

Impact Evaluation of Heifer Project International in Uganda

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1. Executive Summary

This evaluation finds Heifer Project International's (HPI's) Uganda country program to be well designed, well managed, and making a significant and highly cost-effective contribution to reducing poverty and improving living standards and environmental sustainability (mainly) among Uganda's rural population.

Widely acknowledged as the strongest NGO in Uganda's livestock sector, over the last decade Heifer Uganda has developed a local adaptation of HPI's worldwide strategy. Projects based mainly on cows, goats (dairy or meat), fish, or pigs usually involve 100 to 200 families of direct beneficiaries who receive an original animal gift or a pass on animal. Before receiving an animal a family must prepare a shelter and plant fodder to implement Heifer's zero grazing model, build a fuel efficient stove, and attend a series of trainings. In addition to animal health and management, trainings focus on composting manure for fertilizer, planting vegetable gardens and fruit trees, family nutrition, sanitation, crop storage, water conservation, environmental sustainability, and entrepreneurship, among other topics. Trainings also include the 12 Heifer Cornerstones (Appendix 7.1), but these are emphasized less in Uganda than in other Heifer country programs that the present evaluators have visited. Projects are supported for three years followed by two years of monitoring; but families continue to "pass on the gift," and groups initiated by the project remain active in subsequent years. Heifer Uganda employs an extension worker, usually a trained veterinarian, to manage the project for its first three years.

We visited 8 completed projects of Heifer Uganda's more than 70 projects and conducted interviews with project leaders, group members, and with 95 randomly selected beneficiary families. Overall, we found a generally high management standard with few animal deaths, fairly strong ongoing groups, mostly high pass on rates, and widespread adoption of messages from Heifer trainings. Poverty and malnutrition are widespread in rural Uganda, and many beneficiary families wholeheartedly adopt Heifer models and messages. In due course most see significant gains in income and nutrition, in part directly from their animal gift and its offspring, but usually with even greater gains from increased production of crops, vegetables, and fruit, largely due to fertilization from composted manure. Most families adopt several practices that improve environmental sustainability, and many adopt new entrepreneurial ventures leading to substantial new income streams.

This evaluation report documents significant impacts in many areas. Here we note that while Heifer Uganda has spent about US\$7 million over the last six years, evidence from household interviews indicates that this can be expected to lead to more than US\$10 million a year in increased income and food production for beneficiary families in completed projects, or more than US\$30 million over three years. These families' assets can be expected to increase by more than \$20 million. Their nutritional standards will be greatly improved, and at least 8,000 children are likely to avoid stunting due to nutritional shortfalls that would have been expected without the projects.

We understand that Heifer Uganda is developing new strategies, building on its strengths, to reach larger numbers of beneficiaries more efficiently. We offer cautious support to such new approaches.

2. Background

2.1. The Country

Uganda is a landlocked country in East Africa with a population of 34 million and annual GDP per capita of \$500, equating to \$1,300 in terms of purchasing power. The economy grew at around 7 percent a year over the last decade, but growth was concentrated in services and industry. With 80 percent of the population dependent on agriculture and a lifetime average of more than 6 births per woman, population pressure on the land is steadily increasing. The country has not achieved significant productivity growth in agriculture, the proportion of Ugandans unable to access adequate calories increased from 59 percent in 1999 to 69 percent in 2006, and 38 percent of children under 5 suffer from chronic malnutrition (stunting). Employment growth in the formal sectors cannot keep up with population growth, and the unemployment rate is conservatively estimated at 23 percent.

Most Ugandan farmers practice traditional agriculture on 1 to 20 acres of land. Fertilizer use averages half a kilogram per acre compared with more than 60 kilograms per acre in neighboring Kenya, and irrigation and improved crop varieties are uncommon. While many farmers own a few goats, chickens, or cattle, they are usually local varieties, tethered and pasture-fed, with limited use of manure for fertilizer. Milk yields from local cattle seldom exceed 2 liters a day.

Although Uganda has instituted free and universal primary education, some primary schools charge modest fees and parents must pay for uniforms and books. Many parents prefer private schools that they believe provide better quality education; these schools are common across the country. Uganda's under 5 mortality rate was 137 per 1,000 live births in 2005 to 2006, an estimated 6.4 percent of adults are HIV positive, and life expectancy at birth is 53 years. Malaria and diarrhea are common, and only about half the population has access to improved sanitation facilities.

2.2. The Evaluation

This is the seventh year of a partnership between Heifer Project International and The Evaluation Center at Western Michigan University for impact evaluations of Heifer programs. This year's evaluations, carried out in Albania, Nepal, and Uganda, include a new emphasis on estimating impacts in income, assets, and nutrition. The Uganda evaluation was carried out by Dr. Paul Clements, Krystin Martens, and Kurt Wilson. We are most grateful for strong support and cooperation from the Heifer Uganda Country Director and his staff.

3. Methodologies

In this section, the theories used to design the evaluation are explored, as is the system adopted to score each project site, and the calculations of the main statistics are explained. The last two subsections provide details on the schedule, selection of project sites, and various data-gathering strategies.

3.1. Theories

This external evaluation was part of the 2011 Heifer impact evaluations by the WMU Evaluation Center and followed its overall design, based on five frameworks: (i) the Key Evaluation Checklist, (ii) the Heifer Hoofprint Model for impact evaluations, (iii) the Heifer six value groups, (iv) an analysis of impacts in income, assets, and nutrition, and (v) an analysis of cost-effectiveness.

3.1.1. Key Evaluation Checklist

The Key Evaluation Checklist is a comprehensive evaluation approach developed by Dr. Michael Scriven and adopted extensively throughout the world. For this evaluation, the KEC challenged the external evaluators to look beyond the projects' impacts by taking into consideration many other relevant matters related to Heifer operations such as potential positive and negative side effects, quality of implementation processes, costs (monetary and nonmonetary), comparisons with possible alternatives, and sustainability.

3.1.2. Heifer Hoofprint Model

While searching for impacts of Heifer work in a given country, a comprehensive strategy that goes much further than looking for the direct impact at the family level is employed. To explain this search, the metaphor of a traveling heifer leaving hoofprints that change the environment is utilized. The more obvious impacts left by the heifer are its tracks left *on the ground*. These represent easily discerned material changes (e.g., increase in family income, greater herd ownership, ability to afford better education, more access to healthcare). The second dimension or level sought is envisioned by tracks left *above the ground*, corresponding to the broken brush and branches that mark the heifer's path (e.g., impacts in the community, region, country, and possibly internationally). The final level is conceived as impacts *below the ground* caused by the power of the heifer's hooves as they hit the ground, representing the desired changes in fundamental values, especially increased sense of loyalty to the group (rather than just oneself and one's family) and increased collective self-reliance.

3.1.3. Six Value Groups

A set of values was developed by the Western Michigan University evaluation team in an effort to make the evaluations manageable and consistent and to address the main impact questions raised by Heifer within a wide variety of contexts. These values are divided into 6 groups that summarize the 23 values expressed in Heifer’s 12 Cornerstones, 4 broad goals, and 7 indicators that Heifer Project International uses to orient its worldwide programs (Appendix 7.1). The contents of the goals, indicators, and cornerstones are represented within the 6 value groups. Table 1 shows the 6 value groups and the corresponding criteria under each of them. Ninety-six specific indicators were developed for the criteria and can be viewed in Appendix XX.

Table 1. The Heifer Six Value Groups and Related Criteria	
Value Group 1: Meeting Basic Needs	
1.1.	Year-Round, Adequate, and Nutritious Food
1.2.	Adequate, Safe Water Year-Round
1.3.	Adequate Shelter
1.4.	Sustainable Income and Assets
1.5.	Control and Reduction of Life-Threatening Diseases
Value Group 2: Livestock Care and Management	
2.1.	Livestock in Good Condition
2.2.	Animal Shelters in Adequate Condition
2.3.	Appropriate Animal Healthcare
2.4.	Family With Adequate Knowledge, Skills, and Attitude Regarding Animal Care
2.5.	Proper Food and Water
2.6.	Appropriate Livestock
Value Group 3: Environment Care and Management	
3.1.	Appropriate Land Management
3.2.	Appropriate Waste Management
Value Group 4: Education For a Just and Sustainable World	
4.1.	Adequate and Equal Access To Basic Education
4.2.	Quality and Availability of Needs-Based Training
Value Group 5: Empowerment of Family and Community	
5.1.	Full Participation
5.2.	Gender Equity and Children’s Rights
5.3.	Community Spirit
5.4.	Self-Reliance
Value Group 6: Systems and Policy Improvements	
6.1.	Appropriate Local Community Procedures and Rules
6.2.	Impact On Larger Community, Region, Country, or Internationally

On the ground and below the ground impacts are assessed based on interviews with project member households, group leaders, group members, project extension staff, and HPI project managers. Whereas in prior years these impacts have been assessed at the level of individual

projects, usually based in one village but sometimes including several villages or communities, this year on the ground and below the ground impacts were assessed mainly at the household level from household interviews. Only those impacts that occurred at the level of the project or community, such as the cleanliness of public areas and gender equity in group leadership, were assessed at the project level.

Assessment of above the ground impacts, particularly in value group six, “systems and policy improvements,” is based mainly on research carried out by an independent Ugandan consultant, Mary Jo Kakinda. Ms. Kakinda interviewed personnel from several of Heifer Uganda’s government, donor agency, and NGO partners. Evaluator interviews with Heifer Uganda personnel, extension agents, and project members also contributed to assessments of above the ground impacts.

3.1.4. Income, Assets, and Nutrition

This year, in addition to impact assessments in the areas of the six value groups, evaluations of HPI country programs also include estimates of changes in household incomes, assets, and nutrition due to Heifer’s interventions. These impact estimates are based on household interviews. Impacts on income are estimated in terms of total gains in income and crop production (whether sold or consumed) in the last year due to the animal gift from Heifer. Other, usually relatively small income gains due to other support from the Heifer project, such as gifts of vegetable seeds and fruit tree seedlings, are also included. Income gains attributed to an animal gift include those from any investments using income from the animal, such as in coffee plantations or other livestock, as well as the estimated cash value of gains in crop yields due to composted manure.

In addition to assessing income gains from the last year, this year’s evaluations roughly estimate the economic value of each interviewed household’s total assets at the time they received their animal gift and any gains in assets from the time of the gift up to the time of the interview (including the current value of the animal gift if still living). Asset gains include offspring from the animal gift, other livestock purchased with income due to the gift, land purchases and home improvements, furniture, bicycles, radios, cell phones, school fees, and health expenses (these last two considered as investments in human capital). As with income, asset gains are counted, not only because of income from the animal gift, but also because of income from other parts of the Heifer project. Evaluators asked respondents to assign values to assets gained based on the asset’s present value (e.g., of livestock) or the purchase price (e.g., of a bicycle, materials for building a new house, or school fees). In the event that income from other sources not related to the project was also used to purchase an asset, the respondent was asked to estimate the part of the purchase price that came from income due to the project, usually from the animal gift. Estimates of total assets gained are based on the sum of economic costs or values of new assets attributable to the Heifer project.

While evaluations of Heifer country programs in prior years have estimated nutritional gains for group members at the project level, this year’s evaluations estimate nutritional gains at the household level. Respondents were asked to estimate levels of consumption before the animal

gift and in the present year of (a) staples (in Uganda, mostly maize, cooking bananas, potatoes, cassava, rice, and millet), (b) supplements (vegetables and fruit), and (c) protein (beans, groundnuts, and animal protein such as milk, eggs, fish, beef, pork, and chicken). Evaluators scored “baseline” and “current” consumption levels on separate 5 point scales for staples, supplements, and protein. In the event of nutritional gains due to income from nonproject sources, evaluators added these gains to the “baseline” score, so estimated nutritional gains are only due to the project.

3.1.5. Cost-Effectiveness

Estimated gains in income and assets for sampled households are associated with animal gifts, yielding an average income and asset gain for each kind of gift. The Uganda evaluation includes projects based on cows, bulls (draft animals), dairy goats, Boer (meat) goats, fish ponds (with tilapia and catfish), and pigs. Although HPI-Uganda has also given out rabbits, beehives, and local goats, about 90 percent of its animal gifts by value are represented by animals included in the evaluation. The evaluation team estimated a single year’s income gains for project members nationwide due to animal gifts over the last six years (excluding income from rabbits, beehives, and local goats) based on averages from sampled households and compared this sum with Heifer Uganda expenditures over the last six years. This yielded a ratio of economic gains for member households for a single year to total expenses over six years as a rough initial measure of cost-effectiveness.

Project members experience many gains from Heifer projects that are not captured by increases in income, however; and many nonmembers also experience positive impacts from Heifer projects, such as from cross-breeding local animals with more productive project animals and from copying project vegetable gardens and composting. The evaluation estimated total gains in assets and nutrition for members of all Heifer-Uganda projects over the last six years and discusses gains in other areas. Comparing these various impacts to Heifer expenditures in Uganda over these six years yields an idea of the program’s overall cost-effectiveness.

3.2. Details of Visit

Fieldwork for the Heifer-Uganda evaluation was carried out from June 6-24, 2011. The evaluation team included Dr. Paul Clements (team leader), Krystin Martens, and Kurt Wilson of Western Michigan University. Translation support was provided by 21 translators. HPI operations in Uganda are divided based on the country’s major administrative regions: the Central, Eastern, Western, and Northern Regions. The national office is located in Kampala, the capital city. The evaluation began with an introductory meeting with national staff at the Kampala office on June 6, followed by a meeting later that afternoon between the evaluators and Ms. Mary Jo Kakinda, who was organizing the research for her Above the Ground report. The bulk of the trip was made up of visits in 3 of the 4 administrative regions. The only region not visited was the Northern Region. Some project visits began with a briefing on Heifer’s experience with the project from the Heifer regional coordinator from the respective region, and most included a meeting with the extension worker formerly responsible for the project. Most

projects included in the evaluation were completed, so extension workers were no longer receiving financial support from Heifer. Each project visit included at least 1 interview with group leaders and 1 interview with group members; exceptions included Nyabushozi and Kinkizi, where there were 2 and 3 interviews with group members, respectively. Additionally, each project visit included 12 interviews with household members at their homes (except in UMOJA where we only managed 11, and in Kamwenge some interviews were carried out at fish ponds far from members' homes), and 2 or 3 interviews with nonmembers. In Kinkizi we also had a meeting with personnel from the Kinkizi Diocese. Interviews were carried out according to the following schedule:

Central Region

June 7 Busunju Grass Root Farmers Dairy Cattle Project

June 8 & 9 Bulyasojo Farmers Dairy Cattle Project

June 10 & 11 Jinja Women's HIV/AIDS Heifer Project

June 22 Busunju Grass Root Farmers Dairy Cattle Project (re-visit)

Eastern Region

June 13 UMOJA Women's Heifer Project

Western Region

June 15 Buyamba Community Dairy Goat Project

June 16 Nyabushozi Women's Goat Project

June 17 & 18 Kamwenge District Fish Farming Project

June 20 Kinkizi Diocese Piggery Project

June 23 was devoted to data analysis and a meeting with Mary Jo Kakinda to discuss her findings for the Above the Ground report. On June 24 the evaluators presented and discussed preliminary findings from the evaluation at a debriefing meeting at Heifer's Kampala office.

3.3. Data Gathering

Projects to be investigated were selected quasi-randomly by Dr. Michael Scriven, principal investigator of the series of Heifer evaluations, and Dr. Thomaz Chianca, evaluation project manager, with some input from Dr. Paul Clements, prior to the team's arrival in Uganda. The selection of project members for household interviews was done randomly by the evaluation team. Given that many Heifer projects in Uganda include members spread over wide areas, with

significant travel times between households, some distant households were excluded to allow interviews to be completed within the time available. In most projects only a few randomly selected households were excluded, but in Nyabushozi, where project members are extremely widely dispersed, most of the originally selected households were excluded and a few were included on a convenience basis. Some randomly selected households were excluded because evaluators were informed by group leaders that the group member had died, was in hospital, or was known to have traveled, and no appropriate alternative respondent was known to be available. Evaluators found three selected households with no one home upon their arrival. In these cases they interviewed the nearest available group member in another household.

3.3.1. Interviews

Interviews with extension workers were usually carried out with no representatives from HPI present. Interviews with group leaders and group members excluded Heifer personnel and extension workers, and group leaders were excluded from interviews with group members. Interviews with project members were usually carried out at the member's home with no one present except the respondent, the evaluator, the translator, and members of the respondent's family. Respondents were informed that the evaluators and translators were not employees of Heifer and that all answers would be kept confidential.

Table 2
Contacts as Part of Evaluation of Heifer Project International in Uganda

Project	Participant Household Interviews		Nonparticipant Household Interviews		Leaders Meetings		Group & Project Partners		Total	
	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men
Busunju	9	10	1	2	13	16	3	8	26	36
Bulyasojo	10	7	2	2	9	10	4	6	25	25
Jinja	11	7	1	1	36	24	10	3	58	35
UMOJA	6	8	0	3	13	21	8	6	27	38
Buyamba	6	8	5	1	9	2	6	3	26	14
Nyabushozi	11	7	1	1	22	1	4	2	38	11
Kamwenge	3	11	2	1	3	9	2	6	10	27
Kinkizi	12	8	1	2	54	16	4	7	71	33
Totals	68	66	13	13	159	99	41	41	281	219

3.3.2. Sponsored Research

The Above the Ground report by Mary Jo Kakinda is 26 pages in length, based on interviews with representatives from 12 government, donor, and nongovernment organizations and university offices that have working relationships with Heifer-Uganda. Respondents include those listed below:

[REDACTED]

3.3.3. Documents

Bahiigwa, G., Rigby, D., & Woodhouse, P. (2005). Right target, wrong mechanism? Agricultural modernization and poverty reduction in Uganda. *World Development*, 33(3), 481-496.

Central Intelligence Agency. (2011). *Uganda, The World Factbook*. Retrieved on June 2, 2011 from <https://www.cia.gov/library/publications/the-world-factbook/geos/ug.html>

Heifer Project International Uganda. (2011). Project summaries for each project included in the evaluation.

Kimani, M. (2011, June 13-19). Huge EA budgets ... but will they spur growth, create jobs, lower cost of living? *The East African*, pp. 4-5.

The Republic of Uganda. (2010, March). *National Development Plan (2010/11 – 2014/15)*.

The World Bank. (2011). *Uganda Data Profile*. Retrieved on June 2, 2011 from http://ddp-ext.worldbank.org/ext/ddpreports/ViewSharedReport?&CF=&REPORT_ID=9147&REQUEST_TYPE=VIEWADVANCED

United States Agency for International Development. (2010, May). Food and Nutrition Technical Assistance Project II and AED. The analysis of the nutrition situation in Uganda. [REDACTED]

World Health Organization. (2010). *WHO Global Database on Child Growth and Malnutrition – Uganda*. [REDACTED]

3.3.4. Direct Observations

The evaluation also reports direct observations of conditions in villages, households, and animal sheds, sometimes informed by discussions with interpreters. Most interpreters had some veterinary training and worked in government positions supporting livestock development. Dr. Clements had conducted five months of research in Uganda in 1994. He and Kurt Wilson had significant experience in many African countries. Dr. Clements and Krystin Martens conducted the 2007 evaluation of Heifer Project International in Tanzania, and he led the evaluations of HPI country programs in Ghana (2008) and the Philippines (2009). Krystin Martens participated in the 2010 evaluation of HPI in Guatemala. Hence, all three evaluators had prior experience supporting their interpretations of direct observations. The survey instrument called on evaluators to assess the health of the family's livestock, but subtle signs of ill health may have been missed.

4. Report

The evaluation findings are presented in three parts. First, we present a synthesis of our overall assessment of Heifer Uganda's efforts. This is followed by detailed descriptions of the specific findings related to each of the six value groups and their corresponding criteria as well as the findings related to income, assets, nutrition and cost-effectiveness.

4.1. Introduction

Overall, we find Heifer's Uganda country program to be remarkably successful at addressing basic needs and reducing poverty in Uganda's rural areas. The Uganda team has made a highly pragmatic adaptation of Heifer's worldwide strategy to the country's particular conditions, and many farmers have responded wholeheartedly to the opportunities and advice Heifer has offered. Uganda's mix of widespread poverty and significant agricultural potential makes it ripe for Heifer's approach, and the Heifer program appears to us to have been implemented with a consistently high management standard.

The dynamic configuration of Heifer's Uganda program includes several elements. Farmers are generally familiar with livestock, but most livestock are local breeds and prevailing animal management standards are not particularly productive. The animals and animal management training Heifer provides give many farmers an opportunity to increase the value of their livestock dramatically. Most Ugandan farmers have little choice but to farm their few acres intensively, with limited fallow periods and crop rotation and little use of fertilizer. In this context, the manure that comes with Heifer's zero grazing model, composted into fertilizer, often leads to a doubling or tripling of crop yields. New vegetables and fruit trees, a standard component of Heifer Uganda projects, diversify families' diets and provide new income sources; and the fuel efficient stoves that projects require yield multiple benefits.

While Heifer projects in other countries are often based on two or three different kinds of animals, most projects in Uganda involve only one kind of animal gift. Rates at which farmers "pass on the gift" are generally respectable and animal death rates are low in Ugandan projects, so numbers of animals, whether cattle, goats, fish, or pigs, were increasing in every project visited. Extension workers who directly manage the projects are usually qualified veterinarians. A wide array of practical trainings constitute a real strength of Heifer's projects in Uganda, building the unity and motivation of project groups while also conveying useful skills. Generally, we found group members to have adopted a kind of developmental attitude, a conscious focus on improving their conditions involving animal care, improved cropping practices, environmental management, improved sanitation and healthcare and, often, new entrepreneurial ventures.

