Impact Evaluation of the Dutch Food Security Programme in Uganda Food Security - including a case study of the aBi-Trust project

Final Analysis Plan

Amsterdam Institute for International Development

PwC

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Table of Contents

List of Figures

List of Tables

1. Introduction

The food security programme of EKN Kampala is presented in the intervention logic displayed in Figure 1.

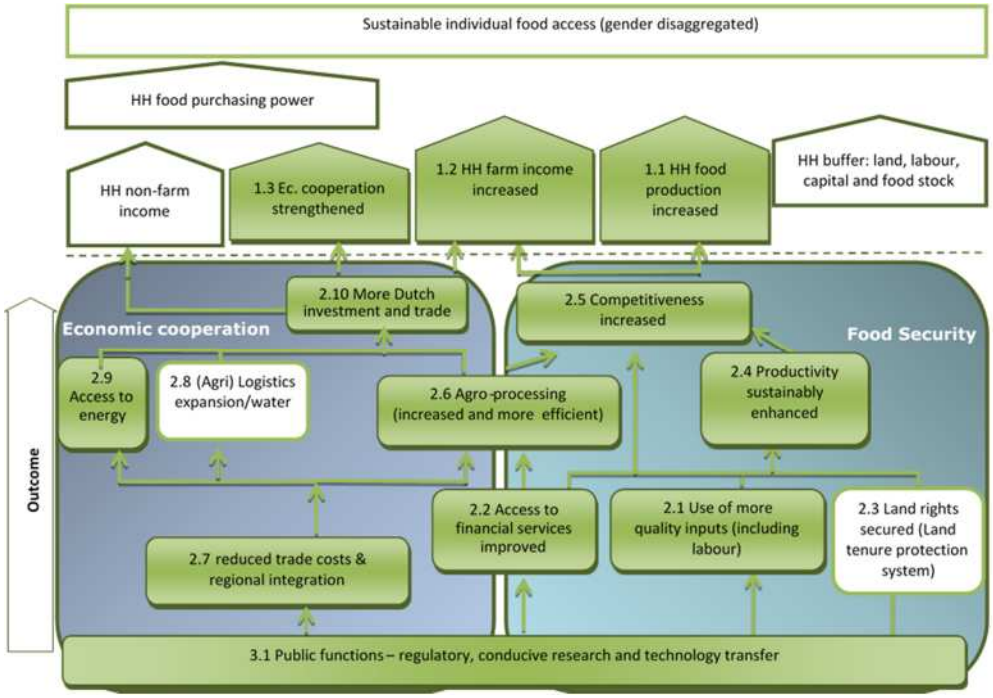

Figure 1: Food security intervention logic, Source MASP 2012 - 2015

In the baseline report the outcomes in the intervention logic were linked to the EKN portfolio as shown in Table 1. Linking the projects to the outcomes in the intervention logic is the starting point to define in what way a project contributes to the Food Security programme of EKN. Please note that outcomes 2.8 and 2.9 of the intervention logic are not addressed by any of the projects financed by EKN.

In February 2016 a short survey was sent to all project implementers. Project implementers were asked to fill in a self-evaluation about the project and its contribution to the food security programme. Only one project has been finalized before the end of 2015: **23473** Operationalization DSIP. The following projects will be evaluated on their progress and impact so far.

- **23614** KAM support fund
- **23615** aBi-Trust project
- **23616** Catalist-Uganda
- **23617** ISSD-Uganda
- **23618** Agri-Skills 4 You
- **23619** Intra-regional trade
- **23620** Agri-policy action
- **25582** Financial inclusion - DFCU

We will use the intervention logic to assess to what extent the projects have met their objectives and to what extent they contributed to the EKN food security objectives. We will synthesise the findings for the whole programme, thus testing the assumed Theory of Change of EKN

Uganda on how to contribute to food security. More specifically, we will assess if food insecure people are being reached, and if not, or insufficiently, what is needed to reach them. In addition, information about the number of direct and indirect beneficiaries will be collected. For each project participating in the survey we will described the results in terms of food availability, food accessibility, food stability, food utilization and private sector development.

Outcome indicators	Projects contributing to the indicator
2.1 Use of more quality inputs	23473 Operationalization DSIP 23614 KAM support fund 23615 aBi-Trust project 23616 Catalist-Uganda 23617 ISSD-Uganda 23618 Agri-Skills 4 You 23620 Agri-policy action
2.2 Access to financial services increased and at affordable costs	23615 aBi-Trust project 25582 Financial inclusion - DFCU
2.3 Land rights secured	-
2.4 Productivity sustainably enhanced	23615 aBi-Trust project 23616 Catalist-Uganda 23617 ISSD-Uganda
2.5 Competitiveness increased	23615 aBi-Trust project 23616 Catalist-Uganda
2.6 Agro-processing increased	23616 Catalist-Uganda
2.7 Reduced trade costs & regional integration	23619 Intra-regional trade
2.10 More Dutch investment and trade	23614 KAM support fund
3.1 Public functions – regulatory conducive research and technology transfer	23616 Catalist-Uganda 23617 ISSD-Uganda 23620 Agri-policy action

Table 1: Food security projects per outcome indicator

2. Approach portfolio evaluation end-line

During the end-line phase the following stages will be followed:

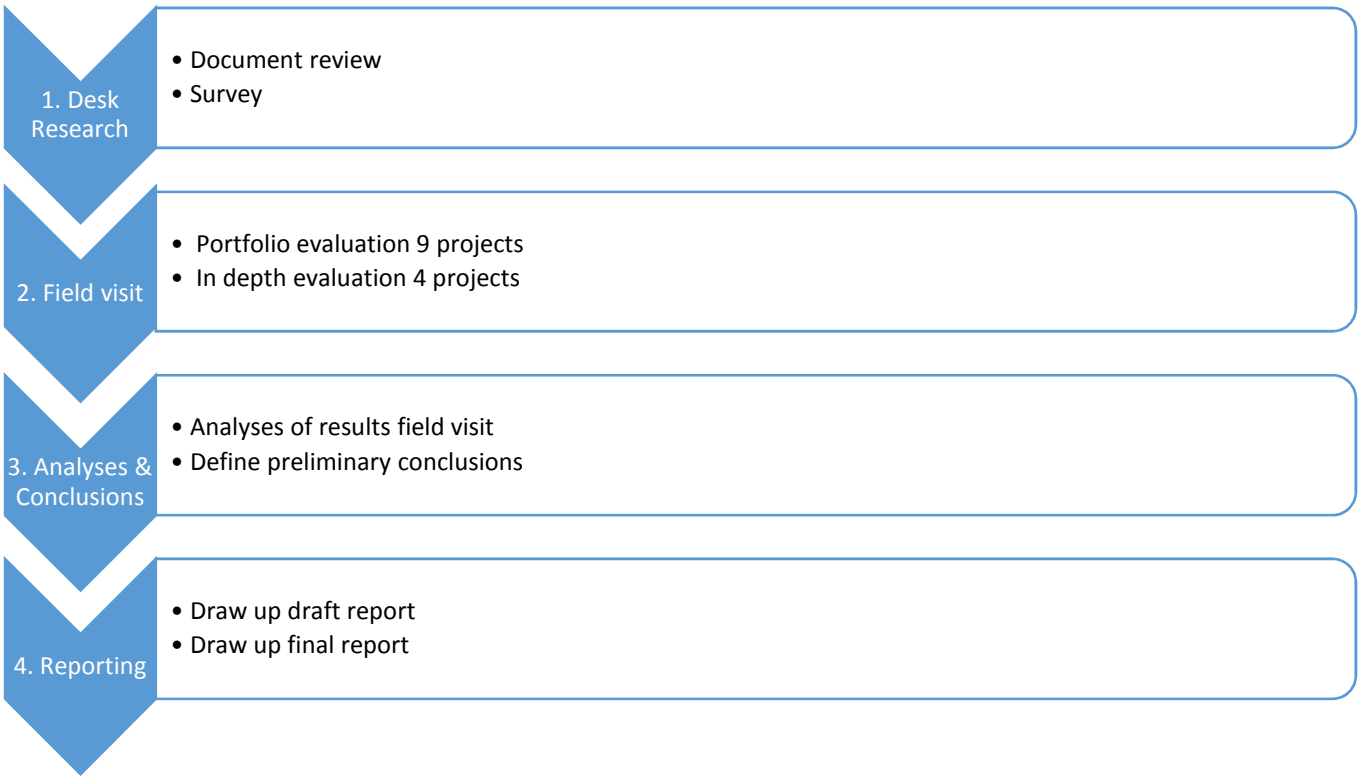

Figure 2: Stages portfolio evaluation food security Uganda

2.1 Desk research

The desk research will take place in the Netherlands. The document review of secondary data sources is ongoing. Documents consist of project-level monitoring reports and/ or evaluations conducted by:

1. project implementers;
2. EKN;
3. centrally funded MFA evaluations;
4. other donors or the Government of Uganda.

In addition to these documents various policy documents of the Dutch Ministry of Foreign Affairs are relevant to include in the desk research. Please refer to appendix 1 for available documents per project received either from EKN or IOB.

As discussed during the end-line preparation workshop IOB relevant documents are not only the food security policy letter of 2011, but also documents such as the country MASP, the new policy letter of 2014, and possibly the new MASP (2014-2017) are important reference points for the *current (2016)* relevance of the projects and will be included in our desk research in addition to the original scope described in the ToR.

For the Uganda food security impact evaluation we have started analysing the available documents of the projects and will use the data to make a preliminary assessment of the extent to which the EKN food security objectives are met.

Table 2.2 shows an example of project **23614 KAM support fund** for which we will analyse the documents based on the BEMO results, the assessment during the baseline study and the survey that has been sent out in February.

In line with the request of IOB after the workshop in November 2015, we have added an additional column named 'other' where we can include additional characteristics as mentioned in the new policy letter of 2014, such as:

- environmental sustainability / climate change adaptation;
- characteristics of target group: small, medium farmers; landless, wage labourers;
- type of food insecurity experienced by beneficiaries (availability, access, utilisation, stability);
- effect on indirect beneficiaries (e.g. employment, food availability).

In the table we will link the project objectives to the results and outcomes and to draw some preliminary conclusions. These conclusions will be tested in interviews with project implementers during the end-line visit.

FOOD SECURITY	Food security objective?	Number of direct beneficiaries, and Targeting food insecure?	Increased Food Availability (likely/evidence)	Increased Food Accessibility (likely/evidence)	Enhanced Food Stability (likely/evidence)	Enhanced Food Utilization (likely/evidence)	Other expected and unexpected results[1]
Sub-objective outcome indicator: 2.1 Use of more quality inputs **Sub-objective output indicator: 2.10 More Dutch investment and trade**							
KAM support fund (BEMO, 23614)	Yes, the support fund is used towards food security related activities	This is not specified. Check with EKN.	This is not specified yet an effect could be possible depending on the activities that will be explored. Check with EKN.	This is not specified yet an effect could be possible depending on the activities that will be explored. Check with EKN.	This is not specified yet an effect could be possible depending on the activities that will be explored. Check with EKN.	This is not specified yet an effect could be possible depending on the activities that will be explored. Check with EKN.	

OVERALL CONCLUSIONS	Objectives	Outputs	Outcomes	Preliminary conclusions (plan versus results)
Sub-objective outcome indicator: 2.1 Use of more quality inputs **Sub-objective output indicator: 2.10 More Dutch investment and trade**				
KAM support fund (BEMO, 23614)		1. Enhanced understanding of subsectors, including opportunities for investments		Key indicators: • Reports serve the intended purpose, are delivered within the required timeframe and are positively appraised by EKN-staff; • List of opportunities for investments; Well prepared projects and lessons learned in food security. Project staff: Beneficiaries: Government: Other:
		2. Feasible options identified for support in the area of food security		
		3. Project proposals and arrangements formulated		
		4. External monitoring realized on progress of certain activities		
		5. Dutch trade & investment promotion into Uganda strengthened		
		6. Enhanced capacities of the policy officers in the area of food security		
		7. Increased capacity of the embassy to implement its MASP 2012-2015		

Table 2: Document review project 23614 KAM Support Fund Food Security (example)

[1] The expected results will be specified beforehand for each project and unexpected results will be assessed during the field visit and verified through the different stakeholders.

