UGANDA CENSUS OF AGRICULTURE 2008/09

ENUMERATORS’ INSTRUCTIONS MANUAL

Uganda Bureau of Statistics
Plot 9, Colville Street,
P O Box 7186
KAMPALA
UGANDA.

Tel: 256-414-706000
Fax: 256-414-237553
Email: ubos@ubos.org
Website: www.ubos.org

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INTRODUCTION

1.1 Background

1.1.1. Involvement of International Institute of Agriculture (IIA) and FAO in Censuses of Agriculture:

1. Since its establishment, Food and Agriculture Organization of the United Nations (FAO) has promoted national censuses of agriculture through the 1950, 1960, 1970, 1980, 1990, and currently the 2010 Programmes for the World Census of Agriculture (WCA). It is worth-noting that the Programme for the WCA was preceded by two rounds sponsored by the International Institute of Agriculture (IIA) and conducted during 1930 and 1940. Following the dissolution of IIA in 1946, FAO took up the promotion of subsequent rounds.

2. The first two rounds of the census of agriculture sought to provide comprehensive agricultural statistics, including production. For the 1930 round, countries were asked to carry out a national agricultural census during 1929 in the northern hemisphere, and during 1930 in the southern hemisphere. The objective was to obtain global data referring to the same time period. A similar request was made for the 1940 round. These first two rounds were undertaken at a time when there was a large gap in agricultural information, and data sources for agricultural statistics were not well organized, even in developed countries. The agricultural censuses were expected to fill this gap. However, many countries found it difficult to conduct the census. Adequate resources for maintaining a large field staff were not easily obtained; their recruitment and training were major concerns when professional staff were limited in number; and, completing long questionnaires was a burden for both enumerators and respondents. It was difficult to guarantee data quality, and data processing in the pre-computer era was very time consuming. For these and other reasons, the first two rounds proved to be beyond the capacity of many countries.

3. The 1950 round provided for a more restricted content, concentrating on the structural aspects of agriculture such as: farm size; land use and numbers of livestock. Later rounds retained this focus on structural data, but gradually expanded the census content to reflect current areas of concern; the 2000 round gave special emphasis to aquaculture; employment and environment, the requirement to conduct censuses in all countries in the same year was also relaxed; the 2010 round will cover agricultural censuses taken during 2006-2015

1.1.2. Definition of a Census of Agriculture:

1. A Census of Agriculture is a large-sale, periodic statistical operation for collecting, processing and disseminating data on the structure and organization of agriculture, covering whole or significant part of the country. The word ‘Census’ implies a complete enumeration of all agricultural holdings. However, by extension, it can be conducted by a sample enumeration, provided the sample is large enough to generate sub-national data. This is contrary to a belief by some people that in a Census of Agriculture, all agricultural holdings are enumerated.

2. A Census of Agriculture is conducted every after ten (10) years or five (5) years for some countries, because of two (2) main reasons namely:
• **It is a very expensive statistical operation.** Due to cost considerations, annual agricultural sample surveys are encouraged to provide inter-censal estimates to provide data for informing policy and planning; and,

• **It collects data as already mentioned on the structure, which changes very slowly over time.** Therefore it is not worth the cost to conduct a census of agriculture at short intervals

3. The term *agriculture* is normally used in a broad sense to cover: crops; livestock and poultry farming; fish farming; and, forestry. Data on fisheries on the other hand is collected separately using different methodologies.

**1.1.3. Decentralized System:**

1. The agricultural statistics system in Uganda is decentralized. The main players include: Ministry of Agriculture, Animal Industry and Fisheries; Parastatal bodies; Department of Meteorology, Ministry of Health and Ministry of Local Government, etc.

**1.1.4. Agricultural Reporting Service:**

1. Production of agricultural data in Uganda started way back in colonial times when the Ministry responsible for agriculture established an Agricultural Reporting Service (ARS) in which:

   ▪ District Agricultural Officers (DAOs) collected and provided estimates of planted area and yield;
   ▪ District Veterinary Officers (DVOs) collected and provided data on livestock numbers and products; and,
   ▪ District Fisheries Officers (DFOs) collected and provided data on fisheries.

2. By the beginning of the 1960s, the need for benchmark data on the structure and organization of the agricultural sector was apparent. Around 1961, the International Bank for Reconstruction and Development recommended for a Census of Agriculture.

**1.1.5. Census Of Agriculture 1963/65:**

1. Between 1963 and 1965, the Government of Uganda was assisted by FAO and the Department of Technical Cooperation of the United Kingdom to conduct the first census of agriculture to collect the required benchmark data. In this census, objective methods were used to measure both crop area and yield and data on livestock inventory and poultry were obtained by farmer interview. In addition, the census was expected to lay a firm foundation for the development of a permanent system of annual agricultural sample surveys to collect current agricultural data for monitoring the performance of the agricultural sector.

2. Following the census, two follow-up annual agricultural sample surveys were carried out also using objective methods in 1966 and 1967/8. However, not enough capacity was built to sustain the survey system and by mid-1970s, there were no more survey field activities. In the meantime, the ARS continued to provide data for planning purposes, its weaknesses notwithstanding.

**1.1.6. Attempted Census of Agriculture 1978:**

1. By mid-1970s, the need to conduct another Census of Agriculture was felt and in 1978 FAO provided technical assistance to the country to prepare for conducting the census. However, the work stopped on account of the prevailing security situation in the country at the time.
1.1.7. Census of Agriculture 1990/91:

1. During 1990/91 a Census of Agriculture (called the National Census of Agriculture and Livestock) was conducted in 26 out of the 32 rural districts. The census did not cover the districts in the Karamoja, Acholi and Teso sub-regions due to the then prevailing security situation. Kampala was not covered either, due to absence of a sampling frame.