Heifer projects in Uganda follow a common design, with three years of direct support followed by two years of monitoring. After these five years, Heifer's employment of the extension worker comes to an end, although they still may be paid by members for veterinary services. All projects visited for the evaluation were at or beyond the end of their fifth year, and all had at least somewhat active groups with well-defined leadership structures and widespread commitment to

fulfill pass-on obligations. In several projects elections for new leaders were overdue, but group members consistently expressed satisfaction with incumbent leaders.

At the time of the evaluation, Heifer Uganda was engaged in developing a new strategic plan for the next five years. Already it has developed strategic partnerships under the East Africa Dairy Development project and the Uganda Domestic Biogas project. The former project, focused on cooling plants and milk marketing, seeks to engage larger numbers of farmers than the “traditional” projects that are the subject of the present evaluation. We understand that Heifer Uganda is considering several other options for scaling up its operations. In light of our finding the established program to be generally well managed, highly successful, and cost-effective, we offer cautious encouragement to the idea of scaling up.

4.2. Overall Findings on the Six Value Groups

In addition to the Income, Assets, and Nutrition findings reported in section 4.3, Heifer Uganda’s impact was captured by two main statistics in the evaluation.

1. The **total impact score** for Heifer Uganda was **125.9**. This number estimates Heifer’s overall impact in Uganda toward meeting the needs of rural communities in terms of the six Heifer value groups. It is calculated by the difference between the scores provided by the evaluators for the current situation encountered in the project sites and the baseline situation just before Heifer started working with those communities.¹ The instrument used in this evaluation allows a maximum of 365 points to be picked up by any project or country. However, achieving the maximum number would be possible only in extreme cases where the baseline score for the situation at the project inception on all 96 indicators was zero, i.e., judged completely unacceptable or absent. This situation is virtually impossible, particularly because it is unlikely Heifer would be working in a community with no resources, since its focus is on helping the working poor who can care for livestock, rather than the poorest of the poor (e.g., homeless people). Heifer Uganda’s total impact score is very impressive when compared with other countries assessed so far. Its comparative significance will be articulated by Dr. Michael Scriven in the overall report with the findings from all three countries included in the Heifer 2011 impact evaluations.

2. The **Heifer contribution percentage**, or ΔH , for Heifer Uganda was estimated to be **50 percent**. This indicates that Heifer addressed about 50 percent of the needs the 8 evaluated projects had when Heifer began its work. Figure 1 below is a representation of the aggregated results of our assessment of Heifer performance on the six value groups. The graph presents three important pieces of information. The black lines (“Baseline”) represent the estimated proportion of needs that already had been met when Heifer Uganda started working with the 8 projects we visited or were met by other agencies during the time Heifer was working in those communities. The gray lines (“Heifer Contribution”) indicate the proportion of the needs estimated to have been met through Heifer’s efforts since the projects started. Finally, the white

¹ As estimated after careful interviews with key informants, observations, review of documents, and adjusted for other factors (e.g. government programs) that could have explained the observed changes.

lines (“Remaining Need”) show the aggregated proportion of needs in the communities included in this evaluation that are still unmet.

As can be seen in Figure 1, Heifer Uganda’s most important contributions appear to be in Livestock Care and Management and, almost equally, in influencing the Larger Community. Significant work has also been undertaken in the areas of Environment, Education, and Empowerment. It should be noted that the seemingly lower gains represented in Basic Needs is due to the new addition this year of the separate analysis of Income, Assets, and Nutrition which, in previous years, had, been included in the Basic Needs value group.

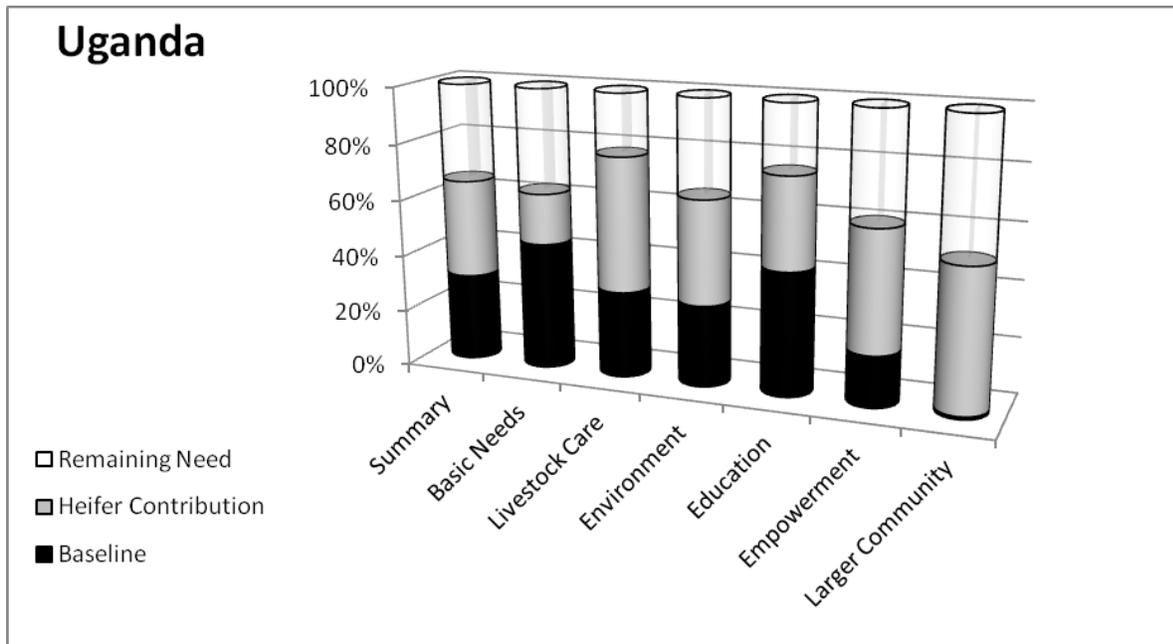


Figure 1. Heifer Uganda Overall Performance on the Six Value Groups

Profile 1: One Ugandan Family

Nyabushozi Goat Project

Seven Years Ago:



Today:



Nyabushozi is a sparsely populated rural area in Western Uganda, known for large ranches of free roaming cattle and dry, fertile hills with banana plantations and fruit trees. This family has always lived in this area, and just seven years ago were living in a round, windowless thatch-roof home common to the area. Because of the scarcity of water, when the Heifer program started in the area, it provided Boer goats from South Africa—relatively large goats raised for meat instead of milk. With this critical strategic decision made, the Heifer staff provided extensive training to group members, including these (among many others):



- The 12 Cornerstones
- Plans and techniques for constructing a goat shelter
- Collection and use of goat manure on crops
- Tree grafting and agro-forestry techniques
- Proper nutrition and hygiene
- Beekeeping

After completing the training, building a shelter for the goats, and planting the appropriate feed for the goats, this Ugandan family received both a male and a female Boer goat in 2004. This was not their first experience with goats – they already had 30 local goats worth about \$20/ea.



However, this was their first experience with zero grazing, manure collection, and the substantially larger Boer goats; and the family leveraged this combination to exponentially greater results. They now have a flock of 70 cross-breed goats valued at \$200/each and have seen substantial gains in their annual crop and income because of the training and manure, including these:

- 50 liters of honey (+\$420/year)
- 240 stalks of bananas (+\$396/year)
- 4 sacks of oranges (+\$85/year)
- 5 sacks of mangos (+\$40/year)

This family has invested this extra income toward two priorities: about \$1,000/year for educating their children and \$6,250 of the \$9,000 cost of building materials for their new house. Additionally, they now employ 13 people to help care for all of the animals and crops. They are continuing to leverage their gifts into a thriving agribusiness that can pass on the gift for generations to come.

4.2.1. Value Group 1: Meeting Basic Needs

Five criteria were evaluated related to meeting basic needs, as indicated in Figure 2 below.

Food

The first criterion in this value group is the provision of year-round, adequate, and nutritious food, and improving nutrition and food security are priorities of the Heifer Uganda program. There was clear evidence of broad impact in this important area, as 72.6 percent of respondents reported positive change in their staples, 87.4 percent reported positive change in their intake of supplements, and 87.4 percent reported positive change in their protein consumption. In addition to this broad impact, the program also demonstrated substantial reduction in the depth of need in this area. Prior to the Heifer Uganda program, 50.5 percent of respondents reported "critical" needs related to staples (i.e., scoring 0-2.5), 73.7 percent had critical needs for supplements, and 66.3 percent had critical protein needs. Currently, only 6.3 percent of recipients reported critical needs for staples, 8.4 percent for supplements, and 4.2 percent for protein, such that the critical needs were reduced by 44 - 65 percent. Our findings indicated that this impact primarily flows from a combination of the following four elements:

1. Directly providing nutritious food through the milk, meat, or fish from animals given to project recipients. While the programs providing draft animals are an exception, other Heifer Uganda programs provide livestock that directly serve as a valuable source of animal protein that was largely absent in recipient diets prior to the program. Recipients of dairy heifers typically reported consuming no milk prior to the program and 1.5 liters of milk/day per household after receiving their heifer. Similarly, most recipients of fish reported a substantial increase in home consumption of fish (i.e., every other week to several times a week), and most recipients of milk goats reported substantial consumption of goat milk. Recipients of Boer goats also reported an increase in animal protein consumption, but some farmers prioritized expanding their herds, such that the increase was related to enhanced income, not to direct consumption of Boer goat meat. Similarly, most recipients of draft animals reported an increase in consumption of animal protein related to their increased income.
2. Substantially increased crop yields through use of composted manure fertilizer. While the enhanced nutrition directly related to the animal gift is expected, it should be noted that the nutritional and food security contribution of increased crop yields was often substantially higher than the increased animal protein contributed directly through the gifted animal. Project participants in every program reported substantial increases in yields of staple crops such as cooking bananas, cassava, and maize as well as beans related to use of manure fertilizer.
3. Providing vegetable seeds and training to establish kitchen gardens as well as providing seedlings and tree grafting for fruit trees. Recipients in many projects established kitchen gardens and orchards and now grow and eat a wide variety of new fruits and vegetables, including carrots, cabbage, eggplant, okra, and different varieties of local spinach as well as mangos, avocado, papaya, jackfruit, and oranges. These supplemental food sources contributed significantly to the dietary balance of participants.
4. Training in storage techniques and the value of a balanced diet. Slightly more than 61 percent of recipients reported a positive change in storage practices and, while 68.4

percent received "critical" scores (i.e., 0-2.5) for storage prior to the program, 23.2 percent currently have critical storage needs. While noted last, these trainings serve as a foundation for the elements noted above and include training on meal planning to provide a balanced diet, proper food storage techniques to minimize postharvest waste, and the value of storing food through dry seasons (as opposed to selling all the harvest immediately, as some people reported doing previously).

Additional detailed information about the substantial impact of Heifer Uganda related to food needs is provided in the "Income, Assets, and Nutrition" section of this report.

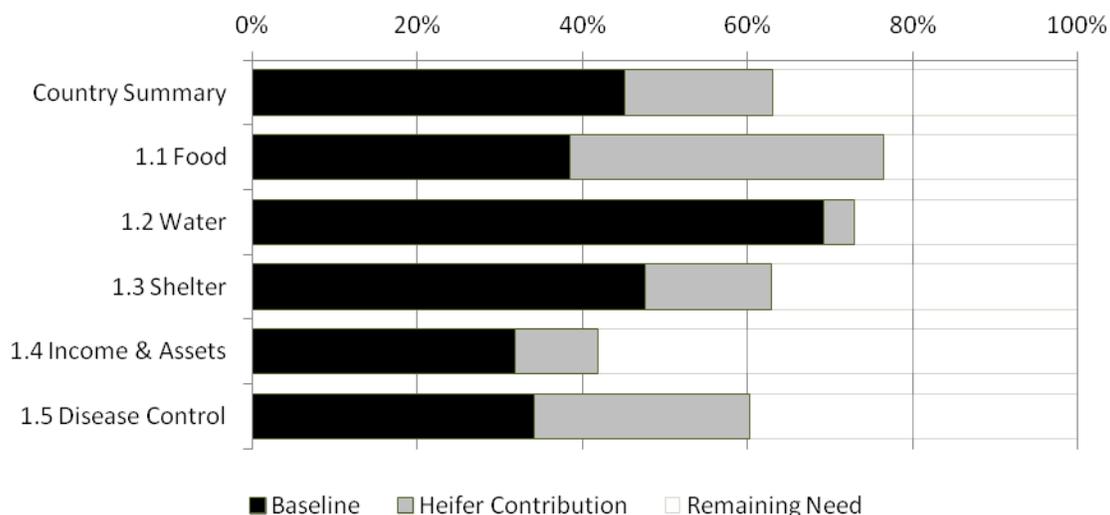


Figure 2. Value Group 1: Meeting Basic Needs (by Criteria)

Water

In contrast to the programmatic focus and impact related to nutrition, Heifer Uganda demonstrated very little impact related to providing safe water throughout the year. Only 12.6 percent of respondents reported positive changes in their access to water, and only 7.4 percent reported positive change in water quality related to the project. While the need in this area varies widely from project to project (and even between recipient families within the same project), 30.5 percent of interviewed recipients still have critical needs related to water accessibility (i.e., family members spend at least 4 hours/day securing water) and 26.3 percent of interviewed recipients still have critical needs related to water cleanliness (i.e., are drinking water of demonstrably bad or variable quality).

Shelter

The increased income that many recipients received due to the Heifer program was often invested in enhancing the family's home, thus addressing the third criteria. More than 29 percent

of respondents reported improvements in their roofs, 33.7 percent reported improvements in their flooring, 33.7 percent reported improvements in their walls, 53.7 percent reported improvements in their latrines, 52.6 percent reported improvements in their cooking fireplaces, and 22.1 percent reported improvements in their windows. Additionally, 34 percent reported improving the overall size of the home through additions and/or construction of entirely new homes, as illustrated in the “family profile” above.

Income & Assets

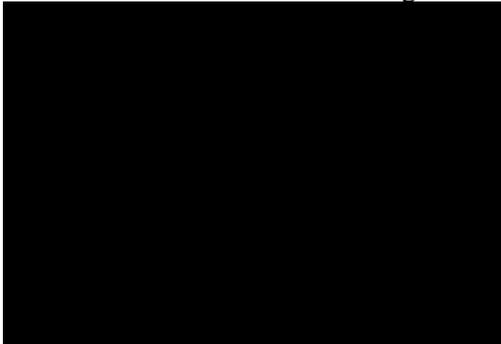
Given changes in this year’s evaluation methodology, the measure of “Income and Assets” in Figure 2 is not the most thorough representation of this important program impact. The gains in this area appear small, but as discussed under “Income, Assets, and Nutrition” below, they are quite significant. The small impact indicated in Figure 2 derives mostly from the increase in access to health care due to families’ increased incomes.

Disease Control

Finally, while Heifer Uganda is not a medical organization, every project included elements of training or resources that reduce the prevalence or consequences of life-threatening diseases. Members reported a 41.4 percent increase in access to healthcare because of the project, largely due to increased income and ability to pay for medical services. In addition to extra income, the impact Heifer Uganda demonstrated in this area is related to these:

- Improved nutrition of members resulting in advances in overall health status
- Training to reduce the stigma of HIV/AIDS sufferers and improve the community’s capacity to care for the sick
- Encouraging the use of mosquito nets and increasing income to help people buy them
- Partnership with other NGOs to address health needs
- Trainings and promotions for better hygiene, including constructing “tip taps” (see below vignette), building of sanitary latrines and bathing structures, and cleaner household and outside areas.

“Tip tap” - foot lever tips water container for hands-free washing



Profile 2

A very important, unique, and “low tech” strategy being endorsed by Heifer Uganda is the building of “Tip taps,” which were found outside of latrines in all project areas. This device is operated by stepping on the “pedal” (a short stick with string wound around it) that is attached to a simple plastic bottle containing water. When stepped upon, the bottle tips, allowing a slow outpouring of water for hand washing.

4.2.2. Value Group 2: Livestock Care and Management

The criteria for Value Group 2: Livestock Care and Management can be viewed in Figure 3. The criteria represent work in which Heifer has unique expertise. As such, impacts in this area are the highest of the six value groups, with Heifer Uganda addressing 68.7 percent of the need found at the time it began its work in the eight community projects visited.

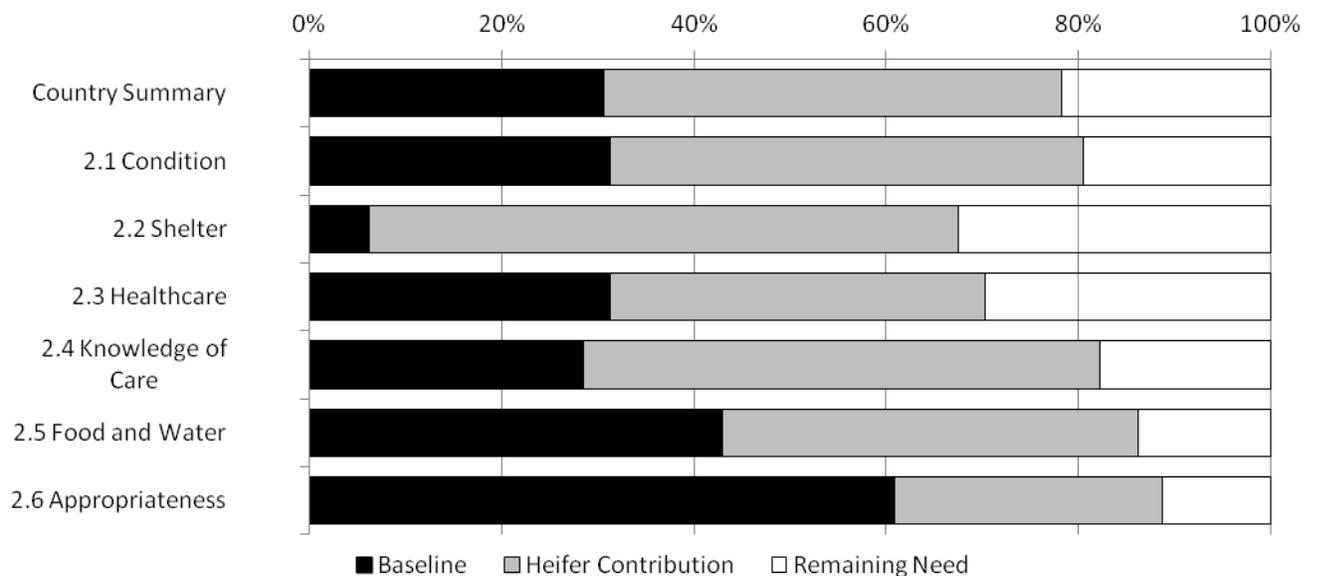


Figure 3. Value Group 2: Livestock Care and Management

The notable gains in livestock shelter seen in Figure 3 (85% of respondents reporting positive change) are due in part to the fact that livestock in project areas were previously tethered or free grazing. Now families in all projects have adopted shelter for both project and often for nonproject animals. In addition, Uganda’s animal shelter designs are uniquely impressive when compared with other countries previously evaluated by our team. This is due to the large overall shelter size that includes stalls for various needs (e.g., feeding, milking, and separating offspring) and the inclusion of exercise areas. Wide adoption of these shelters, by project participants and by some nonparticipants, was observed.

The projects visited also demonstrated very strong positive changes in the families’ knowledge, skills, and attitudes toward animal care, with 89 percent of respondents reporting positive change. This is indicative of Heifer Uganda’s practical approach to training. The strong

adoption of new strategies by participants, such as growing fodder grasses to accommodate the zero-grazing strategy, was prevalent in every project. Project families could easily list appropriate feeds for their animals and would often point out where those feeds are now grown. Some also noted purchasing supplemental feeds during the periods when the cow was being milked, although more work could be promoted in this regard.

While there has been a strong positive change in providing water to animals, we observed a weakness in consistent provision of clean water. Many families noted serving water once or perhaps twice a day, but would also note that the animal would drink it down immediately. Another issue was that the quality of water for animals was very poor in some areas, but at least through trainings, a reactive solution in the form of adoption of deworming has taken hold. A proactive solution (providing clean water) would be more effective; but when considering the communities' overall water situations, quality water provision, in healthy quantities, is a difficult issue to tackle, because of the water constraints facing semiarid communities. Even so, the issue must be noted as an area to address.

The evident change in animals' basic needs (shelter, cleanliness, consistent quality food and water) is producing healthier project and nonproject animals for participants. This is clearly evidenced through consistent recipient reports of livestock being emaciated and pathetic prior to project participation. After becoming group members, participating in trainings, and adopting Heifer strategies, their animal values rose substantially (see section 4.3.2), and 83 percent of families visited reported that they currently own healthier animals.

All extension workers in projects we visited had veterinary training and provided veterinary support to project members. Many members reported never having used vet services prior to the project, but there appears to be little hesitation in calling in the vet now. Eighty percent say they appropriately utilize veterinary services now, and the remaining 20 percent utilized vet services previously. Given trainings in managing animal health, most members can recite the signals of poor animal health; and 92.6 percent of the 95 families interviewed feel confident that they can handle common ailments. With the increase of income, participants are more easily able to afford medications and vaccinations, although some did report that animal drugs were expensive. Artificial insemination (AI) has been widely adopted, although there was some discontent as participants noted they must pay for each AI service, while in some communities "natural" service is repeated at no cost if the animal does not conceive. A weakness noted by many respondents in household interviews was the great distances, over difficult terrain, which some extension workers must travel to reach participant farms. If they are physically unavailable to a farmer, extension workers sometimes handle these issues by providing advice by phone and/or referrals to other vets. Nevertheless, a few families reported vet services consistently arriving too late to save a sick animal.