2.2 Field visit

The second stage of the data collection will take place in Uganda during the field visit. This is planned in May to carry out the qualitative and quantitative data collection. The field visit aims to verify the findings of the desk research and to study the projects in more detail. The portfolio in Uganda consists of 9 EKN projects (including the aBi-Trust project). IOB has decided that the centrally managed project, as mentioned in the inception report, will no longer be included in the end-line evaluation. The aBi-Trust project will also be assessed in the project evaluation, which is described in chapter 3. During the field visit we will carry out:

A. the portfolio evaluation of 9 projects for a 'light' assessment;
B. the in-depth quantitative and qualitative evaluation of the aBi-Trust project (see chapter 3);
C. the in-depth qualitative evaluation of 3 other projects.

2.2.1 Portfolio evaluation

The preparation of the field visit starts with an analysis of the data on outcome and output level for each project in order to assess to what extent the project targets have been met based on the baseline report, document review and survey (as shown in table 2). The baseline report summarised the intended outcomes and outputs. In the surveys the project managers reported on the achieved results. Those two sources will be compared and critically assessed. The field visit will be used to verify through interviews to what extent our findings and interpretations are correct and to what extent project implementers and EKN staff believe the projects to have contributed to the objectives of the Uganda country programme and Dutch food security policy.

We intend to conduct face-to-face semi-structured interviews, which offer the benefit of generating interview data that are comparable between respondents whilst also offering the respondent the opportunity to clarify responses, to proceed interactively when answering questions, to volunteer information to the research team and to bring up issues that the evaluation team would not have thought of. We will prepare specific questionnaires for every project with a checklist of topics to discuss and questions. The interviews are focused on:

- seeking clarifications on the various data that we have collected from our desk review;
- validating and enriching survey findings;
- cross-checking findings;
- ensuring a balanced perspective.

We intend to interview the following stakeholders:

- 9 project implementers (interviews for the aBi-Trust project are described in chapter 3);
- EKN staff responsible for the Dutch Food Security Programme (+/- 3 interviews);
- Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) (1 interview);
- other Government of Uganda agency (1 interview);
- main donors in the area of Food Security in Uganda such as the Royal Danish Embassy, World Bank, and DFID (2-3 interviews).

The interviews with will take between 1 and 1,5 hour each. In total between 12 - 15 interviews will take place. It will be possible to organize 3 to 4 interviews per day, depending on the distance to travel. The portfolio interviews will take approximately 4 days.

2.2.2 In-depth evaluation

The in-depth evaluation consists of a total of four projects including the aBi-Trust project. The in-depth evaluation of the aBi-Trust project will be discussed in chapter 3. The other projects selected for the in-depth evaluation are[2]:

- **23618** Agri-Skills 4 You
- **23619** Intra-regional trade
- **25582** Financial inclusion – DFCU

The in-depth evaluation contains interviews with the following parties:

- 3 visits of project locations to have a better insight of the circumstances, results and impact on the beneficiaries;
- 1 additional face-to-face interview with board / staff members per project (next to the portfolio interview), 3 interviews in total (excluding the aBi-Trust project);
- 2 Focus Group Discussions (FGDs) with the final beneficiaries of two projects.

The goal of the FGDs is to have a better understanding of the information that is presented in the reports and also to test whether these findings resonate with the target group of the selected projects. The questions to be addressed in the FGDs will depend on the subject and goal of the specific project. One FGD will take place per selected project and therefore two FGDs are scheduled as part of the portfolio evaluation.

General issues to be addressed during the FGDs are:

- assessment of the theory of change;
- mapping of the observed results of the intervention on the direct target group;
- mapping of the effect of the intervention on the indirect target group;
- identification of external factors.

For the FGDs we propose to select the projects:

- **23618** Agri-Skills 4 You
- **23619** Intra-regional trade.

We opted for those projects since they are complementary to each other and will be finalized in 2016. We did not choose project **25582** Financial inclusion – DFCU, because the project is half way into its implementation and will be finalized in 2018. An in-depth evaluation of this project will take place via one additional interview next to the portfolio interview and a visit to the project location. In addition project **23615** aBi-Trust will have an in-depth evaluation as described in chapter 3.

Conducting each FGD is expected to take approximately 3 hours (including preparation on-site and receiving and thanking participants). We intend to combine the interviews of

[2] These projects were selected in the baseline phase. The selection was approved by IOB.

the portfolio evaluation with the in-depth evaluation on the same day whenever possible, in order to save time.

2.3 Analysis and conclusions

Based on the document review, field visit[3] and additional desk research all available information will be analysed and triangulated in order to answer the evaluation questions. We will use the intervention logic at portfolio level to assess to what extent the country programme objectives have been met. By answering the research questions we will analyse to what extent the overall Dutch food security policy objectives of the security policy letter of 2011 have been met and to what extent they are relevant in the context of the new policy letter of 2014. The latter assessment will be done briefly since it was not primarily the objective of the impact evaluation study.

Our draft results will be shared with the other evaluation teams when available, as suggested by IOB. This will be done before the end of July 2016.

Based on the draft results we will formulate our preliminary conclusions. We will deliver our draft final report to IOB in September 2016.

2.4 Reporting

The report will be structured according to the proposed outline of IOB for the country report. Based on the previous stage we will draw up the draft report in September 2016. After receiving and processing the feedback of IOB, the final report will be delivered in November 2016.

[3] All the interviews and focus group discussions conducted during the field visit will be documented.

3. Approach project evaluation aBi-Trust

3.1 Introduction

aBi-Trust is a multi-donor entity jointly founded by the Governments of Denmark and Uganda. ABi-Trust supports agribusiness development in the private sector to achieve the objective of the GoU's Competitiveness and Investment Climate Strategy (CICS) and the DSIP.

aBi-Trust broadened its mandate to support the dairy value chain project which started in November 2012. aBi-Trust submitted a project funding request to the Royal Danish Embassy (RDE) who acts as the lead donor for the multi-donor funding to the aBi-Trust. The RDE directed the funding request for dairy development to EKN.

The aBi-Trust project was intended to strengthen market access of the dairy value chain and the different actors in the target geographical area, the South Western Milk Shed. It targeted to address critical bottlenecks along the value chain that are impeding sustainable and profitable access to markets.

The aim of this evaluation is to estimate the impact of the interventions for dairy value chain development financed by Dutch aid. Although the Dutch support to aBi-Trust was not earmarked, the RDE would assure an attribution to dairy value chain development of at least the amount EKN will contribute.

The project was mainly focused on raising farm income, through improved technology and access to markets. aBi-Trust adopts a value chain approach in development, but EKN expressed a desire for its funding support to:

- be of a relatively short duration;
- focus on "quick wins";
- address "market pull" aspects; and
- reduce the investment subsidy in equipment with society down payment up-front so the co-funding is only there to complement beneficiary ownership and sustainability of a business model, retain financial services development and gender and youth.

The primary beneficiaries of the project are dairy cooperatives and unions who benefit from two types of project activities and intermediate outcomes:

1. professionalisation of their members' farming practices, strengthening of the dairy cooperatives and unions, increased farmers access to financial services, access to better storage facilities for their produce (new modern cooling equipment); and
2. increased demand through better access to the market.

These interventions specifically included support for:

1. Acquisition of assets for:
   - milk cooling and handling equipment for dairy primary cooperatives;
   - insulated bulk tankers for milk transportation;
   - refrigerated trucks for milk and other dairy products delivery for partnering processors;
2. institutional strengthening of dairy cooperatives and unions;
3. milk processing initiatives for:

- support to Uganda Crane Creameries Cooperative Union (UCCCU) and others;
- milk chain quality management;
- value addition initiatives;

4. financial services development;
5. increasing gender and youth mainstreaming in the dairy value chain;
6. other areas of intervention, including support for the dairy sector platform; participation in international, regional and national dairy shows, and cosponsoring dairy workshops;
7. programme management by aBi-Trust.

3.1.1 Detailed programme logic of the aBi-Trust project

The following table lists the components of the aBi-Trust project, intended beneficiaries, the timing of the interventions and the budget associated with it.

Component	Beneficiary	Timeline	Budget[4]
Acquisition of assets	Milk collection centres (MCCs) of UCCCU cooperatives, members of UCCCU cooperatives	2013 – 2014	€ 1,745,700 excluding the cost-share grants of 50% targeting to initially support the acquisition of 100 coolers.
Institutional strengthening of coops and unions	UCCCU, cooperatives	2013 – 2015	€ 1,105,500
Milk processing initiatives	UCCCU		€ 1,645,167
Financial services development	Dairy farmers, traders, MCCs	2013 – 2015	€ 549,000
Increasing gender and youth mainstreaming	Members of UCCCU cooperatives	2013 – 2015	€ 385,050
Other areas of intervention	To be determined	2013 – 2015	€ 120,000
Programme management	aBi-Trust	2013 – 2015	€ 645,329

Table 3: detailed programme logic aBi-Trust

As can be seen from the table above, the main beneficiaries from the aBi-Trust project were UCCCU and the member cooperatives. This distribution of costs ensures that most of the funds go actually to the implementation of the activity at farmers' cooperative level. Most of the support (26.8%) was in the form of the provision of equipment to ensure a cold chain in the milk collection. It was expected that this would result in a higher price farmers can fetch for their milk, and less wastage. This in turn would increase the profitability of milk production and could entice farmers to produce more milk. This will increase employment

[4] The total budget also includes a cost escalation of 5%, € 309,787.

in the milk sector, and incomes of those who work in the milk sector. The increased availability of milk and higher incomes are expected to lead to improved food security and less malnutrition.

As mentioned before, this project addressed 'market pull' aspects of the dairy value chain. The project proposal stated that 'productivity push' aspects of improving herd productivity and production (genetic improvement and herd management, herd nutrition, and herd health/vet care) require longer term investments. Therefore, they remain integral to aBi-Trust's dairy value chain strategy and RDE shall seek additional funding from other sources. These interventions would not be financed by Dutch aid, but it was expected that they would benefit the same target population. Depending on the scope, approach and timeline of implementation of these productivity push interventions, it could be the case we would not be able to distinguish between the impacts of the aBi-Trust project and these new interventions.

3.1.2 Research Questions

The evaluation of the Dutch Food Security Country Programme, with one household-level project impact evaluation; has to answer five key questions set out below:

1. What is the composition and motivation for the Dutch Food Security Country Programme 2012 – 2015?
2. Which instruments are being used and what is the synergy in tackling food insecurity?
3. How does the expenditure relate to the number of directly and indirectly targeted beneficiaries, and to the expected food security effect per beneficiary?
4. What are the effects of a) the Dutch country programme, and b) the selected project, on food security?
5. What can be said about the efficiency or cost-effectiveness of the food security interventions?

The household-level (aBi-Trust) project impact evaluation is mainly intended to answer questions 4(b) and 5; regarding the effectiveness and efficiency of the food security intervention.

3.1.3 Purpose of the surveys

Essentially, the surveys are designed to provide baseline and end-line information on project indicators. The data allows for the measurement of the aBi-Trust project effectiveness and final project impact of the project interventions on the households' food security and welfare.

3.2 Methodology for the baseline survey

3.2.1 Ethical Clearance

Ethical clearance for this study was provided by the Institutional Research Committee (IRC) of Mbarara University of Science and Technology (MUST). The aim of the clearance was to ensure that the survey is conducted in compliance with the protocol and applicable to international and national regulations. It was also aimed at ensuring that the respondents fully understood the nature and purpose of the survey and give consent before being subjected to the questionnaire. To this effect, the IRC provided consent forms in English, which we translated in both Runyakitara and Luganda to ensure that all our respondents participate in the baseline and end-line survey voluntarily and knowingly provide consent for use of the information provided for the purposes of this study. **Please note** that, should the Wageningen University's team use the end-line data for their project

commissioned by SNV, the consent forms will have to be expanded to explicitly include this. This could lead to sample attrition.

The confidentiality of data shall be observed during the collection and analysis; the results are reported as aggregates with no feature to link it to the individual households. However identification features are maintained to enable cleaning of data and for the local investigators to call back in case of clarifications. It is also necessary because in 2016 the same households are to be visited for impact evaluation of the project and therefore the particulars are required for identification of the households and matching to the 2014 baseline data.