2. The census project was funded by UNDP and executed by FAO.

3. Like in the 1963/65, objective methods were used for crop area and yield data collection.

4. The census results were contested by Government and have had limited circulation and therefore use.

5. After the census, two annual follow-up surveys were conducted during 1991/92 and 1992/93.

1.1.8. The Agricultural Statistical System (ASS) in Uganda

1. From the above efforts it is clear that the ASS was never fully developed. The infrastructure for agricultural statistics production has thus remained weak, vulnerable and unsustainable. The existing data are inadequate to meet the requirements of users. For instance, there is lack of benchmark data on the agricultural sector, Early warning data is incomplete or non-existent, most current agricultural statistics are not available, or if available are not accurate, timely or sufficiently disaggregated especially by sub-national administrative units.

2. Hence, there is a need for strengthening the agricultural statistical system in Uganda. The Uganda Bureau of Statistics (UBOS) in close collaboration with the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) has been implementing the Support to Strengthen Agricultural Statistics Project (SSASP), financed by the Royal Government of Norway. The Project aimed, among other things, to prepare for a Census on Agriculture, establish a system of regular agricultural statistics surveys and a village registration system.

1.2. The Modular Approach (WCA 2010)

1.2.1. Outline of agricultural census/survey programme

1. For the World Census of Agriculture (WCA 2010) FAO member countries are recommended to use a modular approach for agricultural censuses. This approach helps countries to meet the need for a wider range of data from the agricultural census while minimizing the cost of census taking. The modular approach involves the introduction of a core census module for which 16 items have been recommended to be collected on a complete enumeration basis, alongside a Population and Housing Census and, where not possible, on a large sample basis. This approach helps these countries in two (2) ways namely to;

- Obtain numbers on some key variables; and,
- Construct appropriate sampling frames for other items in a census of agriculture.

1.2.2. Summary of the Items recommended in a modular approach
1. FAO recommends 16 items as a minimum set of data for the agricultural census. It also recommends that one or more census supplementary modules should be conducted on a sample basis at the same time or immediately after the core module to provide more detailed structural data.

2. A summary of the items recommended for coverage is provided below.

- Identification of holding
- Location of holding
- Type of agricultural holding (crops only, livestock only, mixed)
- Sex of agricultural holder
- Agricultural Household size
- Main purpose of production
- Area of holding according to land use types
- Total area of holding (from parcels)
- Land tenure types
- Presence of temporary crops by type of crop
- Presence of permanent crops by crop type and whether grown in a compact plantation
- Number of animals by livestock type (cross-check)
- Presence of aquaculture
- Presence of forest and other wooded land
- Other economic activities of the holdings’ enterprise
- Whether the holding is part of a household that is primarily a farming household

3. In addition to the above, Community level data is also to be collected but on a complete enumeration basis. i.e. all the communities (villages approximately 60,000) will be covered.

4. Further, member countries are recommended to collect data on census supplementary module(s) on a sample enumeration basis.

1.3 Uganda Census of Agriculture 2008/09

1.3.1 Timing of Uganda Census of Agriculture (UCA)

1. Efforts to prepare for this census started sometime back. With funding from a grant by the Royal Norwegian Government, the Government of the Republic of Uganda/Uganda Bureau of Statistics conducted a number exercises including:

   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 of 2002. Its main objective was to provide data that would form a basis for constructing appropriate sampling frames for a future census of agriculture as well as agricultural sample surveys.

   iii) **A Pilot Census of Agriculture (PCA), 2003**: Was conducted in ten (10) districts namely: Arua, Iganga, Kabale, Kabarole, Lira, Masaka, Masindi, Mbale, Nakapiripirit, and Wakiso. The main purpose was to test the methodologies as well as the instruments in preparation for a Census of Agriculture (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 Modernization 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.
v) A Second Pretest in Mityana District 2008: Because of the longtime since the first pre-test in 2002 and as some changes had been introduced in the questionnaires and methodology, it was considered necessary to carry out another pre-test in Mityana between the 18th and 25th May, 2008.

2. During the Financial Year 2007/08, the Government made a budgetary provision for the UCA 2008/09.

1.4 Objectives of UCA

1.4.1 Long Term Objective

1. The long-term objective is to establish a Food and Agricultural System (FAS) and the UCA will contribute to this.

1.4.2 Immediate Objectives

1. The immediate objective is to collect and generate the bench-mark data needed for the monitoring and evaluation of the agricultural sector at all levels in particular, Poverty Eradication Action Plan (PEAP), Plan for Modernisation of Agriculture (PMA) through a nation wide UCA.

2. More specifically, the objectives of a UCA can be broadly stated as providing:

(i) Data on the social and economic factors of a country’s agricultural structure by inter-relating various characteristics of the holdings, e.g., size of holding and type of holding on the one hand, 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) Detailed agricultural data, such as number of holdings, total area under holdings, basic pattern of land utilization, area under crops and extent of irrigation;

(iii) A bench mark 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 national capacity in census of agriculture taking.

1.5 Scope and Coverage of UCA

1. The UCA 2008/09 is in line with the definition of the agricultural census under International Standard Industrial Classification (ISIC) (Rev 3.1) i.e. the scope covers: growing of crops and farming of selected livestock (covered in listing, supplementary and for Private Large Scale and Institutional Farms (PLS & IFs)). This is the case because the enumeration exercise for the Livestock Census (funded by ADB and Government of Uganda) was conducted during 18th – 25th February 2008.

