64.69 percent at baseline to 77.64 percent - an increase of 12.95 percent. We monitor various dimensions that indicate change in relation to women's empowerment; however, control over productive assets is notable because it considers women’s control over land, machinery or tools, and financial resources. All three assets are vital for small-scale farmers around the world. Although the 2015 Phase II survey (shown above) revealed improvements in women’s decision-making power at the household level, the results were deemed unusual since behavioral changes - especially in aspects on gender - are more likely to gradually increase over time. We are working to improve collaborative efforts with our project partners and undertaking further qualitative assessments to ensure accurate evidence on gender equity at the household level.
Tanzania

The integration of social capital development in promoting gender equity and mainstreaming contributes to progressive relationships among men and women at the household level. Thus, gender trainings and follow up among Phase II staff were completed to further develop their skills in promoting and mainstreaming gender in their technical work with Community Facilitators, Community Agro-vet Entrepreneurs and Dairy Interest Groups. Staff primarily focused on increasing awareness on women’s participation in decision-making at the household level.

In Tanzania, 48 gender champions were trained on gender mainstreaming and the project’s gender equity approach. In 2015, Dairy Interest Groups and PO/Hubs participated in activities where women were given opportunities to exhibit and market their dairy products. In 2016, the gender champions’ roles will be assimilated into the roles of the Community Facilitators to fast-track gender-related project activities.

Women’s Participation in PO/Hubs

There was a slight increase in the number of active women suppliers at PO/Hubs in Kenya, and a decrease in Tanzania and Uganda. This correlates with the decrease in the overall number of farmers supplying and accessing services from the PO/Hubs. As total membership grows, the absolute number of women that are active in Dairy Interest Groups and PO/Hubs will grow.

The overall number of women board members and shareholders decreased due to fewer women participating in the project. However, Kenya PO/Hubs gained a 1 percent increase in women board members, and a 2 percent increase in women shareholders. Tanzania remained at 45 percent (see graph at right).

Fewer women participants means fewer female candidates for leadership development and board inclusion. In 2015, PO/Hubs in Kenya, Uganda and Tanzania began a series of governance and PO/Hub restructuring activities to improve women’s participation.

We implemented gender equity trainings to sensitize PO/Hub boards on key gender-based strategies and plans. Gender committees were also formed to promote and support gender equality in the PO/Hubs, ensure the implementation of gender strategies and improve women’s participation in PO/Hub activities. By implementing social capital development, we will encourage more women - through membership in Dairy Interest Groups - to register as shareholders and board members.

These combined efforts will enable the identification of more women with the capacity to take up key leadership and management responsibilities at the PO/Hub level. Kenya has already trained 25 women board members from 11 PO/Hubs on leadership. Now, they are equipped as influencers in decision-making.
Hub Model Replication

Our hub model, or its elements, have been adopted by various organizations outside the Phase II geographical areas:

• In Heifer’s *Wealth Creation in Western Kenya* project, we have established three hubs that are benefiting 5,000 small-scale farmers. The $1.2 million project is funded by the Department for International Development (DFID), Big Lottery and Heifer International. It is being implemented in partnership with the nongovernmental organization, Send a Cow.

• Through the *India - Kenya Dairy Bridge Innovation* project, we have established three hubs in Nakuru County, Kenya to support 2,000 small-scale farmers.

• Funding from the Dutch government to implement the *Food for All* project will establish five hubs in Meru, Tharaka Nithi, Machakos and Makueni Counties of Kenya. The project is expected to benefit an estimated 10,000 small-scale farmers.

• The Kenya Dairy Farmers Federation has also replicated the hub model by establishing and developing three hubs in Naitiri in Bungoma County, Torongo in Baringo County and Ndanai in Bomet County.

• Sameer Agriculture and Livestock Kenya Limited, a leading processor in Kenya, established three hubs in Kibirichia and Rungeto in Meru County and Eldoret in Uasin Gishu County.

• The International Livestock Research Institute (ILRI), in partnership with Heifer Kenya, TechnoServe and Farm Input Promotions Africa (FIPS), was awarded a $4 million grant by the United States Agency for International Development (USAID). The project *Adapting Dairy Business Hubs to Accelerate the Transformation of the Dairy Value Chain in Kenya* will improve milk production and productivity at the household level across nine counties in Kenya to benefit 35,000 small-scale farmers. The project will use our hub approach to develop eight business dairy hubs.

• In Tanzania, the International Fund for Agricultural Development (IFAD) adopted our hub approach for the *Dairy Hub Integration* project. The $2 million project will be implemented in Zanzibar-Tanzania.
by the International Fund for Agricultural Development, in partnership with the Government of Tanzania and Heifer International.

- The Producer Organization Sustainability Assessment tool was adopted by We Effect and the Food and Agriculture Organization (FAO) of the United Nations to analyze the performance of PO/Hubs from various sectors in Kenya. The tool was also adopted by a producer organization program that is being implemented by TechnoServe in Uganda and funded by the United States Agency for International Development.