All the documents approved by IRC were submitted to Uganda National Council for Science and Technology (UNCST), which approved the research and issued a permit for a period of 3 years up to up to 24th March 2017. UNCST is a body that has the mandate to facilitate and coordinate research activities in the country. **Please note** that, since the data collection tool will be changed if we incorporate the requests from Wageningen University, a new application to UNCST for approval will be required. This will also involve translating the revised data collection tools into local languages. The process takes not less than a month and comes with additional costs (time, application fees, transport and travel).

3.2.2 Selection of the control group

The control areas covered Kyankwanzi and Kiboga districts in the central location milk shed. The central region and specifically the two districts were identified for the control groups, for the following reasons:

1. The central region milk shed contributes 24% of Uganda's national milk production compared to 25% of the South Western milk shed (treatment area); hence the two milk sheds were more comparable to each other than the rest of the milk sheds which have relatively lower national milk production contributions i.e. Eastern 21%, Karamoja 7%, Mid-western 12% and Northern 11%.
2. The chosen control districts are a distance from the treatment area/districts and hence, the possibility of spill overs was minimised.
3. Just like the treatment area districts, the chosen control districts have cooperative societies, only that they are not as organised as the UCCCU cooperative members. They also have and operate Sameer coolers.
4. Like the Southern Western milk shed districts, the two districts are located in the cattle corridor with almost same climatic conditions, hence very suitable for comparison.
5. At the time of the baseline survey, there was no evidence of projects similar to the aBi-Trust support to dairy value chain development in South Western Uganda; that were being planned for implementation in the two districts in the next two years.

3.2.3 Study population

Just like the baseline study, the end-line evaluation will be carried out among dairy farmers in the south-western and central regions of Uganda. Farmers in the south-western region – the treatment group – will be obtained from the districts Kiruhura, Ibanda, Mbarara, Isingiro, Ntungamo, Rukungiri, Kabale, and Sheema. Farmers in these districts are organized under nine major unions namely:

- Bushenyi Dairy Industry Cooperative Union (BUDICU)
- Inka Dairies Cooperative Union (INKA)

- Isingiro Dairy Farmers Cooperative Union (ISDAFU)
- Banyakigezi Dairy Farmers Cooperative Union (BANYAKIGEZI)
- Ankole Dairy Products Cooperative Union (ADPCU) and KAZO
- Mbarara District Dairy Farmers Cooperative Union (MBADIFCU)
- Ntungamo Dairy Farmers Cooperative Union (NDAFCU)
- Rukungiri Dairy Farmers Cooperative Union (RUDAFCU)
- Sheema Dairy farmers Cooperative Marketing Enterprise Union (SHEEMA).

The unions have a total 90 primary dairy cooperatives, with varying number of dairy farmers.

In the central region, the control group, dairy farmers will be based in Kiboga and Kyankwanzi districts. Unlike the treatment group, dairy cooperatives in the control group are not organised in unions.

Just like the baseline survey, the study population will comprise of all active and non-active cooperative members supplying milk to the dairy cooperatives in the regions. Further, non-members in the selected villages will be considered. A detailed description of the sampling procedures adopted in selecting the cooperatives and farmers is presented in the subsequent section.

3.3 Sampling

We shall follow the sampling methodology adopted at baseline with minor amendments for the primary cooperatives and dairy farming households as illustrated below.

3.3.1 Sampling of Primary cooperatives

The primary cooperatives in the treatment area [N = 90] were stratified by cooperative union and the number of primary cooperatives considered in each union were obtained using PPS. A simple random sample of the cooperatives in the treatment area was then drawn from each of the unions as illustrated in the table below.

Union Code [District][5]	Cooperatives	% of 90	Sample
INKA [Ibanda]	3	3.3	2
ISDAFU [Isingiro]	4	4.4	2
SHEEMA[Sheema]	5	5.6	3
BANYAKIGEZI [Kabale]	2	2.2	1
ADPCU & KAZO [Kiruhura]	52	57.8	28
MBADFCU [Mbarara]	7	7.8	3
NDAFCU [Ntungamo]	14	15.6	7
RUDAFCU[Rukungiri]	3	3.3	2
Total	**90**	**100.0**	**48**

Table 4: Summary of sampled cooperatives by dairy unions in the treatment area

The control area has no active dairy unions. As was the practice during the baseline survey, we intend to collect data from the three active dairy primary cooperatives in the control

[5] The cooperative Bushenyi Dairy Industry Cooperative Union (BUDICU) was not included in the sample during the baseline and used for descriptive purposes only.

area however, Kyankwanzi Dairy Farmers Cooperative has since disintegrated and we cannot replace it with another cooperative as there are no active cooperatives in Kyankwanzi district. Therefore, we will only collect institutional data from the two cooperatives below in the control area, which are both located in Kiboga district.

District	Primary Cooperative
Kiboga	Dwaniro Dairy & Livestock Coop Society Ltd
Kiboga	Kiboga Livestock farmers coop society Ltd

Table 5: Cooperatives for collection institutional data

We will however visit the farmers who were associated with Kyankwanzi Dairy Farmers Cooperative to collect data as has been done during the baseline survey.

3.3.2 Sampling dairy farming households

The number of dairy farming households to be considered from each of the cooperatives had earlier been determined using a predetermined sample to be adopted in the treatment group [n = 480].

During the baseline survey we established that whereas the required sample size of 478 dairy farming households was easily available in the treatment area, the control area had fewer respondents to the extent that we did not get the required sample (478 dairy farming households) even after we almost covered the entire population as illustrated in the table below.

Area	Sample size of dairy farming households visited during the baseline survey
Treatment	470
Control	370
Total	**840**

Table 6: Sample size dairy farming households during baseline

Since by design the end-line data shall be collected from the same dairy farming households visited during the baseline, the above sample size shall be applied for the end-line evaluation. The 840 dairy farming households were obtained from two randomly selected villages for each of the selected cooperatives in the treatment area, and from all the villages surrounding the primary cooperatives in the control area.

3.4 Data Collection tools

Just like for the baseline survey, the data collection tools to be used in the end-line survey will include the:

a) survey tool for the dairy farming households – included in Appendix 3 (**please note** that this is version does not yet include any changes suggested by Wageningen University);
b) institutional questionnaire for the primary cooperatives; and
c) vendors questionnaire for the milk traders.

Following the baseline survey, these tools were reviewed and updated to clear some errors/gaps identified, especially as regards the capture and measurement of food production and consumption. As such, the baseline survey tool will adopt the Uganda

Bureau of Statics (UBOS) food item/unit codes, labels and conversion factors to aid the computation of food consumption and expenditure. The revised tools will further be tested to ensure they accurately and adequate capture the required data.

3.5 Training of Research Assistants and Supervisors

During the end-line evaluation, we plan to employ the same team of 20 research assistants and supervisors used during the baseline survey, the only replacements being those that will not be available. As was the practice before the baseline survey, we shall refresh and train the research assistants and supervisors on the objectives of the survey and our expectations from them, specifically addressing the areas of weaknesses identified during the baseline survey.

3.6 Data collection

3.6.1 Quantitative Data Collection

Using the approved data collection tools, quantitative and qualitative data will be collected from the UCCCU, Cooperative Unions, Primary Cooperatives and dairy farming households over a period of three weeks, starting with the treatment area. Institutional data will be collected by the Supervisors, who will be overseen by the Principal Researcher and Key Specialists; while data from dairy farming households will be collected by the Research Assistants. All data collected during the day will be instantly reviewed by the supervisors who will pass/fail the completed survey questionnaire. In case of a fail, the data collectors will immediately be asked to rectify any inconsistencies or ambiguities identified.

3.6.2 Qualitative Data Collection

Qualitative data will be collected from Focus Group Discussions (FGD). Overall, six FGDs will be conducted; four in the treatment and two in the control area. Similar to the baseline, the participants will be 8-12 members comprising farmers, vendors and members of the dairy cooperatives. The guiding questions for the FGDs will be derived from the findings of the quantitative data analysis. The qualitative data will further question, explain and enrich the quantitative findings and subsequently, the end-line evaluation report.

3.7 Data coding and entry

A team of about 4 data entrants will be trained by the Data Analysis Specialist to code and enter data with the aid of a data entry screen he will have developed. The data entry exercise will commence a week after the data collection exercise in order to allow for enough time to quickly address any errors that may have passed the various tests, but also to ensure the timely completion of the assignment.

3.8 Data analysis

The subsequent sections present a layout of the management and analysis of quantitative and qualitative data at institutional and dairy farming household level.

3.8.1 Interventions (Right hand side/treatment variables)

In this section, we shall answer the question: Was the intervention implemented as planned both at the institutional and dairy farming household? In answering this question, we will describe the actual activities financed by the aBi-Trust project that took place between baseline and end-line in the treatment and control areas. This will also include activities which were not financed from the Dutch aid, both in the treatment and control areas. If this is the case in the treatment area, we will indicate the size of the Dutch contribution in relation to the total cost of the activities.

We will provide a comparison of what was planned against the actual intervention in the treatment area from the time of the baseline to end-line survey. We shall also capture and describe the various institutional and dairy farming household interventions that took place in the control area from the time of the baseline to end-line survey. In the following tables, we provide a more detailed illustration of how we intend to analyse the institutional and dairy farming household interventions in the sampled treatment and control areas.

3.8.1.1 Institutional level interventions

Intervention	Descriptive Analysis
1.1.1 Supporting acquisition of assets • Milk cooling and handling equipment; • Bulk tankers for milk transportation; • Trucks; • Refrigerated delivery trucks; Assorted milk handling equipment i.e. milk cans, mini laboratory (milk testing kits, etc.);	From the time of the baseline to end-line, we shall, in the treatment and control areas: • describe the type, capacity, quantity, ownership, location, condition and cost of assets and equipment supplied, including the date of supply, installation, commissioning, beneficiary cooperatives (primary and MCCs) and funder; • describe the contribution of the aBi-Trust dairy Project in respect of all the assets acquired;
1.1.2 Institutional strengthening of dairy cooperatives and unions TA for management training, internal systems development and improvement; governance; developing business/marketing plans; facilitating links to service providers	We shall analyse this intervention in the treatment and control areas from baseline to end-line by: • Describing the nature, form, funder/sponsor, cost and timing of actual TA offered; number and names of benefiting primary and district cooperatives, number, name and designation of benefiting staff;
1.1.3 Support for dairy processing • Capacity building of UCCCU and others; • Milk chain quality management; • Value addition initiatives;	We shall analyse this intervention in the treatment and control areas from the time of the baseline to end-line by describing the nature, form, funder/sponsor, location, cost and timing of: • actual TA offered to UCCCU; • training offered to primary cooperatives/dairy farmers; number and names of benefiting primary cooperatives, number of benefiting dairy farmers;
1.1.4 Support to financial services development	We shall describe the nature, form, funder/sponsor, cost and timing of the actual "financial services development" interventions implemented in the treatment and control areas between the baseline and end-line period.
1.1.5 Support to gender & youth mainstreaming in the dairy value chain	We shall describe the nature, form, funder/sponsor, cost and timing of the actual "gender & youth mainstreaming in the dairy value chain" interventions implemented in the treatment and control areas between the baseline and end-line period.

3.8.1.2 Dairy Farming Household Level Interventions

Although the above institutional level interventions cover the cooperatives and their beneficiaries, we will capture if any, the other direct interventions at the dairy farming household level. Where available, we will describe the nature, form, funder or sponsor, location, cost and timing of the household level interventions implemented in the treatment and control areas between the baseline and end-line period.

3.8.2 Results/Outcomes (left hand-side effects)

The aBi-Trust Dairy Project interventions have an effect at the institutional (UCCCU, district unions, primary cooperatives and MCCs) level and dairy farming household level.

3.8.2.1 Institutional Level Results/Outcomes

In light of a relatively small number of primary cooperatives in the control area, only descriptive analysis of data relating to cooperatives will be done. In other words, statistical tests to ascertain whether or not differentials exist in the institutional indicators – between the control and treatment groups – may not yield valid conclusions about the data. We are much aware that non-parametric tests are more reliable in dealing with data of low quality including data comprising a small number of cases; nevertheless, the findings derived from the control group having a relatively low number of cooperatives may yield questionable findings.

We will describe, discuss and conclude on the baseline and end-line quantities/status of the institutional indicators. In addition, we will undertake a trend analysis using the monitoring data (where monitoring data was collected). Where appropriate, we will present the variables/indicators in the form of bar charts, stacked charts; pie charts, line charts. The assessment shall be made on indicators in the themes namely, cooperatives business performance, asset ownership operation and maintenance as well as cooperatives governance. Table 6 summarises the institutional level indicators to be analysed in respect of the various result/outcome areas at baseline and end-line in the treatment and control areas.

