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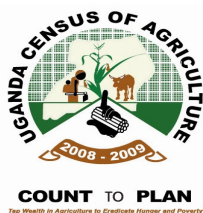
THE REPUBLIC OF UGANDA

UGANDA CENSUS OF AGRICULTURE 2008/2009



VOLUME II METHODOLOGY REPORT

December, 2010



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FOREWORD

The first Census of Agriculture (CA) in Uganda was conducted during the period of 1963/65 with the assistance of the Food and Agriculture Organisations of the United Nations (FAO) and the then Department of Technical Cooperation of Britain. The second Census of Agriculture (National Census of Agriculture and Livestock) was conducted during 1990/91 although preparatory arrangements had started earlier. That census was funded by the United Nations Development Programme (UNDP) and executed by FAO. The Ministry then responsible for agriculture was the implementing agency. The third and the latest in the series is the Uganda Census of Agriculture (UCA 2008/09). Its main objective was to establish a system of Food and Agriculture Statistics (FAS), for providing timely information to inform policy and planning.

This report outlines the methodology adopted with regard to sample design, enumeration plan, data processing and analysis. It was therefore appropriate that it preceded the other reports. Quite often data from censuses and surveys is rendered less useful for planning purposes if the data users are not sufficiently educated about the methodological approach, concepts and definitions underlying the results. The information contained in this report, therefore, is particularly useful to users and researchers as it will accord them a full understanding of the ensuing tabulations and reports.

The UCA 2008/09 was conducted as a joint effort between the Government of Uganda as the funding agency and the Uganda Bureau of Statistics (UBOS), in close collaboration with the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) were the implementing agencies. UBOS and MAAIF are extremely grateful to: FAO, the United Kingdom (UK) Department for International Development (DFID) and the Norwegian Agency for development (NORAD) for providing technical assistance.

Similar gratitude is extended to the national staff, comprised of the headquarter staff (from UBOS and MAAIF), District Supervisors (DSs), Enumerators and other support staff who, formed an effective team. Our gratitude also goes to the numerous farmers who provided the answers to the many questions as well as the District and Local Council (LC) officials who provided guidance to the Enumerators in the sampled areas in all the 80 districts of Uganda (as of July 2007) where the census was successfully conducted.



John B. Male-Mukasa
EXECUTIVE DIRECTOR

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LIST OF ACRONYMS

AM	Agricultural Module
ARS	Agricultural Reporting Service
BR	Business Register
CA	Census of Agriculture
CAO	Chief Administrative Officer
CDO	Community Development Officer
CsPro	Census and Survey Processing
DAO	District Agriculture Officer
DED/SP&D	Deputy Executive Director, Statistical Production and Development
DFID	Department for International Development
DPC	District Production Coordinator
DS	District Supervisor
EA	Enumeration Area
FAO	Food and Agriculture Organisation of the United Nations
FAS	Food and Agriculture Statistics
FY	Financial Year
GDP	Gross Domestic Product
GPS	Global Positioning System device
IIA	International Institute of Agriculture
ISIC	International Standard Industrial Classification
LC	Local Council
LC V	Local Council V
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MDG	Millennium Development Goals
MOS	Measure of Size
MOU	Memorandum of Understanding
NASTC	National Agricultural Statistics Technical Committee
NCAL	National Census of Agriculture and Livestock
NDP	National Development Plan
NS	National Supervisor
PCA	Pilot Census of Agriculture
PEAP	Poverty Eradication Action Plan
PHC	Population and Housing Census
PLS&IFs	Private Large Scale and Institutional Farms
PMA	Plan for Modernisation of Agriculture
PPS	Probability Proportional to Size

PSFU	Private Sector Foundation, Uganda
PSU	Primary Sampling Unit
QA	Quality Assurance
RDC	Resident District Commissioner
SCO	Senior Communications Officer
SSASP	Support to Strengthen Agricultural Statistics Project
SSU	Secondary Sampling Unit
TORs	Terms of Reference
TP	Tabulation Plan
UBOS	Uganda Bureau of Statistics
UCA	Uganda Census of Agriculture
UCAMT	Uganda Census of Agriculture Management Team
UCAO	Uganda Census of Agriculture Office
UNCST	Uganda National Council of Science and Technology
UNDP	United Nations Development Programme
UPE	Universal Primary Education
VRS	Village Registration System
WCA	Programme for the World Census of Agriculture

EXECUTIVE SUMMARY

Introduction

The agricultural sector is the most important sector of the Ugandan economy. Empirical evidence attests to this. For example the share of the agricultural sector to Gross Domestic Product (GDP) is about 21 percent (at the then current prices). According to the Agricultural Module of the 2002 Population and Housing Census, the agricultural sector accounted for 73 percent of the total employment for the persons aged 10 years and above. In addition, 74 percent of the households had an agricultural holding. The long term vision of the Government of Uganda is to eradicate poverty and the strategies for this vision are defined in the then Poverty Eradication Action Plan (PEAP) which has been transformed into the National Development Plan (NDP).

The vision of PMA was to eradicate poverty through transforming subsistence agriculture into commercial agriculture. The whole process of transformation requires accurate and reliable agricultural data to monitor the progress made and inform policy and planning processes.

Further, countries are focusing on the need to monitor progress towards the Millennium Development Goals (MDGs) through their National Statistical Systems. The World Census of Agriculture (WCA), 2010 was formulated with this in mind and specifically to monitor eradication of extreme poverty and hunger, achievement of Universal Primary Education (UPE), promote gender equality and empowerment of women in addition to ensuring environmental sustainability.

Within the framework of the FAO/World Bank Agricultural Statistics Assistance to Uganda, a Data Needs Assessment Study was undertaken in August 1999. One of the major findings was that the Agricultural Statistics System was fragile, vulnerable, un-sustainable and above all, unable to meet the data needs of users. A Census of Agriculture (CA) is major source to meet these demands.

Census taking in Uganda

Prior to the conducting of the Uganda Census of Agriculture (UCA), 2008/09 two (2) other censuses had been conducted. The first CA was conducted during 1963/65. The Government of Uganda was assisted by FAO and the then Department for Technical Cooperation of the United Kingdom both of which provided international and census equipment to a varying degree.

The second CA called the National Census of Agriculture and Livestock (NCAL) was conducted during 1990/91. It was funded by United Nations Development Programme (UNDP) and executed by FAO. Therefore the UCA 2008/09 formed the third CA in the history of census taking in Uganda.

Preparatory activities

An Agricultural Module was included in the Population and Housing Census 2002, to collect the data that would form a basis for constructing an up-to-date and appropriate sampling frame for a Uganda Census of Agriculture (UCA), 2004/05. A Pre-Test was conducted in 2002, followed by a pilot Census of Agriculture (PCA) which was conducted in 2003.

Lack of financial resources militated against conducting the UCA, 2004/05. During the Financial Year (FY) 2007/08, however, Government made a budgetary provision for conducting a census of agriculture.

The FY 2007/08 was mainly a preparatory year. As mentioned earlier, the plan had been to conduct a UCA during 2004/05, which did not take place. By 2008/09 (the census reference year), many changes had taken place and needed to be addressed. To this end, another Pre -Test was conducted in May 2008. Based on the findings from the Pre-Test, the UCA instruments had to be revised. Another very important factor for the instruments' revision was an input from the International Consultants (such as FAO Statisticians). Other preparatory activities included arrangements to procure census equipment and transport as well as recruiting and training of Field Staff.

Objectives of the UCA.2008/09

While the long-term objective of the UCA, 2008/09 was to have a system of Food and Agriculture Statistics (FAS) in place, the immediate objective was to collect and generate benchmark data needed for the monitoring and evaluation of the agricultural sector at all levels, through a nation-wide CA.

Coverage

The UCA 2008/09 was therefore planned to cover all the 80 districts at the time and collect data on various structural characteristics of agricultural holdings. Limited data on livestock variables was planned to be collected because comprehensive livestock data was to be collected in a Livestock Census of 2008.

Legal basis

The UCA, 2008/09 was conducted by the UBOS in close collaboration with MAAIF under the Authority of the Uganda Bureau of Statistics Act Number 12 of 1998.

Sample design

A stratified two-stage sample design was used for the small and medium-scale household-based agricultural holdings. At the first stage Enumeration Areas (EAs) were selected with Probability Proportional to Size (PPS), and at the second stage, households which were the ultimate sampling units were selected using systematic sampling.

Sample size

The sample size of 3,606 EAs was then allocated to 80 districts following power allocation in which samples are allocated to different strata with a view to obtain reliable district level estimates while maintaining the interest of the national level estimates.

GLOSSARY

1. **Enumeration Area (EA)**: This is a geographical area demarcated prior to a Population and Housing Census to be covered by one enumerator during subsequent enumeration exercises. On the average an Enumerator worked in four (4) EAs to ensure about equal workload.
2. **Household**: This is a group of persons who normally eat and live together.
3. **Head of household**: He/she is a member of the household who is acknowledged as head by the other household members either by virtue of his/her age or standing in the household as the chief income earner/takes major decisions. The head has primary responsibility for household affairs.
4. **Respondent**: This is the person from whom the information is obtained for example the head of the household or his/her spouse or another responsible household member in the absence of the household head.
5. **Agricultural holding**: This is an economic unit of agricultural production under single management comprising all livestock kept and all land used wholly or partly for agricultural purposes, without regard to title, legal form or size. Single management may be exercised by an individual or by a household, jointly by two or more individuals or households, by a clan or tribe or a cooperative or government parastatals. The terms Agricultural Household and Holding are used to mean the same thing.

A holding may consist of one or more parcels located in one or more separate areas, provided the parcels share the same production means utilised by the holding, such as labour, farm buildings, farm implements and machinery or draught animals. The requirements of sharing the same production means should be fulfilled to a degree to justify the consideration of various parcels as components of one economic unit.

6. **Holder**: This is a person who exercises management control over the holding and takes major decisions regarding resource use. The holding may be run by the holder himself/herself, by the spouse, by relatives, or by an employed manager. The holder has technical and economic responsibility for the holding, but may delegate responsibilities related to the day to day work management.
7. **Agricultural Season**: In Uganda, the main or the first agricultural season normally refers to the growing cycle of temporary crops that are planted and harvested in the first half of the year, occasionally extending up to the end of June. The second agricultural season is generally the period between July and December. It should be noted that seasons are directly related to rains

and only indirectly related to the growing cycle of crops. The first rains are generally longer than the second rains.

8. **Temporary crops**: These are crops with a growing cycle of less than a year, sometimes only a few months, which need to be sown or planted for further production after harvest. Crops remaining in the plot for more than one year should also be considered temporary crops if harvesting destroys the plant (e.g. cassava and yams).
9. **Permanent crops**: These are crops which occupy areas for a year or longer and which do not have to be replanted after harvest.
10. **Pure stand**: This is a single crop cultivated alone in a plot. A pure stand can either be temporary or permanent.
11. **Mixed stand**: Crops can be said to be grown in a mixed stand if two or more different temporary or permanent crops are grown on the same plot.
12. **Parcel**: This is any piece of land of one land tenure type, entirely surrounded by other land, water, road, forest or other features not forming part of the holding or forming part of the holding under a different land tenure type. A parcel may consist of one or more fields or plots adjacent to each other.
13. **Plot**: This is defined as a piece of land within a holding on which a specific crop or a crop mixture is grown.
14. **Total Holding Area**: This is the area of all parcels that is operated by the holder within the same EA. Forestland and other land owned and/or used by the holder should be included. However, land owned by the holder but rented to others should not be included in the holding area. Land rented from others and operated by the holder should be included
15. **STATA**: It is a Data Analysis and Statistical Software developed by STATA CORP, Inc.

CHAPTER ONE

INTRODUCTION

1.1 Background

- 1.1.1** In Uganda, the agricultural sector is the most important sector of the economy. According to the 2002 Uganda Population and Housing Census (PHC, 2002), the agricultural sector accounted for 73 percent of the total employment for the persons aged 10 years and above. In addition, 74 percent of the households had an agricultural holding as determined from the Agricultural Module which was included in the PHC, 2002. In order to eradicate poverty from the majority of population in the rural areas, the government established and has been implementing the Plan for Modernisation of Agriculture (PMA) in line with the Poverty Eradication Action Plan (PEAP). In the last eight years the policy environment for the agriculture sector in Uganda has been shaped by the Plan for Modernisation of Agriculture (PMA) which is a multi-sectoral policy framework for agriculture and rural development. The multi-sectoral nature of PMA gave it breadth that agriculture needs to move forward. Its scope covered seven pillars: research and technology development; national agricultural advisory services; rural finance; agro-processing and marketing; agricultural education; physical infrastructure and sustainable natural resource utilisation and management. The PMA implementation mandate spread across 13 ministries and agencies, which among other factors, affected implementation.
- 1.1.2** In 2005, the Rural Development Strategy (RDS) was formulated with the overall objective of raising household incomes with a focus on the sub-county as a basic unit for planning. In 2006, a much broader vision of Prosperity for All (PFA) was formulated and of recent Government has formulated the National Development Plan (NDP), 2010/11 - 2014/15. The NDP embodies investment priorities which include: physical infrastructure development mainly in energy, railway, waterways and air transport; Human resources development in areas of education, skills development, health, water and sanitation; facilitating availability and access to critical production inputs especially in agriculture and industry; and promotion of science, technology and innovation. The development approach of the NDP intertwines economic growth and poverty eradication.
- 1.1.3** Information on the agricultural sector is therefore crucial for monitoring RDS, PFA and the NDP. Further, information is required to monitor some of the Millennium Development Goals (MDGs).
- 1.1.4** The mandate of the Food and Agriculture Organisation (FAO) of the United Nations is to: collect, analyse, interpret and disseminate information relating to nutrition, food and agriculture. Since its establishment, FAO cooperated with member countries to improve the coverage, consistency and quality of food and agricultural statistics, through the Programme for the World Census of Agriculture (WCA).

- 1.1.5** The current 2010 WCA is the 9th round in a series of the Censuses of Agriculture (CA) since 1930. FAO has been responsible for preparing guidelines on: concepts, definitions, classifications, methodology, and tabulation plan to help countries plan and carry out their CA.
- 1.1.6** Uganda has so far conducted three Censuses of Agriculture, the third one being the Uganda Census of Agriculture (UCA), 2008/09. The first CA was conducted during 1963/65. The Government of Uganda was assisted by FAO and the then Department for Technical Cooperation of the United Kingdom both of which provided international consultants and census equipment to a varying degree. Uganda continued to use the 1963 census data and it became clear with time, that the data was getting out of date. As a result, the Ministry responsible for agriculture depended on two sources of data namely from: sample surveys conducted during 1967 to 1975, and the Agricultural Reporting Service (ARS). The ARS entailed undertaking small-scale surveys to determine mean plot sizes for different crops as well as estimates of the number of crop plots planted for each crop as reported by chiefs. It was noted that the estimates obtained were subject to wide margins of errors and resulted in inconsistent time series of crop area and production.
- 1.1.7** The second CA called the National Census of Agriculture and Livestock (NCAL) was conducted during 1990/91. It was funded by United Nations Development Programme (UNDP) and executed by FAO. Due to being contentious, the NCAL results had limited circulation. Clearly, the need for a CA to provide agricultural benchmark data needed for planning purposes and monitoring Government development programmes like Poverty Eradication Action Plan (PEAP) and Plan for Modernisation of Agriculture (PMA) was obvious.
- 1.1.8** The Uganda Bureau of Statistics (UBOS) in close collaboration with MAAIF initiated preparatory activities in 2002 to conduct a UCA. The Royal Norwegian Government funded a three-year project titled 'Support to Strengthen Agricultural Statistics Project' (SSASP), whose main objectives were to develop an Agricultural Reporting Service (ARS), a Village Registration System (VRS), a System of Annual Surveys, initiate preparations for a UCA that was slated for 2004/05 and in particular conduct a Pilot Census of Agriculture (PCA) in 2003.
- 1.1.9** However, due to lack of funding, it was not possible to conduct the much awaited UCA 2004/05. During the Financial Year (FY) 2007/08 however, the Government of Uganda approved the funds for the UCA. FY 2007/08 was regarded as a preparatory year during which census materials/items like computers, UCA instruments and transport equipment were procured.

1.2 Objectives

- 1.2.1** The long-term objective of the UCA, 2008/09 was to have a system of Food and Agriculture Statistics (FAS) in place and the UCA was expected to contribute to this.
- 1.2.2** More specifically, the objectives of the UCA, 2008/09 can be stated as:

- i) Provision of data on the social and economic factors of Uganda's agricultural structure by inter-relating various characteristics of holdings e.g. size of a holding and by type of holding and factors such as fragmentation, land tenure, land utilisation, crop patterns, use of fertilisers and agro-chemicals, use of farm implements and machinery, farm population and labour force;
- ii) Provision of detailed agricultural data such as number of holdings, total area of holdings, basic pattern of land utilisation, area under crops and extent of irrigation;
- iii) Provision of a benchmark for improving the reliability of current agricultural statistics from annual surveys and administrative sources and for assessing future agricultural development; and,
- iv) Creation and strengthening of the national capacity in agricultural censuses and surveys taking.

1.3 Scope and Coverage

1.3.1 The UCA 2008/09 covered all the 80 districts in the country as of July 2007 and a district was planned to be the domain of study i.e. census data was planned to be disaggregated at district level.

1.3.2 Small and medium scale holdings constituted the sampling frame from which a sample was drawn. All agricultural holdings regardless of size and location were considered. However, no attempt was made to stratify the holdings by rural/urban strata.

1.3.3 It is known that the contribution to production (crop and livestock) by the Private Large-Scale and Institutional Farms (PLS&IFs) is increasing over time. In light of this development, the PLS&IFs were covered on a complete enumeration basis. They were first listed to enable the census office plan better for their enumeration.

1.3.4 The UCA 2008/09 collected data on various structural characteristics of the agricultural holdings such as:

- i) Number and size of holdings;
- ii) Land access/ownership/tenure and use;
- iii) Demographic characteristics of the holder and his/her household;
- iv) Use of agricultural labour;
- v) Access and use of implements and farm machinery etc.;
- vi) Irrigation;
- vii) Agricultural credit/loans;
- viii) Agricultural buildings/storage facilities;
- ix) Mode of transportation

x) Sources of agricultural information and,

xi) Access to facilities e.g. Electricity, roads, markets, inputs etc

1.3.5 Data was also collected on:

i) Crop area and crop production;

ii) Livestock numbers and;

iii) Aquaculture and Apiary

CHAPTER TWO

CENSUS ORGANISATION AND PREPARATION

2.1 Legal Basis

2.1.1 The UCA, 2008/09 was conducted under the Authority of the Uganda Bureau of Statistics Act Number 12 of 1998.

2.1.2 By virtue of this Act, the information collected was kept strictly confidential.

2.1.3 UBOS conducted the UCA in close collaboration with MAAIF. The collaboration took place in the following areas:

- i) Identification of variables and preparation of the Tabulation plan;
- ii) Design of UCA instruments;
- iii) Training of Field Staff (District Supervisors and Enumerators); and
- iv) Supervision of field activities as well as retrieval of duly completed questionnaires.