Project livestock as a whole were reported to be appropriate for the local environment, with just a brief mention of dairy goats contracting pneumonia during cold nights. Project animals brought higher value to members (93% reporting positive change) and had the added impact of improving nonproject livestock (for both participants and nonparticipants) through crossbreeding.

4.2.3. Value Group 3: Environment Care and Management

The criteria for the third value group, Environment Care and Management, can be seen in Figure 4. Overall, the evaluation found Heifer to have addressed 52 percent of the need found when Heifer began its work.

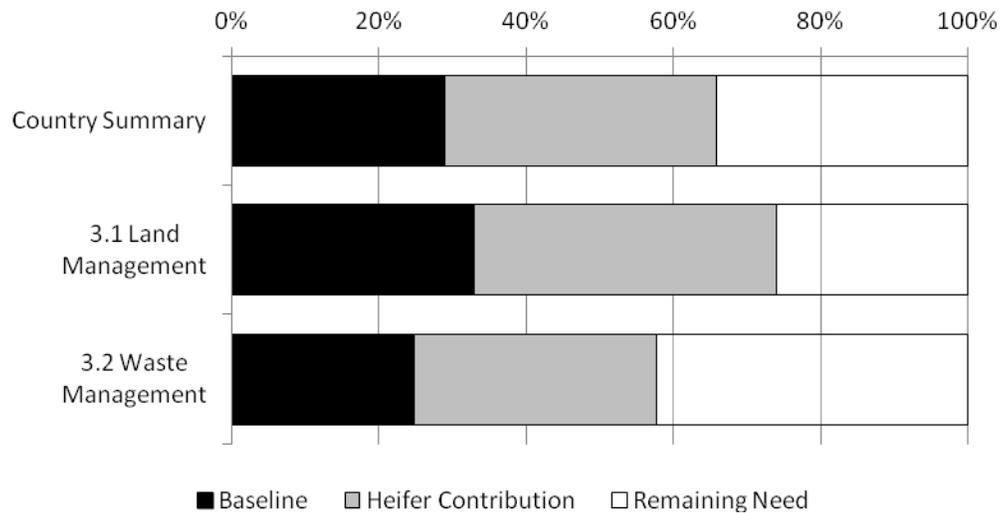


Figure 4. Value Group 3: Environment Care and Management (by Criteria)

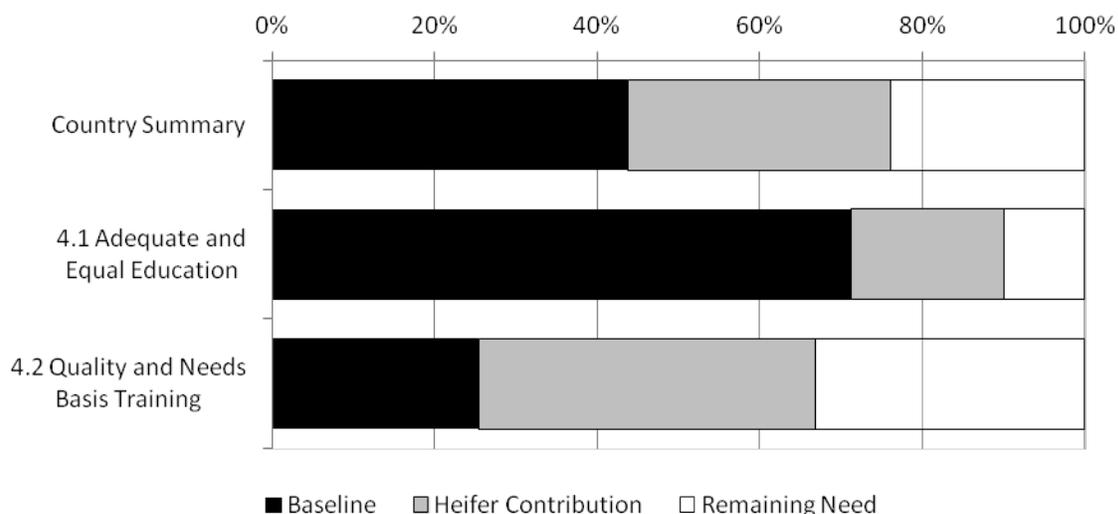
Land management practices have changed dramatically in the project communities visited, with 94 percent of families visited reporting the addition of new crop varieties. All projects have extensive plantings of fruits and vegetables that families were not cultivating before, which are improving family diets substantially. There also was evidence of extensive positive change (91% of families reporting changes) in reforestation and replacement activities, some in very substantial quantities. Watershed preservation was observed at every project with 80 percent of project members interviewed noting positive change, and many members had adopted firewood-conserving cooking stoves. The collection of manure and urine provided the added benefit of almost total avoidance of chemicals on crops (33.7% reporting a positive change), although a handful of members interviewed (6.3%; or 6 out of 95) have recently gone in the opposite direction by using chemical fertilizers for the first time. The use of manure has caught on to such an extent that projects with smaller sized animal gifts (goats and pigs) would often request dairy cows specifically to supplement manure collection, citing the added benefit of milk as an aside.

All projects reported positive changes due to HPI trainings in families’ solid waste management. Observations also bore out the change from “scattering” trash (nonorganic waste) to the Heifer Uganda recommendation of burning and limited burying (74% of families visited had positive change). Homes and lands of project families were often cleaner than neighbors, with many noting the Heifer Uganda promotion of adding (or augmenting existing) attractive landscaping.

The addition of composting organic waste (kitchen scraps) with manure was new to many families (91% positive change), while others had been loosely practicing this strategy (9%). The four families utilizing biogas were complete converts, although there were limited reports of nonfunctional biogas systems. Even so, the families were eager to get them fixed, and other families are extremely keen to integrate the systems.

4.2.4. Value Group 4: Education for a Just and Sustainable World

The criteria for the fourth value group, Education for a Just and Sustainable World, can be seen in Figure 5. Overall, this value group is measured to address 57.6 percent of the need found when Heifer began its work.



Ugandan culture appears to highly value education and supports boys and girls fairly equally in this regard. We noted that 74 percent of households interviewed already sent all children to school equally before the project, while the other 26 percent now also do so. Access to “free” government schools encourages all school-aged children to attend primary school, and we saw no signs or reports of truancy although 19 percent reported being more able to send children now. So, the bigger benefits evidenced in our visits were in the ability of 75 percent of

Figure 5. Value Group 4: Education For a Just and Sustainable World (by Criteria)

respondents to more easily afford government school fees (outside the “free” access), to send children to better quality schools (often private and/or boarding schools), and to keep children in school longer—many now being able to send children to university.

The evidence collected on significant impacts regarding the criterion of Quality and Needs Basis Trainings highly supports Heifer Uganda’s integrated approach to training. This is clearly an area well worth the time and money spent; without this effort many of the impacts in other areas

would be greatly diminished. We heard widespread consensus that trainings are thorough and have very practical applications (99% of those interviewed); are attended by both men and women (89% reported positive change), as well as some youth and family members; are presented in the local language; and are understandable for those who do not yet read and write.

The array of trainings was also well received. The usual strengths in animal husbandry and animal care were apparent with emphases on recognition of animal diseases; zero grazing; animal shelter design and construction; hygienic milking techniques and storage; artificial insemination and proper breeding; at-home record keeping for breeding, milk production, and vaccines (and/or other animal maintenance); and planting appropriate fodder crops.

Outside of the animal care trainings, other prevalent trainings in the integrated approach included balanced nutrition and the importance of adding fruits and vegetables to the diet (including Vitamin A and iron rich foods); hygiene (proper latrine construction and construction of an innovative, simple hand-washing contraption called a “tip tap” found operating at most projects); environmental care (planting trees, construction of firewood-conserving stoves, cutting trenches to control for soil erosion, using cow urine as a pesticide, implementation of organic farming methods, and the use of roof water harvesting); effective, organic agricultural practices (use of animal manure/compost for fertilizer, planting “kitchen gardens” with a wide variety of vegetables such as spinach, eggplant, carrots, cabbages, onions, and other local greens and effective organic practices for banana cultivation). The training on kitchen gardens included Heifer Uganda provision of seeds and introduction of many new vegetables (i.e., carrots, onions, eggplant, and new varieties of spinach and cabbage).

The Cornerstone training was not clearly recognized by participants as such, although there was demonstration of strong implementation of some Cornerstones such as care for animals and the environment. Thus, it appears that the overall focus of the project was much more on practical agricultural concerns than on creating a strong “group ethos” related to the 12 Cornerstones, as has been evident in other country programs we have evaluated.

Within the array of trainings in Uganda, the trainings on self-reliance are a particular strength. They focus on strategies to increase outside partnerships and support (65% reporting positive change), as well as trainings in business and accounting, which support the members’ entrepreneurial spirit and encourage activities such as opening restaurants, stores, and other small businesses like brick making.

Overall, the members want more trainings of all kinds and have requested written materials to take home (pamphlets). They noted this would enable better retention of information, more thorough training of family members, and allow for more solid advice to neighbors (nonmembers). A weakness within Heifer Uganda’s strong training approach is the absence (or limited reach) of “service specialists” within the groups. This model would be especially effective in projects spread over large geographical areas. Training animal care specialists in each zone could alleviate some of the pressure on extension workers and could also meet the training needs of long-standing members by allowing for added sophistication in their knowledge and practice. The Buyamba project appeared to be the only one with a strong service specialist

base. Perhaps this could encourage continued group participation long after gift receipt and fulfillment of pass-on obligations.

4.2.5. Value Group 5: Empowerment of Family and Community

The criteria included in Value Group 5 include several values expressed in the 12 Cornerstones and, as such, include many of the high priority and distinctive elements of the Heifer Uganda program.

The criterion “participation in decision making” is related to eliminating race, religion, gender, or literacy discrimination in group leadership. As indicated in Figure 6 below, there was very strong evidence that Heifer Uganda has substantial impacts in this area. This impact was especially apparent in gender equity, as several visited groups had very capable and confident women in leadership positions. The primary weaknesses in this area included a hesitation in several groups to include illiterate people and small numbers of youth in leadership capacities.

Several of the visited projects were directly targeted toward women, and Heifer Uganda has widespread and significant impacts related to gender equity; 89.1 percent reported positive changes related to participation of men and women in trainings, and 69.7 percent reported positive changes related to gender equity of animal ownership. That said, the baseline for this criteria was substantially higher (and the corresponding impact smaller) than other criteria for two reasons: many communities indicated comparably high levels of gender equity prior to the Heifer Uganda program, and the efforts of other NGOs and government programs raised the overall community average. Within this context, both men and women reported that the animal ownership provided through the Heifer Uganda program (either to a woman or to the entire family) precipitated a marked shift in gender and family dynamics. While in some cases the shift was away from male dominance specifically, many participants reported that the program precipitated a broader shift toward an integrated family dynamic and away from an “everyone for themselves” autonomy experienced prior to the program. Similarly, there was broad evidence of women’s increased status and participation in family decision making, as 65.6 percent of respondents reported positive changes related to family decision making. Participants in every project referenced how they now “sit together” to make important financial and family decisions. The trainings and relationships that some of the extension agents established with participants are clearly significant in this area, as some recipients even reported calling the extension worker to help moderate marital disputes. The primary weakness in this area is that only a few projects had youth leaders or a functioning youth group.

The community spirit criteria include passing on the gift (POG), working on community projects, and helping others. Eighty percent of respondents indicated that they had passed on the gift, 44.2 percent indicated positive change related to working on community projects, and 87.4 percent indicated positive change related to helping others due to the Heifer Uganda program. While the POG rate noted above was related to animal gifts, many respondents also noted that they are “passing on the gift” of knowledge through sharing the trainings they received and/or increasing the value of community members’ livestock by breeding their exotic animals with local livestock. While there was an overall high rate of POG implementation, there was also

marked variation in extent/quality of POG between projects; the dairy cow and goat projects were relatively strong, and the draft animal component of the UMOJA project and the fish project in Kamwenge were weak.

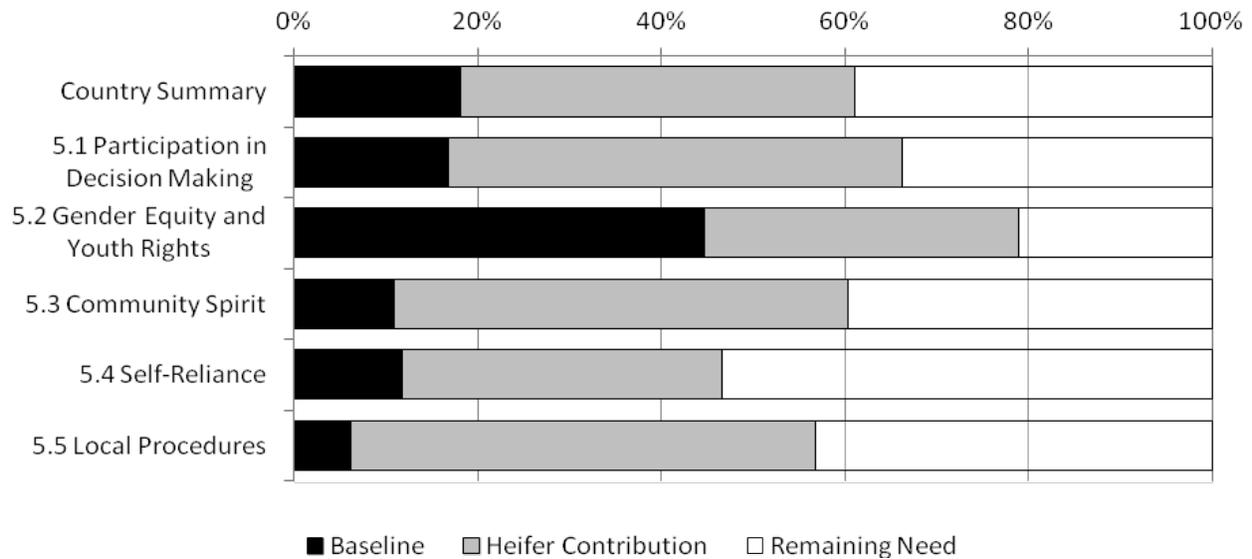


Figure 6. Value Group 5: Empowerment of Family and Community

The impact on self-reliance was smaller, but nonetheless still pronounced, as compared with other criteria in this value group. Slightly more than 41 percent reported positive change related to diversifying their incomes, such as increasing the scope and diversity of their farming activities and/or starting other businesses as a result of their training, such as beekeeping, or establishing stores, restaurants, or tree farms. Nearly 34 percent of respondents reported positive change related to establishing outside commercial relationships, but the impact in this area was very uneven between the visited projects; 56 percent of the impact was reported in the three projects of Nyabushozi, Kamwenge, and Kinkizi.

Finally, “local procedures” addresses issues surrounding group structure and systems to ensure full participation. Heifer Uganda showed strong impacts in this area, since most groups started with very little in this regard and now have constitutions, evidence of women and youth participation, and reasonably transparent accounting procedures. Outside monitoring of finances was generally a weakness, because most group members were content to leave all financial issues to their leadership group without monitoring. The Kamwenge project was an exception, as members reported a robust system whereby members monitored the finances and work of the leaders.

4.2.6. Value Group 6: Systems and Policy Improvements

The evaluation’s assessment of Heifer Uganda’s impact on the local community and region in which the program operated was based on triangulating the findings from three constituent groups: the group meetings with project participants, meetings with group leaders, and interviews with project extension agents. Several projects reported that group members were serving in leadership positions in local government and/or other local programs because of their confidence, increased prominence, and newly gained leadership skills learned through participation in the Heifer program. Additionally, many projects reported that nonparticipant community members had adopted various Heifer values or program goals, such as zero-grazing, manure use, and caring for the environment through planting trees and building energy-saving stoves.

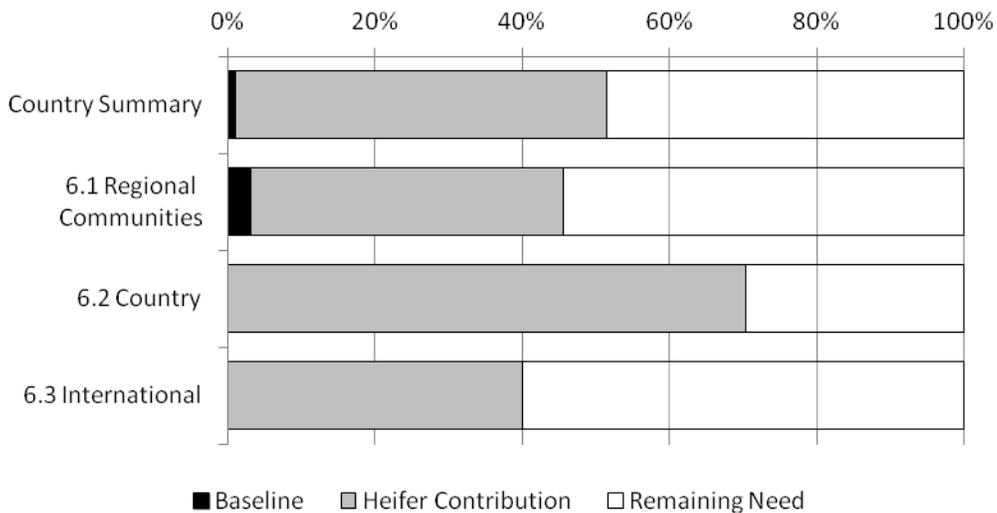


Figure 7. Value Group 6: Impact on Larger Community

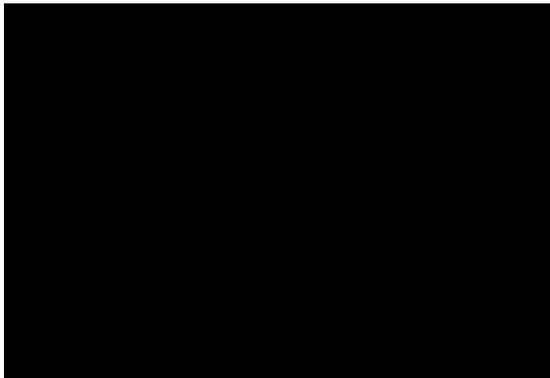
The considerable impact Heifer Uganda has had at both the national level within Uganda and the international level in the broader East Africa region was first outlined in the introductory meeting with Heifer Uganda staff and confirmed through the independent Above the Ground study included in this report. That report includes substantially more detail on this criterion and additional support for the impact measured in the final two criteria, which include the collaboration and influence Heifer Uganda has had on the following:

- [Redacted text]

Additionally, Heifer Uganda has played an ongoing role in Heifer Project International operations outside Uganda, including supporting the establishment of Heifer Project International Rwanda and providing Boer goats to Heifer's Tanzania program. These factors indicate that Heifer Uganda has had strong impact at both the country and international levels, as is further detailed in the Above the Ground section of this report.

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Profile: Ugandan Woman Kamwenge Fish Project

Care for the environment is one of the 12 Heifer Cornerstones, and Heifer farmers across Uganda have been planting trees, switching to organic and zero-grazing farming methods, composting, cleaning up trash, and doing what they can to conserve and protect natural resources. While every effort to improve the environment is a valuable contribution, one woman stands out for the scope of her contribution in this critical area.



This woman lives with her husband in the Kamwenge district of southwest Uganda, a region known for lush, fertile hills that grow a variety of crops including coffee, bananas, maize, and pineapple. The Heifer project in this district started in 2005 and provided a limited number of large Boer goats from South Africa and a broader distribution of tilapia and catfish to help establish fish farms. This woman received a nanny Boer goat in 2006 and started her fish farm in 2008; her first harvest of fish in

2009 generated a profit of approximately \$1,040. She invested these profits toward three priorities – building three new fish ponds, buying a Boer buck to crossbreed with her local goats, and school fees for her children.

Some of the 25,000 Pine Trees



After that initial harvest, she decided to restock her ponds with tilapia fry only because catfish cost much more and eat the tilapia fry, which undermined the new business plan she developed by that time: selling tilapia fry directly to other fish farmers in the area. Tilapia is among the most prolific of commercial fish species, so her four fish ponds provide a substantial and consistent source of tilapia fry and income of about \$175/month (\$2,090/year) which is double the profit she received from harvesting fully grown fish. (As a comparative reference, she also sells 4,400 pounds of dried coffee berries for \$835/year.)

With the comparably large, stable source of monthly income from selling tilapia fry, the woman was able to make an even larger investment in both the environment and her financial future; she secured a loan from a government program to purchase 25,000 pine and 5,000 seedlings of eucalyptus and planted them on the 100 acres she owns with her husband.

While each of the 12 cornerstones is an essential part of Heifer, ‘passing on the gift’ is the most widely known. This woman has not only passed on the gifts of fish and a Boer goat to other members of the Heifer group in Kamwenge; she has also passed on to the broader environment by the way she used her income from selling fish to plant 30,000 trees.

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4.3. Income, Assets, Nutrition, and Cost-Effectiveness

As noted above, the evaluation included an effort to estimate families’ gains in income, assets, and nutrition due to Heifer Uganda’s programs, which were drawn upon to analyze the country program’s cost-effectiveness.