Result area	Indicators to be analysed
Cooperatives Business transactions	volume of milk sold per month, disaggregated by category of buyers i.e. processor, direct consumers, vendors, etc..;
	volume of milk bought per month, disaggregated by membership;
	number and percentage of suppliers of milk rejected at the cooperative, and the main reasons for rejection;
	volume of unutilized (unsold) milk per month/year;
	annual turnover/rate of growth in turnover;
	buying price, selling price and margin per litre of milk sold per month;
	number of suppliers (disaggregated by members and none members) per month;
	number and type of tests carried out on milk received, including reasons why they are not carried out;
	annual dividend/dividend per share paid to members;
	number and nature of other services carried out by the cooperatives;

Asset ownership, operation and maintenance	quantity, capacity and condition of assets (coolers, generators, land, premises, vehicles, milk delivery tank/truck, milk testing kit/mini laboratory, and metallic cans) owned, rented and leased by the cooperative;
	number of months (in the last 12 months) when equipment (coolers, generators, transportation trucks, etc.) were not operational;
	annual operation and maintenance cost per litre of milk;
Cooperatives management and governance	number of fully registered cooperatives
	number of members (disaggregated by gender and activeness);
	number of board members (disaggregated by gender)
	number of management staff (disaggregated by gender);
	monthly expenditure on wages;
	number of cooperatives with marketing and business plans;
	annual membership fees/income from membership fees;
	presence of audited financial statements for the last 3 years;

Table 7: Institutional level indicators

3.8.2.2 Dairy Farming Household Level Outcomes

The impact assessment at dairy farming household level will follow a simple difference-in-difference (DID) analysis. Indicators in the following themes shall be assessed at household level: farm income, housing and facilities, land use and ownership, access to finance, membership and training; dairy production and utilization, crop production and expenditure; expenditure on dairy production, farm employment, food security as well as nutritional status.

In the assessment of the indicators in the various themes, comparison between control and treatment group will be based on average values (not medians). The assessment will be based on balanced panels – including only households with complete records at the baseline and final evaluations stage. However, we shall provide room to experiment with all the observations in the data in case the attrition analysis shows that attrition was not systematic. To improve the precision of the difference-in-difference estimates: First, we will also include regression estimate of the impact using fixed effects based on the formulae:

$$y_{it} = \alpha_i + \beta time + \gamma\ time * intervention_i + \varepsilon_{it}$$

Where γ will provide the impact estimate for outcome variable$y$;i denotes the household or farmer, milk station or vendor, depending on the unit of analysis.

Second, we shall explore possibilities of undertaking the analysis using log transformation of the data (outcome variables) for better fit where applicable. Therefore, the equation above will be represented as follows:

$$\ln[\,y_{it}] = \alpha_i + \beta time + \gamma\ time * intervention_i + \varepsilon_{it}$$

In addition, we have also collected monitoring data from cooperatives and milk vendors in control and treatment groups. Therefore, we are in position to investigate several aspects

about this data. For instance, we expect cooperatives with newly installed coolers to be able to offer a better deal to the farmers. However, the validity of this hypothesis is yet to be assessed.

Further, monitoring data will be complemented with data on when the coolers were delivered. Logically, one would expect a change from this point forward. Therefore, the following hypotheses are worth investigating:

1. The volume of milk bought by cooperatives from farmers increases more than that bought by the alternatives (including, the vendors)
2. There is an increase in the price paid by the cooperatives relative to that offered by the vendors

To investigate the hypotheses and related ones, we shall establish the cooperatives where the coolers were delivered and the time when this was done. Subsequently, the following model will be fitted:

$$q_{jt} = \delta_t + \theta_j + \gamma C_{jt} + \varepsilon_{jt}$$

Where q_{jt}= the quantity of milk bough by cooperative j in period t; δ_t=a time fixed effect; θ_j= a cooperative fixed effect; C_{jt}= 1 if the cooperative j at time 1 has a new cooler, 0 otherwise. A similar model will be fitted in the investigation of the prices. However, the dependent variable will be, $\frac{p_{jt}}{pv_t}$. In this case, price that cooperative j pays per liter of milk to farmers in period t as well as the average price vendors pay per litre of milk in period t will be p_{jt} and pv_t, respectively.

Nevertheless, the overall assumption is that the installation of equipment (milk coolers, transportation and testing equipment) at the primary cooperatives will increase the local price of milk. This is based on the fact that farmers can now market a larger share of their milk through the improved cool chain of the cooperative. To provide an assessment of whether or not this is true, an analysis shall be made based on the formulae:

$$\frac{p_{jt}}{pv_t} = \alpha_i + \beta_t + \gamma\, cooler_{it} + \varepsilon_{it}$$

Where t denotes the period and i the milk vendor. Worth noting is that milk price data has much more periods; thus, so we will have a large set of dummies to widen our scope of analysis. The variable cooler indicates whether in the area of the vendor, the cooperative had a cooler installed. A positive estimate of γ in the assessment would confirm the hypothesis.

As earlier mentioned, we'll describe, discuss and conclude on the baseline and end-line quantities/status of dairy farming household level indicators, noting the differences in average values at baseline and end-line in the treatment and control groups. Where appropriate, we'll present the indicators in the form of bar charts, stacked charts; pie charts, line charts. The table included in the annex summarizes the dairy farming household level indicators to be analysed in respect of the various result/outcome areas at baseline and end-line in the treatment and control areas.

3.8.3 Qualitative data analysis

Data obtained from the FDGs will be recorded using both recorders and written notes taken during the discussions. Subsequently, the data will be transcribed and recorded using a master sheet based on the emerging themes. The information obtained from the master sheet will thereafter be adopted in providing an in-depth understanding/explanation of the findings generated from the quantitative analysis.

4. Hypotheses

During the end-line preparation workshop, IOB asked the evaluation teams to present a number of impact pathway hypotheses and approach hypotheses.

4.1 Impact hypotheses

As described in the Multi Annual Strategic Plan (MASP) the overriding goal of the Dutch Food Security Programme in Uganda is increasing food security through stimulating sustainable production and the efficient functioning of markets and the creation of an enabling environment for agribusiness development, including skills development for women and youth and improved land governance.

In light of the above, our hypothesis are:

1. *Improved performance of selected agro-food value chains and actors will result in indirect food security effects: increased demand for labour and / or reduced costs of food for net consumers* The projects that contribute to outcome 2.4 - Productivity sustainably enhanced - will be analysed to assess this hypothesis. More specifically, the aBi-trust evaluation and monitoring data will be used.

2. *Enabling environment is conducive for agribusiness in general and the selected agro food value chains resulting in increased private sector investment*
   The projects that contribute to outcome 2.2 – access to financial services increased and at affordable costs – and outcome 2.3 – land rights secured – will be analysed to assess this hypothesis.
3. *Dutch trade and investment promotion in the area of foods security facilitates the exchange of information/consultative processes in the area of agribusiness*.
   The projects that contribute to outcome 2.10 – More Dutch trade costs & regional integration – will be analysed to assess this hypothesis. More specifically, the data collected on the KAM support fund will be used.

4.2 Approach hypotheses

In the conclusions of the workshop, IOB describes the hypotheses below which are also related to the ToR and should be covered in the reports:

1. The embassy assures synergy between the Dutch activities: between delegated and centrally funded projects, between multilateral and bilateral funded projects.
2. The embassy assures synergy between the Dutch FS programme and the programme of other actors (Government of Uganda, main other donors)
3. There is synergy between FS and other Dutch policy objectives:
   a. Involvement of Dutch expertise and private sector result in win-win situations.
   b. PPP leverages longer-term private investment contributing to FS.
   c. FS policy and Dutch trade policy are coherent.
   d. PPP projects are demand driven.
   e. Investment in the productive sector creates resources for social sectors.
   f. The FS policy has positive effects on FS stability and global public goods.

5. Planning

The end-line phase already started in 2015 and will end in November 2016. The following planning has been made:

Timeline	Activities
Nov 2015	Provide access to documents via Sofia system (IOB)
Dec – Mar 2016	Preparations qualitative and quantitative evaluations
Dec – Mar 2016	Desk research
Feb 2016	Send survey to projects
Feb – Apr 2016	Insight into aBi-Trust during monitoring period
Jun – July 2016	Qualitative and quantitative data collection in Uganda
Jul - Aug 2016	Analysis and share draft results between evaluation teams
Aug 2016	Reporting on draft conclusions
End of Aug 2016	Draft reports
Oct 2016	Final reports

Table 8: Planning evaluation food security Uganda

Appendices

Appendix 1. Overview of documents received by EKN and IOB

BEMO number	Project	End of project	Documents available
23618	Agri-Skills 4 you - ICCO	2012-2016	• Activity Appraisal Document
			• Inception Report (July 2013)
			• Annual Report 2013
			• Annual Narrative Report 2014
			• Annual Plan and Budget 2014
			• Mid-Term Review 2015
			• Annual Plan and Budget 2015
			• Mission memo (Jul 2014)
23619	Intra-regional trade - Trade Mark East Africa	2012-2016	• Activity Appraisal Document
			• Uganda Country Programme Progress 2012-2013
			• Uganda Country Programme Progress 2014-2015
			• Annual Plan 2013-2014
			• Annual Plan 2015-16
			• Annual Review 2015
25882	Financial inclusion - DFCU/Rabo Development	2013-2018	• Activity Appraisal Document
			• Inception Report (Jul 2014)
			• Uganda Business Plan 2013-2014
			• Progress Report (2014)
			• Activity Plan (2015)
23615	ABi-Trust Project	2012-2015	• Activity Appraisal Document
			• Concept document (Oct 2012)
			• Work Plan and Budget 2013 (Dec 2012)
			• Annual Report 2013
			• Annual Report 2014
			• Business Plan 2014-2018
23473	Operationalization DSIP - World Bank/IDA in collaboration with GoU/MAAIF	2011-2012	• Only reports/documents
23614	KAM support fund - EKN, with Agriterra and NABC	2012-2017	• Activity Appraisal Document
			• "Identification of livestock investment opportunities in Uganda" (Aug 2012)
			• "Market Scan, Agribusiness in Uganda" (Apr 2012)

			• "Investment Guide for Uganda's Renewable Energy Sector" (Jun 2012)
			• Agri-Hub Uganda-EKN partnership
			• Agri-Hub Progress Report 2013
			• Agri-Hub Progress Report 2014
			• Agri-ProFocus Annual Report 2012
			• Agri-ProFocus Annual Report 2013
			• Agri-ProFocus Annual Report 2014
			• Agri-ProFocus 2013-2016 strategy
			• Final Report MAAIF NL visit (2013)
			• Final Report Potato stakeholder visit NL (Sept 2013)
			• Final Report White Gold Opportunities for Dairy Sector Development Cooperation in East Africa (March 2014)
			• Final Report Best Farmer Mission to NL (June 2015)
			• Final Report Agrimachinery Market Scan (July 2015)
23616	CATALIST Uganda - IFDC	2012-2017	• Activity Appraisal Document
			• Mission memo (Nov 2013)
			• Annual Report 2013
			• Annual Report 2014
			• Annual Plan & Budget 2015
			• Mid-Term Review (May 2015)
23617	Agro-seed - ISSD-Uganda	2012-2016	• Activity Appraisal Document
			• ISSD Project Document 2012
			• ISSD Annual Report 2012
			• ISSD Progress Report 2013
			• ISSD Progress Report 2014
			• Annual Plan and Budget 2013
			• Mid-Term Review 2012-2014
			• Annual Plan and Budget 2014
			• Annual Plan and Budget 2015-2016
23620	Agricultural Policy Action (PASIC)	2011-2014	• Activity Appraisal document
			• Inception Report (2014)
			• Annual Plan & Budget 2014
			• Annual Plan & Budget 2015
			• Mid Term Review 2015
-	Policy documents	n/a	• Status report Dutch program on food security and economic cooperation in Uganda (2015)
			• Non-ATAAS Synthesis Report