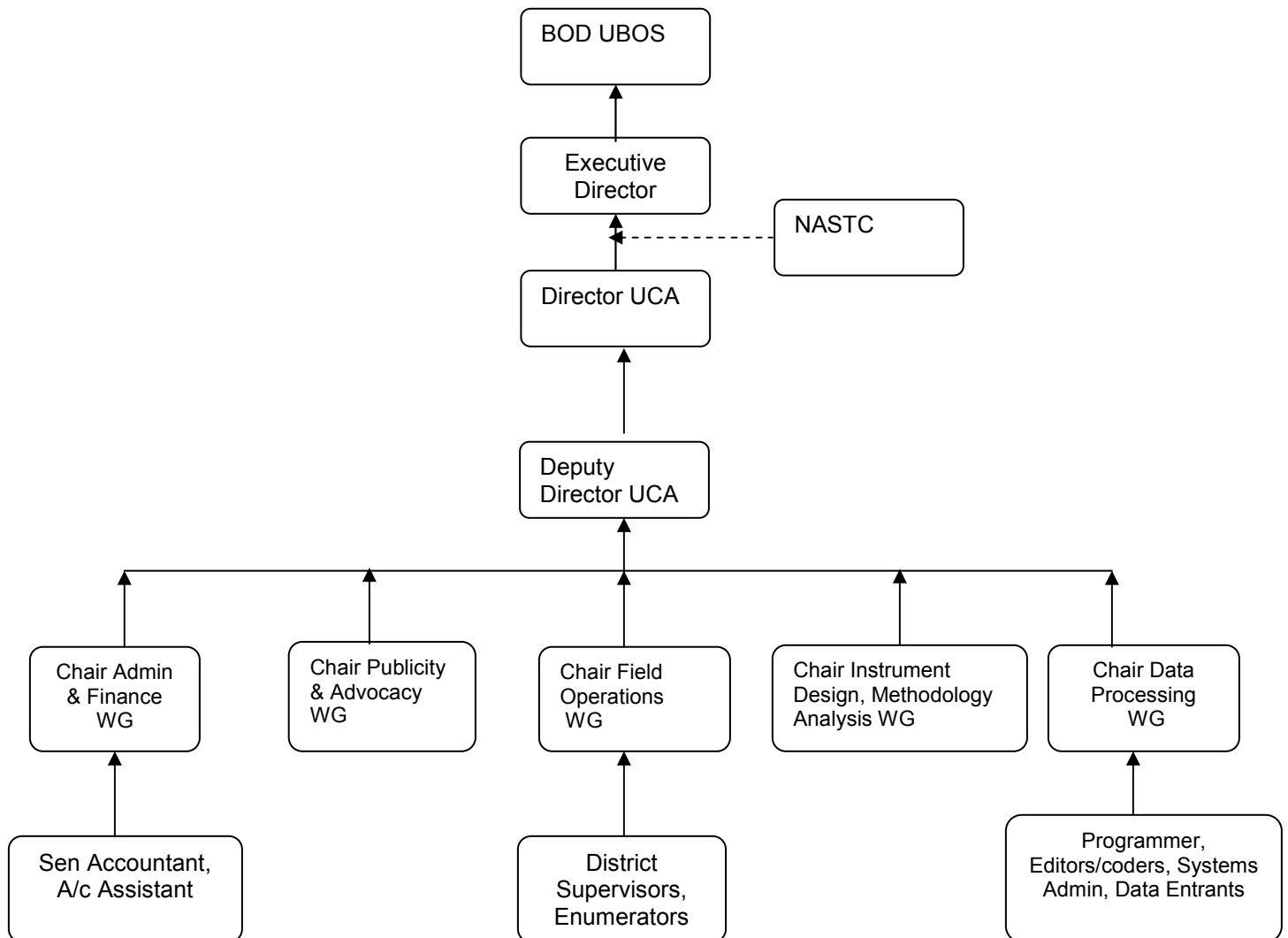
2.2 Organisational Structure

2.2.1 The Uganda Census of Agriculture 2008/09 Office (UCAO) was established within the UBOS premises, using existing UBOS and MAAIF staff while other staff were recruited as need arose. The UCAO was headed by a Director (D/UCA) who was assisted by a Deputy.

2.2.2 UCA Committees to provide technical guidance in the implementation of the census were established. These included the National Agricultural Statistics Technical Committee (NASTC) which was already in place but its Terms of Reference (TORs) were reviewed and revised to include coverage of the UCA project and membership increased to include the Uganda Census of Agriculture Management Team (UCAMT). The UCAMT in turn constituted itself into six Working Groups (WGs) as shown in the Organisational Chart in Figure 1.

2.2.3 It should be noted that services of the Socio Economic Surveys Division and Geo-Information System (GIS) Section in UBOS were used for purposes of sampling and map reproduction, respectively.

Figure 1: UCA Organisational Chart



2.3 Organisation

3.1.2 Overall Coordination and Supervision Teams: The following team was in place at UBOS headquarters

- i) A UCA Director based in the Agricultural Statistics Section of UBOS;
- ii) A Deputy Director UCA; seconded from MAAIF;
- iii) Five (5) Statisticians based in the Agricultural Statistics Section of UBOS;
- iv) Two (2) Statisticians based in MAAIF;
- v) Twelve (12) Temporarily recruited Statisticians;
- vi) One (1) Technical Officer;
- vii) Short and Long Term, Local and International Consultants for provision of technical support;
- viii) Data Processing Manager (1);
- ix) Programmers (2);
- x) Data Entry Supervisors (4);
- xi) Coding Supervisors (1);
- xii) Coders (14) and Data Entrants (60).

3.1.3 Besides the staff at the headquarters, there was staff in the field. The first category of staff was composed of District Supervisors (DSs). The responsibility of a DS was mainly to follow up on the Enumerator's work; he/she also worked as a District Coordinator. A DS received all forms, checked for errors and advised the Enumerator concerned where to make corrections. Thereafter, he/she stored them at the district headquarters, before passing them on to UBOS for subsequent processing. The DS visited and followed up on the Enumerators regularly as well as participating actively during sampling of holdings.

3.1.4 The second category of staff was composed of Enumerators. These were employed to carry out the enumeration exercise i.e. actual collection of data from the respondents.

2.4 Census Materials and Equipment:

3.1.2 There were a number of materials and equipment used in the UCA 2008/09. They included UCA Forms, Manuals and other materials. UCA Forms and Instructions Manuals are indicated below:

- i) **UCA Form 1: Listing Module;** since lists of farmers did not exist at that time in Uganda, the listing module was used to list all the households in a sampled EA, identify those which engaged in at least an agricultural activity (i.e Agricultural Holdings), assist in stratification according to a given criteria and cut-off points and thus constructing a sampling frame from which to sample those Agricultural Holdings to be enumerated;

- ii) **UCA Form 2: Agricultural Household and Holding Characteristics Module**; this form was used to collect data on the demographic characteristics of Household members as well as structural type of data on the Agricultural Holding;
- iii) **UCA Form 3: Community Module**; this form was designed to collect community-level data;.
- iv) **UCA Form 4: Crop Area Module**; this form collected data on holding parcel and crop plot areas using a GPS device;
- v) **UCA Form 5: Crop Production Module**; this form collected data on crop production;
- vi) **UCA Form 6: Private Large Scale and Institutional Farms (PLS&IFs)**; this form collected data on Private Large Scale and Institutional Farms on a complete enumeration basis;
- vii) District Supervisors' Instructions Manual and
- viii) Enumerators' Instructions Manual (for sampled holdings and PLS & IFs).

3.1.3 UCA Form 3 was not administered during the UCA 2008/09 enumeration period due to financial limitations.

3.1.4 Other materials and equipment included the following:

- i) Global Positioning System (GPS) devices for measuring agricultural land area and geo-referencing of holdings;
- ii) Cars;
- iii) Motorcycles;
- iv) Gum boots and
- v) Bags, clipboards, raincoats, pens, counter books and notebooks/writing pads.

3.1.5 Terms and conditions for use of the items in particular the motor-cycles and the GPS devices were clearly stipulated in the Memoranda of Understanding (MoU) between UBOS and the Districts.

2.5 Preparatory Activities:

3.1.2 The efforts to prepare for the census started in December 2001. With funding from a grant by the Royal Norwegian Government, the Republic of Uganda/Uganda Bureau of Statistics conducted a number of exercises including a pre-test (2002) and the PCA (2003).

3.1.3 A number of preliminary activities were carried out pending the formal launching of the census project to ensure the timely implementation of the pre-enumeration phase. Consultation with the stakeholders i.e. producers and users of agricultural statistics to determine the general scope of the census including topics to be covered, was done.

3.1.4 The preparatory phase of the UCA project provided the necessary machinery and instruments for the implementation of the other two phases. In particular, the administrative and technical structures to implement the UCA were established, data needs agreed on, the required human,

financial and other resources for various operations were determined. In addition, the necessary instruments were designed, data quality control procedures were developed, tabulation and publication plans prepared, and publicity campaigns undertaken as well as a Pre-Test.

3.1.5 Uganda Bureau of Statistics in collaboration with MAAIF conducted a number of exercises including but not limited to the following:

- i) **A Pre-Test in Masaka district, in June/July 2002:** Was carried out to try out the methodologies for data collection and suitability of questionnaires and determine work loads and get an idea on logistical problems.
- ii) **Agricultural Module, 2002:** This was included in the Population and Housing Census (PHC), 2002. Its main objective was to provide data that would form a basis for constructing appropriate sampling frames for future censuses of agriculture and agricultural sample surveys. The main purpose was to test the methodologies as well as the instruments in preparation for a Census of Agriculture (UCA 2004/05).
- iii) **A Pilot Census of Agriculture (PCA), 2003:** This was conducted in ten (10) districts of Arua, Iganga, Kabale, Kabarole, Lira, Masaka, Masindi, Mbale, Nakapiripirit, and Wakiso. The objectives of the PCA, 2003 were to:
 - Test the suitability of the PCA instruments (questionnaires, manuals, codes list, etc);
 - Test various methodologies for crop area measurement and yield/production estimation; for example area measurement tested using Global Positioning System (GPS) device ;
 - Compile lists of Conversion Factors for the various weights and measures by farmers and the crop condition and states;
 - Determine workloads of the field staff and duration of enumeration;
 - Determine logistical and other problems;
 - Get an idea on the training procedures;
 - Determine the effectiveness of map use;
 - Test required caliber of personnel;
 - Test the effectiveness of allocated resources; and,
 - Use the information obtained from PCA to design and organise the proposed UCA, 2004/05.
- iv) **UCA Project document:** The Bureau prepared a UCA Project document in 2004/05 and submitted it to the Monitoring and Evaluation Sub-Committee of the Plan for Modernisation of Agriculture (PMA) which found it PMA-compliant and forwarded it to the Development Committee for funding. Unfortunately, there was no funding for conducting the census during 2004/05. A revised UCA Project document with a budget was prepared in 2007.

- v) **Requisite UCA instruments:** Questionnaires, instruction manuals, quality/operational forms were prepared.
- vi) A Tabulation Plan: This was prepared in conformity with recommendations of Food and Agriculture Organisation of the United Nations (FAO).
- vii) **A Second Pretest in Mityana District 2008 from 18th to 26th May 2008;** This was necessitated by the fact that since a lot of time had elapsed since 2002, many changes could have taken place and needed to be addressed.

CHAPTER THREE

SAMPLING FRAME, DESIGN AND METHODOLOGICAL APPROACH

3.1 Sampling Frame

3.1.1 The Uganda Population and Housing Census (PHC, 2002) conducted in September 2002, included an Agricultural Module (AM) whose main purpose was to collect data that would form a basis for constructing appropriate sampling frames to be used in future conduct of agricultural censuses/surveys.

3.1.2 3.1.2 A total of 3, 787,487 out of the 5,186,558 households enumerated during the 2002 PHC reported that one or more of their members was/were engaged in an agricultural activity as of September 2002. These households were referred to as “households with agricultural activity” or “agricultural households”. The advantage of the data from the Agricultural Module (AM) was that the data was collected on a universal basis (i.e. complete enumeration of households).

3.2 Sampling Design

3.2.1 A stratified two-stage sample design was used for the small and medium-scale household-based agricultural holdings. At the first stage Enumeration Areas (EAs) were selected with Probability Proportional to Size (PPS), and at the second stage, households which were the ultimate sampling units were selected using systematic sampling.

3.2.2 For each of the sampled EAs, listing took place in the field and a number of filter questions (using UCA Form 1: Listing Module) were administered to determine eligibility (i.e., only the Households with Agricultural Activity would be eligible). Further, the eligible households were stratified into two strata namely, the small/medium holdings stratum and the Private Large-Scale holdings stratum.

3.2.3 On the other hand, district supervisors compiled separate lists of Institutional Farms and household based Private Large Scale Farms. These were to be covered on a complete enumeration basis.

3.2.4 During sampling, two (2) lists namely for EAs and PLS&IFs were used to identify possibilities of duplication and address them. If a PLS&IF was in both lists, it was deleted from the EA frame. However, if it was found only in the EA frame, it was left as part of the frame from which to sample. In other words, the List was not updated based on the information collected from the EAs sampled from the Area Frame.

3.3 Sample Size

3.3.1 The UCA estimates were planned to be generated at national, regional and district levels. To achieve this, a sampling scheme of 3,606 EAs and 10 agricultural households in each selected EA, leading to 36,060 households was adopted.

3.3.2 In this design, an optimum number of households to be sampled per EA was determined on the basis of a suitable cost ratio (ratio of the cost per PSU to cost per SSU) and intra-class correlation, calculated from the Agricultural Module data from PHC 2002. For a cost ratio of 40 and intra-class correlation as 0.29, optimum number of households to be selected was obtained as 10.

3.4 Selection of EAs and Agricultural Households

3.4.1 The required sample size of EAs was selected from each district with probabilities proportional to size (PPS), using the systematic sampling algorithm described in Hansen, Hurwitz, and Madow (1953) while Agricultural Households were selected with equal probability systematic sampling procedure. The Measure of Size (MOS) which was used for sample selection was the number of Agricultural Households determined from the 2002 PHC.

CHAPTER FOUR

PUBLICITY AND COMMUNITY MOBILISATION

4.1 Introduction

4.1.1 During the UCA 2008/09, a national Mobilisation Team (MT) was formed with the broad goal of working towards achieving community awareness and response to the Census.

4.1.2 The mobilisation was intended to provide the public with accurate, timely and relevant information, on how the exercise would be carried out and how the communities would benefit from the exercise.

4.2 Objectives of the Mobilisation

4.2.1 The objectives were to:

- i) Explain individual benefits and importance of the UCA to the population. mobilise all people to accurately answer the questions;
- ii) Explain key contentious issues in the questionnaires some of which are listed below;
- iii) Address rumors, misconceptions, fears and any suspicions that the people may have and
- iv) Identify trouble shooters and give them correct information.

4.3 Composition of the Mobilisation Team

4.3.1 There were thirteen (13) MTs comprised of UBOS and MAAIF staff. On the average, each team covered 7 districts.

4.4 Mobilisation

4.4.1 The mobilisation process was started by the orientation of the national level MT members. The teams then moved to the various districts allocated for the actual field work.

4.4.2 In light of this process, an Orientation Meeting for National Level MTs was held on Monday 30th July 2008, in the D/UCA office, to prepare the teams for the actual mobilisation process.

4.4.3 The objectives of the meeting were to:

- i) Orient the national MT on the UCA activities.
- ii) Present and discuss the terms of reference for the team members.
- iii) Present the field expectations of the members.

4.4.4 During the meeting, the following presentations were made:

- i) Overview of UCA: this presentation was made basically to remind and give an insight of what the UCA was all about.
- ii) Social Mobilisation: an overview on social mobilisation in the context of the UCA was made; the presentation stressed that social mobilisation is a key process in improving response rates in the survey.
- iii) Identification of major stakeholders: this presentation emphasized that the teams should target relevant stakeholders at district level, for effective technical and political support.

4.4.5 Following the orientation meeting, the teams were deployed to different districts from July to August 2008. The trips were scheduled in such a way so as to allow time for report writing after the mobilisation before the next planned round.

4.4.6 The mobilisation was arranged in such a way that the teams moved ahead of the field workers in order to clear any problems and misconceptions before the enumeration. In each district, the teams worked hand in hand with a district official as the focal person. These district officials were either the DS or the DAO.

4.5 Roles Performed

4.5.1 The MTs performed the following roles:

- i) Made courtesy calls on the district leadership, L.C 5 Chairperson, RDC, DPC, District Planners, Information Officers and the Secretary for Production;
- ii) Made standard presentations to selected local government officials;
- iii) Distributed flyers and posters to participants;
- iv) Ensured that focal officers had hand bills to distribute to opinion leaders in the EAs and,
- v) Met the UCA DSs and compiled list of issues arising in the area in relation to the exercise.

4.5.2 The MTs in addition, went to sub counties and met sub county officials to sensitize them about the census. However, subsequent lower level mobilisation, (village level) was done by the Sub-county Agricultural Officers. Where possible, village meetings were held and the participants received the message about the census.

4.5.3 The above approach applied to all districts except Kampala, where each MT was allocated a division to cover.

4.6 Talk Shows

4.6.1 As part of the mobilisation programme, the different MTs also held talk shows in selected radio stations. In each radio station, the talk show panelists included the DAO, DPC, CDO, RDC, LC V Chairperson and the DS. The various Panelists, Radio stations and District Coverage are shown in Table 4.1.

4.6.2 In a bid to increase publicity and awareness, local radio journalists and some central journalists, from *New Vision*, *The Observer*, *Daily Monitor*, Wava Broadcasting Service (WBS) TV, National Television (NTV) and Uganda Broadcasting Corporation (UBC) TV moved with the MTs. The local radio journalists captured the news items whose news bulletins were cast all over the country.

Table 4.1 Panelists, Radio stations and District Coverage:

No	Radio station	Panelists	Coverage
1	Buddu FM (Luganda)	-DS Masaka, Sembabule - Peter Ntale UBOS	-Masaka, -Rakai -Sembabule
2	Open gate FM 1-(Lumasaba) 2- Lugwere/Ateso	-DS Mbale,Sironko,Manafwa, - Rosemary Kisakye(UBOS) - DS Budaka and Paliisa	-Tororo - Paliisa,Budaka etc - Mbale - Soroti -Kumi - Busia - Manafwa - Sironko
3	Radio West (R/R)	-DS Mbarara, -Jane Rose Lutaya (UBOS)	-Mbarara -Ntungamo -Kabale -Kasese
4	-Voice of Muhabura -Voice of Kigezi	-DS and DPO Kisoro - DS Kabale -Byron Twesigye (UBOS)	-Rufumbira - Kisoro - Rukiga – Kabale, Kanungu etc
5	Eastern Voice Lusoga	-DSs Bugiri and Butalejai, -Emmanuel Menyha (UBOS)	-Kamuli, Kaliro , Namutumba Bugiri, Butaleja etc
6	PACIS radio Lugbara	-DSs Arua and Yumbe , -Bob Okua (UBOS)	-Arua, W/Nile
7	CBS	-Dr. Zaake (Consultant) -DED/SP&D,	-Kampala -Wakiso

No	Radio station	Panelists	Coverage
		- Rosemary Kisakye(UBOS)	-Mukono -Mityana -Masaka -Rakai -Mpigi
7	Mega FM	DS Gulu, SIO UBOS	- Northern
8	Beat FM (Luganda)	-DSs Luwero and Nakaseke -RDC Luwero, -George Kawase (UBOS)	-Kampala – Luwero -Wakiso - Nakaseke - Nakasongola -Mukono -Mpigi
9	Voice of Tooro Rutooro/Rukonzo	-DSs Kabarole and Kyenjojo -George Kawase (UBOS) -CAO Bundibudyo, DS Bundibudyo	Bundibugyo, Kamwinge,Kyenjojo,Kab arole etc
10	Rock Mambo FJM	-DSs Tororo,Busia, -Emmanuel Menyha (UBOS)	Tororo,Busia etc
11	NBS	-DSs Iganga, Butaleja, and Namutumba	Lusoga
12	Kioga Veritus Ateso	-LC V Kaberamaido, -DS Kaberamaido	Kaberamaido, Amuria, Katakwa etc
13	Kagadi Kibaale Community Radio	-DS Kibaale - Magezi Apuuli	Kibaale,Mubende Kyenjojo etc
14	Liberty Broad Casting Hoima	-DS Hoima - Magezi Apuuli	Hoima etc
15	King's Broad Casting Service(VOB)	-DS Masindi, Buliisa - Magezi Apuuli	Masindi etc
16	Sayaren FM	-DS, CDO Bukwo, -Rosemary Kisakye(UBOS)	Bukwo
17	Kapchwaorwa Trinity FM	-DS, CDO Kapchorwa -Rosemary Kisakye (UBOS)	Kapchorwa
18	Kasese Guide Radio	-DS Kasese -George Kawase (UBOS)	Kasese
19	Radio Paidha Alur	-DAO and both DSs Nebbi	Nebbi, Nyadri
20	Spirit FM Radio Koboko Kakwa	-Bob Okua (UBOS), -DAO, -NAADS Coordinator Koboko	Koboko, Yumbe
21	Voice of Busoga Lusoga	-DSs Kamuli and Jinja, - Charles Walube (UBOS)	Kamuli, Jinja etc
22	Arua One Lugbara	DS Arua	
23	Mubende Broad Casting Luganda	-DSs Mubende and Mityana - Isreal Nsiko	Mubende,Mityana,Kyenjo jo

CHAPTER FIVE

FIELD ORGANISATION AND OPERATIONS

5.1 Introduction

5.1.1 Field Organisation plays a crucial structural role as the main link between those who seek data (survey organisers) and those who have data (respondents). The impact of Field Organisation on data quality is so important that planners of censuses/surveys usually take a lot of time planning and ensuring that it is implemented well to the extent possible. Its main objective is to handle the field data collection operations of a census/survey. These operations include but are not limited to:

- i) Determination of the requisite logistics, depending on the needs based on the EAs, field staff, etc;
- ii) Establishment of a plan to distribute the census/survey materials as well as their retrieval. In the case of questionnaires, it is important that the distribution/retrieval process puts into account the fact that the total number of each form distributed to field staff, should equal to the total number of forms retrieved (i.e. those duly filled in, those filled in but cancelled due to errors and the blank ones);
- iii) Data collection;
- iv) Carrying out field editing on the filled in questionnaires;
- v) Controlling the flow of information from the field to the headquarters and if necessary making a follow-up when some questionnaires have to go back to the field for mandatory corrections;
- vi) Overall coordination of all other functions associated with field work, like continuously monitoring field staff changes and their payments, district level participation and other administrative requirements.