4.3.1. Income

Each household interviewed was asked to estimate the income the family received in the last year, net of expenses, arising from the original animal gift. Evaluators identified the different forms of income—such as milk, sale of meat animals (in Uganda, this was pigs or goats), and increased crop production due to the addition of manure as fertilizer—and we worked with the respondent to estimate the quantity of income from each income stream. When families had made investments with income from the animal gift, such as in other livestock or crops on new land, these were counted as separate income streams. Increased crops were valued at their sale price, or, if consumed, at what they would have sold for at the time. We also asked respondents for their related cash expenses, such as for deworming medicine, supplementary animal feed, and any paid labor, and expenses were deducted from the income. Monetary sums were converted from Uganda shillings to U.S. dollars at the current exchange rate, 2400:1.

As noted in Table 3, the average member household had an income gain of \$1,456 in the year preceding the interview due to the Heifer project. Income gains for Kamwenge and Jinja were particularly high because in each of these projects a few farmer respondents had made significant new investments with income from the animal gift. For example, one farmer in Jinja had purchased new land and started farming passion fruit from which he had earned over \$4,000 in the last year in addition to \$1,400 from milk sales. His passion fruit yields were particularly high because of regular fertilization with cow manure. A farmer in Kamwenge had purchased a six acre coffee farm with income from her fish farm, and she had learned from the Heifer project to fertilize her coffee with animal manure. Her net income from coffee was \$5,000 in the last year. Some animal gifts had died without producing offspring, and a few farmers had zero income gains. Total income gains from increased crop yields, due mainly to addition of fertilizer from animal manure, exceeded total income gains from milk and animal sales.

Table 3

Average Income Gains (from Last Year) per Household by Project

Project	Number of Households	Average Income Gain per Household (US\$)
Bunsunju	12	\$757
Bulyasojo	12	\$1,343
Jinja	12	\$1,974
UMOJA	11	\$1,189
Buyamba	12	\$812
Nyabushozi	11	\$1,170
Kamwenge	12	\$3,367
Kinkizi	12	\$1,082
Total	95	\$1,456

Given the interview method, with farmers describing gains based on recall, the results must be taken as approximations. Farmers sometimes may have inflated gains to appear more impressive or to make the project appear more successful. In some cases, in the absence of the project, farmers might have found other ways to finance investments, reducing the gains that can be attributed to the project. However, farmers may also have underestimated gains in some cases—for example, if they wanted to demonstrate greater need. The evaluators generally gained the impression that farmers were trying to estimate gains accurately. We believe it is most likely that the true value of economic gains for interviewed farmers lies within 10 or 15 percent of our calculated averages.

Table 4

Average Income Gain in One Year Per Animal

Animal	Total Received by Sampled Households	Total Income (US\$)	Average Income Per Animal (US\$)	Income from Animal as % of Income From One Cow
Cows	42	\$55,192	\$1,314	100%
Bulls (draft)	5	\$6,779	\$1,356	103%
Dairy goats	13	\$8,933	\$687	52%
Boer goats	11	\$12,869	\$1,170	89%
Fish ponds	12	\$40,403	\$3,367	256%
Pigs	13	\$12,983	\$999	76%

Table 4 shows average income gains by animal based on all the animals received by households that were interviewed for the evaluation. Here an “animal received” refers to original animal

gifts or pass-on animals. There were 13 dairy goats in Buyamba and 13 pigs in Kinkizi from 12 households in each project because in each case 1 family had received 2 animals, a male and a female. Recall that any income due to the Heifer project is counted here for the animal gift, and most of the income is directly attributable to the animal, but a small proportion is not. For example, income from vegetable and fruit sales are from gifts of vegetable seeds and tree seedlings, and in some projects increased income was due to their training in and adoption of zero grazing for local cows and goats.

Table 5 summarizes animal placements by Heifer Uganda, including both original animal gifts and pass-ons, during the period from fiscal year 2004-05 through fiscal year 2009-10. It shows that during this period, families received 3,021 cows, 1,647 bulls, 1,573 dairy goats, 2,112 Boer (meat) goats, 78 fish ponds, and 165 pigs. In addition, families received 308 rabbits, 650 beehives, 6,016 local goats, and 415 Boer crossbreed goats. Because the evaluation team did not visit any projects with these animals, they are excluded from our analysis. Based on the value to a family of each kind of animal calculated from our survey, we find that Heifer Uganda delivered 7,740 cows or cow equivalents in other animals during this period. During these fiscal years, the total expenditures for Heifer Uganda’s standard village programs (excluding expenditures for the new East Africa Dairy Development Project and Bukedea Women’s Literacy Project) total \$6,918,892. Dividing total expenditures by the number of animal gifts and pass-ons (cows and cow equivalents, excluding rabbits, beehives, local goats, and Boer crossbreeds), we find that during this period it cost Heifer Uganda \$894 on average to get a cow or a cow equivalent to a household. It cost less than this if the value of rabbits, beehives, local goats, and Boer crossbreed goats were included.

Table 5
Animal Placements by Heifer Uganda, FY04-05–FY09-10, and Cow Equivalents

Animal	Animal Placements FY04-05 – FY 09-10	Animal Value as % of 1 Cow	Cow Equivalents of Animals Placed
Cows	3,021	100%	3,021
Bulls (draft)	1,647	103%	1,696
Dairy goats	1,573	52%	818
Boer goats	2,112	89%	1,880
Fish ponds	78	256%	200
Pigs	165	76%	125
Rabbits	308	NA	NA
Beehives	650	NA	NA
Local goats	6,016	NA	NA
Boer crossbreed goats	415	NA	NA
		Total:	7740

[NA = not available]

While it cost Heifer Uganda less than \$894 to get a cow or cow equivalent to a household, the evaluation found that in the year preceding the survey, average income gains to families from a cow or cow equivalent came to \$1,314. By contrast, evaluations of Heifer country programs in Ghana (2008) and Tanzania (2007) found that it cost the Ghana program \$2,202 for an income gain of \$841 a year and Tanzania \$1,200 for \$750. This means that at the times of the respective surveys, it took project families, on average, over two and a half years in Ghana and those in Tanzania over one and a half years to gain the income value equal to HPI expenses associated with their animal. In Uganda, it took only a little more than eight months. Income from a cow was \$841 in Ghana and about \$750 in Tanzania compared with \$1,314 in Uganda; and income from a goat was \$407 in Tanzania and only \$28 in Ghana compared with \$687 for a dairy goat or \$1,170 for a Boer (meat) goat in Uganda. The Ghana program is younger than the Uganda program; many sampled families in Uganda had more years of animal ownership, and Heifer personnel in Uganda had more years of experience. Particularly low income gains for goats in Ghana were partly due to high death rates, while animal death rates in Uganda were low. Altogether, as we discuss below, we find that HPI's Uganda country program is highly cost-effective.

4.3.2. Assets

As noted above, this year evaluations of HPI country programs carried out by teams from Western Michigan University for the first time included estimates of asset gains for families that are members of HPI projects. Investigations of assets had two components: (i) an asset baseline, or a rough estimate of the total value of assets owned by the family at the time they received their animal gift, and (ii) an item-by-item list of assets gained since they received the animal due to income from the animal (as well as due to any income from other parts of the Heifer project) and the value of each asset acquired.

Table 6
Average Asset Baselines and Asset Gains by Project

Project	Number of Households	Average Asset Baseline (US\$)	Average Asset Gain Per Household (US\$)
Bunsunju	12	\$5,000	\$1,500
Bulyasojo	12	\$5,500	\$3,600
Jinja	12	\$9,200	\$3,100
UMOJA	11	\$5,500	\$2,500
Buyamba	12	\$2,900	\$1,400
Nyabushozi	11	\$10,800	\$5,800
Kamwenge	12	\$6,700	\$6,500
Kinkizi	12	\$2,100	\$2,600
	Average:	\$5,900	\$3,400

Anticipating that estimates of asset baselines would be extremely rough, for each Heifer country program we developed a 5-point scale, with half-point divisions, where a score of 5 would represent “adequate assets” for the country. These scales were developed by evaluators in discussion with staff from the Heifer country team prior to the first project visit. In these meetings evaluators asked Heifer staff to list the kinds of assets members of their projects were likely to have and to estimate typical cost prices or economic values of these assets. A score of 5 was established to represent the value of assets likely to be owned by a well-off rural household, consistent with the scales for indicators within the six value groups, where a score of 5 indicates a “completely adequate” condition. In Uganda, a score of 5 turned out to correspond with assets valued at 50 million Ugandan shillings, or about \$21,000 U.S. dollars, a little more than 40 times the country’s average per capita income. Hence, an asset baseline score of 2 would represent assets valued at about US\$20 million, a score of 0.5, 5 million Uganda shillings, and a score of 0 would indicate baseline assets valued below 2.5 million Uganda shillings (about \$1,000). Since 5 was the maximum score, the three or four surveyed households with asset baselines over USh50 million received baseline scores of 5.

As when estimating gains in income, evaluators worked with respondents to list assets the family had gained since they received the income from the animal gift. In the event that an asset was purchased with income from other sources as well as from the animal gift, evaluators counted the asset value as the part of the purchase price that came from income due to the animal gift. Respondents’ answers to these questions must be taken as very rough estimates, given that they are based on recall and require judgments of proportions of purchase prices coming from specific income streams. Also, some respondents may have given too much “credit” to the project because they may have wished to portray the project in a positive light. In a few cases, following the interview, evaluators reduced listed values of asset gains to reflect values the evaluator considered more plausible.

Assets for the baselines were made up mostly of land (plantations), houses, and livestock. Evaluators included furniture, bicycles, farming equipment, cell phones, and other “incidental” assets, but they made up a small proportion of total baseline asset values. Evaluators tried to value land and homes at the price the respondent thought they could fetch in the current market, but respondents sometimes may have given prices from earlier years. The original animal gift, if living, was always included as an asset gained, but if the family had offspring from the animal gift that they planned to pass on, this animal was not (or these animals were not) counted as assets. However, other offspring from the animal gift and their offspring (if still owned), were counted as assets gained. Evaluators also counted expenses for school fees and major health care expenses as “assets gained” on the ground that these expenses contributed to the family’s human capital. The major categories by value of assets gained were livestock, school fees, land (or “plantations”), and new homes.

Table 7
Average Asset Gains Per Animal

Animal	Total Received by Sampled Households	Average Asset Gains Per Animal (US\$)	Assets from Animal as % of Assets From One Cow
Cows	42	\$2,960	100%
Bulls (draft)	5	\$942	32%
Dairy goats	13	\$1,305	44%
Boer goats	11	\$6,286	212%
Fish ponds	12	\$6,541	221%
Pigs	13	\$2,430	82%

It is notable that average asset gains (\$3,400) are a little more than twice the value of gains in income over the previous year (\$1,456). On average, interviewed families received their animal gifts about three and a half years prior to the survey, indicating that families are allocating more than half their gains in income to new assets. Altogether, the average family has increased the value of its assets by more than 50 percent because of the Heifer project.

Table 7 shows average asset gains by type of animal. While income from bulls is roughly equal to that from cows, asset gains from bulls are about a third of those from cows. It is not clear what causes this difference, but our sample of families with bulls was small, so averages for bulls should be interpreted cautiously. In contrast, asset gains from Boer goats are twice those from cows, while average income gains from Boer goats are only about 90 percent those from a cow. This is because many farmers who received Boer goats are breeding them successfully and expanding their herds (rather than selling the goats); a large part of asset gains for these families are made up of expanded goat herds.

4.3.3. Nutrition

As noted above, while evaluations of Heifer country programs in prior years assessed nutritional gains at the project level, this year nutritional gains were assessed at the household level. Scales for estimating baseline and current nutritional standards also were revised. Scales for staples, supplements, and protein range from zero to five (with scores also in half units).

Staples

0. No access to staples
1. One meal of staples per day through much of the year, or two meals, but usually not enough to satisfy
2. Mild shortage of staples year-round
3. Two or three meals of staples per day year-round, but at least once a week; or for some period, such as a hungry season, not enough to satisfy

4. Three meals of staples per day year-round, but occasionally not enough to satisfy
5. Enough staples year-round

Supplements (vegetables and fruits)

0. No access to fruit or vegetables
1. One serving of fruit or vegetables once per day through most of the year
2. Severe shortage of fruit and vegetables for part of the year
3. Two servings of fruit or vegetables per day for most of the year
4. Three servings of fruit or vegetables per day throughout the year, rarely have less
5. Enough fruit and vegetable year-round

Protein

0. No access to protein
1. One unit of protein or less per person per week
2. Three units of protein per person per week, shortage part of the year
3. One unit of protein per person per day, shortage part of the year
4. One unit of protein per person per day
5. Two or more units of protein per person per day

[One Unit of Protein: 3 oz. meat/poultry/fish; or 3 eggs; or 3 cups milk; or 3/4 cup (cooked) beans or split peas/lentils (dal) or soybeans; or 3 tablespoons peanut butter]

No household received a score of zero for staples. Although scores for protein are described in protein units, evaluators made no attempt to weigh or measure servings of protein. Rather, evaluators asked how many times in a week or day the household had beans or groundnuts and how many times in a month or week they had eggs, milk, fish, beef, or some other animal protein. Evaluators also asked about periods of shortage during the year.

Table 8
Average Nutritional Gains by Project

Project	Staples		Supplements		Protein	
	Baseline	Gain	Baseline	Gain	Baseline	Gain
Bunsunju	2.9	1.2	1.5	2.0	2.4	1.8
Bulyasojo	3.9	0.8	2.3	2.0	2.8	1.8
Jinja	3.1	1.2	2.2	2.0	2.5	1.8
UMOJA	2.0	1.9	1.8	1.9	1.9	1.4
Buyamba	2.4	2.2	1.8	2.1	2.3	1.8
Nyabushozi	3.2	1.2	2.1	1.9	2.1	1.6
Kamwenge	3.5	1.4	2.7	1.6	2.8	1.9
Kinkizi	2.1	2.3	1.5	2.8	1.8	2.4
Average:	2.9	1.5	2.0	2.0	2.3	1.8

Data from Table 8 indicate that families in the UMOJA and Kinkizi projects were significantly undernourished before the Heifer projects and have greatly improved their nutritional conditions; this result accords with evaluators' observations and impressions from these projects. All projects are succeeding in reaching families with significant nutritional shortfalls. It should be noted that Heifer projects in Uganda receive training on improved nutrition, including information about widely deficient micronutrients such as iron and vitamin A. In interviews, respondents frequently mentioned the importance of nutritional trainings for encouraging them to adopt vegetable gardens and to increase fruit and vegetables in their diets, as well as heightening their awareness of the importance of good nutrition for infants and young children. Most project families have either adopted vegetable gardens for the first time or added new kinds of vegetables to their gardens, many have planted new fruit trees, and most now use composted manure to increase yields of vegetables and fruit. We have noted that adding fertilizer from animal manure greatly increases yields of cooking bananas, maize, beans, groundnuts, and other food crops.

We know from national statistics that the majority of Ugandans face nutritional shortfalls. Data in Table 8 are consistent with the majority of members of Heifer projects falling in the lower 50 percent of Ugandans in nutritional terms at the time they receive their animal gifts. Participation in the Heifer project usually leads to significant nutritional gains, so after a few years most project members are likely to be in the upper 50 percent of Ugandans in nutritional terms.

We also have noted that 38 percent of Ugandan children under 5 years of age suffer from chronic malnutrition (stunting). In 2006, 39 percent of children under 5 were stunted nationally, while regional stunting rates were these: Central 33 percent, Eastern 37 percent, and Western 44 percent. In all likelihood stunting rates in project households at the time they received their animal gifts were higher than regional averages. We can infer that before the projects, more than half of the children in project households likely were stunted. Given the nutritional gains indicated in Table 8, the proportion of stunted children is likely to have been reduced at least by half. Sampled households at the time of the interview had cared for 182 children under the age of 5 since they received their animal gift, for an average of 1.9 children under 5 years per household. If we take it that at least half of these children (drawing on data from Table 8) are not stunted now but would have been without the project, we find that at least 91 children in sampled households are likely to have avoided nutritional shortfalls leading to stunting because of the Heifer projects.

During the period from fiscal year 2004-05 through fiscal year 2009-10, Ugandan families received 8,596 animals (or fish ponds) as original animal gifts or pass-ons (excluding local goats, Boer crossbreed goats, rabbits, and beehives) due to HPI. While a few families received two animals, such as a male and female goat or pig, most families received only one. The number of families that received two animals is more than offset by the number of project families that received animals not included in this evaluation. Assuming that members of Heifer projects across Uganda experience nutritional gains similar to those of the households sampled for the evaluation, we can estimate that at least 8,166 children are likely to achieve stature near their genetic potential (i.e., avoid stunting due to nutritional shortfalls) due to Heifer Uganda's projects.

4.3.4. Cost-Effectiveness

From the roughly \$7 million HPI spent in Uganda from fiscal years 2004-05 through 2009-10, project families are likely to gain at least \$10 million in additional income (including the value of increased food crops consumed) in a single year. Since some of these HPI projects are younger than those visited in this evaluation, gains in the last year for families that received these animals are likely to be less than \$10 million. But families that received animals before fiscal year 2004-05 will also have had income gains, and we have not included gains from local goats, Boer crossbreed goats, rabbits, or beehives. Also, income gains from animals received from Heifer projects are ongoing. Over three years they would sum to over \$30 million, or more than four dollars increased income for every dollar spent.

Estimates of income gains are only approximations, and there is likely to be some bias in reported gains. The evaluation visited only 8 of HPI's more than 70 projects in Uganda, and the selection of households to interview was less than completely random. Nevertheless, the randomization that did take place can be expected to have led to a robustly representative sample, and we have no reason to expect significant systematic negative or positive bias. We believe our estimates for national impacts are within 15 or 20 percent of the true values, and this is sufficient to support our conclusions.

We have noted that over the three and a half years (on average) since they received their animal gifts, project families experienced gains in assets worth more than double their gains in income in the past year. Across Uganda, HPI project families are likely to gain assets worth at least \$20 million due to the \$7 million HPI has spent in the country on its standard projects over the last six years. Also, when families first receive an animal gift, on average they own assets worth about \$5,900. After their gift and other supports from Heifer, over the next three and a half years the value of their assets increases, on average, to about \$9,300. (Recall the asset baselines do not include education or health, but asset gains do include school fees and health care expenditures.)

Most project families are significantly undernourished at the time they receive an animal gift, and probably at least half of their children are stunted due to nutritional shortfalls. Because of increased income from project animals, milk, vegetable gardens, and fruit trees that the project encourages and assists farmers to plant, improved sanitation, and nutrition education, nutritional standards improve dramatically among project families. Besides impacts on incomes and assets, the \$7 million HPI has spent in Uganda over the last six years is likely to cause more than 8,000 children to avoid stunting.

In addition to impacts on the incomes, assets, and nutrition of project families, Heifer projects also support adoption of fuel efficient stoves, biogas plants, and various activities to improve environmental sustainability in project areas. These lead to additional economic and health impacts. The evaluation only estimates gains to project members, but nonmembers also experience gains. These arise from crossbreeding local animals with "exotic" animals from Heifer; nonmembers learning "project messages" from project members; and increased availability of milk, fish, meat, fruit, vegetables, and staple crops in local markets because of project members' increased production.

Altogether, we can conclude that Heifer Project International operations in Uganda are extraordinarily cost-effective at reducing poverty and improving the lives of farmers.

4.4. Synthesis of Findings

The evaluation indicates that Heifer Uganda is achieving very important and highly cost-effective impacts. Based on the selected sample of projects, we find Heifer Uganda to be a strong organization with generally high management standards. All projects visited appear to have been well managed, and we found no evidence of significant management failures.

5. Recommendations

Our recommendations mainly aim to build on the strengths of Heifer Uganda's current program. As this was primarily an impact evaluation, it included no investigation of detailed management practices (separate from HPI's overall management approach). Also, as external evaluators, we lack much information on the strategic context that HPI faces in Uganda, so our recommendations should be taken more as suggestions for consideration than as directives to be rigidly applied. Nevertheless, we believe our recommendations could lead to significant gains in impacts and improvements in the well-being of Ugandan families in the long run.

- We strongly recommend occasional ongoing contacts with projects after the end of the monitoring period, such as with higher levels of training for long-term members, soliciting proposals from weaned groups for small projects and awarding funds on a competitive basis, and/or giving modest awards for POG milestones. The practice of Passing on the Gift is well established in HPI projects in Uganda. Nevertheless, with a standard project involving three years of direct support followed by a two year monitoring period, after five years many groups are just beginning to build an independent identity. We believe that continued ongoing support on an occasional basis would enhance groups' long-term sustainability, encourage them to address additional development challenges and, in particular, that it would support continued Passing on the Gift and hence ongoing increases in project impacts.
- Promote zero-grazing-compost synergies within Uganda's broader development community (government, donors, NGOs, Makerere University). At the national level Uganda has seen little improvement in agricultural productivity over the last decade, but project farmers are improving the productivity of specific crops with composted manure, often by 200 to 300 percent. Particularly large and widespread gains were seen with cooking bananas (matoke).
- Continue to reinforce the benefits of organic measures as opposed to chemicals for fertilizer and pest control.
- The core model is working – keep a substantial focus on it. Approach more ambitious strategies that build on strengths cautiously.