			• MASP 2014 - 2017
			• Performance Planning and Assessment 2013 – 2020

Appendix 2. Dairy farming household level indicators

Result Area	Indicators to be analysed	Baseline			End-line			Diff in diff estimate	
		Treatment	Control	Difference	Treatment	Control	Difference	Value	P value
	1st Order effects								
Farm Income	Price per litre of milk sold (disaggregated by buyer);								
	Quantity (litres) of milk sold (disaggregated by buyer)								
	Percentage of milk sold to cooperatives (and other buyers)								
	Income from dairy production;								
	Number of dairy farming households that sold other livestock products in the last 12 months;								
	Income from other livestock products (Value of other livestock products sold by the dairy farming household in the last 6 months);								
	Income from crop production;								
	Other income (Type and value of other incomes received by the dairy farming household in the last 6 months);								
	Total household income;								
	Ownership of domestic assets;								
	Housing characteristics;								

Result Area	Indicators to be analysed	Baseline			End-line			Diff in diff estimate	
		Treatment	Control	Difference	Treatment	Control	Difference	Value	P value
Housing and facilities	Percentage distribution of households by wealth status								
Land use and ownership	acreage of land operated by dairy farming households in the last 12 months;								
	Main land tenure system;								
	Nature and acreage of land ownership;								
	Percentage of Land used for various purposes (grazing only, crops only, mixed, fallow etc.);								
	Land acreage (%) rented out								
	Value of land rent received/expected in the last 12 months;								
Access to finance	Main sources of loan funds;								
	Number/% of dairy farmers that applied and received a loan;								
Membership & trainings	Percentage of households with a registered member of a dairy cooperative society;								
	Distance of dairy farming household from the milk collection centre;								
	Percentage of households with a registered member of other cooperative societies;								

Result Area	Indicators to be analysed	Baseline			End-line			Diff in diff estimate	
		Treatment	Control	Difference	Treatment	Control	Difference	Value	P value
	Number of households with a member who participated in improved dairy/crop husbandry training in the last 12 months;								
	Number of dairy farming households with knowledge in various farm production techniques;								
	Number of households with a member trained in various farm production techniques in the last 12 months;								
	Main source of training;								
	Number of households that adopted the farm production techniques they were trained on in the last 12 months;								
	2nd order effects								
Dairy production and utilisation	Herd size, disaggregated by breed and gender of animal;								
	Herd size (%) of lactating cows, disaggregated by breed;								
	Number of times cows are milked per day, disaggregated by breed;								
	Milk production per cow per day, disaggregated by breed;								
	Daily herd milk production during the peak month;								

Result Area	Indicators to be analysed	Baseline			End-line			Diff in diff estimate	
		Treatment	Control	Difference	Treatment	Control	Difference	Value	P value
	Daily herd milk production during the last 7 days;								
	Utilization (%) of daily herd milk production in the last 7 days;								
	Incidence, quantity of, and reasons for, unutilized milk in the last 7 days;								
	Main equipment used for storage and transportation of milk;								
	Main source of drinking water for the animals during the wet and rainy season;								
	Main system of dairy production;								
	Number of other animals owned by dairy farming households;								
Crop production, sales and expenditure on agricultural inputs	type and acreage of crops harvested in the last 12 months;								
	quantity of crop harvests in the last 12 months;								
	quantity (%) of crop harvests sold;								
	price per unit of crop harvest sold;								
	Annual household expenditure on crop production;								
	Annual household expenditure on dairy production;								

Result Area	Indicators to be analysed	Baseline			End-line			Diff in diff estimate	
		Treatment	Control	Difference	Treatment	Control	Difference	Value	P value
Expenditure on dairy production	Main source of dairy farming inputs;								
	3rd Order effects								
Farm employment	Number of people employed by the dairy farming household (disaggregated by gender, age, employment status and type of agricultural work);								
	Total monthly salary paid by the dairy farming household;								
	Total monthly in kind consideration made by the dairy farming household;								
Food security	Number of meals taken by adult household members per day;								
	Number of meals taken by children (up to 15 years) per day;								
	Number of days the household ate each food group (cereals, tubers and root crops; pulses; vegetables, relish and fruit; meat, eggs, fish and dairy; sugar, oils, fats, and butter;) in the last seven days;								
	Quantity (Kgs) and value of food items consumed (bought and self-produced) by the dairy farming household (also per household member) in the last seven days;								

Result Area	Indicators to be analysed	Baseline			End-line			Diff in diff estimate	
		Treatment	Control	Difference	Treatment	Control	Difference	Value	P value
	Number of months where the dairy farming household did not have enough food to meet the family needs in the last 12 months;								
	Number and frequency of dairy farming households with member/s who were victims of the following in the last four weeks because of lack of resources:								
	• unable to eat the kinds of foods they preferred;								
	• ate a limited variety of foods;								
	• ate a smaller meal than they felt needed;								
	• ate fewer meals;								
	• ever no food to eat of any kind								
	prevalence and nature of unusual situations during the last 12 months that affected the households' ability to provide for itself;								
	food consumption score (poor, border line and acceptable food consumption)								
	Number of indirectly targeted beneficiaries of the programme who became less food insecure as a result of the intervention;								

Result Area	Indicators to be analysed	Baseline			End-line			Diff in diff estimate	
		Treatment	Control	Difference	Treatment	Control	Difference	Value	P value
Nutritional Status	Number of children (0-59 months) that were ill with a fever in the past 2 weeks								
	Number of children (0-59 months) that had diarrhea in the past 2 weeks								
	number of months children (0-59 months) were breastfed;								
	Stunting (height for age);								
	underweight (weight for age);								
	wasting (weight for height);								

Appendix 3. Household survey

Interviewer Name:	**Code**

Date	Day	Month	Year

Start Interview

Hrs	Min	AM/PM

End Interview

Hrs	Min	AM/PM

Household ID							

Phone number to reach this HH

District:		Code	|__|__|
Sub-County/Division/Town Council:		Code	|__|__|
Parish:		Code	|__|__|
Village:		Code	|__|__|
Associated Primary Cooperative		Code	|__|__|

Name of Field Manager/Supervisor	**Checked?**	**Date**		
		Day	Month	Year
_____	|__|			

Introduction and Consent

My name is _____ and I am working with PricewaterhouseCoopers. We are conducting a survey about Food Security in Uganda with particular emphasis on dairy production. We would very much appreciate your participation in this survey. The survey usually takes 60 to 90 minutes to complete.

As part of the survey we would first like to ask some questions about your household. All of the answers you give will be considered confidential. In case we come to any question you don't want to answer, just let me know and I will go on to the next question.

At this time, do you want to ask me anything else about the survey?

May I begin the interview now?

Signature of interviewer: _____Date:_____

RESPONDENT AGREES TO BE INTERVIEWED . . . **1** RESPONDENT DOES NOT AGREE TO BE INTERVIEWED.....**2** [**END**]

SECTION: 0. Criteria for interview

(001) Are you the household head?	|__|	1=Yes [**GOTO 003]** 0=No
(002) What is your relation with the household head?	|__|	**The respondent must be one of those shown below**
1=Spouse, 2=Son, 3=Daughter, 4=Manager 5=Father	6=Mother 7=Brother/sister 8=Spouse Of Son/Daughter, 9= Other relative, specify _____	
(003) Record respondents name	_____	

SECTION: 1. Demographics

This section requires information about the household head and household members.		
(101) Can the Household Head read and write a message in any language?	|__|	0=No, 1=Yes both, 2= Read only
(102) What is the marital status of the household head?	|__|__|	1=Married Monogamous, 2=Married Polygamous, 3=Partner, 4=Divorced/Separated, 5=Widow Or Widower, 6=Never Married 25=Other(Specify) |_____|

Read - "Now, I would like to ask you a few questions on the composition of this household. Remember that when I say "household" I am referring to all the people who normally live in this house. These people share food and contribute or make use of common resources (for example money, goods, etc.). They can be family members or not. They also include people who are living away temporarily, such as children who are away studying or people who are away working but have the intention of returning."

(103) **ID**	**(104)** What are the names of the household members?	**(105)** What is the relation with the household head?	**(106)** What is [NAME]'s sex? 0=Male 1=Female	**(107)** How old is [NAME] (in years)? 98=Don't know	**(108)** Is [NAME] currently enrolled in school? 0=No 1=Yes	**(109)** What is the highest level of education attained?
01		|__|__|	|__|		|__|	|__|
02		|__|__|	|__|		|__|	|__|
03		|__|__|	|__|		|__|	|__|
04		|__|__|	|__|		|__|	|__|
05		|__|__|	|__|		|__|	|__|
06		|__|__|	|__|		|__|	|__|
07		|__|__|	|__|		|__|	|__|
08		|__|__|	|__|		|__|	|__|
09		|__|__|	|__|		|__|	|__|
10		|__|__|	|__|		|__|	|__|
11		|__|__|	|__|		|__|	|__|
12		|__|__|	|__|		|__|	|__|
13		|__|__|	|__|		|__|	|__|
14		|__|__|	|__|		|__|	|__|
15		|__|__|	|__|		|__|	|__|
16		|__|__|	|__|		|__|	|__|
17		|__|__|	|__|		|__|	|__|
18		|__|__|	|__|		|__|	|__|
19		|__|__|	|__|		|__|	|__|
20		|__|__|	|__|		|__|	|__|

1=Self,
2=Spouse,
3=Son,
4=Daughter,
5=Spouse Of Son/Daughter,
6=Grandchild,
7=Brother/Sister,
8=Mother
9=Father,
10=Parent Of Spouse,
11=Child Of Spouse,
12=Orphan Of Relative,
13=Orphan Of Non Relative,
14=Other Relative,
15= Domestic Help/Servant,
25=Other(Specify)

1=No School
2=Some Primary
3=Completed Primary
4=Some O-Level
5 = Completed O-Level
6= Some A-Level
7= Completed A-Level
8=Vocational School
9=Tertiary /University/College
25=Other (Specify)

SECTION: 2. Housing and facilities

Please indicate what the major material of the roof, floor and walls are (**Interviewer:** verify response by observation)			
(201) What is the main material of the roof?	|__|__|	1=Thatch, Straw 2=Mud 3=Wood Planks 4=Iron Sheets 5=Asbestos	6=Tiles 7=Tin 8= Concrete/Cement 25=Other, (Specify) |_____|
(202) What is the main material of the Floor?	|__|__|	1=Earth 2=Earth and Cow Dung 3=Cement 4=Mosaic or Tiles	5=Bricks 6=Stone 7=Wood 25=Other,(Specify) |_____|
(203) What is the main material of the external wall? (where applicable, observe)	|__|__|	1= Thatch, Straw 2=Mud and Poles 3=Timber 4=Un-Burnt Bricks 5=Burnt Bricks With Mud	6=Burnt Bricks With Cement 7=Cement Blocks 8=Stone 25=Other, (Specify) |_____
(204) What is the ownership status of this house?	|__|__|	1=Owned, by Head 2=Owned, by Spouse 3=Owned, Jointly (Head and Spouse) 4=Owned, by others 5=Rented (Normal)	6=Rented (Subsidized) 7= Supplied Free by Employer 8=Supplied Free by Relative or Other Person 9=Rent paid by Relative or Other Person 25=Other,(Specify)_____
(205) What is the main source of lighting for this house?	|__|__|	1=Electricity 2=Candle (Taadoba) 3=Lantern 4 =Steamer 5=Battery Flashlights	6=Candles 7=Firewood 8=Solar 9= Bio-gas 10=Gas lamp 25 =Other (Specify) |_____
(206) What fuel do you use most often for cooking?	|__|__|	1=Gas 2=Electricity 3=Firewood 4= Charcoal	5=Kerosene 6=Crop Waste/Animal Dung 25=Other, (Specify) |_____
(207) What is the main source of drinking water for this household?	|__|__|	1=Private Tap 2=Public Taps 3=Pond, Lake, River Or Stream 4=Borehole With Pump 5=Rain Water	6=Protected Dug Well Or Spring 7=Unprotected Well Or Spring 8=Vendor/tanker truck 9=Gravity Flow Scheme 25=Other, (Specify) |_____
(208) What is the main type of toilet facility used by this household?	|__|__|	1=Flush Latrine, 2=Pit Latrine With Constructed Floor Slab, 3=Traditional Pit Latrine (Without Floor Slab),	4=Open Pit (No Walls), 5=None / Bush, Stream, e.t.c 25=Other, (Specify) |_____

(209) Does anyone in the household **own** any of the following items?		Use the following codes **0** and **1** to record whether or not household had any of the items, respectively [0=No, 1=Yes]	
1. Radio	|__|	**8**. Motorcycle/scooter	|__|
2. Television	|__|	**9**. Car/truck	|__|
3. Mobile telephone	|__|	**10**. Refrigerator	|__|
4. Bed	|__|	**11**. Computer/laptop	|__|
5. Sofa	|__|	**12**. Chairs	|__|
6. Watch	|__|	**13.** Animal drawn cart	|__|
7. Bicycle	|__|	**14**. Wall Clock	|__|

SECTION: 3. Land use and ownership

Read - Please tell me about each plot of land that a member of your household cultivated, or any plot of arable land a member of your household controlled. **Excluding rented and communal land/plots**, even though it does not belong to your household **in the last 12 months**. Include also garden plots. Please describe or give me the name of each plot.