5.2 Recruitment of Field Staff

5.2.1 During the planning stages of the UCA, it was realised that the bulk of field staff were to come from the districts. As a first point of call to the districts, a request was made to all the Chief Administrative Officers (CAOs) to identify senior officers from the District Local Governments who would work as UCA District Supervisors (DSs). This was also to ensure UCA ownership by the districts. It was recommended that the DSs should be District Agricultural Officers or Planners with technical knowledge in agriculture. These DSs were regarded as extremely important since they were to provide day-to-day supervision as well as solutions to administrative issues as needs arose. In total, there were about 130 UCA DSs in the whole country with one or two in each district depending on the size of the district.

5.2.2 To ensure the collection of high quality data, UBOS provided guidelines to the District Local Governments requesting them to recruit suitably qualified persons who would be trained and deployed as Enumerators. Important considerations made in the guidelines included for example: age, educational attainment, proximity to the group of EAs to work in, proficiency in the dialect spoken by the potential respondents, and, suitable character of the candidate.

5.2.3 An official communication was sent to each CAO and copied to the District Production Coordinator (DPC), in which the two (2) district officials were entrusted with the task of advertising the posts, interviewing the candidates and identifying the most qualified ones for training and appointment. A total of 936 Enumerators were recruited for the UCA countrywide.

5.2.4 An Enumerator was on average assigned 4 EAs to ensure equal workload. The number of EAs in a district varied depending on the measure of size (i.e. Agricultural Households), and ranged from 23 for Kalangala district to 70 for Masaka district with the number of enumerators being 6 and 18 respectively.

5.3 Training

5.3.1 The headquarter staff involved in the training was drawn mainly from the Agricultural Statistics Sections of UBOS and MAAIF. Training was carried out in three (3) phases namely:

- i) **Training of trainers:** This entailed headquarter staff to ensure that the trainers when dispatched to various training centers would issue similar instructions.
- ii) **Training of District Supervisors (DSs):** The main reason for conducting separate training for the DSs, was to ensure that when different centers of training for the Enumerators were established, the trained DSs would support the headquarter staff in the training process. Due to their large number, the DSs were trained in two sessions each of about 60 participants to keep the class size manageable.
- iii) **Training of Enumerators:** This training was mainly facilitated by National Supervisors (NSs) assisted by DSs at eight (8) regional centers namely; Mukono, Jinja, Mbale, Soroti, Lira, Arua, Mbarara, and Kabarole. Five (5) teams were constituted and some trained at more than one venue. The training had an advantage in that those DSs who had missed out or had not completely understood some aspects on the previous training were given another chance to catch up.

5.3.2 Each team of field staff was trained for a period of seven (7) days. Five (5) were mainly for classroom work and the remaining two (2) days were spent on practical demonstrations. The training was based on the questionnaires and Instructions Manuals.

5.3.3 Forms trained on had been designed according to various modules and included the following:

- i) UCA Form 1: Listing Module;
- ii) UCA Form 2: Agricultural Household and Holding module
- iii) UCA Form 3: Community Module;
- iv) UCA Form 4: Crop Area Module;
- v) UCA Form 5: Crop Production Module; and,
- vi) UCA Form 6: Private Large-Scale and Institutional Farms (PLS&IFs).
- vii) Manuals which included those for: DSs, Enumerators, Community Module and LS&IFs;

5.3.4 During the training a number of areas emphasized included among others: use of a GPS device, pacing as a supplementary method of agricultural area data collection (for small areas), concepts and definitions, filling the forms and handling field returns.

5.4 Deployment of Staff

5.4.1 As mentioned earlier, on the average, an Enumerator was allocated four (4) EAs for purposes of having equal workload. The allocation of EAs to an Enumerator was carried out in such a way that distances covered could be minimized thus reducing on time loss and costs.

5.4.2 It was a requirement that for the four (4) EAs assigned/allocated to an Enumerator, he/she was a resident in one of them. This was intended not only to ensure proximity to the assigned EAs but also take advantage of the enumerator's familiarity with an EA. In addition, his/her being known to the respondents in the locality was a prerequisite for securing their cooperation.

5.4.3 The large districts like Masaka, Bushenyi, etc. had two (2) DSs, while the small ones like Bukwo, Busia, etc. had one (1). In the case of the former, the two (2) DSs apportioned work based on number of EAs, enumerators and the terrain to ensure equal workload.

5.5 Field Supervision and Consistency Checks

5.5.1 Enumerators were trained to probe the respondents until they were satisfied with the response given before they recorded them in the questionnaire. The first check of the questionnaires was done by enumerators in the field during enumeration. The second check was done by the district supervisors followed by National Supervisors. Supervisory visits at all levels of supervision focused on consistency checking of the questionnaires. Inconsistencies encountered were corrected, and where necessary a return visit to the respondent was made by the enumerator to obtain the correct information. Further quality control checks were made through a major post enumeration checking exercise where all questionnaires were checked for consistencies by editors/coders from the UCA Data Centre at UBOS Entebbe offices.

5.6 Data Quality

- 5.6.1** A great deal of emphasis was placed on data quality throughout the whole exercise from planning, questionnaire design, training, supervision, data entry, validation and cleaning/editing. As a result of this, it is believed that the census is highly accurate and representative of what was experienced at field level during the Census year. With very few exceptions, the variables in the questionnaire are within the norms for Uganda and they follow expected time series trends when compared to historical data. Standard Errors and Coefficients of Variation for the main variables are presented in UCA Volumes 111 and 1V.

5.7 Area Measurement

- 5.7.1** In the majority of cases in the rural areas, the area of a holding varies from time to time. A holder may sell or rent out part of his/her holding or he/she may buy or rent from others. At any time, the holder has the option to fully or partially utilise the holding thus the proportions of the holding under crops as well as crop plots also vary from season to season or from year to year hence the importance of measuring the area of holding/crop plots and monitoring such changes. The area measured included the agricultural holding parcels and crop plots as well as fallow plots on those parcels within EA.
- 5.7.2** An objective method was used for area measurement using a Global Positioning System (GPS) device. For small plots of less than 100 square meters, it had been established during the Pre-Test and PCA, that the GPS device did not give accurate readings.
- 5.7.3** In light of this observation, a Pacing Method was used as an alternative method to address the problem of small plots. Each Enumerator was assisted to establish a Pacing Co-efficient which was used in the computation of area of a given small polygon.
- 5.7.4** Crop plots can be either in pure stand or in mixed stand. Determining the physical area occupied by each of the crops in mixed stand plot can be a challenge. In the UCA, an attempt to address this problem was done by instructing the field staff to determine the approximate percentage crop cover of each of the crops in the mixed stand and record it.

5.8 Crop Production Estimate

- 5.8.1** Reliable estimates of annual production of food crops and other agricultural commodities are extremely important as Uganda makes serious efforts to tackle the problem of ensuring food security, diversifying her export crops, increasing agricultural income of her people and thus raising their living standards through poverty eradication.
- 5.8.2** A number of methods for estimation of crop production exist for example:
- i) Interviewing the holder;
 - ii) Crop cutting/weighing on sampled sub-plots;

- iii) Weighing of produce from the entire plot (can be once for crops like rice or several times for continuously harvested crops like sweet potatoes); and,
- iv) Recording using a crop card.

5.8.3 In the case of UCA 2008/09, the method of '**Interviewing the holder**' was adopted. From experience in earlier Crop Surveys under the Uganda National Household Surveys Programme (UNHSP), the Pre -Test 2008 and the PCA 2003, it had been established that as long as the frequency of visits to the holder is increased, high quality and accurate data could be collected on quantities produced. This is true because problems attributed to memory lapse are substantially reduced.

5.8.4 All the crops grown on the selected holding were covered, during the Second Season of 2008 and the First Season of 2009. This coverage also included crops like cocoa, tea, cotton. Tobacco, flowers and other typical cash crops for which it was expected that the farmer would be able to provide reasonably accurate data.

5.8.5 In Uganda many farmers have a fair idea on the quantities of the crop they produce, even if they may not normally keep records. The problem is how to convert the various units of quantities into standard measurement units. As far as possible, various units of quantity commonly used were provided with their respective codes. An Enumerator was required to record the unit code (with its respective weight) standard weight (Kg), the condition and state as well as the number of the units. UCA technical staff undertook a small-scale survey to determine the exact weight on a crop by crop basis of those crops of interest. Conversion Factors were then applied to convert the crop into a required condition and state for example:

- i) **Dry after additional drying** in the case of cereals, legumes oil seeds; cassava, cotton, tobacco, cocoa;
- ii) **Fresh raw harvested** in the case of sweet potatoes, cabbages tomatoes, yams, bananas etc.

CHAPTER SIX

DATA PROCESSING AND ANALYSIS

6.1 Introduction

6.1.1 Data Processing is the transforming of raw data into information. In the UCA it involved transforming data from the hard paper forms to a usable electronic format for data analysis and report writing. This process started right from the design of the data collection tools when data processing staff were given the responsibility of designing the data collection tools' layout. This greatly impacted on the convenience of collection, entry and eventually contributed to the final quality of the census dataset.

6.1.2 Completed questionnaires were continuously returned from the field to the data processing center which was at the Uganda Bureau of Statistics (UBOS) offices in Entebbe. The concurrent collection and processing of data was an advantage in that data processing monitored the data quality parameters and could continuously report to the field operations team who could make feed back to the DSs for improvement.

6.1.3 Returned questionnaires were subjected to the following procedures:

- i) Coding
- ii) Data capture
- iii) Editing
- iv) Secondary Editing
- v) Quality control
- vi) Tabulation

6.1.4 This report gives details of data processing operations for the Uganda Census of Agriculture as shown below.

- i) **Coding:** This involved making sure that all forms/questionnaires had correct geographical identification information and correct crop codes. The coding team also reviewed the sampling of holdings within an enumeration area to see that only eligible/sampled holdings were actually enumerated. In addition to the above, it organised the forms belonging to an enumeration area into a batch. Forms in a batch were arranged according to the household serial numbers which eased the work of the data entry operator.
- ii) **Data capture:** The census used the traditional method of data entry using the key board to punch data into the computer. Edited/coded forms were delivered to the data entry room(s) where actual data entry took place. The census had three data entry rooms each managed

by a data processing supervisor and having about 16 data entry operators. The data processing supervisor was in charge of assigning and supervising work of the data entry operators. The operators were in charge of the actual data capture as well as cleaning of any data entry errors that they had generated. To eliminate data entry errors, a double entry system was used. Each round of data capture was done by a different person and at a different time. Data from both entries was continuously compared until there was no difference between the two. Batches that passed this check were considered free of any data entry errors. The first round of entry was referred to as “main entry” and the second “verification”.

- iii) **Editing:** This is the process of identifying inconsistencies within the data and removing them. At the beginning of UCA data processing, a set of editing rules and guidelines were developed by the data processing team with technical guidance from the subject matter specialists. Many of these were incorporated into the data entry application and others were left for the secondary editing stage. Error checks in the entry applications helped the data entry operators to interactively see and fix errors during entry. Errors that were beyond the editors’ ability to fix were reported to the supervisors for advice. This greatly contributed to the data collection feed back process which gradually improved the data quality.
- iv) **Secondary Editing:** Errors that passed the data entry stage were subjected to the editing stage. This stage was meant to find inconsistencies within the data. It brought out problems that required subject matter specialists to resolve. To fix most of such errors, consultations were made with the national supervisors, district supervisors, UBOS and MAAIF technical team. In a few cases, especially for large farms, direct contacts were made with the respondent.
- v) **Quality control:** The UCA hired an external consultant who had very high expertise in data processing. The sole purpose of this was to ensure a very high quality dataset. With the technical help of the consultant, the data processing team was able to develop very strict and efficient processing applications. These controlled the flow of questionnaires at the various stages of data processing and also eliminated outliers and inconsistencies from the final dataset as much as possible.

Quality in the data was established across the various forms¹ by making sure that all forms belonged to a sampled EA. It was also established at the form level that all sections could easily relate to each other and at the field/question level that no values were out of range and outliers were immediately displayed for quick action.

¹ UCA has six forms. See chapter five, training

- vi) **Tabulation:** An agricultural statistician was contracted for a month to develop an initial Tabulation Plan (TP) to guide the generation of tables. Thereafter, a consultative meeting was held with key stakeholders to review the TP, which was finalised by the UCA technical team. The TP put into consideration the tabulations from the previous censuses and surveys to allow analysis and comparison.

6.2 Software and Hardware used for data processing

6.2.1 These included the following:

i) **Software:** This was constituted by:

- Census and Survey Processing (CsPro) application which was used for data capture and management of the information within a batch and data editing.
- Ms Access and Visual Basic which were used for the general data management
- STATA that was used for data editing and analysis
- Excel that was used for presentation of results from the analysis

ii) **Hardware:** This was constituted by:

- Fifty three (53) desktop computers that were fully dedicated to data entry. They were distributed into three laboratories and each laboratory had a central computer “supervisor’s machine” which was in charge of holding and distributing data entry application to the computers attached to it. It was also responsible for receiving data from the individual computers and this was automatically done.
- A Central Server which controlled all the network operations of the center. The server ran on Windows Server 2003 and was protected by MacAfee anti virus. The server was responsible for making daily backups of data from each of the central computers.

CHAPTER SEVEN

REPORT WRITING

7.1 Background

7.1.1 The report writing process was spearheaded by the Technical Team (TT), which was composed of the staff that had been on the project during implementation. This staff was comprised of the statisticians from MAAIF and UBOS (both regular and on contract). The choice to have the UCA TT write the report was based on previous experience in other programmes of the Bureau in which the Bureau staff had successfully prepared reports, with the advantage of capacity building in this area.

7.2 Expected Volumes of the UCA Report

7.2.1 The UCA 2008/09 had many forms administered as already mentioned. It was not desirable to include all the tables from different forms in one report. This is because such a report would not be user-friendly. For example, a user may be interested in only crop area and production and not in agricultural household and holding characteristics related information and data. Including tables on crop area and production as well those on agricultural household and holding characteristics in one report, would make it not only un-necessarily voluminous but also user-unfriendly.

7.2.2 Bearing in mind the above points, it was proposed and agreed that the UCA results should be released in the following volumes of the Uganda Census of Agriculture Report:

- ii) Volume 1: Methodology Report;
- iii) Volume 2: Agricultural Household and Holding Characteristics Report;
- iv) Volume 3: Crop Area and Production of Major Crops Report;

7.2.3 During the UCA enumeration exercise, crop area and production data was collected on many crops. However it was not possible to include estimates on all the crops covered in the UCA 2008/09 and therefore only major crops were covered in UCA Volume IV report while further analysis to include other crops was to be considered.

7.2.4 Empirical evidence from previous Censuses of Agriculture/Sample Surveys showed that estimates for some crops had high Coefficients of Variation implying that they were unreliable and consequently did not merit to be published.

7.2.5 Based on the above mentioned censuses and surveys, the crops whose estimates were to be published, were determined and these included:

- i) **Cereals:** Maize, Finger Millet, Sorghum,
- ii) **Root Crops:** Cassava, Sweet Potatoes, Irish Potatoes;

- iii) **Oil Crops:** Groundnuts, Simsim;
- iv) **Legumes:** Beans, Field Peas, Pigeon Peas, Cow Peas;
- v) **Bananas:** Food, Sweet and Beer types;
- vi) **Coffee:** Arabica and Robusta varieties.

7.3 Review of the Reports

7.3.1 An Agricultural Statistician was contracted to review the reports independently and ensure that priority tables were included to the extent possible, and finalise it.

7.3.2 The Terms of Reference for the Consultant to review the three UCA reports were to:

- i) Review the report outlines of UCA;
- ii) Provide guidelines to the chapter authors in conformity with the reviewed report outlines;
- iii) Review the draft for UCA Volume 1: Methodology Report coming up with an updated version;
- iv) Review the draft chapters for UCA 2: Agricultural Households and Holding Characteristics Report and UCA Volume 3: Crop Area Production of Major Crops Report written by the respective authors and consolidate them into single documents bringing about uniformity in the style of writing and content of the report.
- v) Provide guidelines and cross-references with related reports where necessary.

CHAPTER EIGHT

CHALLENGES AND RECOMMENDATIONS

8.1 Background

8.1.1 Right from the time of UCA planning through field work to data processing, analysis and report writing, a number of lessons were learnt. It was pertinent that they should be examined one by one and documented so as to be used as inputs in the planning and conducting of future Censuses of Agriculture and in Agricultural Sample Surveys.

8.1.2 The areas covered in this Chapter include:

- i) Sampling frames;
- ii) Reference year;
- iii) FAO recommendations;
- iv) Census items coverage; and,
- v) Training of field staff;

8.2 Limitations and Challenges

8.2.1 The AM questionnaire was very brief compared to those designed for conventional agricultural surveys/censuses. As a result, very important questions on agriculture had to be left out in order to keep the AM questionnaire manageable for example land under cultivation which is very useful for the design of agricultural censuses/surveys was left out;

8.2.2 The questions on the agricultural activities did not have adequate filters to differentiate between activities within EA where the household was located or outside the EA. The lists of PLS&IFs were not readily available in the Districts and this took time to compile.

8.3 Conclusions/Recommendations

8.2.1 Before a conclusion/recommendation is provided, a short explanation is presented. The conclusions/recommendations made are provided in the Table 1 below.

Table 1: Conclusions/recommendations.

ITEM	EXPLANATION/ISSUE	CONCLUSION/RECOMMENDATION
(1)	(2)	(3)
1. Sampling frames	<p>Appropriate sampling frames are always a must in Sample Surveys as well as Censuses of Agriculture. In light of this requirement, the Bureau included an Agricultural Module on the 2002 Uganda Population and Housing Census (PHC) purposely to have a basis for the construction of appropriate sampling frames.</p> <p>This effort paid off when sampling for the Livestock Census was carried out using a sampling frame which was composed of only households that had reported (during PHC, 2002) rearing at least a cattle.</p> <p>The estimates generated were reliable as shown by the low Coefficients of Variation.</p> <p>On the other hand, for the UCA 2008/09, a crop-based sampling frame was used to obtain samples. Not unexpectedly, estimates on the number of cattle from the UCA were lower than those from the Livestock Census, low CVs notwithstanding.</p>	<p>From the experience of the Livestock Census (LC) 2008 and UCA 2008/09, it is concluded that a sampling frame for a livestock survey should always be different from that one of a crop survey.</p> <p>In other words, no attempt should be made in future to collect data on livestock and crops using one sampling frame.</p>
2. FAO recommendations	<p>According to FAO, the World Programme for the Census of Agriculture (WCA), 2006-2015 has a new approach for the 2010 round of agricultural censuses. This programme uses a modular approach, with a core module carried out on a complete enumeration basis to provide key structural data in conjunction with one or more sample based census supplementary modules to provide more in-depth data. The integration of the census of agriculture into overall system of agricultural statistics is emphasised The</p>	<p>Since Uganda is one of the FAO member states, it is only fair that she adopts FAO recommendations, to the extent possible, as far as conducting of agricultural censuses is concerned.</p> <p>The Bureau/Government of the Republic of Uganda needs to go back to the drawing board and re-examine its preparedness to fully fund an agricultural census in conformity with FAO minimum provisions.</p>

ITEM	EXPLANATION/ISSUE	CONCLUSION/RECOMMENDATION
(1)	(2)	(3)
	<p>changes from earlier agricultural census programmes are also highlighted.</p> <p>Unfortunately, due to uncoordinated availability of funding for agricultural censuses in Uganda, it was not possible to follow FAO recommendations.</p> <p>For example the Community Module which was supposed to be administered on a complete enumeration basis was not, although all arrangements including questionnaire design, printing and distribution were carried out.</p> <p>Lack of adequate funding was sighted as the major constraint for that development.</p>	
3. Reference year for agricultural censuses/sample surveys	<p>Ideally, a reference year for agricultural censuses/surveys in Uganda should be a calendar year, in which there are two (2) seasons namely the first season and the second season.</p> <p>For the UCA 2008/09, the reference year referred to the period July 2008 to September 2009. This approach was dictated by a Financial Year during which Government releases and disburses its funds.</p>	In future agricultural censuses or/surveys, serious consideration should be made to ensure that a reference year is about the same as a calendar year.
4. Crops coverage	<p>Many crops were covered during the UCA 2008/09. However from experience, reliable estimates could only be obtained for about fifteen (15) crops, herein called 'Major Crops'. For the remaining crops, reliable estimates were not likely to be obtained even at national level.</p>	<p>First, there is need for the Agricultural Statistics Section and the Bureau to look for funds for Conversion Factors for the remaining crops.</p> <p>Agencies like Economic Policy Research Institute (EPRC) may have to be approached for assistance in undertaking further analysis.</p>
5. Training of Field Staff.	Due to the large number of Field Staff required for UCA 2008/09, five training teams	Training in future may have to be planned in such a way as to bear the following elements into account.