1.5.1 Statistical Unit of enumeration

1. The UCA uses the agricultural holding as the statistical unit as recommended by the WCA 2010. This is the similar unit used in the previous census programmes.

1.5.2 UCA modules
1. The UCA comprises six (6) questionnaires or modules which will be used to collect data are shown below:

- UCA Form 1: Listing module
- UCA Form 2: Agricultural Household and Holding module
- UCA Form 3: Community module
- UCA Form 4: Crop Area module
- UCA Form 5: Crop Production module
- UCA Form 6: Private large scale and institutional farms module

2. The listing module is used to prepare a complete list of agricultural households or holdings from a sample of 10 holdings will be selected for further interviewing. UCA Form 2: Agricultural Household and Holding module, will be used to collect detailed data on characteristics of the holding. UCA Form 3: Community module will be used to collect data for the whole community. On the UCA Form 5: Crop Production module, data will be collected on crop production. Finally, UCA Form 6: Private large scale and institutional farms module will be used to collect data on activities of the private large scale and institutional farms.

3. The Enumerator will carry the interviews to collect data on Forms 1, 2, 4 and 5, while data collection on Forms 3 and 6 will be organized separately.

1.5.3 Coverage

1. The UCA will be carried out in all the 80 districts of Uganda in order to provide estimates at District, Regional and National Levels.

2. The 80 districts as shown in table 1 below:

Table 1.1: Districts in Uganda after 15th February 2007

<table>
<thead>
<tr>
<th>Abim</th>
<th>Ibanda</th>
<th>Kiruhura</th>
<th>Mubende</th>
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<tbody>
<tr>
<td>Adjumani</td>
<td>Iganga</td>
<td>Kisoro</td>
<td>Mukono</td>
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<tr>
<td>Amolatar</td>
<td>Isingiro</td>
<td>Kitgum</td>
<td>Nakapiripirit</td>
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<tr>
<td>Amuria</td>
<td>Jinja</td>
<td>Koboko</td>
<td>Nakaseke</td>
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<tr>
<td>Amuru</td>
<td>Kaabong</td>
<td>Kotido</td>
<td>Nakasongola</td>
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<td>Apac</td>
<td>Kabale</td>
<td>Kumi</td>
<td>Namutumba</td>
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<tr>
<td>Arua</td>
<td>Kabarole</td>
<td>Kyenjojo</td>
<td>Nebbi</td>
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<tr>
<td>Budaka</td>
<td>Kaberamaido</td>
<td>Lira</td>
<td>Ntungamo</td>
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<tr>
<td>Buduuda</td>
<td>Kalangala</td>
<td>Luwero</td>
<td>Nyadri/Maracha</td>
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<tr>
<td>Bugiri</td>
<td>Kaliro</td>
<td>Lyantonde</td>
<td>Oyam</td>
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<tr>
<td>Bukeeda</td>
<td>Kampala</td>
<td>Manafwa</td>
<td>Pader</td>
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<tr>
<td>Bukwa</td>
<td>Kamuli</td>
<td>Masaka</td>
<td>Pallisa</td>
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<tr>
<td>Buliisa</td>
<td>Karmwenge</td>
<td>Masindi</td>
<td>Rakai</td>
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<tr>
<td>Bundibugyo</td>
<td>Kanungu</td>
<td>Mayuge</td>
<td>Rukungiri</td>
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<tr>
<td>Bushenyi</td>
<td>Kapchorwa</td>
<td>Mbale</td>
<td>Sembabule</td>
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<tr>
<td>Busia</td>
<td>Kasese</td>
<td>Mbarara</td>
<td>Sironko</td>
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<tr>
<td>Butaleja</td>
<td>Katakwi</td>
<td>Mityana</td>
<td>Soroti</td>
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<tr>
<td>Dokolo</td>
<td>Kayunga</td>
<td>Moroto</td>
<td>Tororo</td>
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<tr>
<td>Gulu</td>
<td>Kibaale</td>
<td>Moyo</td>
<td>Wakiso</td>
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<tr>
<td>Hoima</td>
<td>Kiboga</td>
<td>Mpigi</td>
<td>Yumbe</td>
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1.5.4 Complete and Sample Enumeration methods
1. After listing in the selected EAs on module 1, modules 2, 4 and 5 will be carried out on a sample basis. On the other hand, module 6 (Private Large Scale and Institutional Farms) will be enumerated on a complete coverage basis in the entire district. The small and medium scale household based holdings will be selected based on a Two-Stage Sampling design using a list of Enumeration Areas (EAs) with Measure of Size (number of agricultural households) from the 2002 PHC while the PLS&IFs will be obtained from a List Frame Based on 2006/07 Business Register (412 Farms) as well as field updates by District Agricultural Officers. Module 3 will cover all selected EAs.

1.6 Confidentiality

1. The UCA is being conducted by the UBOS in collaboration with MAAIF under the authority of the Uganda Bureau of Statistics Act 1998. By virtue of this Act, the information collected will be kept strictly confidential.

2. By the same act all information obtained by you through contact with respondents is and must under all circumstances be kept confidential. You must at no time divulge any information whatsoever to any person who is not connected with UCA or even to any member of your family.

3. Uganda Laws provide penalties for Enumerator divulging the information collected and for respondents refusing to provide information or intentional providing wrong information.

4. Through observance of strict confidentiality, it will be possible to gain the confidence of the respondents and therefore obtain accurate data from them.

1.7 Timing

1. The UCA will be conducted through a number of consecutive visits and corresponding interviews to the selected holdings. The series of visits (6) should start September 2008 (or when most of the planting for the second season of 2008 is regarded as complete). The last visit should coincide with the end of harvesting).