- Establish groups in smaller geographic areas. Group members are spread over wide areas in most of the projects we visited. This raises costs for all project activities. There are fewer opportunities for building social capital or community spirit, and we found adoption of values from the Heifer Cornerstones to be weaker than in other countries that members of the evaluation team had visited, where Heifer group members live closer to one another.
- Train group specialists (especially with para-vet training for each subcommunity).
- Water is the constraint that farmers mention most often, but Heifer has little programmatic strength in this area. Consider alliances with other development organizations to add water programs to some projects.
- Also consider more alliances (stronger promotion) of biogas if supported by economic analysis and comparison with increased promotion of energy saving stoves. Both biogas and energy saving stoves appear to be important and successful initiatives, and their importance is likely to increase with future population pressure on the land. Additional analysis of their respective impacts and cost-effectiveness could support expansion of biogas and energy saving stove programs.
- Our single project with draft animals indicates the need for improving the Pass on the Gift model for these animals. While groups of farmers receiving original gifts of draft animals also received a plow, pass-on groups did not.
- The Pass on the Gift model for fish was also found to be weak. Some farmers expected to pass on 30 percent of the value of their original fish farm gift, and some did not appear to expect to pass on at all. We found the fish project to have significant impacts attributable in large part to the adoption of strategies learned through the integrated approach to training, and we encourage HPI not to drop fish from its portfolio of animal gifts in Uganda. However, if additional fish farming projects are pursued, the model for Passing on the Gift should be strengthened.
- Increase availability of pamphlets.
- Scan pamphlets and make them available electronically.
- Continue to promote supplemental feeding of cows to increase milk production. Milk yields are much higher for project cows than for local cows, but they could be higher still.
- Promote a constant clean water supply for livestock as opposed to “serving” livestock water one or two times a day.
- Address the issue of discontentment with artificial insemination. We did not explore the management side of this issue, but we interviewed enough farmers who mentioned it as a concern that we bring it to the attention of Heifer Uganda’s management team as an area for possible improvement.

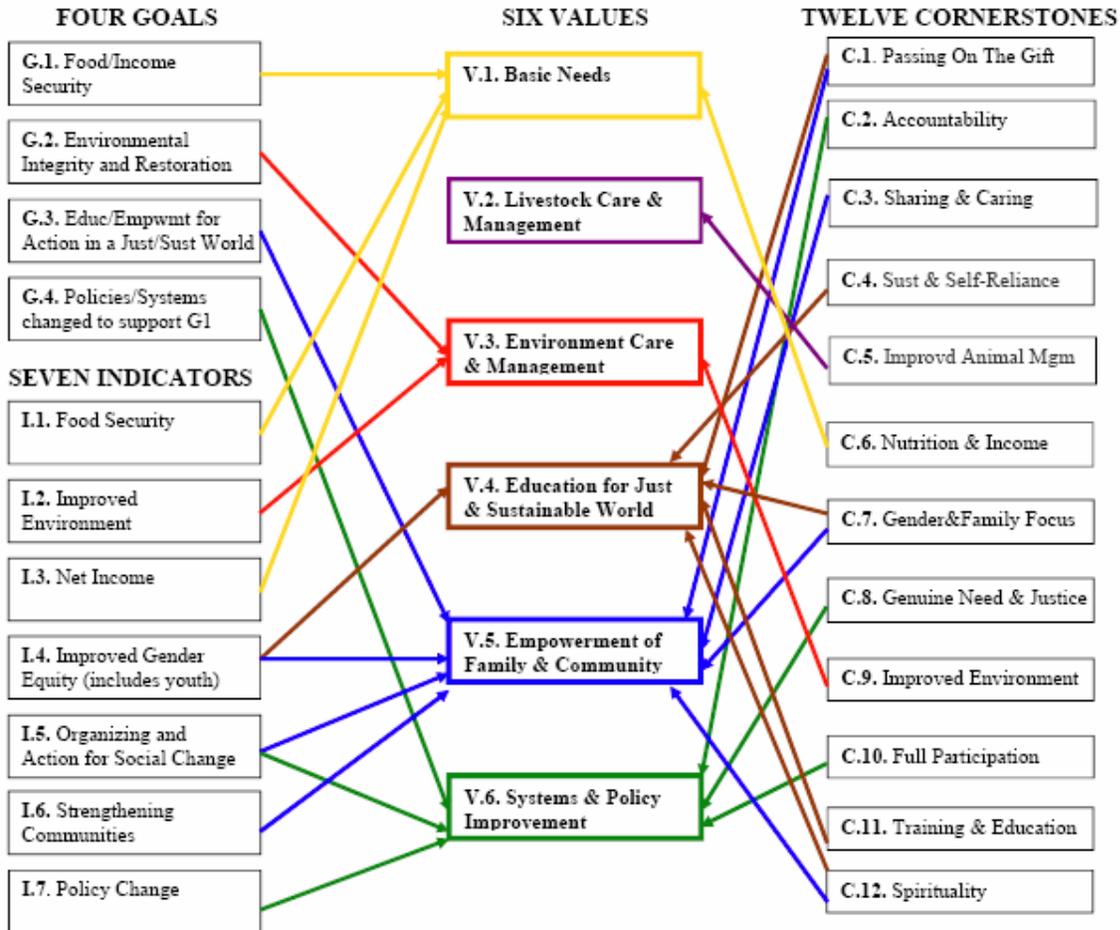
- Consider adding training in making yoghurt and ghee for dairy projects. Yoghurt and ghee production and sales could contribute to the overall dairy value chain and could be especially beneficial (or an intermediate step) for the projects that are unable to support a chilling plant.
- Explore low-cost opportunities (i.e., newspaper articles, community gatherings) to “spread the word” about Heifer Uganda values, innovations, and the great results Heifer farmers are having. The relatively low levels of local/national awareness of Heifer Uganda impact was first underscored by a translator in Bulyasojo who, despite his extensive agricultural experience and even prior knowledge of some recipients, had no idea of many Heifer Uganda innovations (animal shelter design/construction, high-yield exotic heifers, kitchen gardens) or how well their farms/dairy operations were running. This need was also underscored by many of the interviewees in the Above the Ground study, who mentioned that Heifer Uganda could substantially leverage its overall impact and influence through expanded collaboration and local promotion.

6. Strengths and Weaknesses of the Evaluation

This evaluation is based on a purposeful selection (random within sets of projects defined by the type of animal gift) of 8 of Heifer Uganda’s more than 70 projects and on random selections of (usually) 12 member families per project. As noted above, some randomly selected families were excluded due to the distance of their homes. While randomization is considered a reliable method for impact evaluations, we would be more comfortable with our conclusions if we had visited more projects, particularly in the Northern Region. Most of the evaluation’s quantitative measures are based on information provided by project member respondents, and so are subject to errors in recall and, potentially, to intentional positive and negative bias. The evaluation is strengthened, however, by evaluators’ ongoing efforts to triangulate among all available information sources. Two of the evaluators have significant prior experience evaluating other Heifer country programs, and the third has significant prior experience in Africa. The evaluation is strengthened by the team leader’s particular expertise in cost-effectiveness analysis and by the excellent cooperation and support received from Heifer Uganda staff.

7. Appendices

7.1. Heifer Six Values as Related to Heifer Goals, Indicators and Cornerstones



7.2. Project Summaries

7.2.1. Busunju Grass Root Farmers' Heifer Project

June 7, 2011, and June 22, 2011

Interviews conducted:

- 1 leaders meeting (3 female, 7 male)
- 1 interview with project extension worker (1 male)

- 1 general group member meeting (13 female, 16 male)
- 12 family interviews with project recipients (9 female, 10 male)
- 3 interviews with nonparticipants (1 female, 2 male)

Original animals given: 72 in-calf heifers

Pass-on animals: 31 heifers

Project duration: 2006-2010

Budget: \$102,000

Narrative Summary for Busunju Grass Root Farmers' Heifer Project

The Busunju Grass Root Farmers' Heifer Project group was initially formed in 2003 in partnership with the Church of Uganda in an effort to generate income for the farmers in the region. The group had initially partnered with Provincial Diocese Rehabilitation, an organization that provided 15 cows in 2006. However, after misunderstandings and broken relationships, the partnership was ended shortly thereafter, and it was proposed that Heifer Project International would be a good partner for the project.

Heifer's work in Busunju began in 2006, with the first wave of 18 in-calf heifers given in February 2008. Over the course of the project, 72 in-calf original Heifers were distributed and 31 were passed on, of which 10 died and 4 miscarried.

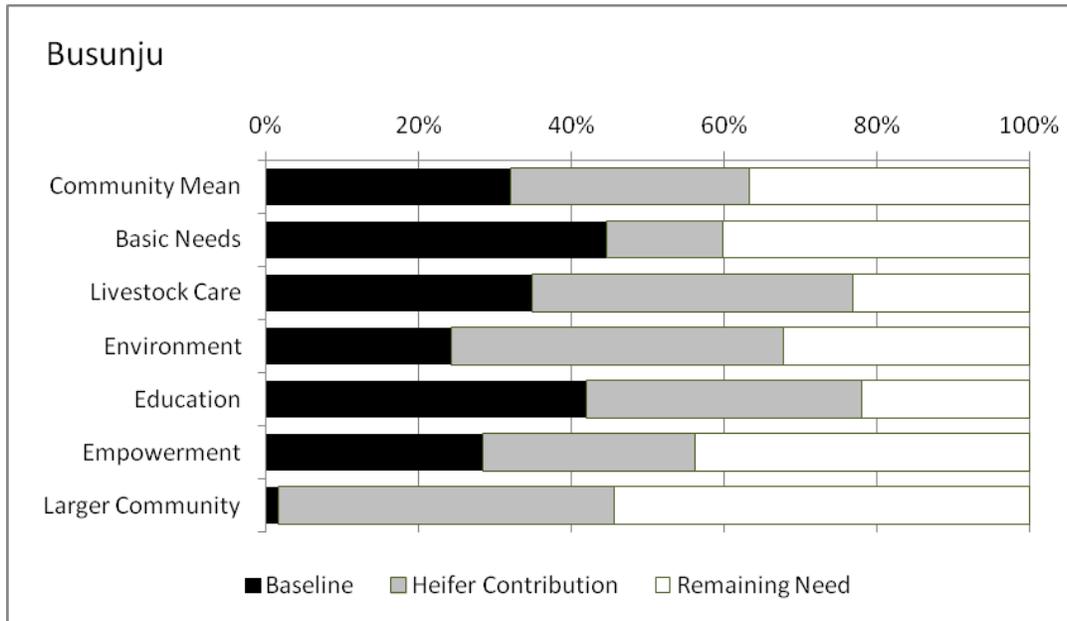
Heifer formed the project by joining existing groups from two communities – Kyampisi and Busunju. While the two groups are adjoining, they are difficult for some people to travel within, requiring either substantial time or a motorcycle taxi costing about 5,000 Ugandan shillings. The distance and separate identity of the communities has led to communication problems and concerns about overall group identity.

Several project members reported that the trainings Heifer provided were exceptionally good, covering a broad range of interconnected subjects.

Many members reported that they owned local cows before the Heifer program began. They struggled with the additional water and feeding needs of the “exotic cows” and, in comparison with other dairy cow projects, many reported lower milk yields. As noted above, artificial insemination is the recommended breeding method taught in the trainings and was used by most members we interviewed. In Busunju the method is generally providing good results, with many cases reporting three births thus far from the original heifers provided. Almost all members kept very good records of animal health, vaccinations, milking schedule, and breeding, none of which had been done before the project training.

The group meeting included a discussion about the local taboo against women milking cows and how women participants initially needed to hire male community members to perform that task. Within that context, they also mentioned how the trainings emphasized that owning a dairy cow

is a business requiring a practical viewpoint, such that they all eventually overcame the stigma and women started milking their own heifers.



Various members in the group, leaders, and household members' interviews indicated that their animals had been poisoned and suggested the cause was jealousy among other community members. Given the comparably higher death rate of cows in this project, we concluded that poisoning could be responsible for some of the deaths although, without actual autopsies, we were unable to rule out improper feeding, insufficient identification of disease, or failure to call a vet in time.

Access to clean water was reported as a major need for some, currently requiring a long walk or wait at community sources, with some even reporting that it takes 8 hours/day to meet the needs of their family and animals. Toward that end, water harvesting off roofs (as taught in the trainings) was not considered a solution by many because they considered roof water too dirty, suggesting that it was barely suitable for animals. HIV/AIDS was also reported as a major problem for the community, with reports that 3,000 people receive antiretroviral medication from the local health center and many others are undeclared.

Several members reported problems with veterinary services. While they strongly affirmed the quality of the service they receive from the project extension worker, they noted that having only one extension worker is insufficient to cover the wide geography and that he is often too busy to come in a timely manner.

While the group leadership seems respected by group members and maintains a good gender balance, there has been no change in leadership since the project started in 2006. Elections are conducted by a show of hands, not secret ballot. There was clearly an awareness gap between the leaders and group members regarding microfinance opportunities; the leaders explained their credit system in great detail, and the group members had no idea such a system was available.

Similarly, there was an awareness gap of group finances, although most members were uninterested in those details and were content to trust group leaders.

Many members referenced passing on the training they received from Heifer to neighbors and other members of their community, which resulted in improved social status as friends and neighbors increasingly sought their advice. Several members expressed the goal of substantial expansion of the group, referring to “spreading the gospel” of group membership and working to expand the group from the current level of 200 members to 1,000 in order to purchase and operate a local milk chilling plant. Toward that end, some members viewed recruitment efforts as a form of community service. The members reported paying comparably large amounts for group dues and membership fees, including a 150,000 Uganda Shilling fee to receive a heifer. While these fees could be paid in installments over time, it was also reported that cost is a frequent barrier to new membership.

The group demonstrated a strong investment and entrepreneurial ethos, factors that clearly contributed toward many of the strengths the group exhibited as a “weaned” Heifer project.

7.2.2. Bulyasojo Farmers Heifer Project

June 8-9, 2011

Interviews conducted:

- 1 leaders meeting (4 female, 5 male)
- 1 interview with project extension worker (1 male)
- 1 general group member meeting (9 female, 10 male)
- 12 family interviews with project recipients (10 female, 7 male)
- 3 interviews with nonparticipants (2 female, 2 male)

Original animals given: 102 in-calf heifers

Pass-on animals: 76 heifers

Project duration: 2002-2005

Budget: \$

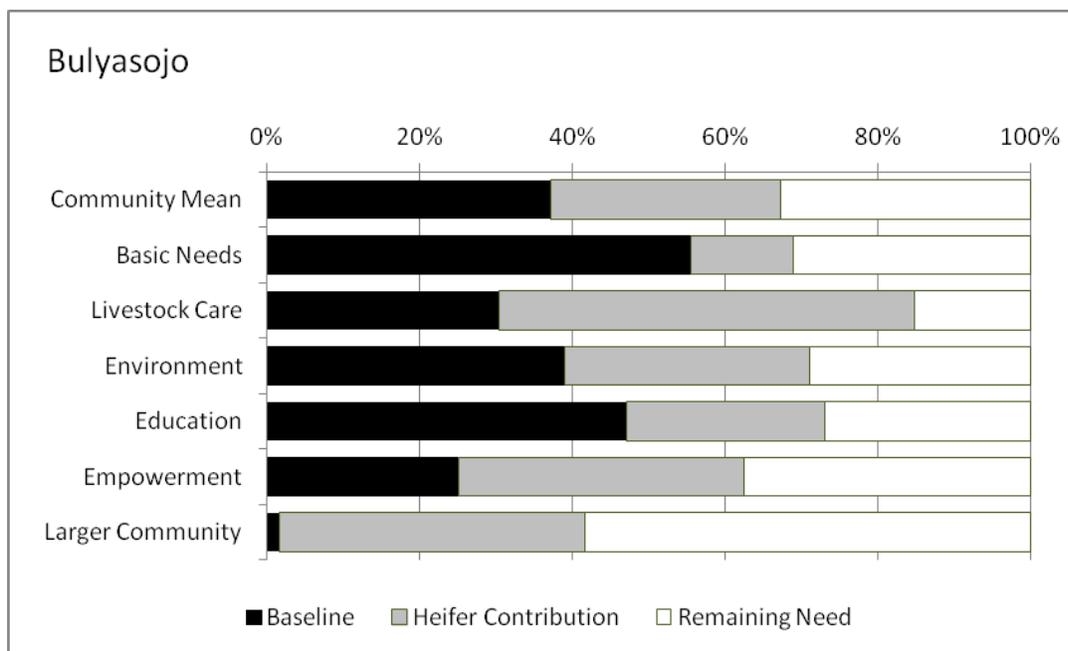
Narrative Summary for Bulyasojo Farmers Heifer Project

Bulyasojo is located in mid-Western Uganda in the Kiryandango district (formerly within the Masindi district). It is under the management of Heifer Uganda’s Central Region. The group originally formed in 1997 when five women united to join Heifer. Prior to work with Heifer, they were active making pottery, raising rabbits, and implementing limited zero-grazing strategies. The general consensus of the group was that cows were for the rich, but since the Heifer project, they know that anyone can have a cow. Although there are no formal pass on ceremonies within this project, there were reports of up to five generations of pass-ons; of the

original recipients, 75 percent have passed on; and of pass-on recipients, 70 percent have passed on.

The full group meets quarterly, while the executive committee meets monthly. This group supports an active committee that has created partnerships with NAADS, EADDs, and the Grameen Foundation. It also formed a disciplinary committee in 2005 and removed cows from families four times due to mismanagement of the animals. The group currently manages funds generated from Ush 20,000 initial membership fees; Ush 5,000 annual dues fee; Ush 150,000 sustainability fee to receive a cow (it is reported to have recently risen to Ush 200,000); and Ush 10,000 milking fee for each calf delivery. There is no external review of finances, although there is a verbal report of finances that just occurred in April of this year. The funds are reported to be used to buy food for meetings and trainings. The election of leaders is reported to be fair, and there is strong gender equity balance. Elections are through a show of hands, and leaders are able to serve two two-year terms.

Group member retention is reported to be strong, and people are not noted as leaving the group unless they are failing, in which case their animal is removed. Many nonmembers are reported to be interested in joining the group. There were reports of six head stolen, four of which were recovered by the group. Through the Heifer trainings the group members were taught to share milk with their neighbors to set a more cooperative environment. Neighbors also attend meetings and have adopted zero grazing techniques. Meetings times are communicated via radio announcements although, because of the very large distances that members must travel to attend, they would prefer longer notice when possible.



The members reported that the trainings have had impacts on hygiene, as they are now digging deeper toilets, installing tip-tops, and keeping all household areas cleaner (especially latrines).

Some issues noted were that AI is thought to have only a 50 percent success rate, while natural service is a surety. Natural service costs Ush only 20,000 and is guaranteed with a second service free if there is no conception versus AI costing Ush 30,000 with no guarantee. Plus, some say that semen is not always available. Another issue is that drugs are expensive, especially for East Coast Fever vaccinations.

The trainings have been very well received, furthering knowledge in diversifying livestock, animal care during drought, family nutrition, gender equity, business trainings, and record-keeping for milk, breeding, and vaccinations. It was also mentioned that trainings on heat detection were very good because it is a very expensive loss if a heifer pregnancy opportunity is missed. The group requested more trainings (specifically every 3 months) and to have written materials to bring home to help with knowledge retention. They also noted that project members are so spread out, it is difficult for everyone to attend trainings, so members would like to have “satellite” trainings in the outskirts communities.

7.2.3. Jinja Women’s HIV/AIDS Heifer Project

June 10-11, 2011

Interviews conducted:

- 1 leaders meeting (10 female, 2 male)
- 1 interview with project extension worker (1 male)
- 1 general group member meeting (36 female, 24 male)
- 12 family interviews with project recipients (11 female, 7 male)
- 2 interviews with nonparticipants (1 female, 1 male)

Original animals given: 118 in-calf heifers

Pass-on animals: 60 heifers (11 more ready to be passed)

Project duration: 2003-2008

Budget: \$125,350

Narrative Summary for Jinja Women’s HIV/AIDS Heifer Project

While the Jinja district of southeast Uganda is rural, this project is in a periurban area with land and home values higher than other regions. Several of the visited households had both electricity and a water tap. The project is targeted toward helping those impacted by HIV/AIDS, including both those that are personally infected and families caring for children orphaned by the epidemic. The project evolved from the Uganda Farm Family Development Association after that group collapsed; three current leaders started at that point, and a few group members still have cows received from that earlier association. The chairwoman of the group is a princess of the major tribal group in Jinja area and provides strong overall leadership. The district (executive) leaders meet twice a month, zone leaders once a month, and a general meeting is held once a year. The group leaders have been exposed to several visits outside the district and reported an increase in

overall leadership, group friendship, and knowledge base as a result. Finally, the leaders noted that since they are now a well-established organization, government programs come to them first with new initiatives.

The group demonstrated a larger gap between the members and leaders than most of the other projects visited. Members and leaders both confirmed that illiterate people cannot become group leaders. Group members weren't sure when the last election was held, but clearly it had been a long time, although they were generally content with the leaders and noted that they would replace the leaders if needed. The nomination of leaders is handled informally, where general members suggest nominees during a general meeting and others would "grumble" if they didn't like the nominee. Voting is conducted by show of hands. There were a few youth members, but no specialized youth programs. A disciplinary committee was established that could ask an offending member for an apology or remove animals if the family couldn't care for them, but would not charge fines, and the spirit is not punitive.

Since the end of Heifer Uganda sponsorship, a membership fee of 100,000 Uganda shillings was established and can be paid in a lump sum or in installments. Members also are assessed a fee of 1,000 Uganda shillings/month while their cow is milking, but not all members pay. Other membership requirements include the need to have energy saving stoves and clean latrines before they receive an animal, as well as shed and planting fodder to feed the animal gift.