## Stakeholder Investment in the Dairy Value Chain

The *East Africa Dairy Development* project has established partnerships and linkages with the private sector and government agencies that have resulted in investment in the dairy value chain. The organizations provided both cash and in-kind support for the implementation of Phase II activities through the PO/Hubs.

### Kenya

- Uasin Gishu County provided the following: 2,000 artificial insemination conventional semen straws; 200 artificial insemination sexed semen straws; 30 (40 liters) semen storage tanks; and 500 liters of liquid nitrogen. The county also supported PO/Hub extension staff to train farmers on artificial insemination to increase productivity through improved breeds. Kericho, Bomet and Nandi Counties provided artificial insemination services at subsidized rates.

- The *East Africa Dairy Development* project signed a memorandum of understanding with TechnoServe for a mobile training unit project (funded by the United States Agency for International Development) to improve productivity, livelihoods and market access through integrated experiential training and capacity building. The organizations leveraged their skills and resources to train farmers and PO/Hubs on increased productivity and good governance.

- Through its *Farmer to Farmer Project*, Catholic Relief Services (CRS) signed an memorandum of understanding with the *East Africa Dairy Development* project and five PO/Hubs. As a result, short-term volunteers from the U.S. were placed in the project area to share their agricultural expertise, and to train farmers on dairy production and productivity in Kenya.

- The *East Africa Dairy Development* project established a relationship with the United States Agency for International Development’s *Kenya Agricultural Value Chain Enterprises Project (KAVES)*, which implemented interventions in two Phase II PO/Hubs and in three Kenya Dairy Farmer Federation PO/Hubs.

### Uganda

- Eram Uganda Limited, a veterinary pharmaceutical company, signed a partnership agreement to support the training of farmers and extension officers of PO/Hubs in improved production technologies. For example, Eram conducted livestock vaccination campaigns and veterinary extension services in nine PO/Hubs. Farmers and agro-vets were linked to Eram to access quality veterinary inputs and services at lower rates.
• A partnership with Veterinarians without Borders (VWB/VSF) enabled the training of farmers at seven PO/Hubs in Uganda on animal health. The trainings focused on disease syndromic surveillance for livestock health, including early detection, timely reporting and response, and vaccination campaigns.

• A collaboration was established with the Yoba for Life Foundation to increase value addition of milk at the PO/Hubs. As a result, 31 PO/Hubs were trained in yogurt making, with 15 PO/Hubs already producing and selling yogurt. Yoba Foundation - together with Heifer International and Makerere University - are scaling up this intervention in Uganda.

• The Paris School of Economics facilitated the recruitment and placement of volunteer farmer trainers in four PO/Hubs in Uganda. The volunteers trained farmers on productivity enhancing technologies and supported the farmers through ongoing coaching for the adoption of these practices.

• Through the Kaliro District, the government of Uganda funded a 3,000 liter capacity milk cooler, generator and refurbished building to be used as a milk collection center for the Nawaikoke PO/Hub. The total cost for this investment was $31,746. The Buyende District also procured and donated a generator to support milk chilling for the Kagulu PO/Hub. These supportive efforts are significant in improving the quality of milk in the two PO/Hubs. Additionally, the Mukono District procured one artificial insemination kit for the Nampate PO/Hub to ensure farmers have access to artificial insemination services.

• The East Africa Dairy Development project established a working relationship with leading processors in Uganda, including: Pearl Dairy, Sameer Agriculture and Livestock, Amos Dairy and others. These relationships ensure farmers have access to dairy markets. The processors have also supported farmer trainings and other extension services provided by the East Africa Dairy Development project.

• Impact investors have taken interest in the dairy value chain. Vital Capital Fund invested $9 million in Tomosis Dairy and has approached the East Africa Dairy Development project to provide support in strengthening Tomosis’ supply chain and linkages with Phase II PO/Hubs. The investment will support the construction of a modern dairy processing plant which will allow the processing of 50,000 liters, or about 13,209 gallons, of milk per day into value added products such as yogurt and ultra high temperature (UHT) milk.

Tanzania

• Raleigh International partnered with the East Africa Dairy Development project in Tanzania to pilot a youth entrepreneurship project that is increasing youth participation in the dairy industry using the hub model. A total of 478 youth were equipped with entrepreneurial and business skills. An estimated 100 dairy value chain enterprises were started by youth entrepreneurs through the pilot and are providing services to the hubs and farmers. Raleigh International secured additional funding from the Department for International Development (i.e. International Citizen Service Program) and committed an estimated 272,700 British pounds, or about $389,387, as co-funding toward scaling up this pilot project.

• Through the district councils of Mbeya, Njombe, Mufindi, Iringa and Wang’ingombe, the government of Tanzania has partnered with the East Africa Dairy Development project and supported the establishment of dairy hubs through the construction of milk collection centers and purchasing of milk cooling plants. The local district councils are also providing extension services to increase production and productivity.