2. The Uganda Census of Agriculture (UCA), 2008/09 will be carried out in a number of rounds to cover the two main agricultural seasons (i.e. September 2008 – February 2009, and, March 2009 – September 2009) in many parts of the country. Estimates will be produced for the nation, districts and other important classifications like gender.

3. In the past, the censuses of agriculture collected data on both crops and livestock. Because of major differences between the distribution of crops and livestock, a Census of Agriculture and a Livestock Census should be conducted as separate operations. This will be mainly achieved because the latter was conducted in February 2008, well ahead of the former.

4. Before the actual thematic data collection for statistical use can start, all holdings in the EA will be visited, listed and classified as small, medium and private large scale. This will enable the selection of a sample of 10 small or medium scale holdings to be included in the UCA.

1.8 Field Organization

1.8.1. Overall Coordination and Supervisory Team

1. The Uganda Census of Agriculture Office (UCAO) will be in place at UBOS headquarters made up of the following officers:

- A UCA Director based in the Agricultural Statistics Section of UBOS.
• Statisticians based in the Agricultural Statistics Section of UBOS
• Statisticians based in MAAIF.
• A National Long Term Consultant.
• Short and Long Term, Local and International Consultants.
• Any other officers appointed as the need arises.

2. The UCAO will be supported by computer expertise and other officers within UBOS when needed. The UCAO will organise and ensure the overall coordination of the census and act as counterparts for the District Supervisors. The UCAO will also act as trainers and as National Supervisors during the data collection period. The team members will regularly supervise the fieldwork to ensure that it is properly carried out and to resolve any problems.

3. The top management of UBOS and other officers in both UBOS and MAAIF will also participate in the UCA field activities from time to time.

1.8.2. District Supervisor (DS)

1. A district will have one (1) or two (2) Supervisors. Their responsibility will be to have the first line supervision to the Enumerators and work as District coordinators. During supervision, they will ensure that UCA forms are duly filled or completed (accuracy is ensured, no gaps left, numbers are right, etc.) before signing them. Thereafter, the forms should be received and stored at the district level, before being passed on to UBOS for data processing.

2. The DS shall visit and check on the Enumerators’ work for quality regularly right from the start to the end of fieldwork.

1.8.3. Enumerator

1. The number of Enumerators in a district will vary depending on the Measure of Size (Agricultural households). There will be at least six (6) for the smallest district and at most 16 for the largest district. An Enumerator will preferably be a resident in one of the selected EAs that they will cover.
2. DUTIES AND PERFORMANCE OF ENUMERATORS

2.1 Overview of the Enumerator’s Work

1. Study this manual carefully and remember points that are explained herein. You should become familiar with the questionnaires and understand the meaning of each question and its importance. This will enable you to be confident in your explanations to the respondents. Make sure that you can complete the questionnaires properly. Check to see that you have all the required materials and equipment, as per the list in Section 2.4. You must personally acquaint yourself with your EAs (villages). Your posting to that particular EA not far from your usual area of abode or origin was a major criterion for selecting you as an Enumerator.

2.2 The Enumerator’s Performance

1. The Enumerator is the most important person in the UCA. The whole success or failure in attaining the set objectives depends entirely on his/her performance in the field. As such, it is extremely important that the Enumerator pays careful attention and fully understands his/her duties in preparation for the UCA and in the field.

2.3 Basic Duties of an Enumerator

1. The list of basic duties is as follows:
   (i) Attend the training course(s) attentively.
   (ii) Study this manual carefully and remember the (main) points that are explained.
   (iii) Become fully familiar with the questionnaires.
   (iv) Contact the households/holdings you are assigned to interview.
   (v) Find the appropriate person(s) for the interview.
   (vi) Complete the interviews for the various questionnaires.
   (vii) Carry out the area and yield measurements.
   (ix) Review each completed questionnaire for accuracy.
   (x) Submit completed questionnaire forms to your Supervisor promptly.
   (xii) Comply with the Statistics Act 1998 regulations regarding your work as an Enumerator.
   (xiv) Keep all information received confidential.

2.4 Census Equipment/materials to be issued to the Enumerator

1. The following materials will be issued to the enumerator:
   (i) Questionnaires (1 listing module + 3 questionnaires/booklets, modules 2,4 and 5).
   (ii) Blue ballpoint pens for recording the answers on the questionnaires.
   (iii) A clipboard for holding paper and questionnaire when entering answers.
   (iv) An Enumerator's Instructions Manual (for consulting in case you have forgotten some concept(s) or definition(s))
   (v) A waterproof bag in which you will store questionnaires (used and un-used) from coming wet and untidy.
   (vi) A pair of Gum boots
   (vii) A rain coat
   (viii) A letter of appointment and identification
   (ix) A few pieces of chalk for numbering the households
   (x) A note book during training
   (xi) A counter book during field work
   (xii) A GPS device for area measurement

2. You should look after this equipment very carefully, and guard them against damage and loss.
3. THE INTERVIEW

3.1 Introduction
1. The goal of the Enumerator is to collect accurate information by using the UCA questionnaire forms in accordance with sound interviewing practices.

2. Responses are strongly influenced by the way in which a question is worded. Obviously, if a question is worded differently for different respondents, it will not produce information, which are comparable or can add up.

3. Question order must also be the same from interview to interview because changes in sequence affect respondent’s answers. It is only when each Enumerator uses the questionnaire in the same fashion as all other Enumerators that we can hope to collect information that is uniformly accurate.