(300) ID	**(301)** What is the area (acres) of this plot?	**(302)** What is the tenure system of the plot?	**(303)** What is the ownership status of the plot?	**(304)** Who in this household is responsible for managing the plot?	**(305)** What is the slope of this plot?	**(306)** How was the plot cultivated in the last 12 months?
		1= Mailo 2=Leasehold 3=Customary 4= Public land 25=Other (Specify)	1=Owner, 2=Part-Owner, 3=Rented From Someone, 4=Sharecropped 5=Public Land, 6=Cooperative's Land, 7=Family, 8=Clan, 25=Other (Specify)	1=Household-Head, 2=Spouse Of HH Head, 3=Parent/In-Law Of HH Head, 4=Sibling Of HH Head, 5=Child Of HH Head, 25=Other,(Specify)	1=Flat 2=Gently Sloped 3=Steep Sloped 4=Other (specify) 98=Don't Know	1=Grazing Only 2= Crops Only 3= Grazing and Crops (Mixed) 4=Fallow 5=Buildings 25=Other, (Specify)
P1		|__|__|	|__|__|	|__|__|	|__|__|	|__|__|
P2		|__|__|	|__|__|	|__|__|	|__|__|	|__|__|
P3		|__|__|	|__|__|	|__|__|	|__|__|	|__|__|
P4		|__|__|	|__|__|	|__|__|	|__|__|	|__|__|
P5		|__|__|	|__|__|	|__|__|	|__|__|	|__|__|
P6		|__|__|	|__|__|	|__|__|	|__|__|	|__|__|

(307) Does this household own any other plot(s) of land that is rented out?	|__| 0=No,***(GOTO Section 4)*** 1=Yes
(308) What is the total size of the rented out land? (in acres)	|__|__|__|.|__|__| acres
(309) What is the total value of rent the household has received during the last 12 months (UGX)?	|__|__|__| |__|__|__|__|__|__|

SECTION: 4. Dairy production and utilization

(401) Are you the main person responsible for decision making on milk production in this household?	|__|	0=No 1=Yes **(GOTO 403)**
(402) Do you take part in decision making about milk production?	|__|	0=No, 1=Yes

Read - Now, I would like to ask you about practices of milk (dairy) production in this household.
Interviewer: respondent should be the one responsible for dairy milk production in

(403) How many of each type of cattle does this household own?	**1.** Indigenous	**2.** Cross Breed Friesian	**3.** Cross Breed Jersey	**4.** Cross Breed Guernsey	**5.** Cross Breed Ayrshire	6. Cross Breed Not sure
Bulls						
Heifers						
Calves						
Cows						
Castrated Bulls						
(404) What is your average milk production per cow per day (litres)	|__|__| **(if 0 →)**	|__|__| **(if 0 →)**	|__|__| **(if 0 →)**	|__|__| **(if 0 →)**	|__|__| **(if 0 →)**	|__|__|
(405) How many cows are used for dairy milk production in the last seven days?	|__|__| **(if 0 →)**	|__|__| **(if 0 →)**	|__|__| **(if 0 →)**	|__|__| **(if 0 →)**	|__|__| **(if 0 →)**	|__|__|
(406) How many times per day do you milk?	|__| **(if 0 →)**	|__| **(if 0 →)**	|__| **(if 0 →)**	|__| **(if 0 →)**	|__| **(if 0 →)**	|__|
(407) Where do you usually milk your cows from?	|__|__|			1=Milk Shed, 2= Kraal/farm, 3=No specific place 4=Compound 25= Other, (Specify)		

(408) What was the average daily quantity (litres) of milk produced (by all cows) in the peak month during the last 6 months?	|__|__|__| litres	
(**409**) What do you use when milking your cows? ***(Multiple responses allowed***	1=Metallic Bucket, 2=Plastic Bucket, 3=Milking machine 4=Milking towels 5=Strip cup 6=Milking salve	7=Warm water 25=Other, (Specify) 8=Soap 9=Disinfectant 10=Teat dip 11= Ropes 12= Sheave
(**410**) What is the main equipment used for the storage of milk on the farm?	|__|__|	1=Plastic Jerry Cans, 2=Milk Cans, 3=Metallic Bucket, 4=Plastic Bucket, 25=Other, (Specify)_____
(**411**) What is the main equipment used for the transportation of milk?	|__|__|	1=Plastic Jerry Cans, 2=Milk Cans, 3=Metallic Bucket, 4=Plastic Bucket, 25=Other, (Specify)
(412) What is the main source of drinking water for your cattle during the wet season?	|__|__|	1=Public Tap/ Piped Water 2=Pond, Lake, River Or Stream 3=Borehole With Pump 4=Rain Water 5= Dug Well 6=Protected spring 7=Vendor 8=Valley dam 25=Others _____
(413) What is the main source of drinking water for your cattle during the dry season?	|__|__|	1=Public Tap/ Piped Water 2=Pond, Lake, River Or Stream 3=Borehole With Pump 4=Rain Water 5= Dug Well 6=Protected spring 7=Vendor 8=Valley am 25=Others _____

(414) What is the main system of dairy production used on the farm by this household?	|__|__|	1=Zero grazing, 2=Tethering, 3=Communal grazing 4=Fenced farm divided into paddocks, 5=Fenced farm without paddocks, 25=Other,(Specify)_____
(415) What was your average daily milk production (in litres) from all your cows in the last 7 days?	|__|__|__|__|__| |__| Litres Produced	

Interviewer: How did you utilise the milk produced during the last 7 days?		**(416)** QUANTITY (Litres)	**(417)** What was the average price per litre of milk sold? (UGX)	**418)** What was the time of selling? 1=Morning 2=Afternoon 3=Both	**(419)** Terms of payment ***(Multiple responses allowed)*** 1=Cash, 2=Credit Fortnightly, 3=Credit monthly 4=Credit Weekly, 25=Other, (Specify)
1	Family				
2	Calves				
3	Sold to Cooperative			1.|__|2.|__|3.|__|	1.|__|2.|__|3.|__|4.|__|25.|__|
4	Sold to Private Vendors			1.|__|2.|__|3.|__|	1.|__|2.|__|3.|__|4.|__|25.|__|
5	Donated/Give away				
6	Direct Consumer			1.|__|2.|__|3.|__|	1.|__|2.|__|3.|__|4.|__|25.|__|
7	Milk Processing				
8	Other, (Specify) _____			1.|__|2.|__|3.|__|	1.|__|2.|__|3.|__|4.|__|25.|__|

(420) Did you have milk that was not utilised during the last 7 days?	|__|__|	1=Yes 0=No ***(GOTO 423)***
(421) How much milk was not utilised (litres)?	|__|__|__|__||__|litres	
(422) Why wasn't the milk utilised? ***(Multiple responses allowed)***	|__|__|	1=Poured 2=Went sour 3=Rejected 4=Drug residue 5=Other (Specify)

(423) Does your household **own** any other farm-animals apart from cattle?	|__|	0=No ***(Go to Section 5)*** 1=Yes	
(424) Please indicate how many of each of the following animals do you own? (Interviewer: write 00 if none)			
1. Chicken		**6.** Rabbits	
2. Ducks and other poultry		7. Horses/donkeys/mules	
3. Goats			
4. Sheep			
5. Pigs			

SECTION 5: Expenditures on dairy production

(501) Has the household or any other household members incurred any expenditure on dairy production inputs in the last 12 months?			|__|	1=Yes 0=No
EXPENDITURE ITEM	**(502)** Has the household acquired any of the following items in the last 12 months?	**(503)** Approximately how much was spent on the item in the last 12 months? (in UGX)	**(504)** Where did the household obtain the item? ***(List 2 main sources. Start with the most used source)***	
	0=No, 1=Yes		1=Local market 2=Co-operative 3=Private enterprise/shop 4=State provided 5=Neighbour/friend 6=NAADS 25=Other,(Specify)	
Acaricide	|__| **(if 0 ↓)**			
Artificial Insemination	|__| **(if 0 ↓)**			
Vet Professional Services	|__| **(if 0 ↓)**			
Bulls	|__| **(if 0 ↓)**			
Cows	|__| **(if 0 ↓)**			
Calves	|__| **(if 0 ↓)**			
Heifers	|__| **(if 0 ↓)**			
Extension Services	|__| **(if 0 ↓)**			
Labour Permanent Hired	|__| **(if 0 ↓)**			

Labour Casual Hired	|__| **(if o ↓)**		
Feed Supplements	|__| **(if o ↓)**		
Fencing Materials	|__| **(if o ↓)**		
Fodder (hay & silage)	|__| **(if o ↓)**		
Land Rent	|__| **(if o ↓)**		
Other (Specify)_____ ___	|__|		

SECTION: 6. Crop production and sales

Read – Now, I would like to ask you about the crops your household has harvested during the last 12 months. (**Interviewer:** fill in crops first)

(601) CROP ID Which crops have you harvested in the last 12 months? **Please list 5 of them and start with the most important ones in term of the value of production.** ***(see code below)***	**(602)** On how many acres of land cultivated by your household have you planted this crop in the last season A, season B?		**(603)** How much of this crop have you harvested in the last 12 months? 1. Kilograms, 2. Tins 3. Baskets 4. Bunches 5. Litres 6. 100 Kg bags 7. Heaps 8. Tons 25 other specify		**(604)** How much of this crop was sold? 1. Kilograms, 2. Tins 3. Baskets 4. Bunches 5. Litres 6. 100 Kg bags 7. Heaps 8. Tons 25.other specify		**(605)** What is the average price per unit sold at each season? (UGX)	
	1st Season	2nd Season	1st Season	2nd Season	1st Season	2nd Season	1st Season	2nd Season
C1|__|								
C2|__|								
C3|__|								
C4|__|								
C5|__|								

(601) **CROP ID** Which crops have you harvested in the last 12 months? **Please list 5 of them and start with the most important ones in term of the value of production.** ***(see code below)***	**(602)** On how many acres of land cultivated by your household have you planted this crop in the last season A, season B?		**(603)** How much of this crop have you harvested in the last 12 months? 1. Kilograms, 2. Tins 3. Baskets 4. Bunches 5. Litres 6. 100 Kg bags 7. Heaps 8. Tons 25 other specify		**(604)** How much of this crop was sold? 1. Kilograms, 2. Tins 3. Baskets 4. Bunches 5. Litres 6. 100 Kg bags 7. Heaps 8. Tons 25.other specify		**(605)** What is the average price per unit sold at each season? (UGX)	
	1st Season	2nd Season	1st Season	2nd Season	1st Season	2nd Season	1st Season	2nd Season

CROP ID

1=Cassava	8=Sorghum	17=Tea
2=Irish Potatoes	9=Wheat	18=Millet
3=Sweet Potatoes	10=Rice	19=Soya Beans
4=Bananas	11=Peanuts	20=Sunflower
5=Peas	12=Maize	21= Piece meal
6=Beans	13=Cabbage	25=Other, (Specify) _____
7=Melons	14=Plantain	98=does not grow any crop

Note: Define the seasons clearly

SECTION: 7. Expenditures on agricultural inputs and crop production

Read - Now, I would like to ask you about your household's expenditure related to agricultural inputs and crop production in the last 12 months.