ITEM	EXPLANATION/ISSUE	CONCLUSION/RECOMMENDATION
(1)	(2)	(3)
	were formed and trained at various centres in the country. The advantage with this approach was that it was cost-effective as staff from a group of districts was trained at one centre, hence minimising transport costs. However, one disadvantage could have been that the training might not have been as uniform as would have been required or expected at the various training centres.	<ul style="list-style-type: none"> i) Identification of four (4) regional training centres. They should target minimisation of travel costs and have ample space with a conducive training environment. ii) Organise four (4) training teams that will move to the training centres. Each team should have senior staff as well iii) Phase out that training in such a way that by the time the last training is completed, enumeration work will be commencing.
6. Publicity and community mobilisation.	Politically charged areas	Highly politically charged areas should be considered as special cases in future mobilisation programmes.
	More languages should be considered for the translation	More languages should be considered for the translation of posters other than Lugbara, Luo, Luganda, Swahili, Rufumbira, Lumasaba, Runyoro/Rutooro, Runyankole/Rukiga, Ateso, Nga' Karimojong and English used during UCA. The fliers were only in English as there were no funds to translate them into the local languages.
	Payment to radio stations; In some cases FM radio stations were very reluctant to deliver service before payment	In future mobilisation programmes special consideration should be made to pay 50% in advance
	Adequacy of budget	It was observed that the funds for community mobilisation were

ITEM	EXPLANATION/ISSUE	CONCLUSION/RECOMMENDATION
(1)	(2)	(3)
		inadequate and at times not readily available to ensure effective publicity and mobilisation.
	Land wrangles	In some cases the MTs reported that there were land wrangles that were likely to impact on the enumeration exercise.
	Photography	The journalists who accompanied the MT needed to be carefully briefed especially where they needed to take photographs. This was because some people got extremely suspicious whenever they saw strangers taking photos in their villages.
	Road Shows	In future road shows should also be considered for use in special areas
7. Evaluation	Evaluation of effectiveness of the publicity and community mobilisation exercise	There is need for periodic evaluation of the impact of the publicity and community mobilisation exercise as a whole during the course of future UCAs, so that strategy can be adjusted in good time if need be.

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ANNEXES

Annex 1: Probability Proportional to Size (PPS) Systematic Sampling Procedure

In this Annex we describe the probability proportional to size (PPS) systematic sampling procedure for selecting EAs from within districts. For the sake of simplicity we will not use any subscript to denote the district. However, it is understood that the procedure will be applied independently within each district.

Let N be the total number of EAs in the district, and the number of EAs to be selected from the district is denoted by n . Also, let z_i be the size measure of the EA labeled i within the district, where $i = 1, 2, \dots, N$.

Define the total of the measure of size (MOS) for the district as:

$$Z = \sum_{i=1}^N z_i.$$

A procedure for selecting a sample of n EAs out of the N EAs in the district with PPS systematic sampling procedure can be implemented as follows.

Step 1: Sort the list of EAs in the district by counties and sub-counties. Thus, the sub-counties will be the implicit strata. Next, sort the block of EAs within the 1st implicit stratum by MOS in ascending order followed by the block of EAs within the 2nd implicit stratum by MOS in descending order and so on, by alternating between ascending and descending sort from one implicit stratum to the next.

Step 2: Check that z_i is less than Z/n for all i in the district.

Step 3: Define the relative size measures p_i as:

$$p_i = \frac{z_i}{Z}; i = 1, 2, 3, \dots, N.$$

Also, define the probabilities of selection π_i as:

$$\pi_i = n \times p_i; i = 1, 2, 3, \dots, N.$$

The π_i values will be called "Normalised Size Measures".

Step 4: Compute cumulative totals $C_1, C_2, C_3, \dots, C_N$ as:

$$\begin{aligned}
C_1 &= \pi_1 \\
C_2 &= C_1 + \pi_2 \\
C_3 &= C_2 + \pi_3 \\
C_4 &= C_3 + \pi_4 \\
&\vdots \\
&\vdots \\
C_{N-1} &= C_{N-2} + \pi_{N-1} \\
C_N &= C_{N-1} + \pi_N
\end{aligned}$$

Note that the cumulative total C_N must be equal to n , the number of EAs to be selected from the district.

Step 5: Generate a random number r from the uniform distribution between 0 and 1, and compute n numbers $r_1, r_2, r_3, \dots, r_n$ as follows.

$$\begin{aligned}
r_1 &= r \\
r_2 &= r + 1 \\
r_3 &= r + 2 \\
r_i &= r + i - 1 \\
r_n &= r + n - 1
\end{aligned}$$

Step 6: Select the n EAs out of the N EAs in the district with the labels $i_1, i_2, i_3, \dots, i_n$ such that

$$\begin{aligned}
C_{i_1-1} &< r_1 \leq C_{i_1} \\
C_{i_2-1} &< r_2 \leq C_{i_2} \\
C_{i_3-1} &< r_3 \leq C_{i_3} \\
&\vdots \\
&\vdots \\
C_{i_n-1} &< r_n \leq C_{i_n}
\end{aligned}$$

The above n EAs would then get selected with probabilities proportional to size, and the selection probability of the EA labelled i within the district will be given by $\pi_i = np_i$, where n is the number of EAs to be selected from the district.

Annex 2: Sample Allocation across Districts under Power Allocation

($\lambda = 0.4$)

SER.No.	DISTRICT	AGRICULTURAL HOUSEHOLDS	NUMBER OF EAs SELECTED
(1)	(2)	(3)	(4)
1	Kalangala	3,408	23
2	Bukwo	8,117	23
3	Abim	8,638	24
4	Buliisa	9,317	24
5	Lyantonde	10,579	26
6	Koboko	15,774	30
7	Amolatar	15,985	30
8	Kampala	17,527	31
9	Kotido	18,075	32
10	Nakasongola	21,793	34
11	Katakwi	22,928	35
12	Nakapiripirit	23,223	35
13	Kaberaido	23,370	35
14	Bukedea	23,480	35
15	Buduuda	23,576	35
16	Dokolo	23,696	35
17	Budaka	23,851	36
18	Kapchorwa	24,322	36
19	Nakaseke	25,113	36
20	Kaliro	26,096	37
21	Adjumani	27,612	38
22	Moroto	28,175	38
23	Butaleja	28,476	38
24	Moyo	28,476	38
25	Namutumba	28,952	38
26	Amuru	32,086	40
27	Kiruhura	33,162	41
28	Ssembabule	33,300	41

SER.No.	DISTRICT	AGRICULTURAL HOUSEHOLDS	NUMBER OF EAs SELECTED
(1)	(2)	(3)	(4)
29	Busia	34,313	41
30	Amuria	35,648	42
31	Ibanda	36,105	42
32	Bundibugyo	36,833	42
33	Kanungu	38,815	43
34	Gulu	38,896	43
35	Yumbe	38,914	43
36	Kitgum	39,759	44
37	Kiboga	42,184	45
38	Kaabong	42,536	45
39	Mbale	43,155	45
40	Mityana	43,998	45
41	Kisoro	44,245	46
42	Mayuge	46,276	46
43	Jinja	47,749	47
44	Kayunga	48,104	47
45	Kumi	48,303	47
46	Manafwa	48,869	47
47	Rukungiri	49,390	48
48	Oyam	50,432	48
49	Kamwenge	51,463	48
50	Mbarara	52,946	49
51	Nyadri	53,250	49
52	Hoima	56,028	50
53	Isingiro	56,406	50
54	Sironko	56,648	50
55	Pader	56,921	50
56	Luwero	57,104	50
57	Soroti	57,455	51
58	Kabarole	59,289	51

SER.No.	DISTRICT	AGRICULTURAL HOUSEHOLDS	NUMBER OF EAs SELECTED
(1)	(2)	(3)	(4)
59	Arua	60,266	52
60	Masindi	60,307	52
61	Rakai	61,469	52
62	Pallisa	66,070	53
63	Ntungamo	67,048	54
64	Tororo	67,509	54
65	Bugiri	67,809	54
66	Kyenjojo	69,322	55
67	Mpigi	69,509	55
68	Kibaale	75,232	56
69	Mubende	75,877	57
70	Wakiso	76,616	57
71	Apac	77,422	57
72	Kasese	78,065	57
73	Nebbi	79,779	58
74	Iganga	82,998	59
75	Kabale	83,133	59
76	Lira	86,451	60
77	Kamuli	93,880	62
78	Mukono	113,303	66
79	Bushenyi	123,729	69
80	Masaka	130,552	70
	TOTAL	3,787,487	3,606

Annex 3: Concepts and definitions

- 1) **Standard Error of an Estimator:** This is the square root of its sampling variance. This measure is easier to interpret since it provides an indication of sampling error using the same scale as the estimate whereas the variance is based on squared differences.

If $\hat{\theta}$ is the estimate of an arbitrary population parameter θ and $v(\hat{\theta})$ given, the corresponding estimate of its variance, then the standard of the estimate is defined as:

$$se(\hat{\theta}) = \sqrt{v(\hat{\theta})}.$$

- 2) **Coefficient of Variation:** It is more useful in many situations to assess the size of the standard error relative to the magnitude of the characteristic being measured. The **coefficient of variation** (cv) provides such a measure. It is the **ratio of the standard error of the survey estimate to the value of the estimate itself expressed as percent**. It is very useful in comparing the precision of several different survey estimates, where their sizes or scale differ from one another. The coefficient of variation of $\hat{\theta}$ denoted by $cv(\hat{\theta})$ is defined as:

$$cv(\hat{\theta}) = 100 \times \frac{se(\hat{\theta})}{\hat{\theta}}.$$

- 3) **Construction of Confidence Intervals:** The 95 percent confidence interval is the interval such that there is a 95 percent probability (chance of 19 out of 20) of the unknown population parameter θ being within the interval. The 95 percent confidence interval is given by:

$$\hat{\theta} \pm 1.96 \times se(\hat{\theta}).$$

The lower limit of the interval is $\hat{\theta} - 1.96 \times se(\hat{\theta})$, and the upper limit of the interval is $\hat{\theta} + 1.96 \times se(\hat{\theta})$. The width $1.96 \times se(\hat{\theta})$ is known as half-width of the 95 percent confidence interval. The factor 1.96 is the z-value at $\alpha = 0.025$ for the standard normal distribution. The factor 1.96 is often rounded to the approximate value 2.0. The smaller the half-width of the confidence interval, the more precise is the survey estimate.

- 4) **Design Effects:** Most surveys are based on complex designs involving stratification, and clustering due to multi-stage designs. Moreover, the weighting involves non-linear adjustments (e.g., non-response and post-stratification adjustments, etc.). It is crucial that these features of

the complex survey design be accounted for in the variance estimation (Choudhry and Valliant, 2003). The **design effect** compares the variance of the estimate from the sample design that was actually implemented to the variance of the estimate that would have been obtained from an SRS design. **Design Effect** is another way to evaluate the efficiency of a sample design and the procedure used to develop the survey estimates. Design effect is defined as the ratio of the variance of an estimate for a complex sample design and the variance of the estimate under the simple random sample (SRS) design with the same sample size. Kish (1965) introduced the concept of design effect to deal with complex sample designs involving stratification and clustering. Stratification generally leads to a gain in efficiency over simple random sampling, but clustering leads to deterioration in the efficiency of the sample design due to positive intra-cluster correlation among units in the cluster (EA in this case). To determine the total effect of any complex design on the sampling variance in comparison to the alternative simple random sample design, the design effect (*deff*) is defined as:

$$Deff = \frac{\text{sampling variance of a complex sample design}}{\text{sampling variance of simple random sample design}}.$$

A design effect can be derived for any sampling design and estimator, provided we can compute a sampling variance. It is important to note that the design effect is associated with both the design and the estimator; therefore, for a given survey, the design effect can vary quite a lot from one variable to another.

- 5) **Effective Sample Size:** Another concept that is often used is effective sample size defined as the actual sample size that was selected for the complex design divided by the corresponding design effect. The effective sample size can be interpreted as the sample size that would be needed for an SRS design to obtain the same variance as that obtained with the complex design (i.e. the design that was actually implemented)

Annex 4: Persons involved in the UCA 2008/09

Ser	Name	Designation	Institution
1. UGANDA BUREAU OF STATISTICS MANAGEMENT			
1.1	Mr. J.B. Male - Mukasa	Executive Director	UBOS
1.2	Mr. Ben Paul Mungyereza	Deputy Executive Director, Statistical Production & Development	UBOS
1.3	Mr. Francis Mashate	Deputy Executive Director, Corporate Services	UBOS
1.4	Mr. Charles Walube	Principal Human Resource & Administration Officer	UBOS
2. TECHNICAL STAFF			
2.1	Mr. Seth.N. Mayinza	Director, UCA	UBOS
2.2	Mr. Deus Muhwezi	Deputy Director, UCA	MAAIF
2.3	Mr. J.B. Magezi - Apuuli	Technical Officer, UCA	UBOS
2.4	Mr. Patrick Okello	Principal Statistician	UBOS
2.5	Mr. Emmanuel Menyha	Senior Statistician	UBOS
2.6	Ms. Irene .N. Lubega	Senior Statistician	MAAIF
2.7	Mr. Israel Nsiko	Senior Statistician	UBOS
2.8	Mr. Sunday Godfrey	Statistician	MAAIF
2.9	Mrs Flavia Naiga Oumo	Statistician	UBOS
2.10	Mr. Dickens George Ocen	Statistician	UBOS
2.11	Ms. Stella Oroma	Statistician	UBOS
2.12	Ms. Constance Nakiyemba	Statistician	UBOS
2.13	Mr. Muminu M Mulindwa	Statistician	UBOS
2.14	Mr. Michael Okasio	Statistician	UBOS
2.15	Mr. Paul Okudi	Statistician	UBOS
2.16	Ms. Diane Naluyima	Statistician	UBOS
2.17	Ms. Juliet Aporomon	Statistician	UBOS
2.18	Ms. Stella Nassolo	Statistician	UBOS
2.19	Mr. Simon Kyewalyanga	Statistician	UBOS
2.20	Ms. Easter Muchwa	Supervisor	UBOS
2.21	Mr. Charles Otim Obeke	Statistician	UBOS
3. INTERNATIONAL STAFF			

Ser	Name	Designation	Institution
3.1	Mr. Enock Chinganda	Consultant	DFID
3.2	Mr. Vincent Ngendakumana	Consultant	FAO
3.3	Mr. John Rijks	Consultant	FAO
3.4	Mr. Srivastava	Consultant	FAO
3.5	Mr. Choudry Ghulam	Consultant	WB
3.6	Ms. Dianna Templeman	Consultant	FAO
3.7	Ms. Jean Cushing	Consultant	Macro International, USA
4. NATIONAL CONSULTANTS			
4.1	Dr. E.S.K. Muwanga-Zake	Consultant	BOU
4.2	Ms. Agnes Ssekiboobo	Consultant	ISAE
4.3	Mr. James Chiria	Consultant	UNCST
5. UCA WORKING GROUPS (WGs) CHAIRPERSONS			
5.1	Mr. Edgar Mbahamiza	Chair Admin & Finance WG	UBOS
5.2	Mr. James Muwonge	Chair Design, Methodology	UBOS
5.3	Mr. Godfrey Nabongo	Chair Publicity & Advocacy WG	UBOS
5.4	Mr. Patrick Okello	Chair Field Operations WG	UBOS
5.5	Mr. Anthony Matovu	Chair Data Processing WG	UBOS
5.6	Mr. J.B. Magezi - Apuuli	Chair Instrument Design and report writing	UBOS
6	DATA PROCESSING		
6.1	Mr. Anthony Matovu	Data processing Manager	UBOS
6.2	Ms. Margaret Atiro	Programmer	UBOS
6.3	Ms. Solome Ssevume	Programmer	UBOS
6.4	Mr. Lawrence Mugula	Programmer	UBOS
6.5	Mr. Francis Kayondo	Programmer	UBOS
6.6	Ms. Harriet Nabufuge	IT Assistant	UBOS
6.7	Ms. Fiona Nansubuga	Coding Supervisor	UBOS
6.8	Ms. Teddy Namagembe	Data Entry Supervisor	UBOS
6.9	Ms. Juliet Nabankema	Coding Supervisor	UBOS
6.10	Mr. Tonny Mugabi	Data Entry Supervisor	UBOS
6.11	Mr. Edirisa Muwanga	Data Entry Supervisor	UBOS
6.12	Data Entrants and Coders (67)		UBOS

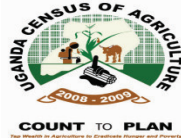
Ser	Name	Designation	Institution
7	SUPPORT STAFF		
7.1	Mr. Henry Dhikusooka	Senior Accountant	UBOS
7.2	Mr. Geoffrey Kakuta	Accounts Assistant	UBOS
7.3	Ms. Susan Etonu	Secretary	UBOS
7.4	Ms. Solome Nantalo	Administrative Assistant	UBOS
7.5	Mr. George Othieno	Stores Assistant	UBOS
7.6	Mr Huzaifa Bukenya	Stores Assistant	UBOS
7.7	Mr. William Matovu	Office Attendant	UBOS
7.8	Mr. Peter Ndanda	Office Attendant	UBOS
8	FIELD STAFF		
8.1	District Supervisors (127)		Local Governments
8.2	Enumerators (956)		Local Governments

Annex 5: UCA 2008/09 Questionnaires

Batch Sequence Number

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THE REPUBLIC OF UGANDA

UGANDA CENSUS OF AGRICULTURE 2008/09

UCA Form 1: Listing Module

Section 1.1 Enumeration Area Identification Particulars

No	Particulars	Name	Code
1	District		
2	County		
3	Sub-county		
4	Parish		
5	Enumeration Area		
6	Local Council 1 / Village name		

Section 1.2 Listing Summary

No	Particulars	Number
7	Number of households listed	
8	Number of small and medium scale holdings	
9	Number of large scale holdings	
10	Total number of holdings (8+9)	

Section 1.3 Staff Details and Survey Time

11	Date listing completed	Day:	<div><div>d</div><div>d</div></div>	Month:	<div><div>m</div><div>m</div></div>
12	Total time taken in hours & minutes			<div><div>h</div><div>h</div><div>m</div><div>m</div></div>	
13	Date checked	Day:	<div><div>d</div><div>d</div></div>	Month:	<div><div>m</div><div>m</div></div>
14	Date final sample selected	Day:	<div><div>d</div><div>d</div></div>	Month:	<div><div>m</div><div>m</div></div>

Name of Enumerator:

Enumerator's signature:

Name of District Supervisor:

District Supervisor's signature:

Name of National Supervisor:

National Supervisor's signature:

Section 1.4 Listing of all Households and Holdings in the Enumeration Area

15. List all Households and Holdings in the Enumeration Area (EA)																	
Household	Name of Head of Household	Sex of Head of Household	Does any member of the Household operate an Agricultural Holding within EA (Circle correct answer)	Holding information											Small/medium scale serial no within EA	Large Scale serial no within EA	
				Holding serial no within the EA	Size of Crop-land area or agricultural land (acres)	Cattle			No of Goats	No of Sheep	No of Pigs	No of Poultry					No of Fish ponds
						No of Indigenous	No of Exotic/Cross-breed	Litres of milk produced per day				Local poultry	Layers	Broilers			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
001		1 2	1 2														
002		1 2	1 2														
003		1 2	1 2														
004		1 2	1 2														
005		1 2	1 2														
006		1 2	1 2														
007		1 2	1 2														
008		1 2	1 2														
009		1 2	1 2														
010		1 2	1 2														
011		1 2	1 2														
012		1 2	1 2														
013		1 2	1 2														
014		1 2	1 2														
015		1 2	1 2														
016		1 2	1 2														
017		1 2	1 2														
018		1 2	1 2														