4. An initial impression to the respondent is extremely crucial and has a big influence on the subsequent responses. You should try to give a good impression initially to prepare for cooperation from the respondents.

5. Explain that you are collecting information about household characteristics, crops, livestock, poultry and fish farming, in the UCA. You should explain that all information will be used for statistical purposes only and that the information will be kept strictly confidential. The UCA has nothing to do with taxes, law enforcement, etc, and that the UBOS and MAAIF offices will use the information only for statistical purposes.

6. A good introduction may be as follows: Good morning Sir/Madam, my name is …… I am working for the Uganda Bureau of Statistics and Ministry of Agriculture Animal Industry and Fisheries in Entebbe to carry out a Uganda Census of Agriculture.

7. You may not need to make a long introduction at every place you visit. Most household members will already know about the UCA through announcements, your District Supervisor (DS), local chiefs and LC Officials.

8. After you have introduced yourself, you may find it helpful to spend half a minute or so in general conversation. A pleasant and friendly attitude on your part will help you to get the holder’s cooperation. Be courteous at all times and read explanations from this manual for any questions the holder has difficulty in understanding. Keep the interview business-like but do not forget to be friendly at the same time. Avoid questions such as ‘Are you busy now?’ Or ‘Should I come back?’. Questions that permit undesired responses can lead a busy respondent into refusing to be interviewed. You should assume that the respondent is not busy and approach the meeting as though the interviews were going to take place right then at the time of contact. Of course, if the respondent is unavailable for an interview, by all means seek advice from your DS.

3.2 Securing the Interview
1. The most successful Enumerator is one who is able to create a good interviewing environment at the very first opportunity. The Enumerator should remember that his/her duty is to secure an interview and should avoid being bogged down in unnecessary matters. It is important to avoid introducing a bias into the interview that might predispose the respondent to answer in a particular way. Simply give the introductory statement in the questionnaire in your own words.

2. In most homes, the Enumerator will be welcomed because he/she represents a change in the day’s routine. Most people enjoy being interviewed and many people develop interest in matters that they have not thought about before or not thought about in the same way.
3. Respondents have various kinds of concerns and questions, and the Enumerator must be prepared to give correct and courteous answers, phrased so that they seem to be a natural part of an introductory conversation. Here are some questions respondents are likely to ask, along with some suggested answers:

Q. How did you happen to pick me?
A. You may be aware that UCA covers all the 80 districts in Uganda. Due to cost constraints not every holding in every district could be covered. Therefore, UBOS and MAAIF scientifically chose ....... LC1 ....... District to represent all the LC1s. Further, in each of the selected LC1 including yours, the same scientific method was used to select 10 holdings for coverage including yours. These selected holdings represent all holdings in all the LC1s in the district.

Q. What's this all about?
A. We will be talking about several things related to this holding, for example, your crops and livestock, poultry, area planted, problems faced, etc.

Q. What good will this do?
A. A well planned census of agriculture and successfully conducted will enable policy makers and planners to modernise agriculture, so that farmers can produce more earn more and improve their standards of living. In this way, the people of this country will eradicate poverty. The information can also be used by agricultural traders to know where to find various commodities. Similarly agricultural inputs traders and manufacturers will get better information and the inputs to deliver to the different areas. The information collected will, therefore, in turn benefit you as a producer.

4. Your own state of mind is often reflected in the respondent’s reaction to the request for an interview. If your approach is uncertain or uneasy, if you cannot answer the questions the respondent asks and you seem vague about the work and its purposes, this feeling will be communicated to the respondent and he/she will react accordingly. If you have a pleasant, positive and well-informed approach, this again will be reflected in the respondent’s attitude.

3.3 Asking the Questions
1. You should avoid creating, the impression that the interview is a quiz or cross-examination; be careful that nothing in your words or manner implies criticism, surprise, approval or disapproval either of the question you ask or of the respondent’s answer.

2. Throughout the interview avoid monotony so as not to bore your respondent. Maintain and increase the respondent’s interest. Know the questions so well that you can read each one smoothly and move on the next without hesitating. Remember the questionnaire is in English while you will put the questions to the respondent in the local language.

   (i) Ask the questions exactly as they are worded in the questionnaire form.
   (ii) Ask each question very slowly.
   (iii) Ask the questions in the order in which they are presented in the questionnaire.
   (iv) Do not skip any question (if not specified in the questionnaire forms).

3. The question sequence is designed to create a sense of continuity and to ensure that early questions will not have a harmful effect on the respondent’s answer to later questions. Furthermore, question order needs to be standardized from respondent to respondent if the interviews are to be comparable.

4. From time to time, when you need to ask a series of apparently similar questions, the respondent may ask “Just put down “yes” to all of them.” In such cases you may wonder
whether you should skip the questions that are apparently answered. The answer is, you should not. The respondent should be asked all the questions. Do not however, waste time asking the respondent in-applicable question e.g. if he/she says that he/she has no livestock no further questions on livestock should be asked.

3.4 Probing and Other Interviewing Techniques

3.4.1 Introduction

1. One of the most challenging and important aspects of the Enumerator’s work is getting the respondent to answer the question that was asked. If your respondent gives you an incomplete or irrelevant answer, or if he/she misunderstands the question, or if you do not understand his/her answer, or if he/she loses track of the question and gets to another topic, it is your responsibility to get him/her back on track through careful, neutral techniques.

2. The quality of the interview depends a great deal on the Enumerator’s ability to probe and use these techniques successfully.

3. Probing has two major functions:
   
   (i) It motivates the respondent to communicate more fully so that he/she clarifies or explains the reason behind what was said.
   
   (ii) It helps the respondent to focus on the specific content of the interview so that irrelevant and unnecessary information can be avoided.