Group leaders and members reported an increased social status and substantially increased influence within the community, citing several examples:

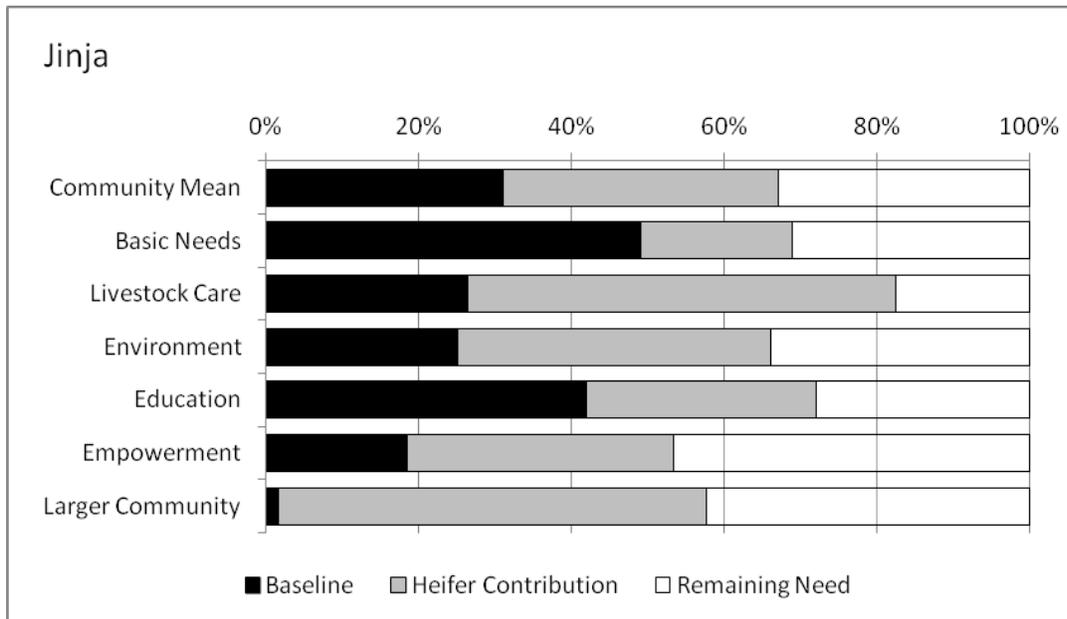
- Many neighbors have copied zero grazing, new vegetable crops, latrine construction, and adoption of artificial insemination from group members.
- Other local organizations now copy the "Passing on the Gift" model or other elements of the Heifer program, including [REDACTED]
- [REDACTED] adopted our energy saving stoves and sought group leaders for expertise.
- [REDACTED] reference the group as examples when they get visitors.

Appropriate for a group targeting those with HIV/AIDS, the health training for this group was more extensive than that of the other groups visited. The counseling related to AIDS primarily involved the nationally run "ABC" program (Abstinence, Be faithful, use Condoms) and family planning training to encourage smaller families and child spacing; guidance for those with HIV/AIDS is to wait six years between children. Members also received training on how improved hygiene reduces various diseases. There was a strong emphasis on latrines, and most latrines visited were very clean and included a "tip tap" hand-washing facility. Malaria was addressed through training about how clearing brush reduces mosquito breeding, and encouragement to sleep under mosquito nets, although it was unclear how many actually do that.

Given the need to address the stigma of HIV/AIDS, group efforts also included various relational and interpersonal efforts. Group members reported an increase in unity and relationships between the genders, related to the fact that women with resources get more respect from their husbands. When a group member dies, the group responds by joining together to contribute a

condolence fee, solicit funds for the family, and hold a vigil until the end of the funeral. Finally, members reported that they will call group leaders to help solve problems in marital and family issues, and the focus of the leaders' counseling is to keep the family together. Two of the families we interviewed reported receiving family counseling like this.

The new crops introduced through the program included greens, cabbage, coffee, papaya, pineapple, passion fruit, carrots, onions, and mango. Trees were planted for reforestation and future firewood needs. The group is currently comparing results from organic fertilizer and commercial chemical fertilizers, noting that organic lasts longer and chemicals are more expensive.



Group leaders have established many alliances, including [REDACTED]

Appropriate to the periurban context of the project, some members had motorcycles and more nonagricultural employment than other projects we visited. One visited member had started a mechanics business using income originally from the animal gift, plus other outside income. Several visited members had fenced, biointensive “basket gardens,” and very beautiful landscaping.

The primary challenges of the group included the fact that some needy people didn't have enough land or money to join. There was greater income disparity than with other groups, with some very poor and some quite well off. Because of HIV/AIDS, some members needed to hire help with animals, and more members reported farming on land distant from their home. Some of the animals we saw were very dirty, and the overall project was more selective on the implementation of the 12 cornerstones than other projects.

While the overall quality of veterinary support was reported as good, a primary challenge the group reported included the fact that it sometimes takes too long for a vet to come when animals are sick or in heat. Overall veterinary support was reduced when the project animal was weaned. Artificial insemination was also noted as a significant problem, and the group wanted a local source of liquid nitrogen because the current source in Entebbe is too far, such that the semen thaws en route. Furthermore, since the pricing model is guaranteed for natural service, some think that vets might be sabotaging semen straws to increase AI payment.

7.2.4. UMOJA Women's Heifer Project

June 13, 2011

Interviews conducted:

- 1 leaders meeting (8 female, 5 male)
- 1 interview with project extension worker (1 male)
- 1 general group member meeting (13 female, 21 male)
- 12 family interviews with project recipients (6 female, 8 male) 3 interviews with nonparticipants (3 male)

Original animals given: 56 Draft animals (70 families = 14 groups of 5 families; each group received 4 bulls, 1 plow, 2 chains)

117 In-calf heifers

Pass-on animals: 58 In-calf heifers

Project duration: 2003-2008

Budget: \$69,400

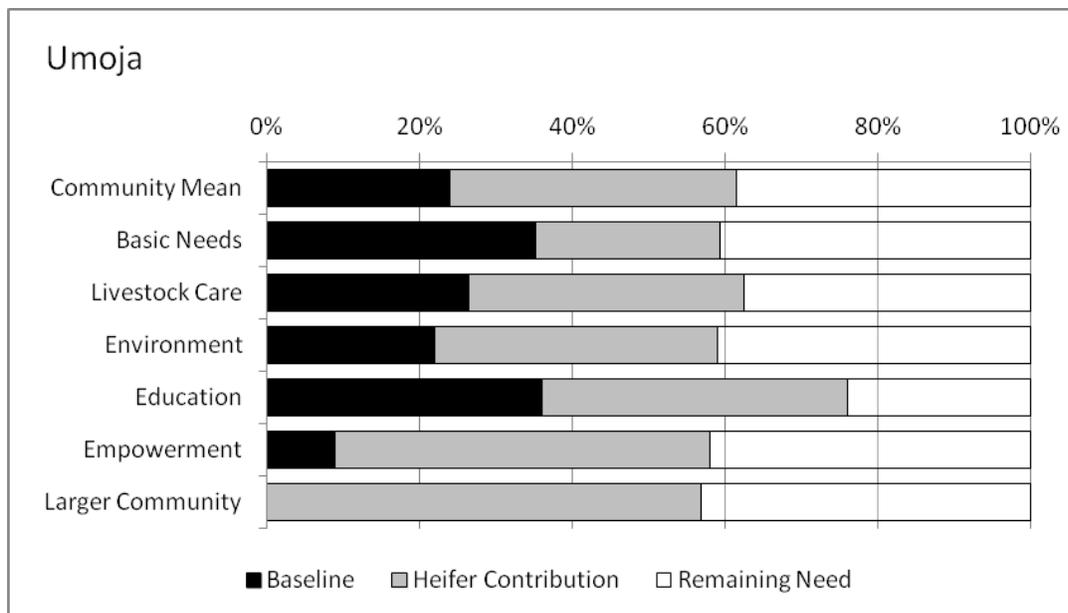
Narrative Summary for UMOJA Women's Heifer Project

The UMOJA Women's Heifer Project is located in a dry area of Eastern Uganda. This project was the oldest in our sample, and although some indication of impact decline over time was apparent, nonetheless there was evidence of strong ongoing impact. The observed impacts included significant improvement in the basic needs of project participants, including gains in nutrition, health, and educational status.

The project was specifically directed toward women and demonstrated significant impact related to improving gender equality. The fact that male leadership is currently more prevalent was viewed as evidence of "fallback" toward local norms that did not negate the larger and remaining gains made in this area. Several women are still in leadership positions within the group and report a substantial increase in their leadership role in their families. Various members reported the increased levels of respect for women, and one male member referenced how "women are

given first class treatment” in trainings. Finally, there were various reports of group alliances with other NGOs and governmental programs, indicating healthy ongoing group functioning.

Members reported receiving a broad range of training (see Busunju project summary for an overview of training topics), which they considered extremely valuable. That said, the implementation of the training they received was very uneven between participants, and one nonmember from the local community expressed deep frustration that members don’t practice what they were taught.



To increase the income related to milk production and sales, the group reported making a substantial investment (in both time and money) in a milk cooling plant that never worked, and this recent setback was clearly a significant and disheartening turn of events for both the leaders and group members. In addition, many members reported abandoning artificial insemination because of bad experiences (i.e., high cost without results), and all interviewed members reported that they are currently using natural service only. The overall care of animals was weaker than in other projects, with many animals observed tethered to posts and/or suffering ill effects; and some shelters were abandoned or showing substantial disrepair.

In addition to in-calf heifers, the project provided original members with bulls and plows/-harnesses to groups of four farmers. Members reported substantial increases in crop yields related to both the trainings and their ability to plant their fields in a timely manner with the use of the draft animals. As positive as these gains were for original recipients of the plow animals, two factors in this project significantly undermined the effectiveness of the pass-on structure of draft animals:

- The original members were required to pass on a draft animal only, not the expensive harness chains and plows, and pass-on recipients of the animals referenced lacking the resources to buy the chains/plow needed to adequately utilize the draft animals they received.

- Unlike POG systems for other animals, there was no clear “trigger point” related to the time when the original farmer needed to pass on a draft animal.

Access to water is a significant problem for the UMOJA community. Local boreholes sometimes have limited water production capacity, and the time required to carry water for family/animal needs was often considerable; the average time required for carrying water as reported in our household interviews was about two hours. Bicycles clearly are helpful for many families, but the walk and wait for a turn at the borehole is often long.

Many recipients reported making substantial investments in their housing and children’s education with the additional income generated through Heifer’s efforts. For example, many have upgraded from thatch to steel roofs, from mud/stick walled houses to brick walls, and from packed dirt to cement floors. Additionally, many have moved children from the low-quality government schools to private schools.

Giving both in-calf heifers and draft animals appeared to be an effective strategy for a region like UMOJA, but even greater gains could be realized with improvements in the artificial insemination process and passing on the gift system for draft animals.

7.2.5. Buyamba Community Dairy Goat Project

June 14 and 15, 2011

Interviews conducted:

- 1 leaders meeting (6 female, 2 male)
- 1 interview with former executive committee chairperson (1 male)
- 1 general group member meeting (9 female, 2 male)
- 12 family interviews with project recipients (6 female, 8 male)
- 3 interviews with nonparticipants (5 female, 1 male)

Original animals given: 207 in-kid exotic dairy goats (nannies) and exotic bucks

Pass-on animals: 68 nannies

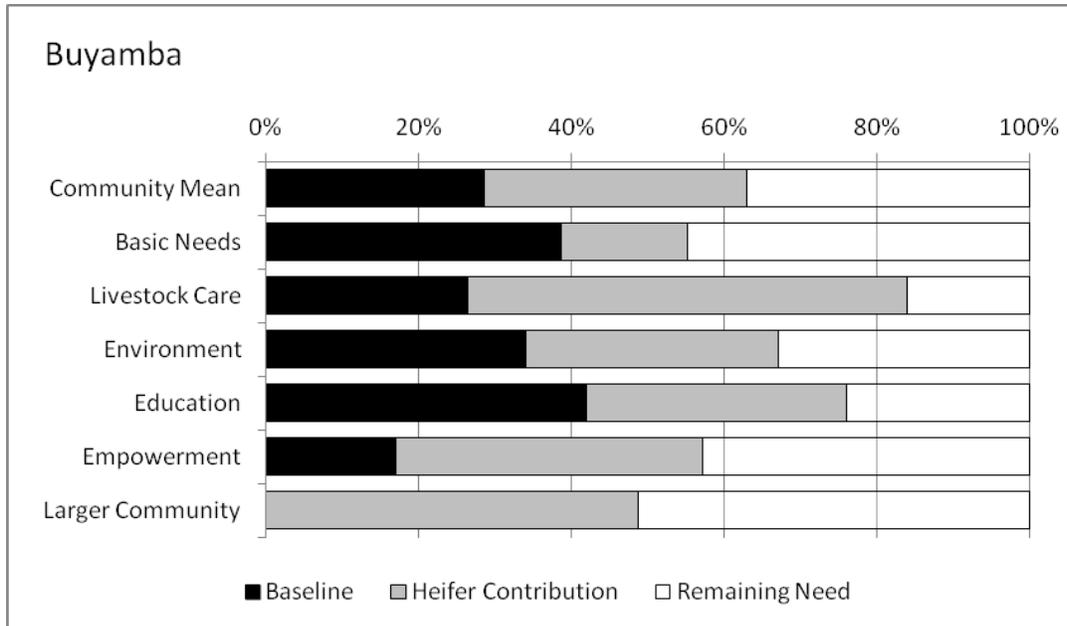
Project duration: 2006-2010

Budget: \$53,000

Narrative Summary for Buyamba Community Dairy Goat Project

The Buyamba Community Dairy Goat Project is located in Rakai district, which borders Lake Victoria and Tanzania. The area has been highly affected by the HIV/AIDS pandemic, and the project was designed to address issues the community is having with caring for orphans and other vulnerable children. The project spans eight zones within which the extension worker must travel large distances and is credited for quality service and good response times. Each of the eight zones also has member specialists who help alleviate the burden on the extension worker.

Because the environment is semiarid, water is a very big issue in this area with suggestions that the dry seasons may be lengthening. Most requests centered around water harvesting, and 15 members have already adopted model water harvesting techniques. Members report that waterborne diseases, such as intestinal worms, are also a big problem for both humans and livestock. The project has been addressing the problem through education, better hygiene (tip-tops are prevalent), and encouraging livestock deworming practices. The practice of “serving” water to sheltered animals is used here, and no visited families had water freely available to livestock.



While local goats were raised prior to project inception, they were kept tethered, which is reported as an inappropriate strategy for the exotic project goats. Thus, as crossbreeding takes hold throughout the project, nonproject members are also adopting shelters to house their livestock. There also has been good adoption among members of zero grazing for their nonproject animals, which has contributed to valuing manure collection. It is reported that there has been approximately a 7 percent death rate among project animals (21 goats: 8 from pneumonia, 7 from theft for meat, 3 from snake bites, 3 from tick-borne disease). To be put in context, a death rate under 10 percent is considered good, and dairy goats were viewed as completely appropriate for the environment, families’ circumstances, and market values. Heifer Uganda also instituted a collective marketing structure, which helps to boost values. Goats from Buyamba are sold to Heifer projects in Tanzania and to Uganda’s National Agricultural Advisory Service. Project members have exhibited their goats at a subcounty agricultural fair, and there has been significant adoption of exotic goats and of the project’s recommended goat rearing practices by nonmembers. These factors instill pride in project livestock care and management.

Members report receiving many new, higher yielding seed varieties from Heifer, including banana, beans, maize, coffee, Irish potatoes, sweet potato vines, and disease-resistant cassava cuttings. Many members have received seeds for carrots, green peppers, and onions, which they

have planted for the first time. The project has a strong AIDS education program that is credited with reducing the stigma facing those suffering from AIDS, and AIDS sufferers are reported to be favored in the selection of pass-on recipients. The project also has many active savings groups. There is a strong focus on cleanliness and improved sanitation, with improved waste disposal, composting, drying racks, and many members adopting latrines for the first time. Members report that this has led to a reduction in child malnutrition.

Leaders are supposed to be elected every two years, although there has not been a change since 2007. The group members noted that if there is no problem, they don't change leadership. The annual dues are US\$ 20,000 per member, and there are approximately 300 members. The treasurer shares the books at the meetings, and half of the members attending the focus group meeting reported having seen the records. Voting is reported as secret ballot and, within the group, gender and religion are not reported issues, although illiterates cannot hold senior leadership positions. Record keeping is very strong within this project, down to the household level.

7.2.6. Nyabushozi Women Meat Goat Cross Breeding Project

June 15 and 16, 2011

Interviews conducted:

- 1 leaders meeting (3 female, 2 male)
- 1 interview with former executive committee chairperson (1 female)
- 2 general group member meetings (22 female, 1 male)
- 11 family interviews with project recipients (11 female, 7 male)
- 2 interviews with nonparticipants (1 female, 1 male)

Original animals given: 94 Boer goats (including 32 bucks)

Pass-on animals: approximately 100 Boer goats

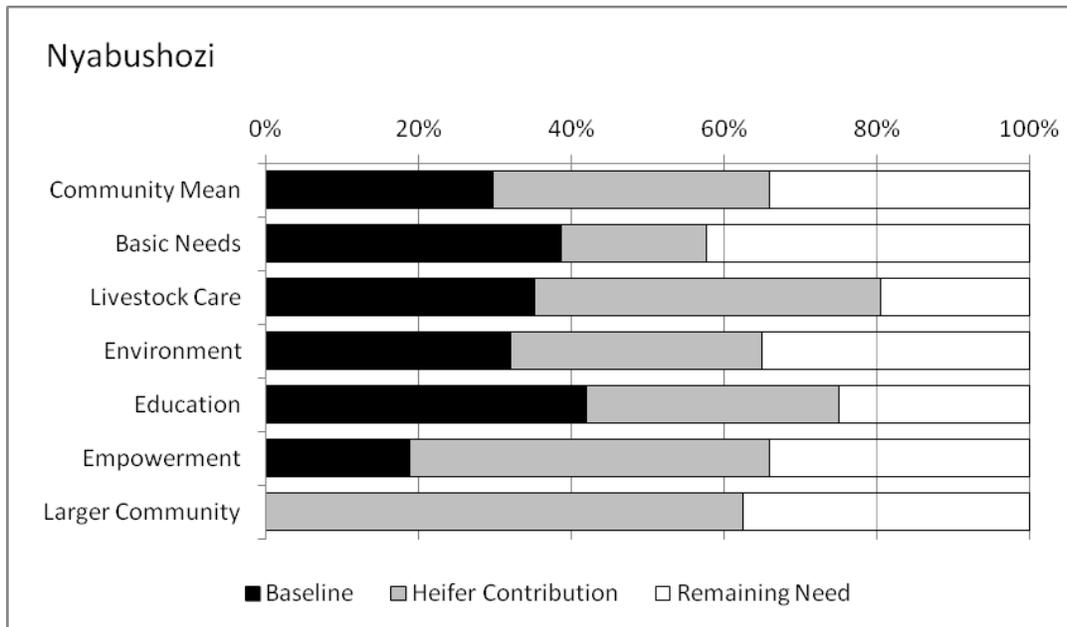
Project duration: 2004-2008

Budget: \$58,300

Narrative Summary for Nyabushozi Women Meat Goat Cross Breeding Project

Nyabushozi is a sparsely populated area in Western Uganda with large ranches of free-roaming cattle and dry, fertile hills with banana plantations and fruit trees. The project was started by a female member of Parliament, and project leaders attribute the very wide geographical distribution of recipients to this person's wish to cover her entire district. The Heifer project in the area started in 2004, was weaned in 2009, and provided 93 original goats and approximately 100 pass-on goats. Because of the extreme shortage of water in the area, the program provides Boer goats from South Africa, which are relatively large and are raised for meat instead of milk. This strategy has been very effective in increasing the income and assets of project members, as

cross-breed goats are worth at least twice as much as local goats. The widespread crossbreeding between the Boer goats and local goats owned by other members of the community has increased local herd values and generated substantial goodwill for the project, because a large proportion of the community has benefited. A cooperative marketing effort organized by Heifer also has provided Boer goats to other organizations and/or Heifer projects in other countries (e.g., Kenya), providing a valuable additional market for the goats at a substantially higher price. This marketing has further leveraged the substantial income increases attributed to the project from enhanced herd values and increased crop yields. That said, some interviewed members had not increased annual income but rather had grown very large herds (i.e., 40-70) of purebred goats as a form of long-term savings and/or asset appreciation.



While group leaders were remarkably eloquent in expressing the significance of the project toward establishing gender equality, it was unclear how much impact in this area was related to the project and how much was learned catch phrases popular with politicians and donors. While group leaders frequently referenced ownership of goats leading to empowerment and correction of long-standing oppression of women, the data gathered outlines a baseline higher than in other communities we visited.

The hygiene of group members has improved dramatically related to their training in the need to boil water, latrine construction, and washing hands with soap after using the toilet, such that worms (in humans) and other waterborne diseases have been significantly reduced. A significant proportion of visited homes had water harvesting systems provided by other NGOs and stored the water in either above-ground concrete cisterns or in covered in-ground tarpaulins. While recipients referenced problems with cracks/leaks from both types of storage, the tarpaulins are clearly inferior as they are thin and can deteriorate quickly.

Some of the group members we interviewed demonstrated a uniquely strong entrepreneurial spirit, with extensive agribusinesses that employ staffs of 4-13 people to help with large-scale

goat herds, beekeeping, and a diverse range of crops including mango, tangerine, avocado, and oranges. Along these lines, the overall diversification of crops planted in the project was also very strong, including tree grafting and introduction of new species, which significantly improved harvest yields and income for many members, in addition to substantial increases in nutrition through increased consumption of fruit and vegetables. Similar to other projects, there was continued evidence of substantial yield gains from use of manure as fertilizer.