(701) Have you or any other household members made any expenditure in agricultural production in the last 12 months?	|__|	0=No, 1=Yes

TYPE EXPENDITURE	**(702)** Have you spent money on the following items in the last 12 months? *(Money spent includes buying an item, paying for a spare part or paying for repairs)* 0=No, 1=Yes	**(703)** Approximately how much was spent on the item in the last 12 months? (UGX) 98=Don't know/Not sure
a) Hand tools /Sacks and Packing / Fencing Material	|__| **(if 0 ↓)**	
b) Traditional seeds and seedlings	|__| **(if 0 ↓)**	
c) Improved seeds and seedlings	|__| **(if 0 ↓)**	
d) Hired labour -wages	|__| **(if 0 ↓)**	
e) Transport and storage of the harvest	|__| **(if 0 ↓)**	
f) Equipment rental	|__| **(if 0 ↓)**	
g) Organic fertilizers, Chemical fertilizers or Insecticides	|__| **(if 0 ↓)**	
h) Irrigation, drainage fees, Terracing (wages)	|__| **(if 0 ↓)**	
i) Other expenditures (Specify) _____	|__| **(if 0 ↓)**	

(704) Did you apply for a loan or borrow money to operate or expand the farm operations during the past 12 months?	|__|	0=No,***(GOTO Section 8)*** 1=Yes 98= Do not know
(705) What are the 2 main sources of the loan?	|__|__| |__|__|	1=Formal Banks (commercial/development) 2=Micro Finance Institutions 3=SACCo 4=NGO 5=Landlord 6=Employer 7=Informal savings group 8=Relative 9=Friend 10=Local Money Lender 25=Other,(Specify)
(706) Did you receive the loan (s)?	|__|	0=No 1=Yes

SECTION: 8. Farm employment

Read - Now, I would like to ask you about employment and staff members that are involved in your household's dairy and crop production.

(801) How many paid people worked on your farm last month?			|___|___| ***If 0 (none)GOTO 809***	
(802) NAME/ID	**(803)** What is the sex of the individuals listed in 801? 1=Male 2=Female	**(804)** What is the age of the individuals listed in 802?	**(805)** What is the employment status of the individuals listed in 802? 1= Permanent Hired 2= Casual (part time) Hired 3= Communal Labour 25= Other,(Specify)	**(806)** What is the main type of agricultural work done by the individuals listed in 802? 1= Milk/Dairy Production only 2= Crop Production only 3=Both milk/dairy and crop production 25=Other,(Specify)
1.	|___|	|___|___|	|___|___|	|___|___|
2.	|___|	|___|___|	|___|___|	|___|___|
3.	|___|	|___|___|	|___|___|	|___|___|
4.	|___|	|___|___|	|___|___|	|___|___|
5.	|___|	|___|___|	|___|___|	|___|___|
6.	|___|	|___|___|	|___|___|	|___|___|
7.	|___|	|___|___|	|___|___|	|___|___|
8.	|___|	|___|___|	|___|___|	|___|___|
9.	|___|	|___|___|	|___|___|	|___|___|
10.	|___|	|___|___|	|___|___|	|___|___|

(807) How much did you pay the individuals listed in 802 last month?		**(808)** What was the in-kind payment for the different services rendered?	
ID	**Amount (UGX)**	**Items**	**Value (UGX)**
1.			
2.			
3.			
4.			
5.			
6.			

7.			
8.			
9.			
10.			

(809)
What is the name and ID of the non-paid household member taking part in the dairy farm production?

ID	Name
|__|	
|__|	
|__|	
|__|	
|__|	
|__|	

SECTION: 9. Membership and trainings

(901) Are you or any household member registered under a dairy cooperative society?	|__|	0=No, ***(GOTO 905)*** 1=Yes

Please list all dairy cooperatives where you or another household member have membership

(902) Household Member ID	**(902a)** Name of cooperative	**(903)** Year of membership (e.g. 2010, 98=Don't know)	**(904)** In which district is the cooperative society located? **CODE**
|__|		|__|__|__|__|	|__|
|__|		|__|__|__|__|	|__|
|__|		|__|__|__|__|	|__|
|__|		|__|__|__|__|	|__|
|__|		|__|__|__|__|	|__|

(905) How far from your home is the MCC where you normally deliver the milk?	|__|__|	1=0-500m 2=500-1000m 3=1km-2km 4=2km-5m 5=5km-10km 6=More than 10km 99=Did not deliver 98=Don't Know
(906) Do you or any household member have membership in any other cooperative?	|__|	0=No ***(GOTO 911)*** 1=Yes

Please list all cooperatives where you or another household member have membership

	(907) Name of cooperative	**(908)** Year of membership (e.g. 2010, 98=Don't know)	**(909)** Type cooperative	**(910)** Number of members
1.		|__|__|__|__|	|__|__|	|__|__|__|

2.		|__|__|__|__|	|__|__|	|__|__|__|
3.		|__|__|__|__|	|__|__|	|__|__|__|
4.		|__|__|__|__|	|__|__|	|__|__|__|

COOPERATIVE TYPE CODE:		**NR OF MEMBERS' CODE:**
1=Other production primary cooperative society	97=Not applicable	97=Not applicable
2=Savings and credit cooperative society (SACCO)	98= Do not Know	98=Don't know
25=Other cooperative society, specify		99=More than 1000

Read - Now, I would like to ask you about meetings, trainings or workshops that you have participated in during the last 12 months.

(911) Have you or any household member participated in any training or workshop on **improved dairy/crop husbandry** in the last 12 months?	|__|	0=No ***(GOTO 913)*** 1=Yes

(912) Record the name and ID of the household members **referred to in 911**.

Name	**ID**
1.	|__||__|
2.	|__||__|
3.	|__||__|
4.	|__||__|
5.	|__||__|

Farm Production Technique	**(913)** Does the household have knowledge in the following farm production techniques?	**(914)** Have you or any household member been trained on any of the following Farm production technique in the last 12 months?	**(915)** What was the source of training? ***(Multiple responses allowed)***	**(916)** Have you or any other household member adopted the technique?
	0=No 1=Yes	0=No 1=Yes	1= By Extension Worker 2=By Fellow Farmer 3= Press and Media (Hand-outs, Pamphlets, Leaflets, Radio, TV, etc.) 4=Own Initiative 5=Training by Coop society/Union/UCCCU 6=By Family Member 7=Learnt From School 8=Government project 9=Private sector 10=NGOs 25=Other,(Specify)	0=No 1=Yes
1. Pasture Production	|__| **(if o ↓)**	|__| **(if o ↓)**	A.|__|__| B|__|__| C|__|__|	|__|
2. Animal Health Management	|__|**(if o ↓)**	|__|**(if o ↓)**	A.|__|__| B|__|__| C|__|__|	|__|
3. Animal Breeding	|__| **(if o ↓)**	|__| **(if o ↓)**	A.|__|__| B|__|__| C|__|__|	|__|
4. General Dairy Hygiene	|__| **(if o ↓)**	|__| **(if o ↓)**	A.|__|__| B|__|__| C|__|__|	|__|

Farm Production Technique	(913) Does the household have knowledge in the following farm production techniques?	(914) Have you or any household member been trained on any of the following Farm production technique in the last 12 months?	(915) What was the source of training? *(Multiple responses allowed)*	(916) Have you or any other household member adopted the technique?
	0=No 1=Yes	0=No 1=Yes	1= By Extension Worker 2=By Fellow Farmer 3= Press and Media (Hand-outs, Pamphlets, Leaflets, Radio, TV, etc.) 4=Own Initiative 5=Training by Coop society/Union/UCCCU 6=By Family Member 7=Learnt From School 8=Government project 9=Private sector 10=NGOs 25=Other,(Specify)	0=No 1=Yes
5. Animal Nutrition	|__|**(if o ↓)**	|__|**(if o ↓)**	A.|__|__| B|__|__| C|__|__|	|__|
6. Vaccination Skills	|__| **(if o ↓)**	|__| **(if o ↓)**	A.|__|__| B|__|__| C|__|__|	|__|
7. Value Addition	|__| **(if o ↓)**	|__| **(if o ↓)**	A.|__|__| B|__|__| C|__|__|	|__|
8. Milking Skills	|__| **(if o ↓)**	|__| **(if o ↓)**	A.|__|__| B|__|__| C|__|__|	|__|
9. Fertilizer Application	|__| **(if o ↓)**	|__| **(if o ↓)**	A.|__|__| B|__|__| C|__|__|	|__|
10. Crop Disease and Pest Control	|__| **(if o ↓)**	|__| **(if o ↓)**	A.|__|__| B|__|__| C|__|__|	|__|
11. Soil Fertility	|__| **(if o ↓)**	|__| **(if o ↓)**	A.|__|__| B|__|__| C|__|__|	|__|
12. Soil Conservation	|__| **(if o ↓)**	|__| **(if o ↓)**	A.|__|__| B|__|__| C|__|__|	|__|
13. Soil Moisture Conservation	|__| **(if o ↓)**	|__| **(if o ↓)**	A.|__|__| B|__|__| C|__|__|	|__|
14. Crop Husbandry	|__| **(if o ↓)**	|__| **(if o ↓)**	A.|__|__| B|__|__| C|__|__|	|__|
15. Use of Improved seed	|__| **(if o ↓)**	|__| **(if o ↓)**	A.|__|__| B|__|__| C|__|__|	|__|

SECTION 10: Other household income

Livestock Products	(1001) Have you or any household member sold any of the following products during the last 12 months?	(1003) How much did the household sell in the past 6 months?		(1004) What was the average selling price per unit? (UGX)
	1=Yes 0=No	**(10031)** Quantity	**(10032)** Unit	(***Interviewer***: *Unit as in 10032*)

	98=Do know		1=Tray 2=Kilograms 3=Wheel barrow 4=Numbers 25=Others, specify	
1.Eggs	|__| **(if o ↓)**	|__|__|	|__|__|	
2.Hides	|__| **(if o ↓)**	|__|__|	|__|__|	
3.Manure	|__| **(if o ↓)**	|__|__|	|__|__|	
4.Cow ghee	|__| **(if o ↓)**	|__|__|	|__|__|	
5.Heifers	|__| **(if o ↓)**	|__|__|	|__|__|	
6.Incalf - heifer	|__| **(if o ↓)**	|__|__|	|__|__|	
7.Chicken	|__| **(if o ↓)**	|__|__|	|__|__|	
8.Cows	|__| **(if o ↓)**	|__|__|	|__|__|	
9.Goats	|__| **(if o ↓)**	|__|__|	|__|__|	
10.Sheep	|__| **(if o ↓)**	|__|__|	|__|__|	
11.Donkeys	|__| **(if o ↓)**	|__|__|	|__|__|	
12.Calves	|__| **(if o ↓)**	|__|__|	|__|__|	
13.Bulls	|__| **(if o ↓)**	|__|__|	|__|__|	
14.Oxen	|__| **(if o ↓)**	|__|__|	|__|__|	
15.Honey	|__| **(if o ↓)**	|__|__|	|__|__|	
16.Pigs	|__| **(if o ↓)**	|__|__|	|__|__|	
25.Other,(Specify) |_____	|__| **(if o ↓)**	|__|__|	|__|__|	
Non Agricultural Products	**(1005)** Has any member of your household received any income from the following non-agricultural products during the last 6 months? 1=Yes 0=No			**(1006)** On average, how much income did the household receive from the listed non-agricultural products/services during the last 6 months? (UGX)
1. Employment	|__| **(if o ↓)**			
2.Crafts making	|__| **(if o ↓)**			

3.Beer Brewing	|__| **(if o ↓)**	
4.Trading	|__| **(if o ↓)**	
5.Hiring Out Labour (casual)	|__| **(if o ↓)**	
6.Remittances	|__| **(if o ↓)**	
7.Property/Land Income	|__| **(if o ↓)**	
8. Transport services	|__| **(if o ↓)**	
9.Investments	|__| **(if o ↓)**	
10.Other,(Specify)		

SECTION 11: Food consumption and expenditure

Read - Now, I would like to ask you about food consumption and expenditure in your household **in the last 7 days**.
Interviewer: respondent should be the household member who is the main responsible for buying food and preparing meals

(1101) Who is the main person responsible for decision making for the food expenditures? |__|	**(1102)** Who is the main person responsible for decision making for the food preparation? |__|

1=Household head, 2=Spouse, 3=Son, 4=Daughter, 5=Spouse Of Son/Daughter, 6=Grandchild, 7=Brother/Sister, 8=Mother	9=Father, 10=Parent Of Spouse, 11=Child Of Spouse, 12=Orphan Of Relative, 13=Orphan Of Non Relative,	14=Other Relative, 15= Domestic Help/Servant, 16= Farm Manager 25=Other(Specify) |_____|