4. Some respondents have difficulty in putting their thoughts into words. Others may give unclear or incomplete answers and still others may be reluctant to reveal their attitudes because they feel that they are socially unacceptable. The Enumerator must deal with such factors and use procedures, which encourage and clarify response.

3.4.2 Kinds of Probes

1. When the respondent does not seem to understand the question, when he/she misinterprets it, when he/she seems unable to make up his/her mind, or when he/she strays from the subject, you should repeat the question. The most useful technique is to repeat the question just the way you had put it or as it is written in the questionnaire.

2. The simplest way to convey to a respondent that you know he/she has begun to answer the question, but that you feel he/she has more to say, is to be silent and make an expectant pause. The pause – often accompanied by an expectant look or a nod of the head – gives the respondent time to gather his/her thoughts.

3. In probing, it will sometimes be useful to appear slightly puzzled by the respondent’s answer and intimate with your probe that it might be you who failed to understand. For example “I’m not quite sure I know what you mean by that – could you tell me?” This technique can arouse the respondent’s desire to co-operate with someone whom he/she thinks is trying to do a good job. It should not be overplayed, however, or the respondent will get the feeling that you do not know when a question is properly answered.

4. Occasionally, a respondent will give an “I don’t know” answer. This can mean any number of things for instance:
   
   (i) The respondent does not understand the question and answer, “don’t know” to avoid saying he/she does not understand.
   
   (ii) The respondent is thinking the question over and says “don’t know” to fill the silence and to give himself/herself time to think.
   
   (iii) The respondent may be trying to evade the issue, or he/she may feel that the question is too personal and does not want to hurt the Enumerator’s feelings by saying so in a direct manner.
   
   (iv) The respondent really may not know, or may not have an opinion or attitude on the subject or the requested responses.
5. If the respondent actually does not have the information that you request, this in itself is significant in the UCA data. It is your responsibility to be sure that this is in fact the case, and not a mistake “I have no opinion on that” for “Wait a minute, I’m thinking.” A repetition of the question, an expectant pause, a reassuring remark or a neutral probe will encourage the respondent to reply.

3.5 Controlling the Interview

1. While it is important to maintain a pleasant and courteous manner in order to obtain the respondent’s co-operation, the Enumerator must also be able to control the interview so that it may be completed in a speedy and orderly fashion. In this situation you must be able to bring the discussion to a close as soon as possible so that the interview may continue. Politely tell the respondent that you understand what he/she is saying but you would like to complete the interview. If necessary you may try to postpone any outside discussion by saying “Okay, let’s finish this interview and we can talk about that later.”

2. In some cases, the respondent may start to provide information about some aspect of his/her holding, which is covered in a later portion of the interview. Again, you must control the interview by telling the respondent that you will ask the questions on that particular aspect.

3. When you have completed an interview, be sure to thank the respondent. Let him/her know that he/she has made a contribution to the success of the UCA. You might say something like this:

   (i) Thank you very much for your co-operation
   (ii) Sir/Madam ….. You have been most helpful.

4. Depending on which form you have finished, indicate that you may return for more information which will enable you to have less explanation to give in case you return.
4. GENERAL CONCEPTS AND DEFINITIONS

4.1 Introduction

1. This chapter will introduce the general concepts and definitions to be used throughout the fieldwork. It is very important that you clearly understand the contents of this chapter.

4.2 Enumeration Area (EA)

1. This is an area in which the data collection activities will take place. You will work in four (4) EAs which will be shown to you by the Districts Supervisor. Each EA will be assigned a unique number as used in the Population and Housing Census (PHC) 2002.

4.3 Household

1. A definition of a household is provided below:

   A Household is defined as a group of persons who normally eat and live together. Very often the household will be a family living in the same house or compound and eating together. A household will normally consist of a man, his wife and children and sometimes relatives, maids and visitors.

   If two or more groups of persons, each of which has its own separate eating and housekeeping arrangements, live in the same dwelling, treat them as separate households.

   If a man has two or more wives and their children live and eat together, they form one household. If the wives and their children live and eat separately, they will form more than one household. The husband is the Household head in each of these households.

   A household may consist of one person who lives and eats on his or her own.

   A household may consist of several persons who are not related to each other. What matters is that they live together in the same household or compound and eat together.

   People who are on duty on the day of listing for the UCA should be counted as a part of their households. Examples are night watchmen, police on night duty, night swift workers, fishermen who were out all night and similar people.

   Source: Population and Housing Census (PHC) 2002 – Enumerator’s manual

2. The definition of household given above refers only to private households. Some people do not live in private households but in institutions. For purposes of the UCA, you are not supposed to deal with persons living in institutions, such as educational institutions, medical institutions or military and other security forces institutions.

4.4 Head of Household

1. The head of household is the member of the household 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 authority and responsibility for household affairs.

4.5 Sex

1. Usually the person’s sex will be clear to you from the name and relationship but if you do not know, ask. Do not automatically infer the sex of a person from the names as some names which may sound as for males can in fact turn out to be for females and vice versa. Further, some females may use names of their fathers, grandfathers or husbands. Be particularly careful to get the sex of infants right.
4.6 Age

1. This is the time interval between birth date and the enumeration date expressed in complete years. A person who, for example, is 25 years and 11 months is recorded as 25, while an infant under one year of age is recorded as 00.

2. The question of age is often difficult to answer. Many people neither know their date of birth nor their age. In such cases, probing (see section 3.4 above) is necessary to estimate the date or period of birth so as to estimate the age.

3. The best source of information would be birth, immunisation or baptismal certificates. Ask to see any of such documents if they are available, and use them.