[illegible]

Batch Sequence Number

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THE REPUBLIC OF UGANDA

UGANDA CENSUS OF AGRICULTURE 2008/09

UCA Form 2: Agricultural Household and Holding Module

Section 2.1 Identification Particulars

2.1.1 Holding Particulars

No.	Particulars	Name	Code
01	District		
01	County		
03	Sub-county		
04	Parish		
05	Enumeration Area		
06	Local Council 1		
07	Holding serial number		
08	Holder's name		
09	Holder's physical address		

Section 2.1.2 Enumeration Particulars

10	Name of respondent	
11	Relationship to holder	
	Holder	1 (Circle the correct code)
	Spouse	2
	Son/Daughter.....	3
	Parent.. ..	4
	Other relative.....	5
	Non-relative.....	6
12	Result of interview	
	Interview completed	01 (Circle the correct code)
	Partial interview	02
	No respondent available.....	03
	Household moved.....	04
	Dwelling destroyed/not found.....	05
	Dwelling vacant	06
	Refusal	07
	Other, specify ..	96

13 Start time:

h	m	m	m
---	---	---	---

End time:

h	m	m	m
---	---	---	---

14. Date completed

d	d
m	m

Name of Enumerator:

Enumerator's signature:

15. Date checked

d	d
m	m

Name of District Supervisor:

District Supervisor's signature:

16. Date checked

d	d
m	m

Name of National Supervisor:

National Supervisor's signature:

Section 2.2 Household (HH) Member Characteristics

2.2.1 Household Member Characteristics

17. Provide Information of each individual person in the household:

No	Name of person	Relation-ship to head (code)	Sex	Age (if 98 or more record 98) (if missing record 99)	Marital status (code)	Highest grade of education completed (code)	Can read and write	Main activity (Code)	Type (situation) of main activity (code)	Secondary Activity (Code)	Type (situation) of secondary activity (code)	Manages a plot	Owens livestock	Received credit in	Member farmers'
		Head..... 1 Spouse..... 2 Son/daughter..... 3 Parent..... 4 Other relative..... 5 Non-relative..... 6	M....1 F....2	(5)	Never married..... 1 Married..... 2 Widowed & not remarried..... 3 Divorced & not remarried..... 4 Married but separated..... 5	(See annex 1)	Yes...1 No....2	(See annex 1)	(See annex 1)	(See annex 1)	(See annex 1)	Yes...1 No....2	Yes...1 No....2	Yes...1 No....2	Yes...1 No....2
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
01	(Head of Household)		1 2		1 2 3 4 5		1 2					1 2	1 2	1 2	1 2
02			1 2		1 2 3 4 5		1 2					1 2	1 2	1 2	1 2
03			1 2		1 2 3 4 5		1 2					1 2	1 2	1 2	1 2
04			1 2		1 2 3 4 5		1 2					1 2	1 2	1 2	1 2
05			1 2		1 2 3 4 5		1 2					1 2	1 2	1 2	1 2
06			1 2		1 2 3 4 5		1 2					1 2	1 2	1 2	1 2
07			1 2		1 2 3 4 5		1 2					1 2	1 2	1 2	1 2
08			1 2		1 2 3 4 5		1 2					1 2	1 2	1 2	1 2
09			1 2		1 2 3 4 5		1 2					1 2	1 2	1 2	1 2
10			1 2		1 2 3 4 5		1 2					1 2	1 2	1 2	1 2
11			1 2		1 2 3 4 5		1 2					1 2	1 2	1 2	1 2
12			1 2		1 2 3 4 5		1 2					1 2	1 2	1 2	1 2
13			1 2		1 2 3 4 5		1 2					1 2	1 2	1 2	1 2
14			1 2		1 2 3 4 5		1 2					1 2	1 2	1 2	1 2
15			1 2		1 2 3 4 5		1 2					1 2	1 2	1 2	1 2

Codes for Cols 7, 9, 10, 11 and 12. (see annex 1)

Section 2.2 Household (HH) Member Characteristics - Continued

2.2.1 Household Member Characteristics - Continued																										
17. Provide Information of each individual person in the household:																										
No	Name of person	Relation-ship to head (code)						Sex	Age (if 98 or more record 98) (if missing record 99)	Marital status (code)					Highest grade of education completed (code)	Can read and write	Main activity (Code)	Type (situation) of main activity (code)	Secondary Activity (Code)	Type (situation) of secondary activity (code)	Manages a plot	Owns livestock	Received credit in	Member farmers'		
		Head..... 1	Spouse..... 2	Son/daughter..... 3	Parent..... 4	Other relative..... 5	Non-relative..... 6			(3)	(4)	(5)	(6)	(7)											(8)	(9)
(1)	(2)																									
16																										
17																										
18																										
18																										
20																										
21																										
22																										
23																										
24																										
25																										
26																										
27																										
28																										
29																										
30																										

Codes for Cols 7, 9, 10, 11 and 12. (see annex 1)

24. Which of the following sources does the holding use for receiving agricultural extension services? **(Circle appropriate cell)**

Extension Services on;	Sources of Agricultural Extension Services;				
	NAADS	Other Government (Crops)	Other Government (Livestock)	Farmers' Association	Others
(1)	(3)	(4)	(5)	(6)	(7)
Farm Management	A	A	A	A	A
Selection of Crop varieties	B	B		B	B
Input use e.g. fertilizers etc	C	C	C	C	C
Credit	D	D	D	D	D
Farm Mechanization	E	E	E	E	E
Animal Health	F		F	F	F
Plant protection	G	G		G	G
Environmental conservation	H	H	H	H	H
Marketing	I	I	I	I	I
Training	J	J	J	J	J
None	Y	Y	Y	Y	Y

25. If agricultural household members were trained by NAADS:

25a. How many were **male** members

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25b. How many were **female** members

--	--

26. How many times (on demand and by routine) did the agricultural household members receive advice on the following issues during the last 12 months?

Received advice on the following issues during the last 12 months:

Issue		Received advice	Number of times on demand	Number of times on routine						
		Yes.....1 No.....2								
(1)		(2)	(3)	(4)						
01	Type of seed to use	1 2	<table><tr><td></td><td></td><td></td></tr></table>				<table><tr><td></td><td></td><td></td></tr></table>			
02	Plant protection	1 2	<table><tr><td></td><td></td><td></td></tr></table>				<table><tr><td></td><td></td><td></td></tr></table>			
03	Use of organic and inorganic fertilizers	1 2	<table><tr><td></td><td></td><td></td></tr></table>				<table><tr><td></td><td></td><td></td></tr></table>			
04	When to plant	1 2	<table><tr><td></td><td></td><td></td></tr></table>				<table><tr><td></td><td></td><td></td></tr></table>			
05	Crop spacing, weeding, thinning etc	1 2	<table><tr><td></td><td></td><td></td></tr></table>				<table><tr><td></td><td></td><td></td></tr></table>			
06	Use of Animal feeds	1 2	<table><tr><td></td><td></td><td></td></tr></table>				<table><tr><td></td><td></td><td></td></tr></table>			
07	Use of veterinary drugs	1 2	<table><tr><td></td><td></td><td></td></tr></table>				<table><tr><td></td><td></td><td></td></tr></table>			
08	Insemination	1 2	<table><tr><td></td><td></td><td></td></tr></table>				<table><tr><td></td><td></td><td></td></tr></table>			
09	Market information	1 2	<table><tr><td></td><td></td><td></td></tr></table>				<table><tr><td></td><td></td><td></td></tr></table>			
10	Other, specify	1 2	<table><tr><td></td><td></td><td></td></tr></table>				<table><tr><td></td><td></td><td></td></tr></table>			

Section 2.5 Sources of Agricultural Information

27 Which of the following sources does the holding use for receiving information related to agriculture?

Information on:	Line Code	Codes for Main source of agricultural information		
		Radio.....	01	
		Television.....	02	
		Telephone.....	03	
		Internet.....	04	
		Newspapers.....	05	
		Magazines/Bulletins.....	06	
		Extension workers.....	07	
		Farmer to farmer.....	08	
		NAADS.....	09	
		Agric. Shows/Exhibitions.....	10	
		Other, specify.....	96	
Information on:	(1)	(2)	(3)	
Weather		1		
Crop varieties		2		
New Agric practices		3		
Farm machinery		4		
Credit facilities		5		
Plant diseases and pests		6		
Marketing		7		

Section 2.6 Access to facilities

28 What is the distance in kilometers to the nearest of the facilities mentioned below

Facility (1)	Facility Code (2)	Distance (km) (3)
Local produce market	01	
District produce market	02	
Local input dealer / farm supply shop	03	
Extension services	04	
Nurseries	05	
Agricultural research centres	06	
Public transport	07	
Feeder roads	08	
All year round gravel road	09	
Tarmac road	10	

Section 2.7 Means of Transportation

29 Does the holding own, borrow or hire the following means of transportation?
(For each record only the main kind of access)

Means of Transport (1)	Line Code (2)	Kind of access code	Number of means of transport owned (4)
		Owns..... 1	
		Can borrow..... 2	
		Can hire..... 3	
		No access..... 4	
		(3)	(4)
Head loading	01	1 2 3 4	
Car/pick up	02	1 2 3 4	
Lorry	03	1 2 3 4	
Tractor	04	1 2 3 4	
Motor cycle	05	1 2 3 4	
Bicycle	06	1 2 3 4	
Oxen	07	1 2 3 4	
Donkeys/mules	08	1 2 3 4	
Boats/ferry	09	1 2 3 4	
Wheelbarrow	10	1 2 3 4	

Section 2.8 Storage facilities

30 Does the holding have any storage facilities?

Yes..... 1

No..... 2 → Qn 32 (Circle the correct code)

31 What storage facility does the holding use (several facilities may be used) and what is the volume of the storage facility used? (Record 1= Yes, 2 = No)

Facility	Line Code (2)	Usage Code (3)	Storage Volume (m ³) (4)
Improved granary	01	1	2
Unimproved granary	02	1	2
In the house	03	1	2
Specific House/room	04	1	2
Under shelter outside	05	1	2
Cribs	06	1	2
Silos	07	1	2
Cold Storage	08	1	2
Under ground	09	1	2
Over fire place	10	1	2
Sealed containers	11	1	2
Other, Specify	12	1	2

Section 2.9 Access to credit

32. Has this holding received loan services in the last 5 years?

Yes..... 1

No..... 2 If No → Qn 37

33 If yes, what was the source, purpose, amount and the period of the loan?

(Read out the sources mentioned below and indicate whether the source is used or not)

Source of the loan	Code (2)	Loan Purpose Code (3)	Loan Period Code (4)	Loan amount (U.Shs) if any (5)	Outstanding amount of the loan (U.Shs) if any (6)
Commercial Banks	01				
Micro Finance Institutions	02				
Money Lenders	03				
Input supply	04				
Self-help Group	05				
Internal (Family and friends)	06				
Government	07				
NGO	08				
Other, Specify	96				

34. Did the holding need to provide collateral security?

Yes..... 1

No..... 2 → Qn 36 (Circle the correct code)

35. What type of collateral security (Read out the types mentioned below and indicate whether it is used or not)

Type of collateral security	Code
Land Title	A
Crops	B
Livestock	C
Character	D
Salary	E
Other Specify.....	X

36. Give reasons why members did not receive any loan or credit in the last 5 years?

More than one reason can be mentioned)

(Circle the given reason(s))

Reason	Code
No need for loans	A
Unavailability of lending facilities	B
Lack of collateral security	C
Interest high	D
Not profitable	E
Ignorance	F
Negative past experience	G
Other specify.....	X

Loan purpose code (Col 3)

Agriculture labour.....	01
Seeds.....	02
Fertilizer.....	03
Agro-chemicals.....	04
Farm implements & machinery.....	05
Irrigation Structures.....	06
Livestock.....	07
Aquaculture.....	08
Apiculture.....	09
Trading agricultural produce.....	10
Other agricultural.....	11

Loan Period codes (Col 4)

< 1 year.....	1
1-3 years.....	2
> 3 years.....	3

Section 2.10 Irrigation System

37. Does the holding have any type of irrigation?

Yes.....1

No.....2

→ Qn 43

38. What is the irrigated area (Ha) on the holding according to the following land use in the table below?

	Land use	Total size of irrigated land
(1)	(2)	(3)
1	Land under permanent crops	
2	Land under temporary crops(single irrigat	
3	Land under temporary crops (multiple irrigated)	

39. What is the area under irrigation (Ha) on the holding according to the following methods of irrigation in the table below?

	Method of irrigation	Total size of irrigated land
(1)	(2)	(3)
1	Surface irrigation	
2	Sprinklers	
3	Localized irrigation	

40. What source(s) of irrigation water is/are used on the holding?

Source	Code
(1)	(2)
River/ Lake/Pond/Mountain (by gravity)	A
River/ Lake/Pond (by pumping)	B
Dam/Reservoir	C
Deep Well/Tube well	D
Shallow well	E
Municipal/T-council Water supply	F
Harvested	G
Others	X

41. Did the agricultural Household pay for the irrigation water used on the holding?

Yes.....1

No.....2

→ Qn 43

42. What were the payment terms?

Payment terms	Code
(1)	(2)
Water fee per (Ha)	A
Water fee per volume	B
Other form of payment for water	X

Section 2.11 Other types of water management practices

43. What other types of water management practices are carried out on the holding?

Management practice	Code
(1)	(3)
Wetland and inland valley bottoms	A
Flood recession cultivation	B
Spate irrigation	C
Other(specify)	D

Section 2.12 Holding exposure for flooding/water retention

44. Is the holding prone to flooding or to water retention?

Yes..... 1
No..... 2 → Qn 47

45. Does the holding undertake any drainage of the land?

Yes..... 1
No..... 2 → Qn 47

46. What is the total size of agricultural land drained (in hectares - 2 decimal places)

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Section 2.13 Land Tenure System of parcels

47. What is the land tenure system for each parcel?

47. What is the land tenure system for each parcel?

Parcel Number	Parcel name	Sex of sub-holder (parcel manager)	Parcel Acquisition	Tenure Code			
		Male.....1 Female...2	Inheritance.....1 Purchase.....2 Donation.....3 Hire.....4 Other,specify.....6	Customary..... Freehold..... Mailo land..... Leasehold..... Squattor..... Other, specify.. Not known.....			
(1)	(2)	(3)	(4)	(5)			
<table><tr><td></td><td></td></tr></table>				1 2	1 2 3 4 6	<table><tr><td></td></tr></table>	
<table><tr><td></td><td></td></tr></table>				1 2	1 2 3 4 6	<table><tr><td></td></tr></table>	
<table><tr><td></td><td></td></tr></table>				1 2	1 2 3 4 6	<table><tr><td></td></tr></table>	
<table><tr><td></td><td></td></tr></table>				1 2	1 2 3 4 6	<table><tr><td></td></tr></table>	
<table><tr><td></td><td></td></tr></table>				1 2	1 2 3 4 6	<table><tr><td></td></tr></table>	
<table><tr><td></td><td></td></tr></table>				1 2	1 2 3 4 6	<table><tr><td></td></tr></table>	

Section 2.15 Agricultural Inputs

49. Were any of the following agricultural inputs used during the last 12 months?

Type of input	Code	Used Yes.....1 No.....2	If used, what is the main supply source (code)	If not, what is the main reason for non use (code)
(1)	(2)	(3)	(4)	(5)
Local seeds	01	1 2		
Improved/Hybrid seeds	02	1 2		
Organic fertilizer	03	1 2		
Inorganic fertilizer	04	1 2		
Pesticides Herbicides	05	1 2		
Fungicides	06	1 2		
Pesticides	07	1 2		
Other pesticides	08	1 2		
Commercially prepared	09	1 2		
Animal feeds				
Veterinary drugs	10	1 2		
Insemination	11	1 2		

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Veterinary drugs	10	1	2				
Insemination	11	1	2				

Code for Col. 4 Q49		Code for Col. 5 Q49	
Own.....	1	No knowledge.....	1
Markets.....	2	Too expensive.....	2
Cooperatives.....	3	Not available.....	3
Government.....	4	Can not see the usefulness....	4
Related organisation		Other, specify.....	6
NGOs.....	5		
Others, specify.....	6		

50. Were the hybrid/improved seeds bought fresh during the last 12 months?

Yes..... 1 **(Circle the correct code)**

No..... 2

50. Were the hybrid/improved seeds bought fresh during the last 12 months?

Yes.....

1 (Circle the correct code)

No.....

Section 2.16 Agricultural Equipment

51. For any of the equipment (used during the last 12 months) in the table below, circle the appropriate answers

(Read out the types of equipment listed below as appropriate, and for each type record whether it was used or not.
Leave column 4-6 blank if not used).

Type of equipment	Code	Used during the last 12 months:	If used during last 12 months				
			Number used	Ownership (code)		When did you buy the most recent item? (code)	
				Holder.....1	Holder+other.....2		
				Other private.....3			
				Government.....4		Less than 1 year ago.....1	
		Yes.....1		Cooperatives.....5		1-10 years ago.....2	
		No.....2		NGO.....6		More than 10 years ago...3	
(1)	(2)	(3)	(4)	(5)		(6)	
Hoes	01	1 2	<input type="text"/>	1 2 3 4 5 6		1 2 3	
Axes	02	1 2	<input type="text"/>	1 2 3 4 5 6		1 2 3	
Slashers	03	1 2	<input type="text"/>	1 2 3 4 5 6		1 2 3	
Pangas	04	1 2	<input type="text"/>	1 2 3 4 5 6		1 2 3	
Watering cans	05	1 2	<input type="text"/>	1 2 3 4 5 6		1 2 3	
Wheelbarrows	06	1 2	<input type="text"/>	1 2 3 4 5 6		1 2 3	
Pruning knives	07	1 2	<input type="text"/>	1 2 3 4 5 6		1 2 3	
Pruning saws	08	1 2	<input type="text"/>	1 2 3 4 5 6		1 2 3	
Chain/hand saw	09	1 2	<input type="text"/>	1 2 3 4 5 6		1 2 3	
Sheller	10	1 2	<input type="text"/>	1 2 3 4 5 6		1 2 3	
Spade	11	1 2	<input type="text"/>	1 2 3 4 5 6		1 2 3	
Fork hoe	12	1 2	<input type="text"/>	1 2 3 4 5 6		1 2 3	
Tractor	13	1 2	<input type="text"/>	1 2 3 4 5 6		1 2 3	
Plough	14	1 2	<input type="text"/>	1 2 3 4 5 6		1 2 3	
Ox-plough	15	1 2	<input type="text"/>	1 2 3 4 5 6		1 2 3	
Trailer	16	1 2	<input type="text"/>	1 2 3 4 5 6		1 2 3	
Harrow/cultivator	17	1 2	<input type="text"/>	1 2 3 4 5 6		1 2 3	
Weeder	18	1 2	<input type="text"/>	1 2 3 4 5 6		1 2 3	
Planter	19	1 2	<input type="text"/>	1 2 3 4 5 6		1 2 3	
Sprayer	20	1 2	<input type="text"/>	1 2 3 4 5 6		1 2 3	
Pail	21	1 2	<input type="text"/>	1 2 3 4 5 6		1 2 3	
Milk can	22	1 2	<input type="text"/>	1 2 3 4 5 6		1 2 3	
Other, specify	23	1 2	<input type="text"/>	1 2 3 4 5 6		1 2 3	

Section 2.17 Labour Input

52. How many members of the holding worked permanently or temporarily on the holding during the last 12 months?
(Give the number worked for all categories).

Permanent basis				Temporary basis			
Males	Females	Children		Males	Females	Children	
		Boys	Girls			Boys	Girls
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

53. Share of operation undertaken by agricultural household members who worked on the holding during the last 12 months ?