The primary problem faced by this project is the severe water scarcity, and respondents were unanimous about the need for an improved water supply. While relatively recent government efforts to build dams have increased access to water, the quality is extremely poor and unprotected from grazing animals; animal autopsies show liver flukes and lung worms due to poor quality water. Additionally, the project households are extremely widely spread out, which makes vet support and trainings difficult, diminishes the potential for community building, and may contribute to low kidding rates. The final challenge noted by both leaders and members is the need for new breeding bucks to avoid inbreeding and birth defects.

7.2.7. Kamwenge District Fish Farming Project

June 17-18, 2011

Interviews conducted:

- 1 leaders meeting (2 female, 5 male)
- 1 interview with project extension worker (1 male)
- 1 general group member meeting (3 female, 9 male)
- 12 family interviews with project recipients (3 female, 11 male)
- 3 interviews with nonparticipants (2 female, 1 male)

Original animals given: 100 fish farms stocked with tilapia and catfish fry; some Boer goats

Pass-on animals: 20 total with 10 fish farms completed and 10 more partially completed.

Project duration: 2004-2008

Budget: \$112,892

Narrative Summary for Kamwenge District Fish Farming Project

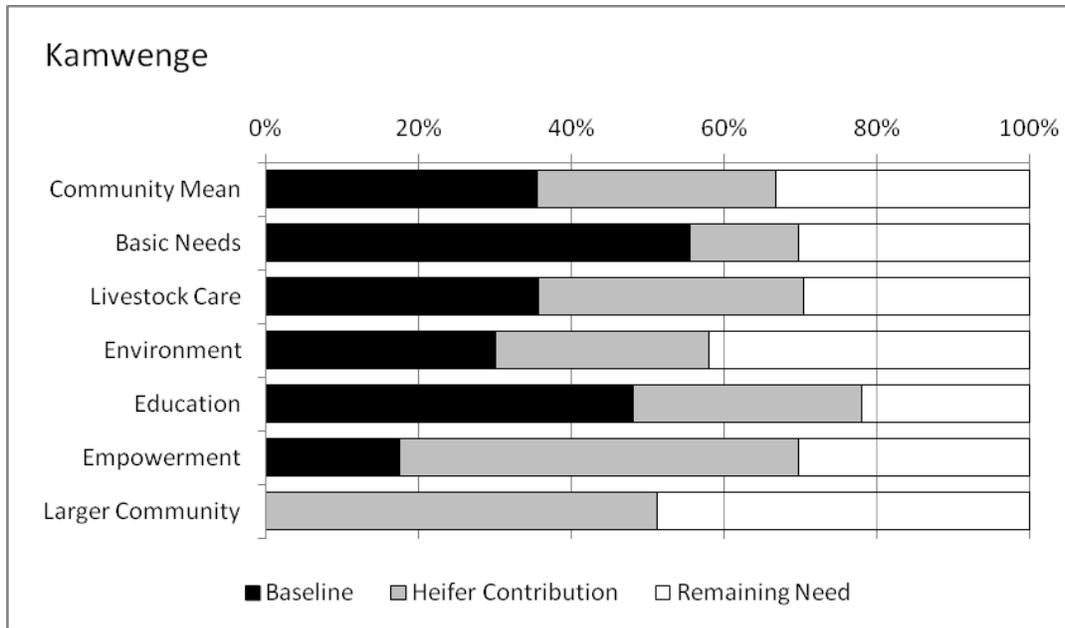
The Kamwenge District Fish Farming Project was initiated by Heifer in 2005, funded through 2008, and provided fish fry to 100 original recipients; to date there have been 20 pass-on recipients. Group leaders reported that prior to Heifer's involvement there were high levels of HIV/AIDS and malnutrition. While we did not receive information about the current status of HIV/AIDS in the community, a wide number of participants reported substantial nutritional gains. As part of the effort to improve the nutrition of the community, the project sponsored the introduction of cucumbers, cabbages, carrots, spinach, okra, local greens, and pumpkin.

The primary livestock provided by the project was tilapia and catfish fish fry to stock small fish farms dug by recipients (and/or through labor paid by recipients). This seemed to be a good strategic decision given the abundance of water in the area and strong income/asset gains made by recipients (see income, assets, and nutrition for more detail.) Despite that focus, many members also built good shelters for their livestock and/or used the proceeds from fish harvests to purchase exotic or to crossbreed goats. Additionally, many members reported planting significant numbers of trees, including eucalyptus, pine, and various fruit trees for home consumption and limited sales. While some recipients also reported learning manure composting from Heifer, others said that they were composting manure before the project began; therefore, the substantial gains in crop yields were not attributable to Heifer alone.

While other visited projects reported no or very limited engagement with youth, the Kamwenge project stood out for providing a strong youth group with regular meetings and projects led by project members.

There was broad agreement among interviewees that the member/recipient selection process was good and fair. Some of the members interviewed were very poor when they received the fish pond and have made significant gains in income, assets, and nutrition since that time. Many interviewees referenced how difficult it was for many poor people to come up with required inputs and wait for a comparably long time before harvest, such that needy families were prevented from benefiting.

While Heifer originally provided a combination of both catfish and tilapia fry (so that the catfish could limit the exponential growth of tilapia), several interviewees decided to abandon catfish after their first harvest because of the higher cost of catfish fry and their desire to have large tilapia harvests. Some recipients chose to delay restocking entirely because of the high cost of fry and/or use the ponds only for home consumption, meaning that the income potential of several fish farms was substantially underutilized. Compared with other projects, there was a relatively weak effort to distribute improved crop varieties, because the project emphasis was on fish farming.



The primary challenges of the program related to the aspects of fish farming that stretch the Heifer model. For example, comparably high start-up costs are a barrier for many, and the typical animal care and management training Heifer provides (i.e., zero grazing or use of manure for fertilizer) is much different for fish. The biggest challenge is that the pass-on structure and rate of pass on was very weak in comparison with other projects. While the intention for pass on is for recipients to pass on 30 percent of the value of the fry they received after harvest, many members seemed unclear about the requirements and have not started to pass on. These challenges aside, it should be noted that some farmers are doing very well with their fish farms, as further detailed in the income, assets, and nutrition section.

There was wide interest in collective marketing and/or collective storage/processing facilities, such as a deep freezer to store large harvests and sell over time, as noted in the “requests” appendix. Some members did not seem constrained by these limitations and are selling fish fry directly to other members or selling their fish to schools, through a restaurant, or in shops. These members attribute Heifer business training as encouraging their entrepreneurial efforts.

7.2.8. Kinkizi Diocese Piggery Project

June 19 and 20, 2011

Interviews conducted:

- 1 leaders meeting (4 female, 6 male)
- 1 interview with project extension worker (1 male)
- 4 general group member meetings (54 female, 16 male);
- 12 family interviews with project recipients (12 female, 8 male)
- 3 interviews with nonparticipants (1 female, 2 male)

Original animals given: 200 pregnant pigs
20 boars

Pass-on animals: 230 pigs

Project duration: 2004-2009

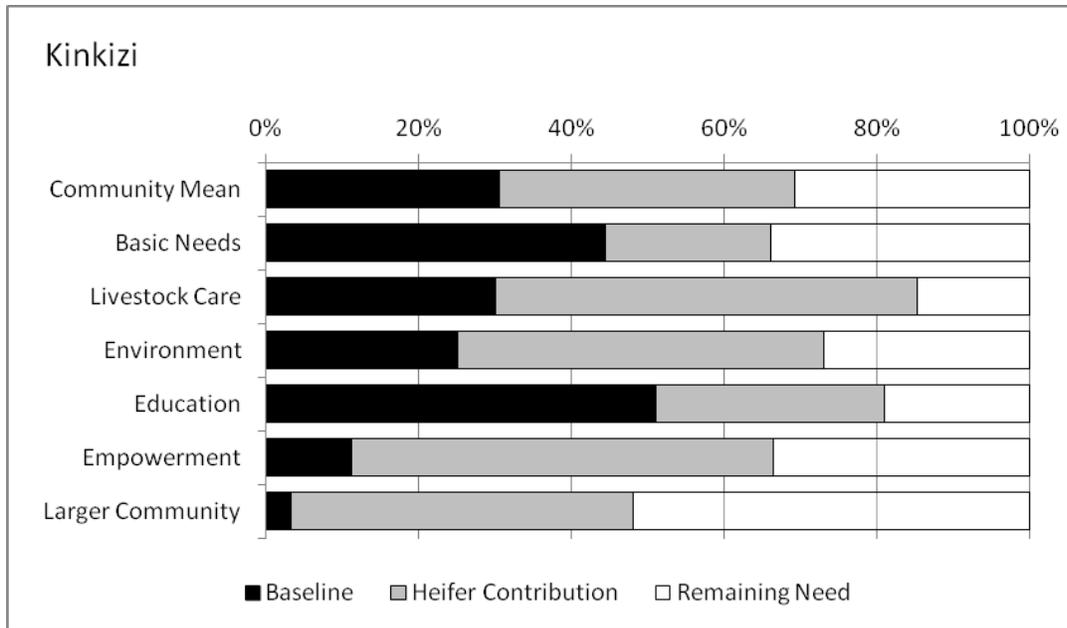
Budget: \$26,800

Narrative Summary for Kinkizi Diocese Piggery Project

The Kinkizi Diocese Piggery Project is located in a lush area in southwest Uganda that borders the impenetrable forest of Bwindi, a UNESCO-designated World Heritage Site. The project partner is the diocese of the Church of Uganda, which appeared to provide effective leadership and overall administration for the project; we found no evidence of explicit religious discrimination, but did note the inherent and implicit discrimination related to pigs, as noted below. In addition to the leadership from the diocese, we found strong leadership at the zonal level and a stronger sense of community in zones than encountered in other projects – strengths attributed to both leadership and the fact that members are in closer proximity to one another than are other projects.

The project was not as well linked in with other development agencies as most of the other projects we visited. That said, there was evidence of broader community impact and involvement, since many members crossbreed the more valuable “exotic” pigs provided through the project with local pigs.

The efforts to improve crop strains or introduce new crop varieties to the region was a weakness of this project, as several other visited projects demonstrated significant impact in that area. Very few of the recipients we visited provided full-time access to water for their pigs (instead, “serving” them water a few times a day), and there was wide variety in the quality of the sheds, with some very good and some very poor. While the project demonstrated an excellent pass-on rate, the extension agent and chairman noted that ongoing monitoring and administration of the pass-on system declined after Heifer funding ended. Finally, since the project centered on the animal gift of pigs, it was inherently precluded from reaching either the small Muslim population or other small groups that forbid pigs for religious purposes.



7.3. Requests from Beneficiaries

Project 1: Busunju grass-roots project

More extension workers and more support for those they have (i.e., additional training, emotional support, help with transportation) as they are spread over large areas.

Want to separate the group back to the two communities that they started with (Kyampisi and Busunju).

Higher producing cows

An extension worker for each zone

Cow does not produce the amount of milk promised (15-20 liters); want higher producing cow.

Request biogas – have the manure for it.

Message of thanks as education has been life changing – very grateful.

Project 2: Bulyasojo farmers group

More and continued funding of the project by Heifer Uganda, more cows.

Dairy goats. Project leaders say Heifer promised to give them dairy goats but have not yet come through.

Repairs for two faulty biogas plants (won in a competition), the first two received in this project.

One requests larger biogas plant.

Want greater transparency about competitions (e.g., for biogas plants) as they are not clear about the criteria to win.

Project motorcycle is in bad shape and would like a new one, plus another motorcycle to assist in project monitoring and trainings.

Support for side-income projects such as poultry for project members.
Tanks for rainwater harvesting
More trainings to occur every three months and to be held within all participating communities.
Written material to be sent home.
Want more cows.
Want to establish a solar project and to expand the biogas project.
Would like more exchange visits.
Would like office space for group business.

Project 3: Jinja women's HIV/AIDS Heifer Project

More and continued funding of the project by Heifer Uganda.
Water harvesting and preservation
Many want machines to pulverize silage and machine to package fodder so they can feed in the dry season. (Machine that chops and packages costs 3-5m USh.)
Additional varieties of animal gifts (poultry and pigs and the introduction of bulls)
Help installing a milk cooler
Establish a guaranteed payment system for AI and/or reduce the cost of semen.
More veterinary doctors (1/zone)
Help organizing East Coast Fever vaccinations, as one vial can take care of 100 cows, but there are currently timing issues.
Grant to reach more AIDS sufferers
Loans or clean water for better water and water tanks for water harvesting
More support for biogas; they received training, but few were able to install it.
Secondary schools are far and need help building schools as there are many orphans.
AI is expensive and farmers have to repeat payment when it fails, want bulls.
Water tank is small, would like a larger one.

Project 4: UMOJA Women's Heifer Project

Recipients of draft animals want dairy heifers to provide milk income.
Need extension workers closer to the community.
Should open trainings to nonmembers as well.
More/continued funding of the project by Heifer Uganda.
A first aid kit to use for livestock.

Project 5: Buyamba Community Dairy Project

More and continued funding of the project by Heifer Uganda
Water is the first priority. During the dry season they need more water for their animals as the shallow wells dry-up. Also during dry season disease rates rise for both people and animals.
Support for better water supply – a water reservoir (shallow well) for each family that has a goat.

The banana plantations are some distance from home, so request wheelbarrows.
Pumps and sprayers for goat care
Increased supply of capital for savings groups and to move to a business-oriented scale of goat rearing

Project 6: Nyabushozi Women's Goat Project

Dairy cows to supplement/broaden potential of goats and for biogas
New male goats to avoid inbreeding
Help with severe water needs, such as water harvesting equipment
Help installing solar power
Biogas plants
Investment to establish other projects
Increase sensitization so others know the good things in Heifer trainings.
New male goat for breeding
Ability to dry fruits

Project 7: Kamwenge Fish Project

Support with biogas
More /continued funding of the project by Heifer Uganda
Money to help build more fish ponds
Support to help buy fish food
Local processing capacity for the tilapia to expand the marketing opportunities
Deep freeze to store fish/expand marketing opportunities
Provide new/different species of fish fry that grow faster
Two people asked for help controlling predators (especially otters, but some mention of mongooses.)
Wire mesh fencing to protect from otters and mongoose
New nets for harvesting the fish (only one net was given for the four regions and it is showing signs of wear).
Engine to pump water up
Need help in completing ponds. Many ponds (i.e., 50+) in the community have been started but remain incomplete.
Feed is expensive and there is a long time when feed must be purchased before the income from fish sales is generated.
More trainings – ready to receive and implement more new strategies
Problem with predators, so request more fencing
More funds to finish constructing pond

Project 8: Kinkizi Diocese Piggery Project

More and continued funding of the project by Heifer Uganda
Need information as to the age that a boar is too old to sire and should sell on market.

Request a heifer project (milk cows)
Request cattle project for manure and income
Add goats or any other enterprise.
Trainings for savings and credit circles
Heifer “uniforms” (shirts with patches that say “Heifer Project International”)
Copy of evaluation report to [REDACTED]

7.4. Criteria and Indicators for Six Value Groups

Value Group 1: Meeting Basic Needs

1.1 Year Round, Adequate and Nutritious Food

- 1.1.1 Staples
- 1.1.2 Supplements
- 1.1.3 Protein
- 1.1.4 Adequate storage procedures

1.2 Safe Water Year-Round

- 1.2.1 Access to water
- 1.2.2 Sufficient amount for drinking, washing, and crops
- 1.2.3 Water quality
- 1.2.4 Year-round supply
- 1.2.5 Keeping livestock off drinking supply

1.3 Shelter/Housing

- 1.3.1 Adequate structure
 - 1.3.1.1 Roof
 - 1.3.1.2 Floor
 - 1.3.1.3 Walls
- 1.3.2 Adequate safety
 - 1.3.2.1 Sanitary toilets
 - 1.3.2.2 Raised cooking fireplace
- 1.3.3 Good ventilation/illumination
 - 1.3.3.1 Windows
 - 1.3.3.2 Chimney/smoke exhaust
- 1.3.4 Adequate area size

1.4 Income and Assets

- 1.4.1 Access to healthcare
- 1.4.2 Local energy source
- 1.4.3 Asset score when family receives its animal gift (baseline)
- 1.4.4 Value of income and food due to animal gift in the last year
- 1.4.5 Assets gained due to the animal gift

1.5 Control and Reduction of Life-Threatening Diseases

- 1.5.1 HIV/AIDS prevalence
- 1.5.2 Effective, sustainable, affordable strategies to reduce HIV/AIDS
- 1.5.3 HIV/AIDS patients' support
- 1.5.4 Prevalence of other diseases
- 1.5.5 Effective, sustainable, affordable strategies to reduce other diseases

Value Group 2: Livestock Care and Management

2.1 Livestock in Good Condition

- 2.1.1 Cleanliness
- 2.1.2 Well fed
- 2.1.3 Good health
- 2.1.4 History of illness or death
- 2.1.5 Records of required vaccination for larger animals

2.2 Animal Shelters in Adequate Condition

- 2.2.1 Roof
- 2.2.2 Floor
- 2.2.3 Walls
- 2.2.4 Cleanliness (including use of organic methods to reduce odor)
- 2.2.5 Accessibility of food and water for animals in shelter

2.3 Appropriate Animal Healthcare

- 2.3.1 Quality of "vet" support
- 2.3.2 Accessibility to professional vet
- 2.3.3 Availability of vaccines, medicines, comb and fly control
- 2.3.4 Provision of vet training to villagers

2.4 Family Knowledge, Skills, and Attitudes (KSA) Regarding Animal Care

- 2.4.1 Proper feeding
- 2.4.2 Recognizing/handling common diseases
- 2.4.3 Appropriate utilization of local expert or professional vet support
- 2.4.4 Appropriate breeding
- 2.4.5 Animal containment/management

2.5 Proper Food and Water

- 2.5.1 Adequate quantity of food and water
- 2.5.2 Adequate quality of food and water
- 2.5.3 Year-round availability of food and water

2.6 Appropriate Livestock

- 2.6.1 For family's situation
- 2.6.2 Given local environmental conditions
- 2.6.3 Given market conditions

Value Group 3: Environment Care and Management

3.1 Land Management

- 3.1.1 Land used for multiple purposes
- 3.1.2 Avoidance of use of chemicals on crops
- 3.1.3 Forest preservation and replacement activities
- 3.1.4 Watershed preservation/conservation
- 3.1.5 Use of firewood-conserving cooking equipment

3.2 Waste Management

- 3.2.1 Recycling of solid waste
- 3.2.2 Composting/organic fertilizer
- 3.2.3 Use of manure for biogas generation
- 3.2.4 Clean household areas

Value Group 4: Education for a Just and Sustainable World

4.1 Adequate and Equal Access to Basic Education

- 4.1.1 Boys/girls receiving equal levels and quality of education
- 4.1.2 All school-age children attending school
- 4.1.3 Children staying in school longer
- 4.1.4 Improvements in school quality/services provided to students

4.2 Quality and Needs-Basis of Training

- 4.2.1 Training available with clear practical applications
- 4.2.2 Adequate training of service specialists
- 4.2.3 Adequate training in literacy and national language
- 4.2.4 Strategies to increase awareness/access to relevant subsidies
- 4.2.5 Training available in commonly understood languages
- 4.2.6 Equal participation by men and women in training

Value Group 5: Empowerment of Family and Community

5.1 Full Participation of Community

- 5.1.1 In nomination and election of leaders
- 5.1.2 In selection of recipients of benefits

5.2 Gender Equity and Youth Rights

- 5.2.1 Ownership of animals and other assets
- 5.2.2 In household work
- 5.2.3 In community group leadership
- 5.2.4 In family decision making
- 5.2.5 Provision and participation in youth projects

5.3 Community Spirit

- 5.3.1 Passing on what is received

- 5.3.2 High proportion of retention of members before and after pass-on
- 5.3.3 Working on community projects
- 5.3.4 Helping others

5.4 Self-Reliance

- 5.4.1 Setting up independent businesses (co-ops, handicrafts)
- 5.4.2 Establishing outside commercial relationships (finding markets)
- 5.4.3 Community seeks alliance with other projects
- 5.4.4 Community approach to solving common problems

5.5 Appropriate Local Community Procedures/Sets of Rules

- 5.5.1 Systems in place to ensure full participation
- 5.5.2 Credit system in place
- 5.5.3 Transparency in group finances and decision making
- 5.5.4 Strong monitoring practices of group finances

Value Group 6: Impact on Larger Community (Regional, National, International)

6.1 Impact on Regional Communities

- 6.1.1 Adoption of Heifer's POG model by local or regional agencies
- 6.1.2 Adoption of Heifer values by local or regional agencies
- 6.1.3 Reduction of local/regional discrimination against project members
- 6.1.4 Election/appointment of local/regional leaders who promote Heifer values

6.2 Impact on Country

- 6.2.1 Adoption of Heifer's POG model at national level
- 6.2.2 Adoption of Heifer values by national level agencies
- 6.2.3 National government/major organization support for Heifer values
- 6.2.4 Election/appointment of national leaders who support Heifer values

6.3 International Impact

- 6.3.1 Adoption of Heifer's POG model at international level
- 6.3.2 Adoption of other Heifer values by governments/NGOs internationally
- 6.3.3 Election/appointment of international leaders who support Heifer values

8. Above the Ground Report

HEIFER PROJECT INTERNATIONAL UGANDA

REPORT OF THE STUDY

OF HEIFER PROJECT INTERNATIONAL UGANDA

Date of Submission: 30 June 2011

Prepared by:



8.1. Introduction

This study of Heifer Project International Uganda (HPI-Uganda) is part of an external evaluation done by Western Michigan University. The aim of the study was to obtain additional independent views about HPI-Uganda's work from the perspective of other organizations operating in the country and therefore focused on the impact of HPI-Uganda's partners on the partner organizations; the communities that HPI-Uganda is not working with directly; and on government (both local and national).