4. Some people may not know their age but may know when (period) when they were born. Ask *when was this person born*. If the age is not known but the year of birth is given, then you will compute the age of the person. If the person has already had her/his birthday, subtract the year of birth from the current year (2008) other wise, subtract the year of birth from last year (2007).

5. One reliable age in the household may help you work out the birth dates of other members of the household if it is known whether they are older or younger, and by how many years. Probe this to get the various ages.

6. If all else fails, make the best estimate you can, basing on such things as the person’s appearance and position in the household and by using common sense. Knowledge that parents are seldom younger than fifteen years of age when their first child is born, that women do not usually bear children below the age of twelve or over fifty years, that people who were in the same class at school are generally similar in age and so on.

7. Local historical events may also help to determine a person’s age.

4.7 Respondent

1. This is the person from whom information is being obtained, e.g., head of the household or holding.

4.8 Usual Members of Household

1. These are people who have been living in the household for six (6) months or more during the last 12 months. Members who have come to stay in the household permanently are to be included as usual members even though they have lived in the household for less than six (6) months, e.g., newly married persons. Children born to usual members will be regarded as usual members. Usual members may be absent or present at the date of enumeration.

4.9 Agricultural Household or Holding

1. This is *an economic unit of agricultural production under single management* comprising all livestock kept and all land used wholly or partly for agricultural production 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. In the literature, the terms *Agricultural Household* and *Holding* are used to refer to the same thing. However, in the UCA, the term *Holding* shall be used.

2. A holding may consist of one or more parcels (defined in 4.16) 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 drought animals. The requirements of sharing the same production means should be fulfilled to a great degree to justify the consideration of various parcels as components of one economic unit.

3. In the case of a family which lives together and shares meals, all plots cultivated by those household members will constitute one holding. On the other hand, if part of land is cultivated by relatives who live separately, even though they share work on the land, each of them will normally know which plots belong to them. In this case, the total area is not a holding, but several holdings, depending on the number of persons having claim to the plots in question.

4. Some of the area of the holding may be cultivated, fallow, under forest trees, belonging to the holder or may be wholly and partly used for grazing livestock.

5. The following points will assist in getting the concept of holding clearer:
   (i) There are holdings that do not have a significant area, e.g., poultry or pig units or hatcheries for which much land is not absolutely necessary.
   (ii) There are holdings that may be operated by holders who have another occupation in addition to being holders.
   (iii) There may be holdings that may be operated jointly by two or more individuals.
   (iv) Land which is open to communal grazing is not considered a holding.

6. In order to assist in differentiating between a Household and Holding, it should be noted that the Household is a socio-economic arrangement while the Holding is for production purposes.

**4.10 Holder**

1. The holder 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.

**4.11 Agricultural Season**

1. 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.

2. 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.

3. Some areas in Uganda have only one significant agricultural season.

4. For purposes of the UCA 2008/09 data will be collected for the second season of 2008 i.e. July – December 2008, with some forms being administered during January/February 2009. In addition data will be collected for the first season of 2009 i.e. January – June 2009 with some forms being administered during July/August 2009.

**4.12 Temporary Crop**

1. These are crops with a growing cycle of less than 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 specialized cultivation of vegetables, flowers, bulbs and market gardens should also be included in this category.

4.13 Permanent Crop

1. These are crops which occupy the areas 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.

4.14 Pure Stand

1. This is a single crop cultivated alone in a plot. A pure stand crop can be either temporary or permanent.

4.15 Mixed Stand

1. Different crops cultivated simultaneously on the same plot can cause difficulties in ascertaining the proportion of the total plot area occupied by the component crops.

2. Crops are said to be grown in mixed stand if two or more different temporary and/or permanent crops are grown in the same plot. The number, kind and proportions in the mixture will generally be according to prevailing practices or to other factors such as soil, rainfall and other weather conditions.

4.16 Parcel

1. A parcel is any piece of land that is part of the holding, but is entirely surrounded by other land, water, a road, forest, etc, not forming part of the holding. This implies that a parcel is part of a holding that is physically separate from other parts of the holding. A holding is made up of one or more parcels.

4.17 Plot

1. A plot is defined as a piece of land within the holding on which a specific crop or a crop mixture is grown. A parcel may be made up of one or more plots. A plot is similar to a Field.

2. For both the parcels and plots, the land rented in, is added while the land rented out is excluded. The different arrangements for renting land are shown in Form 4, Qn.21 column 5.

4.18 Total Holding Area

1. Total holding area is the area of all parcels that is operated by the holder within the same Enumeration Area. 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 in the holding.

2. The holding area includes land under crops and pastures as well as land occupied by farm buildings. Land area of the holder's house is also included in the total holding area if the house is not located outside the holding (e.g., a house for residential purposes in a village or town) and is not used solely for residential purposes.
3. The total area of a holding practising shifting cultivation should include area under crops during the reference period and areas prepared for cultivation but not sown or planted at the time of enumeration. It should exclude land abandoned prior to the reference period. Holders having access to communal grazing land should not include their estimated share of such land in their total land area. The total holding area should be equal to total land under various uses.

4.19 Land Utilisation

1. The recommended broad categories of land utilization in international nomenclatures are:

   (i) Arable land
   (ii) Land under permanent crops
   (iii) Land under permanent pastures
   (iv) Wood or forestland
   (v) All other land

4.19.1 Arable land refers to all land generally under rotation whether it is under temporary crops, left temporary fallow or used as temporary pastures. Total arable land may be divided into four classes:

   (i) Land under temporary crops
   (ii) Land under temporary pastures
   (iii) Land temporarily fallow
   (iv) All other arable land

(i) 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 specialized cultivation of vegetables, flowers, bulbs and market gardens should also be included in this category.