Operation	Line code	Share of work undertaken by (code)			
		Adults		Children	
		Males	Females	Boys	Girls
(1)	(2)	(3)	(4)	(5)	(6)
Ploughing	01	1 2 3	1 2 3	1 2 3	1 2 3
Planting	02	1 2 3	1 2 3	1 2 3	1 2 3
Weeding	03	1 2 3	1 2 3	1 2 3	1 2 3
Pruning	04	1 2 3	1 2 3	1 2 3	1 2 3
Harvesting	05	1 2 3	1 2 3	1 2 3	1 2 3
Bush clearing	06	1 2 3	1 2 3	1 2 3	1 2 3
Herding	07	1 2 3	1 2 3	1 2 3	1 2 3
Feeding	08	1 2 3	1 2 3	1 2 3	1 2 3
Milking	09	1 2 3	1 2 3	1 2 3	1 2 3
Fish farming	10	1 2 3	1 2 3	1 2 3	1 2 3
Construction/maintenance	11	1 2 3	1 2 3	1 2 3	1 2 3
Spraying	12	1 2 3	1 2 3	1 2 3	1 2 3
Scaring birds (for cereals)	13	1 2 3	1 2 3	1 2 3	1 2 3
Other, specify	14	1 2 3	1 2 3	1 2 3	1 2 3

Code columns
3, 4, 5, 6
Little or none (< ¼) 1
About half (¼-¾)..... 2
Most of the time or all (> ¾)..... 3

54. Were any persons hired permanently or temporarily for pay in cash or kind on the holding during the last 12 month?

Yes..... 1
No..... 2 → Qn 57 (Circle the correct code)

55. How many persons and for how long were hired as permanent or temporary labourers during the last 12 months?
(Give the number hired for all categories).

	Number of permanent labourers				Number of temporary labourers			
	Males	Females	Children		Males	Females	Children	
			Boys	Girls			Boys	Girls
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1. Number								
2. Payment period in no. of days								

56. Share of work undertaken by persons who were hired as permanent or temporary labourers during the last 12 months on the specified operations?

Operation	Line code	Permanent labourers (circle code for share)				Temporary labourers (circle code for share)			
		Males	Females	Children		Males	Females	Children	
				Boys	Girls			Boys	Girls
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Ploughing	01	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3
Planting	02	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3
Weeding	03	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3
Pruning	04	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3
Harvesting	05	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3
Bush clearing	06	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3
Herding	07	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3
Feeding	08	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3
Milking	09	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3
Fish Farming	10	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3
Construction/maintenance	11	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3
Other, specify	12	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3

Code columns
3 to 10
Little or none (< ¼) 1
About half (¼-¾)..... 2
Most of the time or all (> ¾)..... 3

57. Were any of the holding members working permanently or temporarily for pay in cash or kind on any other agricultural holding during the last 12 months?

Yes..... 1

No..... 2 → Qn 60

(Circle the correct code)

58. How many holding members worked permanently or temporarily and for how long, on any other holding during the last 12 months? (Give the number for all categories).

ITEM	Number of permanent labourers				Number of temporary labourers			
	Males	Females	Children		Males	Females	Children	
			Boys	Girls			Boys	Girls
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1.Number								
2.Period in no. of days								

59. Record the number of employees by payment form in the table below

Form of payment	Number of permanent labourers				Number of temporary labourers			
	Males	Females	Children		Males	Females	Children	
			Boys	Girls			Boys	Girls
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1. With money								
2. With farm produce								
3. Exchange of labour								
4. Other forms of in kind payment								

Section 2.18 Livestock

60. Is there any livestock or poultry reared on the holding?

Yes 1

No..... 2 → Qn 62

61. if yes record the number of livestock and poultry reared on the holding

Type	Code	Total Number	Of which owned by female members
	(Circle code if animal type is kept/reared)		
(1)	(2)	(3)	(4)
1. Indigenous cattle	1		
2. Exotic/ Cross	2		
3. Goats	3		
4. Sheep	4		
5. Pigs	5		
6. Local Chicken	6		
7. Exotic Chicken	7		

Section 2.19 Aquaculture**62. Is aquaculture practiced on the holding?**

Yes..... 1

No..... 2 → Qn 68

63. Area of aquaculture according to type of site

Serial N°	Type of site	Total area (Sq meters)	Of which managed by HH female members
(1)	(2)	(3)	(4)
1	Land based – Arable land		
2	Land based – Non-arable land (e.g. wetlands)		
3	Inland open water		

64. Area of aquaculture according to type of Production facility

Serial N°	Type of site	Total area (Sq meters)	Of which managed by HH female members
(1)	(2)	(3)	(4)
1	Rice-cum-fish culture		
2	Ponds		
3	Pens, cages and hapas		
4	Tanks and raceways		
5	Floating rafts, lines, ropes, bags and stakes		

65. Was aquaculture on holding carried out using water of the type below?

Serial N°	Water type	Circle if type is used
	(2)	(3)
1	Fresh water	A
2	Brackish water	B
3	Salt water	C

66. What is the source of water for aquaculture?

Serial N°	Water Source	Circle if source is used
	(2)	(3)
1	Rain-fed	A
2	Ground water	B
3	Rivers / canals	C
4	Lakes/Reservoirs	D
5	Dams	F

67. What type of aqua-cultural organism is cultivated?

Serial N°	Aqua cultural organism cultivated	Circle if type is cultivated
	(2)	(3)
1	Freshwater fish	A
2	Diadromous fish	B
3	Marine	C
4	Crustaceans	D
5	Molluscs	E
6	Other aquatic animals	F
7	Aquatics plants	G

Section 2.20 Apiary (Bee keeping)

68. Is apiary practiced on the holding?

Yes..... 1
No..... 2 → Qn 70

69. Record number of bee hives colonised or not colonized by type and by honey quantity produced during the last 12 months

Hive Type		Number;		Production (Kg)
		Colonized	Not colonized	
(1)		(2)	(3)	(4)
Local	1	<input type="text"/>	<input type="text"/>	<input type="text"/>
Kenya Top Bar (KTB)	2	<input type="text"/>	<input type="text"/>	<input type="text"/>
Langstroth	3	<input type="text"/>	<input type="text"/>	<input type="text"/>
Others	4	<input type="text"/>	<input type="text"/>	<input type="text"/>

Section 2.21 Forestry

70. Is there a forest on the holding?

Yes..... 1
No..... 2 → Qn 74

71. Area of forestry and other wooded land (in Hectares)

Ser	Type	Area (as primary land use)	Area (as Secondary land use)	Total
(1)	(2)	(3)	(4)	(5)
1	Forestry	<input type="text"/>	<input type="text"/>	<input type="text"/>
2	Other wooded land	<input type="text"/>	<input type="text"/>	<input type="text"/>

72. What is the main purpose of forest and other wooded land?

Production..... 1
Soil and water management..... 2
Multiple use..... 3
Other..... 4

73. Is agro-forestry being practiced on the holding this year?

Yes..... 1
No..... 2

Section 2.22 Household food security

74. Have there been periods during the past 12 months that household members could not afford to eat what they normally would eat?

Yes..... 1
No..... 2 → Qn 81

75. In which months did the food shortage occur?

(circle letter if month is mentioned)

2007				2008							
Sept	Oct	Nov	Dec	Jan	Feb	Mar	April	May	June	July	Aug
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
A	B	C	D	E	F	G	H	I	J	K	L

76. What were the reasons for food shortage?

	Reason	Select the main 3 in order of importance
		Write in the boxes given on the right
(1)	(2)	(3)
01	Loss of crops / Insufficient production	A
02	Lack of jobs	B
03	Inability to work because of illness or injury	C
04	Disabled, old age	D
05	Lack of adequate land	E
06	Lack of adequate capital	F
07	Family too big	G
08	Lack of adequate labour	H
09	Over selling produce	I
10	Loss of livestock	J
09	Others	X
09	Don't Know	Z

Codes		
1 st	2 nd	3 rd
<input type="text"/>	<input type="text"/>	<input type="text"/>

77. What was the households' immediate response to food shortage?

Change in eating pattern	code	By whom (Code)			
		Adult male	Adult female	Children	
		Yes.....1 No.....2	Yes.....1 No.....2	Yes.....1 No.....2	Yes.....1 No.....2
(1)	(2)	(3)	(4)	(5)	
Skipping meals	1	1 2	1 2	1 2	1 2
Eating less preferred food	2	1 2	1 2	1 2	1 2
Reducing the size of meals	3	1 2	1 2	1 2	1 2

78. What steps were taken to alleviate food shortage?

Steps(Coping strategies)	code	By whom (Code)			
		Adult male	Adult female	Children	
		Yes.....1 No.....2	Yes.....1 No.....2	Yes.....1 No.....2	Yes.....1 No.....2
(1)	(2)	(3)	(4)	(5)	
Use savings to buy food	1	1 2	1 2	1 2	1 2
Take out a loan	2	1 2	1 2	1 2	1 2
Sell land	3	1 2	1 2	1 2	1 2
Sell livestock	4	1 2	1 2	1 2	1 2
Get another job	5	1 2	1 2	1 2	1 2
Start or expand a family business	6	1 2	1 2	1 2	1 2
Get help from relatives or other	7	1 2	1 2	1 2	1 2
Get help from the Gov't	8	1 2	1 2	1 2	1 2
Get help from charities	9	1 2	1 2	1 2	1 2

79. Is the household likely to experience food shortage during the next 12 months?

Yes..... 1

No..... 2

80. Which of the following natural disasters did the household experience in the last 12 months?

If experienced, record the the extent of loss of agricultural output due to the natural disaster in col.3.

Disaster	Code (Circle if disaster was experienced)	Extent of damage				
		None.....	1	2	3	4
		Slight.....	2	3	4	5
		Moderate.....	3	4	5	6
		Severe.....	4	5	6	7
(1)	(2)	(3)				
Natural						
Floods and tidal waves	1	1	2	3	4	5
Drought	2	1	2	3	4	5
Hailstorms	3	1	2	3	4	5
Pests/diseases	4	1	2	3	4	5
Erratic rains	5	1	2	3	4	5
Other	6	1	2	3	4	5
Man made						
Insecurity	7	1	2	3	4	5
Other man made	8	1	2	3	4	5

Section 2.23 Other Economic Production Activities:**81.** Are there other economic production activities on the holding enterprise?

Yes..... 1

No..... 2 ➡ Qn 83

If yes by whom.....

82. Circle the appropriate codes against each production activity.

Other Economic production activities of the holding's enterprise	Male HH members	Female HH members	Children
(1)	(2)	(3)	(4)
Other agricultural production	A	A	A
Agricultural services	B	B	B
Hunting, trapping, game propagation and related service activities	C	C	C
Forestry, logging and related service activities	D	D	D
Fishing, aquaculture and related service activities	E	E	E
Manufacturing,	F	F	F
wholesale and retail trade	G	G	G
Hotels and Restaurants	H	H	H
Other	X	X	X

Section 2.24 Sources of Household Income**83:** What are the other sources of income for the holding?

Sources of Income	Code	Income source code (Rank from 1 starting with most important)		
		Male HH members	Female HH members	Children
(1)	(2)	(3)	(4)	(5)
Income derived from economic production activities other than agricultural production	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Income from paid employment	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pensions and investment income	3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Remittances-Internal (within Uganda)	4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Remittances-External (outside Uganda)	5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Annex 1

Column 9 and 11: Main and secondary activity	
Crop Production.....	01
Livestock Production.....	02
Fisheries.....	03
Forestry.....	04
Horticulture.....	05
Fruity culture.....	06
Trader.....	07
Artisan.....	08
Agricultural paid job outside the holding.....	09
Non-agricultural paid job.....	10
No activity -looking for work	11
No activity – not looking for work.....	12
Student.....	13
Household work.....	14
Child less than 8 years old.....	15
Apiary.....	16

Column 10 and 12: Type of main and secondary activity	
Own account worker (independent).....	1
Employer.....	2
Paid worker.....	3
Non-paid family worker.....	4
Task worker.....	5
Doesn't apply.....	6

Codes for col .7: Educational Codes	
Never been to school.....	00
Did not complete Primary one (P1).....	10
P1.....	11
P2.....	12
P3.....	13
P4.....	14
P5.....	15
P6.....	16
P7.....	17
J1.....	21
J2.....	22
J3.....	23
S1.....	31
S2.....	32
S3.....	33
S4.....	34
S5.....	35
S6.....	36
Incomplete certificate training.....	41
Complete Certificate training.....	42
Incomplete diploma training.....	43
Complete Diploma training.....	44
Incomplete degree.....	51
Complete Degree.....	52
Incomplete Post Graduate training.....	53
Complete Post Graduate Training.....	54
Functional Adult Literacy training.....	60
Complementary Opportunity for Primary Education.....	61
Incomplete vocational training.....	62
Complete Vocational Training.....	63
Other, specify.....	64

Batch Sequence Number

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THE REPUBLIC OF UGANDA

UGANDA CENSUS OF AGRICULTURE 2008/09

UCA Form 4: Crop Area Module

Reference period

Season

Year

Section 4.1 Identification Particulars

4.1.1 Holding Particulars

No.	Particulars	Name	Code
1	District		
2	County		
3	Sub-county		
4	Parish		
5	Enumeration Area		
6	Local Council 1		
7	Holding serial number		
8	Holder's name		
9	Holder's physical address		

Section 4.1.2 Enumeration Particulars

10	Name of respondent	
11	Relationship to holder Holder 1 Spouse 2 Son/Daughter 3 Parent.. 4 Other relative..... 5 Non-relative..... 6 <i>(Circle the correct code)</i>	12 Result of interview Interview completed 1 Partial interview 2 No respondent available..... 3 Household moved..... 4 Dwelling destroyed/not found..... 5 Dwelling vacant 6 Refusal 7 Other, specify 9 <i>(Circle the correct code)</i>

13. Using a GPS device, record the coordinates of the entrance for the holder's dwelling unit.

North/South (write S for south & N for North in the bold box)	
	Decimal Degrees
1	
East	
	Decimal Degrees
2	

14	Start time	h	m
	End time	h	m

15. Date completed

d	d	m	m
---	---	---	---

Name of Enumerator:

16. Date checked

d	d	m	m
---	---	---	---

Enumerator's signature:

Name of District Supervisor:

District Supervisor's signature:

17. Date checked

d	d	m	m
---	---	---	---

Name of National Supervisor:

National Supervisor's signature:

Section 4.2 Area Characteristics

18. Does the holder operate agricultural land located within the Enumeration Area

Yes 1

No 2



If No, end interview

(Circle the appropriate response)

19. Has the holding grown crops in this agricultural season?

Yes 1

No 2



If No, end interview

(Circle the appropriate response)

20. Specify for each crop type grown in the current agricultural season, the total number of plots and the distribution of plots on pure and mixed stands. Ask the respondent the name of crops and number of plots and add the appropriate crop code from the annex).

Serial Number	Crop Name	Crop Code	Number of plots	
			Pure	Mixed
(1)	(2)	(3)	(4)	(5)
01				
02				
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				



Codes for col. 3 are in Annex 1 on Page 5

21. Specify all agricultural land by parcel (incl. Land for farmhouse, stables, storehouses, etc.) used by the holder **within** the actual Enumeration Area and elsewhere.

Start with the parcels within the Enumeration Area and list possible parcels located **elsewhere** at the end as follows:

(circle the correct response, where applicable).

Parcel no.	Parcel name	Sex of the person responsible for the parcel Male1 Female ..2	Location of the parcel (code) (Circle the correct response) Within EA.....1 Outside EA but within same parish2 Outside parish but within same subcounty...3 Elsewhere in district.....4 Outside district.....5	Ownership (Circle the correct response) Owned..... Rented for agreed amount of money &/or produce.....2 Rented for share of produce.....3 Rented in exchange for services.....4 Others (Specify).....6	Presence of shifting cultivation (6) Yes1 No2	Period (in years) since cleared (7) Under a year ago1 1-3 years ago2 4 or more years ago.....3 If col 4 > 1 go to 9	Area in hectares using GPS device (Only for parcels within EA) (8) Go to next parcel	Holder's area estimate (for parcels outside the EA)	
								Measuring unit Hectare .. 1 Acre 2	Holder's estimate Area (10)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
01		1 2	1 2 3 4 5	1 2 3 4 6	1 2	1 2 3		1 2	
02		1 2	1 2 3 4 5	1 2 3 4 6	1 2	1 2 3		1 2	
03		1 2	1 2 3 4 5	1 2 3 4 6	1 2	1 2 3		1 2	
04		1 2	1 2 3 4 5	1 2 3 4 6	1 2	1 2 3		1 2	
05		1 2	1 2 3 4 5	1 2 3 4 6	1 2	1 2 3		1 2	
06		1 2	1 2 3 4 5	1 2 3 4 6	1 2	1 2 3		1 2	
07		1 2	1 2 3 4 5	1 2 3 4 6	1 2	1 2 3		1 2	
08		1 2	1 2 3 4 5	1 2 3 4 6	1 2	1 2 3		1 2	
09		1 2	1 2 3 4 5	1 2 3 4 6	1 2	1 2 3		1 2	
10		1 2	1 2 3 4 5	1 2 3 4 6	1 2	1 2 3		1 2	
11		1 2	1 2 3 4 5	1 2 3 4 6	1 2	1 2 3		1 2	
12		1 2	1 2 3 4 5	1 2 3 4 6	1 2	1 2 3		1 2	
13		1 2	1 2 3 4 5	1 2 3 4 6	1 2	1 2 3		1 2	

22. Specify all crop plots by agricultural parcel by the holder within the Enumeration Area.
Ask for holders estimate, measure (if necessary) using GPS, determine crop cover etc. and record appropriately.

Parcel no.	Plot no.	Sex of plot manager code	Area in hectares using GPS device	Area estimate (Ha) by pacing, (if col. 4 is filled, col 5 is left blank)	Use code	Crop 1		Crop 2		Crop 3		Crop 4		Crop 5		Who decides on use of proceeds from plot?	Was the dominant crop(s) grown on the plot in the last agricultural season?
						Type code	Cover %	Type code	Cover %	Type code	Cover %	Type code	Cover %	Type code	Cover %		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
		1 2			1 2 3 4 6											1 2 3 4 5 6	1 2
		1 2			1 2 3 4 6											1 2 3 4 5 6	1 2
		1 2			1 2 3 4 6											1 2 3 4 5 6	1 2
		1 2			1 2 3 4 6											1 2 3 4 5 6	1 2
		1 2			1 2 3 4 6											1 2 3 4 5 6	1 2
		1 2			1 2 3 4 6											1 2 3 4 5 6	1 2
		1 2			1 2 3 4 6											1 2 3 4 5 6	1 2
		1 2			1 2 3 4 6											1 2 3 4 5 6	1 2
		1 2			1 2 3 4 6											1 2 3 4 5 6	1 2
		1 2			1 2 3 4 6											1 2 3 4 5 6	1 2
		1 2			1 2 3 4 6											1 2 3 4 5 6	1 2
		1 2			1 2 3 4 6											1 2 3 4 5 6	1 2
		1 2			1 2 3 4 6											1 2 3 4 5 6	1 2
		1 2			1 2 3 4 6											1 2 3 4 5 6	1 2
		1 2			1 2 3 4 6											1 2 3 4 5 6	1 2

22. Specify all crop plots by agricultural parcel by the holder within the Enumeration Area.
Ask for holders estimate, measure (if necessary) using GPS, determine crop cover etc. and record appropriately.