(1103) Yesterday, how many meals did the adults (above 15 years) in this household eat?	|__| times	
(1105) Is this usual **at this time of year**? (Adults)	|__|	0=No, it is unusual 1=Yes, it is usual
(1104) Yesterday, how many meals did the children (up to 15 year old) in this household eat?	|__| times	
(1106) Is this usual **at this time of year**? **(**Children)	|__|	0=No, it is unusual 1=Yes, it is usual

Read - Now, I would like to ask you about food consumption and expenditure in your household **in the last 7 days**. **Interviewer:** respondent should be the household member who is the main responsible for buying food and preparing meals

	FOOD ITEMS	**(1107)** During the **last 7 days,** how many days has your household eaten the following foods?	**(1108)** During the last 7 days, did this household incur any expenditure on the following items?	**(1109)** What was the quantity of the item bought? Do NOT count small quantities (Less than 1 teaspoon/person)		**(1110)** what was the value of the items bought? (UGX)	**(1111)** During the last 7 days, what was the total quantity of items consumed by this household that were:			
							(a) Bought?		(b) Self-produced or received from other sources	
		Interviewer: write 0 for items not eaten over the last 7 days	0=No, 1=Yes	QTY	UNIT 1=Gram 2=Kg 3=Litre 4=Bundle 5= Batch 6=Number		QTY	ITEM/ UNIT Code	QTY	ITEM/UNIT Code
	Cereals									
1.	Maize	|__| **(if 0↓)**	|__| **(if 0→1111)**			|__|__|__|__||__|__|				
2.	Sorghum	|__| **(if 0↓)**	|__| **(if 0→1111)**			|__|__|__|__||__|__|				
3.	Millet	|__| **(if 0↓)**	|__| **(if 0→1111)**			|__|__|__|__||__|__|				
4.	Pasta, macaroni	|__| **(if 0↓)**	|__| **(if 0→1111)**			|__|__|__|__||__|__|				
	Pulses									
5.	Beans	|__| **(if 0↓)**	|__| **(if 0→1111)**			|__|__|__|__||__|__|				
6.	Chick pea	|__| **(if 0↓)**	|__| **(if 0→1111)**			|__|__|__|__||__|__|				
7.	Field pea	|__| **(if 0↓)**	|__| **(if 0→1111)**			|__|__|__|__||__|__|				
8.	Ground nuts	|__| **(if 0↓A)**	|__| **(if 0→1111)**			|__|__|__|__||__|__|				
	Oil seeds									
9.	Simsim	|__| **(if 0↓)**	|__| **(if 0→1111)**			|__|__|__|__||__|__|				
	Vegetables & fruits									
10.	Tomato	|__| **(if 0↓)**	|__| **(if 0→1111)**			|__|__|__|__||__|__|				
11.	Cabbage /doodo	|__| **(if 0↓)**	|__| **(if 0→1111)**			|__|__|__|__||__|__|				
12.	Pepper	|__| **(if 0↓)**	|__| **(if 0→1111)**			|__|__|__|__||__|__|				
13.	Banana (Sweet)	|__| **(if 0↓)**	|__| **(if 0→1111)**			|__|__|__|__||__|__|				

14	Banana (Matooke)	|__| **(if 0↓)**	|__| **(if 0→1111)**			|__|__|__|__||__|__|				
15	Apple	|__| **(if 0↓)**	|__| **(if 0→1111)**			|__|__|__|__||__|__|				
16	Guava	|__| **(if 0↓)**	|__| **(if 0→1111)**			|__|__|__|__||__|__|				
17	Orange / Lemon	|__| **(if 0↓)**	|__| **(if 0→1111)**			|__|__|__|__||__|__|				
18	Mango	|__| **(if 0↓)**	|__| **(if 0→1111)**			|__|__|__|__||__|__|				
19	Avocado	|__| **(if 0↓)**	|__| **(if 0→1111)**			|__|__|__|__||__|__|				
20	Paw paw	|__| **(if 0↓)**	|__| **(if 0→1111)**			|__|__|__|__||__|__|				
21	Pumpkin	|__| **(if 0↓)**	|__| **(if 0→1111)**			|__|__|__|__||__|__|				
22	Water melon	|__| **(if 0↓)**	|__| **(if 0→1111)**			|__|__|__|__||__|__|				
23	Sugar Cane	|__| **(if 0↓)**	|__| **(if 0→1111)**			|__|__|__|__||__|__|				
24	Passion Fruit	|__| **(if 0↓)**	|__| **(if 0→1111)**			|__|__|__|__||__|__|				
25	Pine Apple	|__| **(if 0↓)**	|__| **(if 0→1111)**			|__|__|__|__||__|__|				
	Root crops									
26	Sweet potato	|__| **(if 0↓)**	|__| **(if 0→1111)**			|__|__|__|__||__|__|				
27	Cassava	|__| **(if 0↓)**	|__| **(if 0→1111)**			|__|__|__|__||__|__|				
28	Yams	|__| **(if 0↓)**	|__| **(if 0→1111)**			|__|__|__|__||__|__|				
29	Irish Potatoes	|__| **(if 0↓)**	|__| **(if 0→1111)**			|__|__|__|__||__|__|				
	Others									
30	Meat	|__| **(if 0↓)**	|__| **(if 0→1111)**			|__|__|__|__||__|__|				
31	Chicken	|__| **(if 0↓)**	|__| **(if 0→1111)**			|__|__|__|__||__|__|				
32	Fish	|__| **(if 0↓)**	|__| **(if 0→1111)**			|__|__|__|__||__|__|				
33	Milk	|__| **(if 0↓)**	|__| **(if 0→1111)**			|__|__|__|__||__|__|				

34	Yoghurt	|__| **(if o↓)**	|__| **(if o→1111)**			|__|__|__|__||__|__|				
35	Butter/ Butter	|__| **(if o↓)**	|__| **(if o→1111)**			|__|__|__|__||__|__|				
36	Cow ghee	|__| **(if o↓)**	|__| **(if o→1111)**			|__|__|__|__||__|__|				
37	Eggs	|__| **(if o↓)**	|__| **(if o→1111)**			|__|__|__|__||__|__|				
38	Cooking Oil	|__| **(if o↓)**	|__| **(if o→1111)**			|__|__|__|__||__|__|				
39	Biscuits	|__| **(if o↓)**	|__| **(if o→1111)**			|__|__|__|__||__|__|				
40	Bread	|__| **(if o↓)**	|__| **(if o→1111)**			|__|__|__|__||__|__|				
41	Honey	|__| **(if o↓)**	|__| **(if o→1111)**			|__|__|__|__||__|__|				
42	Sugar	|__| **(if o↓)**	|__| **(if o→1111)**			|__|__|__|__||__|__|				
43	Salt	|__|	|__|			|__|__|__|__||__|__|				

(1112) Were there times, in the past 12 months, when the household did not have enough food to meet the family's needs?	|__|	1=Yes, 0=No ***(GOTO 1114)***

(1113)
If yes, which were the months in the past 12 months during which you did not have enough food to meet your family's needs?

1- **Yes** (there was a food shortage in a month), 0 – **No** shortage for a month

1	April (2015)	|__|
2	May (2015)	|__|
3	June (2015)	|__|
4	July (2015)	|__|
5	August (2015)	|__|
6	September (2015)	|__|
7	October (2015)	|__|
8	November (2015)	|__|
9	December (2015)	|__|
10	January(2016)	|__|
11	February (2016)	|__|
12	March 2016	|__|

(1114) In the past four weeks, were you or any household member not able to eat the kinds of foods you preferred because of a lack of resources?	|__|	1=Yes, 0=No*(→1116)*
(1115) How often did this happen?	|__|	1=rarely (once or twice in the past four weeks) 2=sometimes (three to ten times in the past four weeks) 3=often (more than ten times in the past four weeks)

(1116) In the past four weeks, did you or any household member have to eat a limited variety of foods due to a lack of resources?	|__|	1=yes, 0=no*(→1118)*
(1117) How often did this happen?	|__|	1=rarely (once or twice in the past four weeks) 2=sometimes (three to ten times in the past four weeks) 3=often (more than ten times in the past four weeks)
(1118) In the past four weeks, did you or any household member have to eat a smaller meal than you felt you needed because there was not enough food?	|__|	1=Yes, 0=No*(→1120)*
(1119) How often did this happen?	|__|	1=rarely (once or twice in the past four weeks) 2=sometimes (three to ten times in the past four weeks) 3=often (more than ten times in the past four weeks)
(1120) In the past four weeks, did you or any other household member have to eat fewer meals in a day because there was not enough food?	|__|	1=yes, 0=no***(GOTO 1122)***
(1121) How often did this happen?	|__|	1=rarely (once or twice in the past four weeks) 2=sometimes (three to ten times in the past four weeks) 3=often (more than ten times in the past four weeks)
(1122) In the past four weeks, was there ever no food to eat of any kind in your household because of lack of resources to get food?	|__|	1=yes, 0=no***(→1124)***
(1123) How often did this happen?	|__|	1=rarely (once or twice in the past four weeks) 2=sometimes (three to ten times in the past four weeks) 3=often (more than ten times in the past four weeks)
(1124) Did you experience any unusual situation during the last 12 months that affected your household's ability to provide for itself?	|__|	0=No***(→Section 12)*** 1=Yes

(1125) If yes, by order of severity, what problems affected your household in the last 12 months?
Interviewer: Do not read options, write identified problem letter by order of importance Probe: «Did you experience any other problem? »

a. |__|	1=drought/irregular rains, prolonged dry spell 2=floods 3=landslides and mudslides 4=unusually high level of crop pests & disease 5=unusually high level of livestock diseases 6=unusually high level of human disease/epidemic 7=unusually high prices for food 8=unusually high cost of agric. Inputs (seed, fertilizer, etc.) 9=loss or reduced employment/income for a household member 10=fires 11=serious illness/accident of household member 12=death of the head of the household 13=death a working household member
b. |__|	
c. |__|	
d. |__|	

	14=death of other household member 15=theft of productive resources 16=insecurity/violence 17=hailstones 18=earthquake 19=Social conflicts 25=other,(specify) |_____|

SECTION: 12. Nutritional status

<u>Interviewer:</u> The following questions are for ONE CHILD of the household, randomly picked among those present, BETWEEN 0-59 MONTHS old. I would like to ask you information in respect to members 0-59 months Read: "For [NAME OF CHILD], can you answer the following questions?"		
<u>Interviewer:</u> use ID codes from section 107. Only ask about children who are present at the household. Randomly select one child among children between 0-59 months old and present. Ask the following questions about the selected child.		
(1201) What is the ID code of the child? *(use same ID code as above section)*	|__|__|	
(1202) Has [NAME] been ill with a fever at any one time in the past 2 weeks?	|__|	0=No 1=Yes
(1203) For how long was [NAME] breastfed (months)?	|__| |__|	99=Not breast fed
(1204) Is [NAME] still breastfeeding?	|__|	0=No 1=Yes
(1205) Has [NAME] suffered from diarrhea in the last 2 weeks?	|__|	0=No, 1=Yes
(1206) How do you dispose of children stool?	|__|__|	1=Child uses toilet / latrine 2=Put / rinsed into toilet or latrine 3=Put / rinsed into drain or ditch 4=Thrown into garbage 5=Buried 6=Left in the open 25=Other, (Specify) |_____|
(1207) May I take a measurements of [NAME] - weight and height?	|__|	0=No,***(GOTO 1210)*** 1=Yes
(1208) Weight of the child?	|__|__|.|__| kg	
(1209) Height of the child?	|__|__|__| cm	
<u>Interviewer:</u> the following questions should be asked to one female household member who is between ages 15-49 years. If possible, interview a household member who is not pregnant. If possible, interview the (spouse of the) household head. Ask respondent "*Do you allow me to take a measurement of your height and weight?*" If she refuses ask another eligible household member for measurement.		
(1210) Is there any non-pregnant female household member between ages 15-49?	|__|	0=No ***(GO TO END)*** 1=Yes
(1211) May I take a measurement of the volunteer female member's weight and height?	|__|	0=No,***(GO TO END)*** 1=Yes
(1212) Now, I'm going to measure your **weight**. **<u>Interviewer:</u>** record weight in kg.	|__|__|__|.|__| kg	
(1213) Now, I'm going to measure your **height.** **<u>Interviewer</u>:** record height in cm.	|__|__|__| cm	

END OF QUESTIONNAIRE