The objectives of the study were to examine:

- The strengths of HPI-Uganda as perceived by the other organizations
- The value added by the partnership between HPI-Uganda and the various stakeholders
- The impact of HPI-Uganda's work on the communities that are not working directly with HPI-Uganda
- How HPI-Uganda is influencing the work of government and other agencies
- Lessons learnt from the partnership between HPI-Uganda and the various stakeholders and
- What needed to be done differently to increase HPI-Uganda's effectiveness

The organizations that were interviewed included (1) local and international organizations funding HPI-Uganda's activities or implementing projects in partnership with HPI-Uganda; (2) government agencies related to agriculture, livestock management and energy; (3) a training institution dealing with animal health services; and (4) associations of breeders and livestock care service providers. A list of the organizations that were interviewed is attached as Annex A while Annex B gives the notes from the various interviews conducted during the study. The findings from the consultations with the different stakeholders are given in Section 2 below.

8.2. Findings

8.2.1. Strengths of HPI-Uganda

The study revealed the following strengths:

Sustainability

- **Pass on the Gift:** The study revealed that the strategies of formation of associations; capacity building in group dynamics, leadership and financial management; and the Passing on of the Gift ensures sustainability of the project interventions as the associations continue to ensure that more households continue to receive livestock long after the different projects supported by HPI-Uganda have ended. The existence of extension workers also ensures sustainability as there is close follow-up of the project

beneficiaries which leads to good husbandry practices hence multiplication of the animals.

- **Integrated approach:** HPI-Uganda offers training and extension services in livestock management, agronomy, nutrition, establishment of vegetable gardens, family planning, environmental management, gender equality, HIV and AIDS, energy conservation, and water harvesting, which are all translated into tangible results. The beneficiary households also set up orchards, construct latrines, bathing shelters, drying racks, rubbish pits and energy saving stoves. As a result, there are improved diets and health conditions; and gender equality and women empowerment. The use of oxen for clearing land reduces labor requirements and enables the beneficiaries to plant a bigger acreage which improves household food security and incomes. In addition, HPI-Uganda gives out good quality animals. The dairy animals not only improve the quality and quantities of milk produced but provide multiple benefits including milk, manure, biogas and slurry. As a result, there is improved nutrition, increased agricultural production and increased incomes for meeting various livelihood needs including education and medical treatment hence sustainable livelihoods². This integrated approach has been greatly appreciated by the communities HPI-Uganda has interfaced with.
- **Environmental sustainability:** The zero grazing model promoted by HPI-Uganda provides a holistic farming approach to development as it integrates animal and crop production and sustainable environmental management in smallholder farming systems. The trainings done in environmental management including soil fertility management (using animal manure), energy conservation through promotion of fuel efficient stoves and tree planting ensure environmental sustainability.
- **Shared ownership of project interventions:** Because HPI-Uganda carries out baseline surveys, situation analysis and also involves various stakeholders in project formulation, there is shared ownership of the projects and commitment of the beneficiaries and other stakeholders. For example, the local governments in the various districts provide technical assistance, and in some cases, co-funding which ensures project success and sustainability. In addition, the involvement of beneficiaries in project formulation ensures that the interventions supported by HPI-Uganda meet beneficiaries' needs. According to a study done by USAID, the energy saving stoves that are promoted by HPI-Uganda are used by the beneficiary households because they meet their specific needs which is not the case with other NGOs.

² The integrated approach also addresses Millennium Development Goals (MDGs) 1, 3 and 7 of reducing extreme poverty and hunger; promotion of gender equality and empowerment of women; and ensuring environmental sustainability.

- Working within local government structures:** The study revealed that HPI-Uganda works closely with the local government structures. For example, in Pader District where HPI-Uganda is working with [REDACTED] both organizations signed Memoranda of Understanding with the district leadership which clearly spelt out the interventions and the target areas. In addition, the two organizations share their work plans and budgets to the local government, the district leaders and technical departments (production, marketing and community development), the Chief Administrator's office and other CSOs working in the project area who jointly monitor the projects and give guidance accordingly. The local government leaders also mobilize the communities and ensure their active participation in the project interventions. They also support the institutional strengthening of the farmers' associations by identifying the most deserving and active households and also ensure that the project resources are utilized effectively by for example providing guidance to the beneficiaries so that the goat sheds are well maintained.

Promoting gender equality and empowering women

The use of labour saving technologies such as oxen ploughs and biogas reduce women's workload while the use of fuel efficient stoves improve women's health as they are smoke-free.

Organizational effectiveness

HPI-Uganda has a powerful brand, substantial resources, the required structure and systems for both financial and human resources management including staff retention and a strong presence in Uganda with a head office in Kampala and regional offices in the areas of operation which ensures effectiveness. Through the associations established by the beneficiary communities, HPI-Uganda recruits local people to work with the communities, which is an advantage as they know the local conditions. The staff are not only qualified but are also committed which, combined with the good leadership at the institutional level leads to effective project implementation. In addition, HPI-Uganda is continuously building the capacity of their staff through short courses and has regular team building exercises which improve the organization's effectiveness.

Developing partnerships

HPI-Uganda has many years of experience in promoting various technologies and specializes in what she can do best and carefully establishes partnerships with different organizations/agencies to be able to meet the various beneficiaries' needs including breeding services; awareness on HIV and AIDS; dry season livestock feeding to supplement forage based feeding in the dry season; and access to markets and credit. In the case of the biogas project, HPI-Uganda set up a multi-sectoral committee comprising of experts in energy, finance and agriculture who provide guidance in the various areas as necessary. As a result of the partnership with the [REDACTED], HPI-Uganda is recognized by the Ministry of Agriculture, Animal Industry and Fisheries as the leading supplier of improved animals and genetic material in the country and with the

high level of coordination with the government extension and right disease control system, the livestock given out to the beneficiaries is of good quality and healthy.

8.2.2. Value added by the partnership between HPI-Uganda and the various stakeholders

Scaling up

According to the funding partners³ who were interviewed for this study, the Passing on of the Gift enables them to support more households with livestock than originally planned and therefore to scale up the project interventions.

Building synergy

In addition to sharing information and experiences, there is development of joint proposals with the different stakeholders working in the livestock sector. For example, the proposal for the Uganda Domestic Biogas programme was developed jointly with [REDACTED] and other stakeholders including the Ministry of Energy while the partnership between [REDACTED], a child focused organization and HPI-Uganda enables adults to look after goats for the benefit of children.

Integration of crop and animal husbandry

Organisations such as [REDACTED] whose primary focus is crop husbandry, have benefited from the livestock component of HPI-Uganda as livestock improve food production through use of oxen and manure for improved soil fertility.

Environmental conservation

In the case of the [REDACTED], the fuel efficient stoves which conserve trees complement the agroforestry component among people living near forests that provide habitat for Chimpanzees.

Focus on the youth and gender equality

In Northern Uganda where there are many youths who lived in internally displaced camps for over 20 years, HPI-Uganda has specific interventions for the youth such as livestock keeping and brick laying and crafts which complements the work on crop husbandry done by the [REDACTED]. In addition, the focus on gender ensures that women, and especially widows, receive support from the community members to be able to improve their living conditions. On the other hand, the advocacy arm of [REDACTED] leads to interventions on access to land for both women and youths which complement the work of HPI-Uganda.

Provision of breeding services

HPI-Uganda sub-contracted [REDACTED] to provide breeding services in 14 districts in Uganda. As a result, HPI-Uganda is the leading

³ These include [REDACTED]

supplier of genetic material in the country. During the time when there was a ban on importation of semen, [REDACTED] obtained semen from HPI-Uganda.

Provision of technical services

Through the partnership with HPI-Uganda, the [REDACTED] is able to ensure that livestock keepers have access to veterinary services while HPI-Uganda provides financial support for the experience sharing events of [REDACTED] and also participates in the governance of the association and provides guidance accordingly. Partnerships with the various stakeholders enable HPI-Uganda to complement each other's resources and expertise thus avoiding duplication and wastage of resources. In the case of [REDACTED] has in the past trained technical staff working with HPI-Uganda in Artificial Insemination and therefore built their capacity to be able to provide Artificial Insemination services while, through partnership with HPI-Uganda, [REDACTED] has an opportunity to work with an organization that works with farmers and therefore to contribute to societal change while in the case of [REDACTED], the two organisations share not only extension staff but experiences as HPI-Uganda staff participate in the quarterly symposia organized by [REDACTED].

8.2.3. Impact of HPI-Uganda's work on communities not working directly with HPI-Uganda

Pass on the Gift and animal care

Various NGOs including [REDACTED] adopted the Passing on the Gift model. Increasingly, there is also adoption of not only biogas but bio-toilets as well. In most project areas, communities from other districts visit HPI-Uganda projects to learn about animal care. For example, in Northern Uganda, communities outside Pader District have replicated the HPI-Uganda supported project including the construction of sheds, feeding and treatment and have purchased boars to be able to improve the quality of their animals. In areas where there are heifers, those who can afford go ahead to buy heifers.

Other livelihood skills

Communities are replicating other good practices including soil management and kitchen gardening for supplying vegetables to the families. The model farms established by HPI-Uganda partner farmers host many visitors with whom they share experiences. In addition, HPI-Uganda organizes field days and farmers' shows on various occasions such as World Environment Day from which people learn about various livelihood issues including HIV and AIDS.

- **Improved nutrition:** Providing good quality animals leads to increased availability of milk in the areas where HPI-Uganda is operational which means that milk is relatively cheaper in these areas than in other areas and therefore more affordable for the households that do not have dairy animals. This leads to improved nutrition and decreased malnutrition among children. In addition, the kitchen gardens that are

established enable the beneficiary households to have vegetables throughout the year hence improved diet.

- **Increased employment:** As the number of animals increase, various households hire labour for looking after the animals thus creating employment opportunities.

8.2.4. Influencing the work of government and other agencies

Government policies on livestock management

When the government instituted a ban on the importation of livestock and semen, HPI-Uganda's management lobbied the Prime Minister and the Ministry in charge of livestock until the ban was lifted for the countries that were not affected by Mad Cow Disease. In addition, HPI-Uganda participated in the development of government policies on feeds and breeding.

Government strategies on poverty reduction and energy

HPI-Uganda participates actively in various government forums including the budget debates through which she influences government programmes and service delivery. Various government officials visit HPI-Uganda supported projects in the various parts of the country and, as a result, government is increasingly supporting projects with the HPI-Uganda model. In the state of the 2011 nation address, the President said the government will work towards each household having 6 dairy animals on zero-grazing. This is an indication that the HPI-Uganda model is influencing national policies on poverty reduction. In addition, the Ministry of Energy supported HPI-Uganda to be the implementing agency for the biogas project and is chairing the steering committee of the biogas project. Collaboration with the Ministry of Energy will lead to government interventions on biogas technology taking the project experiences into account.

Complementing government supported programmes

HPI-Uganda is complementing various government supported activities including the restocking programme of the [REDACTED] by providing veterinary services and transport facilities for the government extension staff that lack transport facilities to be able to reach farmers and provide extension services. In Pader District, communities trained and also provided extension services by HPI-Uganda are benefitting from the [REDACTED] that supports farmers with poultry and animals. In Ntungamo District, the Office of the 1st Lady gave out heifers and since the beneficiaries did not have extension services, HPI-Uganda's extension staff trained the beneficiaries in animal management and also provided extension services. In addition, the East Africa Dairy Development project, in which HPI-Uganda is a partner launched a project on the milk value chain in April 2011 which has empowered farmers to request for milk coolers from the [REDACTED]

Influencing the strategies of various development agencies

HPI-Uganda has partnered with the [REDACTED] in Northern Uganda on a research project on dry season livestock feeding. By doing so, HPI-Uganda is contributing to the research agenda of the institute. [REDACTED] quoted the HPI-Uganda model in its current strategy paper but went ahead to caution other organizations not to replicate

it as it is but rather expand it. In addition, HPI-Uganda is also participating in strategy development by various organizations and agencies including the [REDACTED] [REDACTED] thereby influencing their strategies.

8.3. Lessons Learnt

The following are the lessons learnt by the various stakeholders from the partnership with HPI-Uganda.

8.3.1. Sustainability

- ***Passing on the Gift:*** Livestock keeping is an enterprise for income generation and therefore a major contributor to poverty reduction, environmental sustainability and livelihood improvement while the Passing on of the Gift is a mode of sustainability which can be done not only with animals but with other farm inputs such as chickens, seeds and other planting materials.
- ***Farmers' institutions:*** HPI-Uganda's model of building farmers' institutions ensures sustainability of project interventions as working with farmers associations (as opposed to groups) empowers them to take responsibility for the project interventions including ensuring that they receive extension services.
- ***Partnering with local government:*** Working closely with local government and their extension staff ensures that farmers will continue to receive extension services after the project has ended.
- ***Integrated approach:*** The integrated approach used by HPI-Uganda enhances sustainability as the various activities meet the needs of the beneficiaries.

8.3.2. Promotion of biogas technology

- ***Awareness creation:*** There have lately been several articles in the local newspapers on the biogas technology and its usefulness among which are the use of slurry for crop production and fish farming. As a result, farmers with biogas are receiving a lot of visitors who wish to learn about the technology. There is therefore need to invest in awareness creation to trigger demand for biogas.
- ***Gender issues:*** The targets for gender are not easy to meet in a biogas project. There were targets for women artisans and beneficiaries but the targets have not been met. Some of the few women artisans who were trained are not able to work far away from their homes while others are not able to actively look for market.
- ***Setting targets:*** There is need to review the different regions and have customized targets and approaches. In Western Uganda for example, disposable incomes are higher than in Eastern Uganda. These differences need to be taken into account when setting targets. There is also need for flexibility as bills of quantities cannot be the same in all areas. For

example, in some areas, the water table is close to the surface which means that more cement is needed in such a situation in the construction of the biogas digesters.

8.3.3. Replicability

- **HPI model:** The HPI-Uganda model is considered expensive by the small NGOs. The economics of HPI-Uganda's model, if shared with other NGOs will enable them to replicate it.
- **Community contribution:** Communities have knowledge and resources. Promoters of development interventions only need stimulate them to use their skills, manpower and locally available materials and therefore to make contributions to development projects. In the HPI-Uganda model, the beneficiary communities are able to construct cookstoves, animal sheds and plant fodder for livestock.
- **Meeting livelihood needs:** Communities are pro-conservation for as long as they have incentives that meet their livelihood needs. Agroforestry for example, meets their needs for fruits and fuel wood.

8.3.4. Influencing policies and developing strategies

- **Policy influencing:** If an organization works closely with government, it can influence government policies that negatively affect poor resourced communities. Working closely with government therefore helps to solve policy bottlenecks.
- **Monitoring:** Close monitoring of beneficiaries' activities informs the strategy and subsequent plans.

8.3.5. Partnerships

- **Bigger impact:** Partnerships create opportunities for others to contribute within their mandate so that the ultimate impact is shared while bringing various stakeholders on board creates bigger impact.
- **Teamwork:** In partnerships, it is important to work as a team and iron out any challenges related to project implementation.
- **Marketing of milk:** Partnerships for marketing of milk need to be established early if farmers are to benefit from livestock projects.

8.3.6. Effectiveness

- **Specialization:** Specializing in one area enables an organization to deliver better services and therefore achieve better results and impact therefore. Harmonizing and coordinating efforts to address livelihoods works out well if the organizations complement each other.
- **Monitoring:** The quarterly project meetings held at the district and national levels are very enriching as they enable all stakeholders to know the project progress.
- **Ownership:** Joint planning done at the beginning and throughout the project period enables all stakeholders to deliberate on the project design and to jointly own the project and track its progress.

- **Project formulation:** Community empowerment leads to people taking charge of their own development processes. It is therefore important to involve the communities and the local government administration in the process of project formulation so as to promote ownership of the development interventions.

8.3.7. Poverty eradication

- **Business development:** In order to increase household incomes, there is need to have focus on business development by supporting communities to access business development services.
- **Livestock integration:** Keeping livestock greatly increases household incomes and food security and therefore get people to live above the poverty line. It should therefore be promoted in livelihood improvement activities.

8.4. Recommendations

The following recommendations were made by the stakeholders who were consulted during the study.

8.4.1. Targeting

- There is need to ensure that the households that receive heifers are the most deserving in the communities by working on targeting of the households so as to avoid situations where the selection process is manipulated by local leaders who withhold some information during the selection process thus having some non-deserving beneficiaries to receive heifers.
- There is also need to ensure that all areas where dairy animals are given out are suitable for such animals to avoid farmers having to buy supplementary feed which is expensive.
- Access to markets for milk should be among the criterion for selection of project areas for dairy animals. Where there are no existing markets, value chains should be promoted.

8.4.2. Reporting, monitoring and evaluation

- As HPI-Uganda continues to mobilize funds from various funding partners, there is need to ensure that there is internal capacity to: (1) give feedback promptly to funding partners; (2) meet the reporting requirements of different funding partners such as providing analysis of the project expenditure; and (3) use different reporting and monitoring and evaluation frameworks as required.
- There is also need to ensure that all data collection tools are engendered so as to be able to provide gender disaggregated data for all project interventions and therefore demonstrate the project's impact among men, women and the youth. In addition, there is need to demonstrate impact by providing information for example, on the amount of seed

planted, the acreage and the amount harvested by the beneficiaries disaggregated by gender and age group.

8.4.3. Livestock management

- While the Passing on the Gift is functioning very well for animals, there is a challenge for most farmers to pay for Artificial Insemination which cost UShs 25,000-30,000 (approximately US \$10) which they can pay for from the income from milk sales. There is therefore need to find ways of having farmers to pay for services such as Artificial Insemination and treatment of animals.
- There is need to have a good number of animals given out in a particular project area so as to have veterinary services such as Artificial Insemination economically viable.
- The animal health package offered by HPI-Uganda is good and sufficient as it is based on the advice of extension staff. However, there is an animal disease, mastitis which affects the udder thus reducing milk production. There is therefore need for HPI-Uganda staff to give more emphasis to the treatment of the udder to enable farmers to get milk in good quantities given the effort they put in caring for the animals.

8.4.4. Extension services

- In some areas of the country (for example Mbale District), and more especially in areas where there are no HPI-Uganda extension workers, farmers are not getting adequate extension support as the ratio of extension staff to farmers is very high. There is therefore need to ensure that in all HPI-Uganda projects, farmers are linked to local government extension services and where they do not exist, to empower them to demand for a fully functional extension system from their local governments.
- There is also need to examine whether HPI-Uganda needs to have graduate extension staff or diploma holders providing farmers extension services. From the experience of other organizations involved in livestock promotion, diploma holders do a better job as extension workers.

8.4.5. Governance

- In addition to the international governing body of Heifer Project International, there is need to consider having an Advisory Committee in Uganda so as to benefit from local expertise and experience.

8.4.6. Shared learning

- There is need to establish links with relevant networks in the country so as to benefit from their capacity building and shared learning interventions. An example given is Participatory Ecological Land Use Management (PELUM), a membership organisation of NGOs and training institutions working with smallholder farmers.

- There is need to carry out self-assessments against targets and provide records over a long period of time (say 10 years) and share these records and any success stories with the Uganda Veterinary Association and with other stakeholders.
- There is also need to demonstrate that animals can transform people's livelihoods by regularly contributing articles in the farming section of the various newspapers. Failures too should be shared with the veterinary professionals to enable them to learn from HPI-Uganda's experiences.

8.4.7. Promotion of biogas

- A training manual has been developed but there is need for HPI-Uganda to work with the Ministry of Energy to develop a curriculum so that the biogas technology is examinable by the Uganda National Examinations Board so as to have qualified technicians to construct biogas plants. This will go along with the development of standards for materials to be used.

8.4.8. Capacity building

- Given the integrated nature of the HPI-Uganda supported activities, there is need to give basic skills in agronomy and human nutrition to the extension staff of HPI-Uganda so that they can support farmers in crop production as well.
- There is also need to conduct short courses for some farmers in animal care since veterinary care is generally expensive leading to farmers losing animals in instances where they should not. The trained farmers will be able to administer drugs after a veterinary specialist has done the diagnosis.
- There is also need to consider partnering with the School of Veterinary Medicine/Africa Institute for Strategic Animal Resource Services and Development (AFRISA) to develop a small and medium enterprises curriculum for training women and youths who will get university qualifications and starter kits to be able to work with farmers.
- In addition, HPI-Uganda and AFRISA could set up a model demonstration unit for training women and youths in dairy farming and marketing including a zero-grazing unit, milk quality control facilities and a market outlet with value addition and packaging.

8.4.9. Policy advocacy

- As indicated in Section 2.4 above, HPI-Uganda has played a key role in influencing various policies in the livestock sector. However, there is need to ensure that there is internal capacity for scaling up successful interventions while the experience gained over the years should be used to continue influencing government policies on the various livelihood issues by for example, partnering with School of Veterinary Medicine/AFRISA to inform policy formulation through action research and come up with guidelines and ways in which to improve policy development.

- There is also need to lobby local governments to have gender sensitive bye-laws. For example, limiting drinking hours in parts of the country where men start drinking alcohol in the morning leaving the women to work alone in the gardens.

8.4.10. Availability of water

- Due to climate change, water for both livestock and domestic use is becoming increasingly scarce during the dry season in most project areas. In order to sustain the socio-economic benefits registered by HPI-Uganda, there is need to promote water harvesting and to partner with other stakeholders including local governments to provide water sources such as boreholes and protected water springs.