Parcel no.	Plot no.	Sex of plot manager code	Area in hectares using GPS device	Area estimate (Ha) by pacing (if col. 4 is filled, col 5 is left blank)	Use code	Crop 1		Crop 2		Crop 3		Crop 4		Crop 5		Who decides on use of proceeds from plot?	Was the dominant crop(s) grown on the plot in the last agricultural season?	
						Type code	Cover %	Type code	Cover %	Type code	Cover %	Type code	Cover %	Type code	Cover %			Mainly husband Mainly wife Husband and wife Jointly Children Owner (for single man or woman) Other
							(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
		1 2			1 2 3 4 6												1 2 3 4 5 6	1 2
		1 2			1 2 3 4 6												1 2 3 4 5 6	1 2
		1 2			1 2 3 4 6												1 2 3 4 5 6	1 2
		1 2			1 2 3 4 6												1 2 3 4 5 6	1 2
		1 2			1 2 3 4 6												1 2 3 4 5 6	1 2
		1 2			1 2 3 4 6												1 2 3 4 5 6	1 2
		1 2			1 2 3 4 6												1 2 3 4 5 6	1 2
		1 2			1 2 3 4 6												1 2 3 4 5 6	1 2
		1 2			1 2 3 4 6												1 2 3 4 5 6	1 2
		1 2			1 2 3 4 6												1 2 3 4 5 6	1 2
		1 2			1 2 3 4 6												1 2 3 4 5 6	1 2
		1 2			1 2 3 4 6												1 2 3 4 5 6	1 2
		1 2			1 2 3 4 6												1 2 3 4 5 6	1 2
		1 2			1 2 3 4 6												1 2 3 4 5 6	1 2
		1 2			1 2 3 4 6												1 2 3 4 5 6	1 2

Annex 1 Crop Codes

Crop Group	Crop Name	Crop Code	Crop Group	Crop Name	Crop Code
1. Cereals	Wheat	0111	5. Leguminous crops	Beans	0711
	Maize	0112		Broad Beans	0721
	Rice	0113		Chick Peas	0731
	Sorghum	0114		Cow Peas	0741
	Barley	0115		Lentils	0751
	Oats	0117		Peas	0771
	Millets	0118		Pigeon Peas	0781
	Mixed Cereals	1191		Leguminous crops n.e.c	0791
	Other	1192	6. Sugar crops	Sugar beet	0811
2. Vegetables and Melons	Asparagus	0212		Sugar cane	0821
	Cabbages	0213		Sweet sorghum	0831
	Cauliflowers & broccoli	0214		Other sugar crops n.e.c	0891
	Lettuce	0215	7. Other crops	Cotton	9211
	Spinach	0216		Flax, Hemp	9213
	Chicory	0217		Other temporary fibre crops	9219
	Other leafy/ stem vegetables n.e.c	0219		Tobacco	0961
	Cucumber	0221		Other crops-temporary	9911
	Egg plant	0222	8. Fruits and Nuts	Avocado	0311
	Tomatoes	0223		Banana (Food)	3121
	Water melons	0224		Banana (Sweet)	3122
	Pumpkin	0226		Banana (Beer)	3123
	Other fruit bearing vegetables	0229		Mangoes	0315
	Carrots	0231		Pawpaw	0316
	Turnips	0232		Pineapples	0317
	Garlic	0233		Other	0319
	Onions	0234		Grape fruit & pomelo	0321
	Other root, bulbs or tuberous	0239		Lemon and Limes	0322
	Mushroom	0241		Oranges	0323
	Vegetables n.e.c	0291		Tangerines & Mandarines	0324
3. Oil seed crops	Soya Beans	0411		Other citrus fruits	0329
	G/nuts	0421		Strawberries	0345
	Caster Beans	0431		Currants	0341
	Linseed	0432		Apples	0351
	Mustard	0433		Apricots	0352
	Simsim	0437		Pears	0355
	Sunflower	0438		Plums	0356
4. Root/Tuber Crops with High Starch or Insulin content	Irish Potatoes	0511		Cashew nuts	0362
	Sweet Potatoes	0521	9. Beverages and spice crops	Coffee Arabica (old)	6111
	Cassava	0531		Coffee Robusta (old)	6112
	Yams	0541		Coffee Arabica (new)	6113
	Other root crops and tubers n.e.c	0591		Coffee Robusta (clonal)	6114
				Tea	0612
				Cocoa	0614
				Other Beverages n.e.c	0619

Batch Sequence Number

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THE REPUBLIC OF UGANDA

UGANDA CENSUS OF AGRICULTURE 2008/09

UCA Form 5: Crop Production:

Season:

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Year:

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Section 5.1 Identification Particulars

5.1.1 Holding Particulars

No.	Particulars	Name	Code
01	District		
02	County		
03	Subcounty		
04	Parish		
05	Enumeration Area		
06	Local Council I		
07	Holding serial number		
08	Holder's name		
09	Holder's physical/location address		

5.1.2 Enumeration Particulars

No.	Particulars	Code
10	Name of respondent	
11	Relationship to holder <i>(Circle the correct code)</i>	Holder 1 Spouse 2 Son/Daughter 3 Parent. 4 Other relative..... 5 Non-relative..... 6
12	Result of interview <i>(Circle the correct code)</i>	Interview completed 01 Partial interview 02 No respondent available..... 03 Household moved..... 04 Dwelling destroyed/not found..... 05 Dwelling vacant 06 Refusal 07 Other, specify .. 96
13	Start time	End time:

h	i	m	n
---	---	---	---

h	i	m	n
---	---	---	---

14 Date completed

h	i
m	n

Name of Enumerator:

Enumerator's signature:

15 Date checked

h	i
m	n

Name of District Supervisor:

District Supervisor's signature:

16 Date checked

h	i
m	n

Name of National Supervisor:

National Supervisor's signature:

Annex 1 Crop Codes i.e Q17 and Q18 Col 2b

Crop Group	Crop Name	Crop	Crop	Crop Name	Crop
1. Cereals	Wheat	0111	5. Leguminous crops	Beans	0711
	Maize	0112		Broad Beans	0721
	Rice	0113		Chick Peas	0731
	Sorghum	0114		Cow Peas	0741
	Barley	0115		Lentils	0751
	Oats	0117		Peas	0771
	Millet	0118		Pigeon Peas	0781
	Mixed Cereals	1191		Leguminous crops n.e.c	0791
	Other	1192			
2. Vegetables and Melons	Asparagus	0212	6. Sugar crops	Sugar beet	0811
	Cabbages	0213		Sugar cane	0821
	Cauliflowers & broccoli	0214		Sweet sorghum	0831
	Lettuce	0215		Other sugar crops n.e.c	0891
	Spinach	0216	7. Other crops	Cotton	9211
	Chicory	0217		Flax, Hemp	9213
	Other leafy/ stem vegetables n.e.c	0219		Other temporary fibre crops	9219
	Cucumber	0221		Tobacco	0961
	Egg plant	0222		Other crops-temporary	9911
	Tomatoes	0223	8. Fruits and Nuts	Avocado	0311
	Water melons	0224		Banana (Food)	3121
	Pumpkin	0226		Banana (Sweet)	3122
	Other fruit bearing vegetables	0229		Banana (Beer)	3123
	Carrots	0231		Mangoes	0315
	Turnips	0232		Pawpaw	0316
	Garlic	0233		Pineapples	0317
	Onions	0234		Other	0319
	Other root, bulbs or tuberous vegetables n.e.c	0239		Grape fruit & pomelo	0321
	Mushroom	0241		Lemon and Limes	0322
	Vegetables n.e.c	0291		Oranges	0323
3. Oil seed crops	Soya Beans	0411		Tangerines & Mandarines	0324
	G/nuts	0421		Other citrus fruits	0329
	Caster Beans	0431		Strawberries	0345
	Linseed	0432		Currants	0341
	Mustard	0433		Apples	0351
	Simsim	0437		Apricots	0352
	Sunflower	0438		Pears	0355
				Plums	0356
4. Root/Tuber Crops with High Starch or Insulin content	Irish Potatoes	0511		Cashew nuts	0362
	Sweet Potatoes	0521	9. Beverages and spice crops	Coffee Arabica (old)	6111
	Cassava	0531		Coffee Robusta (old)	6112
	Yams	0541		Coffee Arabica (new)	6113
	Other root crops and tubers n.e.c	0591		Coffee Robusta (clonal)	6114
				Tea	0612
				Cocoa	0614
				Other Beverages n.e.c	0619

Annex 2: Codes for unit of quantity (cols. 3a and 4a) Q17 and Q18

Sr. No.	UNIT	CODE		Sr. No.	UNIT	CODE
1	Kilogram (kg)	01		44	Buns (100 g)	44
2	Gram	02		45	Buns (50 g)	45
3	Litre	03		46	Bathing soap (Tablet)	46
4	Small cup with handle (Akendo)	04		47	Washing soap (Bar)	47
5	Metre	05		48	Washing soap (Tablet)	48
6	Square metre	06		49	Packet (2 kg)	49
7	Yard	07		50	Packet (1 kg)	50
8	Millilitre	08		51	Packet (500 g)	51
9	Sack (120 kgs)	09		52	Packet (250 g)	52
10	Sack (100 kgs)	10		53	Packet (100 g)	53
11	Sack (80 kgs)	11		54	Packet (Unspecified)	54
12	Sack (50 kgs)	12		55	Fish - Whole (Up to 1 kg)	55
13	Sack (unspecified)	13		56	Fish - Whole (1 - 2 kg)	56
14	Jerrican (20 lts)	14		57	Fish - Whole (Above 2 kg)	57
15	Jerrican (10 lts)	15		58	Fish - Cut piece (Up to 1 kg)	58
16	Jerrican (5 lts)	16		59	Fish - Cut piece (1 - 2 kg)	59
17	Jerrican (3 lts)	17		60	Fish - Cut piece (Above 2 kg)	60
18	Jerrican (2 lts)	18		61	Tray of 30 eggs	61
19	Jerrican (1 lt)	19		62	Ream	62
20	Tin (20 lts)	20		63	Crate	63
21	Tin (5 lts)	21		64	Heap (Unspecified)	64
22	Plastic Basin (20 lts)	22		65	Dozen	65
23	Bottle (750 ml)	23		66	Bundle (Unspecified)	66
24	Bottle (500 ml)	24		67	Bunch (Big)	67
25	Bottle (350 ml)	25		68	Bunch (Medium)	68
26	Bottle (300 ml)	26		69	Bunch (Small)	69
27	Bottle (250 ml)	27		70	Cluster (Unspecified)	70
28	Bottle (150 ml)	28		71	Gourd (1 - 5 lts)	71
29	Kimbo/Cowboy/Blueband Tin (2 kg)	29		72	Gourd (5 - 10 lts)	72
30	Kimbo/Cowboy/Blueband Tin (1 kg)	30		73	Gourd (Above 10 lts)	73
31	Kimbo/Cowboy/Blueband Tin (0.5 kg)	31		74	Gologolo (4 - 5 lts)	74
32	Cup/Mug (0.5 lt)	32		75	Calabash (1 - 5 lts)	75
33	Glass (0.25 lt)	33		76	Calabash (Above 5 lts)	76
34	Ladle (100 g)	34		77	Jug (2 lts)	77
35	Table spoon	35		78	Jug (1.5 lts)	78
36	Tea spoon	36		79	Jug (1 lt)	79
37	Basket (20 kg)	37		80	Tot (50 ml)	80
38	Basket (10 kg)	38		81	Tot (sachet)	81
39	Basket (5 kg)	39		82	Tot (Unspecified)	82
40	Basket (2 kg)	40		83	Tobacco leaf (Number)	83
41	Loaf (1 kg)	41		84	Pair	84
42	Loaf (500 g)	42		85	Number of Units (General)	85
43	Buns (200 g)	43		86	Acre	86
44	Buns (100 g)	44		87	Other Units (Specify)	99

Annex 3: code for condition/state) i.e. Q17 and Q18 columns 3c and 4c

Crop type		Condition and state	
Code	Name	Description	Code
111/115	Wheat/Barley	Dry – grain	45
113	Rice	Dry at harvest - with shell	32
		Dry after additional drying – with shell	42
		Dry after additional drying – grain	45
112	Maize	Green harvested – with shell/cob and with stalk	11
		Green harvested – with shell/cob without stalk	12
		Green harvested – in the cob	13
		Fresh/raw harvested – with shell/cob and with stalk	21
		Fresh/raw harvested – with shell/cob without stalk	22
		Fresh/raw harvested – in the cob	23
		Dry at harvest – with shell/cob and with stalk	31
		Dry at harvest – with shell/cob without stalk	32
		Dry at harvest – in the cob	33
		Dry after additional drying – in the cob	43
		Dry after additional drying – grain	45
118/114	Millet/Sorghum	Fresh/raw harvested – state not applicable	29
		Dry at harvest – state not applicable	39
		Dry after additional drying – state not applicable	49
		Dry after additional drying – grain	45
711/771/741/781/411	Beans/Field peas/Cow peas/Pigeon peas/Soya beans	Green harvested – in the pods	14
		Fresh/raw harvested – in pods	24
		Dry after additional drying – grain	45
421	Groundnuts	Fresh/raw harvested – with shell	22
		Dry after additional drying – with shell	42
		Dry after additional drying – grain	45
438/437	Sunflower/Sim-sim	Dry at harvest – grain	35
		Dry after additional drying – grain	45
213/223/231/234/511/521/541/3121/3122/3123	Cabbages/Tomatoes/Carrots/Onions/Irish potatoes/Sweet potatoes / yams/ Banana food/Banana sweet/Banana beer	Fresh/raw harvested – state not applicable	29
531	Cassava	Fresh/raw harvested – state not applicable	29
		Dry after additional drying – state not applicable	49
9211/961	Cotton/Tobacco	Dry after additional drying – state not applicable	49
6111	Coffee Arabica (old)	Ripe (fresh) cherries	24
		Dry parchment (pulp and fermented)	50
		Dry unprocessed (Drugar)	49
6112	Coffee Robusta (old)	Ripe (fresh) cherries	24
		Dry cherries (Kiboko)	49
		Clean Coffee (Dry & Milled)	50
6113	Coffee Arabica (new)	Ripe (fresh) cherries	24
		Dry parchment (pulp and fermented)	50
		Dry unprocessed (Drugar)	49
6114	Coffee Robusta (Clonal)	Ripe (fresh) cherries	24
		Dry cherries (Kiboko)	49
		Clean Coffee (Dry & Milled)	50
614	Cocoa	Fresh/raw harvested – in pods or shell/husks	24
		Dry after additional drying – grain	45
612	Tea	Fresh/raw harvested – state not applicable	29

Batch Sequence Number:

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Strictly Confidential



THE REPUBLIC OF UGANDA

UGANDA CENSUS OF AGRICULTURE 2008/09

UCA Form 6: Private Large Scale and Institutional Farms:

Section 6.1 Identification Particulars

Reference Period:

Season

--	--

Year

--	--	--	--

6.1.1 Farm Particulars (Headquarters)

No.	Particulars	Name	Code
01	District		
02	County		
03	Subcounty		
04	Parish		
05	Enumeration Area		
06	LC I/Village		
07	Postal address of farm		
08	Telephone		
09	Fax		
10	Email		

6.1.2 Enumeration Particulars

11	Name of respondent																	
12	Respondent's position/function on the farm:	Manager..... 1 Holder 5 Director 2 Spouse 6 <i>(Circle the correct code)</i> Accountant 3 Son/Daughter ... 7 Other executive. 4 Other relative.... 8																
13	Result of interview	Interview completed 01 Partial interview 02 <i>(Circle the correct code)</i> Refusal 03 Other, specify..... 06																
14	Start date	Day <table border="1"><tr><td></td><td></td></tr></table> Month <table border="1"><tr><td></td><td></td></tr></table> End date: Day <table border="1"><tr><td></td><td></td></tr></table> Month <table border="1"><tr><td></td><td></td></tr></table>																
15	Using a GPS device, record the coordinates of the farm headquarters																	
	<table border="1"> <tr> <td colspan="2">North/South (write S for south & N for North in the bold box)</td> </tr> <tr> <td><table border="1"><tr><td></td><td></td></tr></table></td> <td>Decimal Degrees</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td colspan="2">East</td> </tr> <tr> <td><table border="1"><tr><td></td><td></td></tr></table></td> <td>Decimal Degrees</td> </tr> <tr> <td></td> <td></td> </tr> </table>		North/South (write S for south & N for North in the bold box)		<table border="1"><tr><td></td><td></td></tr></table>			Decimal Degrees			East		<table border="1"><tr><td></td><td></td></tr></table>			Decimal Degrees		
North/South (write S for south & N for North in the bold box)																		
<table border="1"><tr><td></td><td></td></tr></table>			Decimal Degrees															
East																		
<table border="1"><tr><td></td><td></td></tr></table>			Decimal Degrees															
16	Date completed.....	District Supervisor's name:																
17	Date completed.....	District Supervisor's signature:																
		National Supervisor's name:																
		National Supervisor's signature:																

Section 6.2 Farm Characteristics

6.2.1 Legal ownership status of the farm

18. What is the legal ownership status of the farm?

- (Circle the correct code)
- Sole proprietor..... 01
- Partnership..... 02
- Cooperative..... 03
- Government..... 04
- Statutory Corporation..... 05
- Parastatal..... 06
- NGO..... 07
- Religious..... 08
- Private Limited Company..... 09
- Public Limited Company..... 10
- Other, specify..... 11

19a. If 1 Sole Proprietor indicate sex of ownership

Sole Proprietor Male 1 (Circle the correct code)

Female..... 2

19b. If 2 Partnership indicate number of ownership by sex

Partnership No. of Male No. of Female.....

6.2.2 Access to Facilities

20. What is the distance (in kms) to the nearest of the following facilities

Facility	Code	Distance (In km)	Conversion factor
(1)	(2)	(3)	From Mile to Km
Relevant Processing Industry	01		1..Mile -----1.6 Km
Local Produce Market	02		
District Produce Market	03		
Farm Supply Shop/Input Dealer	04		
Hatcheries	05		
Nurseries	06		
Agricultural Research Centres	07		
Public Transport	08		
Year round gravel road	09		
Tarmac road	10		
Airport	11		
Railway Shipping	12		
Boat/Ferry Shipping	13		

6.2.3 Type of Farm

21. What is the main activity on the farm? If several activities, please list upto 3 of the activities in the order of importance (in terms of **TURNOVER or EMPLOYMENT**) by recording codes for kind of activity.

Write in the boxes given on the right

	A	B	C	D	E	F	X
Crop production (i.e. temporary crops).....							
Tree crops (including fruits) production.....							
Fish farming.....							
Apiculture related production.....							
Livestock production.....							
Poultry production.....							
Other, specify (Circle most important)							

Record Activities here		
1 st	2 nd	3 rd

6.2.4 Means of Transportation

22. Does the farm own or can it borrow or hire the following means of transportation?

(For each means of transportation, record only the main kind of access)

Means of transportation	Code	Kind of access to means of transport	Number of means owned
(1)	(2)	(3)	(4)
Car/pick-up	01	1 Owns..... 2 Can borrow..... 3 Can hire.....	
Lorry/truck	02	1 Owns..... 2 Can borrow..... 3 Can hire.....	
Tractor	03	1 Owns..... 2 Can borrow..... 3 Can hire.....	
Motorcycle	04	1 Owns..... 2 Can borrow..... 3 Can hire.....	
Bicycle	05	1 Owns..... 2 Can borrow..... 3 Can hire.....	
Oxen	06	1 Owns..... 2 Can borrow..... 3 Can hire.....	
Donkeys/mules	07	1 Owns..... 2 Can borrow..... 3 Can hire.....	
Air freight	08	1 Owns..... 2 Can borrow..... 3 Can hire.....	
Train wagons	09	1 Owns..... 2 Can borrow..... 3 Can hire.....	
Boats/ferry	10	1 Owns..... 2 Can borrow..... 3 Can hire.....	
Camel	11	1 Owns..... 2 Can borrow..... 3 Can hire.....	

Section 6.2 Farm Characteristics (continued)

6.2.5 Buildings

23 Does the farm have any buildings other than for storage purposes

Yes 1

No..... 2 If NO **→** Qn. 25

(Circle the correct code)

24 What kind of building exists on the farm?

Type of building (1)	Code	If building exists	
	Circle code if building exists (2)	Number of buildings (3)	Total area m ² (groundcover) (4)
Building(s) for cattle	01	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Building(s) for pigs	02	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Building(s) for goats/sheep	03	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Building(s) for poultry	04	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Building(s) for other animals	05	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Greenhouse(s)	06	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Garage(s)	07	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Office/Administration building(s)	08	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Residential building(s) for employees	09	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Other building(s) related to production.....	96	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>

6.2.6 Storage facilities

25 Does the farm have any buildings/facilities for storage purposes?

Yes 1

No..... 2 If NO **→** 2 Qn. 27

(Circle the correct code)

26 What storage facility exists on the farm, and what is the total volume of the storing facility (several facilities may be used)

Facility (1)	Code	If exist; storage volume m ³ (3)
	Circle code if storage exists (2)	
Unimproved granary	1	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Improved granary	2	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Under shelter outside	3	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Silo	4	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Cold storage	5	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Sealed container	6	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Store/warehouse	7	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Other, specify.....	9	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>

Section 6.3 Area Characteristics and Crop Production

6.3.1 Land use

27 Did the farm operate any land during the reference period

Yes 1 If YES
No 2 If NO → Qn. 41
(Circle the correct code)

28 How was the total land operated by the farm during the reference period according to the following land use classes (within EA)

Land use (1)	Code (2)	Total size of land Hectares (1 decimal place) (3)
Total land operated	1	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Land under temporary crops	2	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Land under temporary pastures	3	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Land temporarily fallow	4	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
All other arable land	5	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Land under permanent crops	6	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Land under permanent pasture	7	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Wood or forest land	8	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
All other land	9	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>

Codes for Question 28: Use of land on the farm

- Total land operated* refers to all land operated by the farm during the reference period. Land rented from others should be included. Land owned by the farm but rented away should not be included. Total farm land should be the sum of Q28.2-9, and the same size of land should be found as the sum of all parcel areas in Q29 on the next page
- Land under temporary crops* includes all land used for crops with a growing cycle of under one year, sometimes only a few months, which needs to be newly sown or planted for further production after the harvest. Crops remaining in the plot for more than one year should also be considered temporary crops if harvesting destroys the plant (e.g., cassava and yams). Crops grown in rotation and therefore destroyed when the land is ploughed (e.g. grasses) should be considered temporary crops. The specialised cultivation of vegetables, flowers bulbs and market gardens should also be included in this category
- Land under temporary pastures* is the land temporarily cultivated with pastures. Because some practical difficulties may arise differentiating temporary from permanent pastures, such pastures cultivated for a period of less than five years should be considered temporary
- Land temporarily fallow* is land at rest for a period of time before it is cultivated again. If the land remains fallow too long, it might acquire certain characteristics than five years. On the other hand, a piece of land should not be considered temporarily fallow unless it has been or is intended to be kept at rest for at least one agricultural year. If the time of enumeration falls at a time when sowing/planting has not been completed, the area lying fallow at that time, but which will be put under crops soon afterwards should be classified by the crops to be sown/planted and not as fallow land. Fallow land that is temporarily used for grazing should be classified fallow if the land is normally used for the cultivation of temporary crops.
- All other arable land* includes all rotation land not put to any of the uses mentioned above during the reference period, such as arable land temporarily damaged by floods, land prepared for cultivation, but not sown because of unforeseen circumstances and abandoned land.
- Land under permanent crops* : This is land which is cultivated with crops which occupy it for a year or longer and which do not have to be planted after harvest. Land under tree crops is included in this broad category, except land under forest trees which should be classified under “wood or forest land”. Permanent pastures are excluded.
- Land under permanent pastures* means land used permanently (i.e. for five years or more), seeded and cared for or grown naturally (grazing land). Permanent pastures on which trees and shrubs are grown should be classified under this category only if the growing of grass (naturally growing grass) is the most important use of the area.
- Wood or Forest land* includes wood lots or tracts of timber, natural or planted, which have or will have value as wood, timber or other forest products. Nurseries of forest trees should also be classified under this category. Wood or forest land used only for recreational purposes should be classified as “All other land”
- All other land* includes all other land not elsewhere classified, whether potentially productive or not. Generally it refers to unused lands and areas under buildings, roads, parks, swamps, rocky areas etc

Section 6.3 Area Characteristics and Crop Production Continued

6.3.2 Structures of land parcels									
29 Specify by parcel the total land operated by the farm during the reference period									
Parcel N°	Location of parcel Within subcounty..... 1 Outside subcounty..... 2 but within district..... 3 Outside the district..... 4	Land tenure system Customary..... 1 Freehold..... 2 Mailo land..... 3 Leasehold..... 4 Squatter..... 5 Other, specify..... 6 Not known..... 9	Area (Ha) (1 decimal place)	Source of area information Respondents estimate..... 1 Resp. Area survey..... 2 Map/plan..... 3 Measured by enumerator (GPS)..... 4 Other, specify..... 6	Ownership (Write the right selection) Owned..... 1 Rented share cropping .. 2 Rented cash..... 3 Rented share crop + cash..... 4 Rented Other, specify..... 5 Not applicable..... 9	Soil erosion			
						Is there a problem	If yes, why?		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)		
01	1 2 3			1 2 3 4 6		1 2	1 2 3 4 5 6		
02	1 2 3			1 2 3 4 6		1 2	1 2 3 4 5 6		
03	1 2 3			1 2 3 4 6		1 2	1 2 3 4 5 6		
04	1 2 3			1 2 3 4 6		1 2	1 2 3 4 5 6		
05	1 2 3			1 2 3 4 6		1 2	1 2 3 4 5 6		
06	1 2 3			1 2 3 4 6		1 2	1 2 3 4 5 6		
07	1 2 3			1 2 3 4 6		1 2	1 2 3 4 5 6		
08	1 2 3			1 2 3 4 6		1 2	1 2 3 4 5 6		
09	1 2 3			1 2 3 4 6		1 2	1 2 3 4 5 6		
10	1 2 3			1 2 3 4 6		1 2	1 2 3 4 5 6		
11	1 2 3			1 2 3 4 6		1 2	1 2 3 4 5 6		
12	1 2 3			1 2 3 4 6		1 2	1 2 3 4 5 6		
13	1 2 3			1 2 3 4 6		1 2	1 2 3 4 5 6		
14	1 2 3			1 2 3 4 6		1 2	1 2 3 4 5 6		
15	1 2 3			1 2 3 4 6		1 2	1 2 3 4 5 6		
16	1 2 3			1 2 3 4 6		1 2	1 2 3 4 5 6		

[illegible]

Section 6.3 Area Characteristics and Crop Production Continued

6.3.5 Crop harvested on the farm and crop sales during the reference period

32 What type and quantity of crop was harvested on the farm during the reference period

SNo.	Crop type name	Crop type (code)	Quantity harvested during the reference period		Sales during reference period ('000 Ushs)
			Quantity at harvest Kg	Quantity after drying* Kg	
(1)	(2)	(3)	(4)	(5)	(6)
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					

Section 6.3 Area Characteristics and Crop Production Continued

6.3.6 Drainage of land

33 Was there any drainage of the land on the farm during the reference?

Yes 1 No 2 If NO → Qn. 35 (Circle the correct code)

6.3.7 Size of land that is drained

34 What was the total size of land that was drained during the reference period?

36a. Measuring unit used (code)	36b. Total size of drained land (2 decimal places)
Hectare..... 1	
Acre 2	
(1)	(2)
1 2	

6.3.8 Irrigation system

35 Did the farm have any type of irrigation during the reference period?

Yes 1 No 2 If NO → Qn. 41 (Circle the correct code)

6.3.9 Size of irrigated land

36 What was the total size of irrigated land on the farm during the reference period?

38a. Measuring unit used (code)	38b. Total size of drained land (2 decimal places)
Hectare..... 1	
Acre 2	
(1)	(2)
1 2	

6.3.10 Time irrigation was used

37 When was land irrigated during the reference period ?

- (1) Before the seasonal rains ? Yes 1 No 2 (Circle the correct code)
- (2) During the seasonal rains? Yes 1 No 2 (Circle the correct code)
- (3) After the seasonal rains? Yes 1 No 2 (Circle the correct code)

6.3.11 Water source, delivery and distribution system for irrigation

38 What water source, delivery, and distribution systems used for irrigation was there on the farm during the reference period? (More than one response is possible)

Irrigation			
a)	Water source	Code b)	Water delivery system
	(1)	(2)	(1)
Lake		A	Treadle pump
River		B	Motorised pump
Spring		C	Gravity/gradients
Well		D	Motorised pump
Aquifer (under ground water)		E	Other, specify.....
Dam and Valley tank		F	
Other, specify.....		X	

Irrigation	
c)	Distribution System
	(1)
Channels	(2)
Pipes	A
Drips	B
Sprinklers	C
Other, specify.....	D
	X

6.3.12 Advice on water sources, delivery and distribution system for irrigation

39 Was any advice sought on irrigation?

Yes 1 No 2 If NO → Qn. 41 (Circle the correct code)

40 From whom was the advice sought? All irrigation advice providers should be recorded by circling the relevant codes)

Previous advice	Code
(1)	(2)
Government	A
Private agency	B
NAADS	C
NGO	D
Other, specify	X

(Circle the correct code)

Section 6.4 Livestock and Poultry Farming

6.4.1 Presence of livestock and poultry farming

41. Is there any livestock or poultry on the farm?

Yes 1

No..... 2 If No ➔ Qn. 43

(Circle the correct code)

42. if yes record the number of livestock and poultry reared on the farm

Type of livestock and poultry	Circle if livestock or poultry is reared	Total Number reared	Percentage owned by female members
(1)	(2)	(3)	(4)
Indigenous.....	1	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Exotic/Cross.....	2	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Goats.....	3	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Sheep.....	4	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Pigs.....	5	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Local chicken.....	6	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Exotic chicken.....	7	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>

Section 6.5 Fish Farming (Aquaculture)

6.5.1 Presence of fish farming

43 Is there any fish farming on the farm?

Yes 1

No 2 If NO → Qn. 48 (Circle the correct code)

44 Specify details on fish farming practices for complete harvest as follows: (Need review to cater for fish fry breeders)

Production unit no	Type of system	Stocked (species and number of fish stocked)				Stocking date (last stock year-month (yy mm))	Production on last complete harvesting		Sales from last complete harvesting (000 Ushs)	Number of complete harvesting last 12 months
		1	2	3	4		Number of fish	Total weight (kg)		
(1)	Earth pond 1					(8)	(9)	(10)	(11)	(12)
1	Water pond 2									
2	Cages 3									
3	Natural enclosure 4									
4										
5										

6.5.2 Partial harvest from fish farming

45 Was partial harvest from fish farming carried out on this farm during the last 12 months

Yes 1

No 2 If NO → Qn. 48 (Circle the correct code)

46 How many times was partial harvesting conducted during the last 12 months (by species)

Activity	Code	Number of times of partial harvesting by fish species			
		Tilapia	Catfish (Clarias)	Carp	Other specify
(1)	(2)	(3)	(4)	(5)	(6)
Nº of harvest	1				
Total weight of fish (kg)	2				

6.6 Apiculture

48 Is apiculture practiced on the farm?

Yes 1

No 2 If NO → Qn 50

47 How much was harvested from the last partial harvesting?

(Number and species of fish, weight and value of sales)

Activity	Code	Number of times of partial harvesting by fish species			
		Tilapia	Catfish (Clarias)	Carp	Other specify
(1)	(2)	(3)	(4)	(5)	(6)
Nº of fish	1				
Total weight of fish (kg)	2				
Sales ('000 Ushs)	3				

49 Record number of bee hives colonised or not colonized by type and by honey quantity produced.

Hive Type	Number		Production (Kg)
	Colonized	Not colonized	
(1)	(2)	(3)	(4)
1. Local			
2. Kenya Top Bar (KTB)			
3. Langstroth			
4. Others			

Section 6.7 Agricultural Input Characteristics

6.7.1 Agricultural equipment used during the reference period

50 Was any of the following agricultural equipment used on this farm during the reference period?

Type of equipment	Code Circle code if equipment was used	If used during the reference period		
		No used	Ownership Farm alone..... 01 Farm + other 02 other private owner..... 03 Government..... 04 Cooperatives..... 05 NGO 06 Other, specify 96	When was the most recent item bought? Less than one year ago 1 1-4 years ago..... 2 5-10 years ago 3 More than 10 years ago 4
(1)	(2)	(3)	(4)	(5)
Hoes	01	<input type="checkbox"/>	<input type="checkbox"/>	1 2 3 4
Axes	02	<input type="checkbox"/>	<input type="checkbox"/>	1 2 3 4
Slashers	03	<input type="checkbox"/>	<input type="checkbox"/>	1 2 3 4
Pangas	04	<input type="checkbox"/>	<input type="checkbox"/>	1 2 3 4
Watering cans	05	<input type="checkbox"/>	<input type="checkbox"/>	1 2 3 4
Wheelbarrows	06	<input type="checkbox"/>	<input type="checkbox"/>	1 2 3 4
Pruning knives	07	<input type="checkbox"/>	<input type="checkbox"/>	1 2 3 4
Pruning saws	08	<input type="checkbox"/>	<input type="checkbox"/>	1 2 3 4
Chain/band saw	09	<input type="checkbox"/>	<input type="checkbox"/>	1 2 3 4
Sheller	10	<input type="checkbox"/>	<input type="checkbox"/>	1 2 3 4
Spade	11	<input type="checkbox"/>	<input type="checkbox"/>	1 2 3 4
Fork hoe	12	<input type="checkbox"/>	<input type="checkbox"/>	1 2 3 4
Tractor	13	<input type="checkbox"/>	<input type="checkbox"/>	1 2 3 4
Combined harvester	14	<input type="checkbox"/>	<input type="checkbox"/>	1 2 3 4
Plough	15	<input type="checkbox"/>	<input type="checkbox"/>	1 2 3 4
Ox-plough	16	<input type="checkbox"/>	<input type="checkbox"/>	1 2 3 4
Trailer	17	<input type="checkbox"/>	<input type="checkbox"/>	1 2 3 4
Harrow/cultivator	18	<input type="checkbox"/>	<input type="checkbox"/>	1 2 3 4
Weeder	19	<input type="checkbox"/>	<input type="checkbox"/>	1 2 3 4
Planter	20	<input type="checkbox"/>	<input type="checkbox"/>	1 2 3 4
Sprayer	21	<input type="checkbox"/>	<input type="checkbox"/>	1 2 3 4
Pail	22	<input type="checkbox"/>	<input type="checkbox"/>	1 2 3 4
Other, specify	23	<input type="checkbox"/>	<input type="checkbox"/>	1 2 3 4
Other, specify	24	<input type="checkbox"/>	<input type="checkbox"/>	1 2 3 4

Section 6.7 Agricultural Input Characteristics Continued

6.7.2 Use of Agricultural Inputs

51 Were any of the agricultural inputs used during the reference period?

Code	Type of Input	Used Yes No	If used, what is the main supply source Own..... 01 Market..... 02 Cooperatives..... 03 Government..... 04 Related organisation.. 05 NGOs..... 06 Input suppliers..... 07 Input dealers..... 08 Other, specify..... 96	If not used, what is the reason for non-use 1 No knowledge..... 2 Too expensive..... 3 Not available..... 4 Cannot see the usefulness..... 5 Other, specify					
				(5)	(6)	(7)	(8)	(9)	(10)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
01	Local seeds	1 2		1 2 3 4 6					
02	Improved seeds	1 2		1 2 3 4 6					
03	Hybrid seeds	1 2		1 2 3 4 6					
04	Organic fertiliser	1 2		1 2 3 4 6					
05	Inorganic fertiliser	1 2		1 2 3 4 6					
06	Pesticides	1 2		1 2 3 4 6					
07	Fungicides	1 2		1 2 3 4 6					
08	Insecticides	1 2		1 2 3 4 6					
09	Other pesticides	1 2		1 2 3 4 6					
10	Fish fry	1 2		1 2 3 4 6					
11	Other, specify	1 2		1 2 3 4 6					
12									

52 Who provided the services and how many times were the services provided during the reference period?

Who provided the service	Code	Number of times consultancies by advisor/officials/ extension workers for Crop production
(1)	(2)	(3)
Government.....	1	
Private agency.....	2	
NGO.....	3	
Contracted or employed specialist.....	4	
Other, specify.....	6	

Section 6.7 Agricultural Input Characteristics Continued

6.7.3 Use of advisory services

53 Did the farm use any of the services specified below during the specified period?

Sources of Agricultural Extension Services	NAADS	Other Government (Crops)	Other Government (Livestock)	Farmers' Association	Own Staff	Other
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Farm Management	A	A	A	A	A	A
Selection of Crop varieties	B	B	B	B	B	B
Input use e.g. fertilizers etc	C	C	C	C	C	C
Credit	D	D	D	D	D	D
Farm Mechanization	E	E	E	E	E	E
Animal Health	F	F	F	F	F	F
Plant protection	G	G	G	G	G	G
Environmental conservation	H	H	H	H	H	H
Marketing	I	I	I	I	I	I
Training	J	J	J	J	J	J
None	Y	Y	Y	Y	Y	Y

Section 6.8 Labour Characteristics

6.8.1 Number of persons working on the farm

54 How many persons, by type of work force and kind of activity, were working on the farm during the reference period?
(Give the number of workers for all categories)

Activity	Code	Paid work force						Unpaid work force					
		Employees				Casual Workers		Helpers other than household members		Working proprietor		Household members	
		Full time		Part time		Male (7)	Female (8)	Male (9)	Female (10)	Male (11)	Female (12)	Male (13)	Female (14)
		Male (3)	Female (4)	Male (5)	Female (6)								
(1)	(2)												
Management	1												
Technical	2												
Clerical	3												
Farm labour	4												
Other, specify	5												

55 How many persons by sex and age worked on the farm during reference period and what was the total value of payment of each type of work force? Give the number of people that worked for all categories).

Type of work force	Code	Male			Female			Children**	
		Number	Payment '000 Ushs.		Number	Payment '000 Ushs.			
			Total wage bill			Cash			
(1)	(2)	(3)	(4)		(6)		(7)		(9)
Regular paid employees (full time)	1								
Regular paid employees (part time)	2								
Paid casual workers	3								
Unpaid helpers	4								
Working proprietors (unpaid)	5								
Unpaid household members	6								

*Kind converted to its equivalent in cash

**Less than 18 years old

Section 6.9 Access to Credit

56 Has this farm received a loan or credit in the last 5 years?

Yes 1
No 2 → Qn. 60

57 What was/were the source(s) and the main purpose of the loan/credit?
(Read out the sources mentioned below and indicate whether the source is used or not)

Source of loan		Loan purpose code	Loan period code	Loan amount (U.Shs) if any	Outstanding amount of the loan (U.Shs) if any	Type of collateral security
	01 Commercial Banks 02 Micro finance institutions 03 Money lender 04 Input supply 05 Self-help group 06 Family or friends 07 Government 08 NGO 96 Other, specify	01 Agricultural labour..... 02 Seeds..... 03 Fertiliser..... 04 Agro-chemicals..... 05 Farm implements & machinery.. 06 Irrigation structures..... 07 Livestock..... 08 Aquaculture..... 09 Apiculture..... 10 Trading agricultural produce.... 96 Other agricultural	< 1 year 1 1-3 years..... 2 > 3 years 3			01 None..... 02 Land title..... 03 Crops..... 04 Livestock..... 05 Character..... 06 Salary from employment... 96 Other, specify.....
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1			1 2 3			
2			1 2 3			
3			1 2 3			
4			1 2 3			
5			1 2 3			
6			1 2 3			
7			1 2 3			
8			1 2 3			
9			1 2 3			

58 Did the farm need to provide collateral security
Yes 1 (Circle the correct code)
No 2

59 Has the farm any outstanding loan or credit?
Yes 1 (Circle the correct code)
No 2 If N° → End Interview

60 Why has the farm not received a loan or credit in the last 5 years?
(More than one reason can be mentioned. Circle code if the reason is mentioned).

Reason	Circle as many reason as given
(1)	(2)
No need for loans	A
Unavailability of lending facility	B
Lack of collateral	C
Interest high	D
Not profitable	E
Already paid	F
Ignorance	G
Negative past experience	H
Other, specify	I

Annex 1 Crop Codes

Crop Group	Crop Name	Crop Code	Crop Group	Crop Name	Crop Code
1. Cereals	Wheat	0111	5. Leguminous crops	Beans	0711
	Maize	0112		Broad Beans	0721
	Rice	0113		Chick Peas	0731
	Sorghum	0114		Cow Peas	0741
	Barley	0115		Lentils	0751
	Oats	0117		Peas	0771
	Millets	0118		Pigeon Peas	0781
	Mixed Cereals	1191		Leguminous crops n.e.c	0791
	Other	1192	6. Sugar crops	Sugar beet	0811
2. Vegetables and Melons	Asparagus	0212		Sugar cane	0821
	Cabbages	0213		Sweet sorghum	0831
	Cauliflowers & broccoli	0214		Other sugar crops n.e.c	0891
	Lettuce	0215	7. Other crops	Cotton	9211
	Spinach	0216		Flax, Hemp	9213
	Chicory	0217		Other temporary fibre crops	9219
	Other leafy/ stem	0219		Tobacco	0961
	Cucumber	0221		Other crops-temporary	9911
	Egg plant	0222	8. Fruits and Nuts	Avocado	0311
	Tomatoes	0223		Banana (Food)	3121
	Water melons	0224		Banana (Sweet)	3122
	Pumpkin	0226		Banana (Beer)	3123
	Other fruit bearing	0229		Mangoes	0315
	Carrots	0231		Pawpaw	0316
	Turnips	0232		Pineapples	0317
	Garlic	0233		Other	0319
	Onions	0234		Grape fruit & pomelo	0321
	Other root, bulbs or	0239		Lemon and Limes	0322
	Mushroom	0241		Oranges	0323
	Vegetables n.e.c	0291		Tangerines & Mandarines	0324
3. Oil seed crops	Soya Beans	0411		Other citrus fruits	0329
	G/nuts	0421		Strawberries	0345
	Caster Beans	0431		Currants	0341
	Linseed	0432		Apples	0351
	Mustard	0433		Apricots	0352
	Simsim	0437		Pears	0355
	Sunflower	0438		Plums	0356
				Cashew nuts	0362
4. Root/Tuber Crops with High Starch or Insulin content	Irish Potatoes	0511	9. Beverage s and spice crops	Coffee Arabica (old)	6111
	Sweet Potatoes	0521		Coffee Robusta (old)	6112
	Cassava	0531		Coffee Arabica (new)	6113
	Yams	0541		Coffee Robusta (clonal)	6114
	Other root crops and tubers	0591		Tea	0612
				Cocoa	0614
				Other Beverages n.e.c	0619