(ii) 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.

(iii) 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 which would determine its inclusion in other major land uses groups. A maximum period of idleness is therefore defined, being less 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.

(iv) 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.

4.19.2 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.

4.19.3 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.

4.19.4 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”

4.19.5 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

4.19.6 Agricultural land/Crop land 
This is defined as the sum of arable land, land under permanent crops and land under 
permanent pastures.

4.20 Modes of Land Tenure

1. These are the arrangements or rights under which land is operated on the day of 
enumeration. According to the Land Act 1998, there are four (4) types of land tenure 
systems in Uganda namely: Customary, Freehold, Mailo and Leasehold.

4.20.1 Customary

1. Is a form of tenure:

   (i) Applicable to a specific area of land and a specific class of persons;
   (ii) Applying local customary regulations and management to individual and household 
        ownership, use and occupation of, and transactions in, land,
   (iii) Providing for communal ownership and use of land;
   (iv) In which parcels of land may be recognised as sub-divisions belonging to a person, a 
        family or a traditional institution; and
   (v) Which is owned in perpetuity

2. Most tenants with titles will know the exact modes. However, it is common for tenants 
without titles themselves to state that they are on freehold, mailo or leasehold, depending on 
the mode of tenure of the landlord. These should be recorded as “customary” unless the 
titles are in the names of the respondent.

4.20.2 Freehold

1. This is a type of tenure which:
   (i) involves the holding of registered land in perpetuity or for a period less than 
       perpetuity which may be fixed by a condition,
   (ii) enables the holder to exercise, subject to the law, full powers of ownership of 
        land, including but not necessarily limited to:
(a) using and developing the land for any unlawful purpose;
(b) taking and using any and all produce from the land;
(c) entering into any transaction in connection with the land, including but
not limited to selling, leasing, mortgaging or pledging, subdividing,
creating rights and interest for other people in the land and creating
trusts of the land; and
(d) disposing of the land to any person by will.

2. At the advent of land-titling, freehold titles were mostly given to schools and churches.

4.20.3 Mailo

1. This is a form of tenure:
   (i) involves the holding of registered land in perpetuity
   (ii) permits the separation of ownership of land from the ownership of
developments on land made by a lawful or bona fide occupant and,
   (iii) enables the holder, subject to the customary and statutory rights of those
persons lawful or bonafide occupation of the land at the time that the tenure
was created and their successors in title, to exercise all the powers of
ownership of the owner of land held of a freehold title.

4.20.4 Leasehold

1. This is a system of land ownership whereby:
   (i) created either by contract or operation of law;
   (ii) the terms and conditions may be regulated by law to the exclusion of any
contractual agreement reached between the parties;
   (iii) under which one person, namely, the landlord or lesser grants or is deemed to
have granted another person namely the tenant or lessee exclusive possession of
land usually but not necessarily for a period defined, directly or indirectly, by
reference to a specific date of commencement and a specific date of ending;
   (iv) usually but not necessarily in return for a rent which may be for a capital sum
known as a premium, or for both rent and a premium, but may be in return for
services or may be free of any required return;
   (v) under which both the landlord and tenant may, subject to the terms and
conditions of the lease and having due regard for the interest of the other party
exercise such of the powers of a freehold owner as are appropriate and possible
given the specific nature of a leasehold tenure.

4.20.5 Squatters

1. This is a situation where the holder is operating private or public land without any
clear ownership and/or permission of the owner. It is very common with people in
gazetted game reserves, forests, swamps and sometimes other persons land

4.21 Minimum Areas

1. There are many cases of very small holdings, parcels and plots. So, often
minimum areas to be recorded are set. However, for purposes of the UCA, no
minimum size has been set for the holding area. Similarly, no minimum areas of
parcels and plots have been set. The issue will be discussed further during the
training. Clearly for plots, scattered crops or crops grown on boundaries of other crops shall not be considered as plots.

5. SAMPLING OF HOLDINGS WITHIN THE ENUMERATION AREA

5.1 Stratification

1. During the listing exercise, the Enumerator using UCA Form 1:Listing Module, will identify the household based holdings and classify and sort them into Small Scale/Medium Scale holdings, on the one hand, and Private Large Scale holdings on the other hand. Serial numbers will then be added to the two categories of holdings in the appropriate columns on the UCA form 1: Listing Module column 17 and 18 respectively.

2. Small/Medium Scale holdings should be listed and serially numbered 1, 2, 3, …N in column 17, leaving column 18 open for the lines where Private Large Scale holdings occur.

3. The main criteria for deciding upon the cut-off level between large scale, medium scale and small scale holdings will for the UCA be (i) the type of management (own labour/hired labour) and (ii) degree of production for consumption in own household (subsistence) versus production mainly for sale (market oriented).

4. Both small and medium scale holdings should to a large degree be based on the household’s own labour. The large scale holdings are those characterized by mainly hired labour as well as marketed and sales orientation of the production. In addition to the socio-economic criteria, a set of criteria based on physical size of agricultural/crop land is introduced as shown in the Table 5.1 below.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size class</th>
<th>Socio-economic criteria</th>
<th>Production size criteria</th>
<th>Production/organization type criteria</th>
</tr>
</thead>
</table>
| 1    | Small scale holding | • Production mainly for own consumption  
• Mostly own household labour  
• Little or no improved technology | < 10 acres of cropland |  |
| 2    | Medium scale holdings | • Production mainly for sale (>= 50 percent for sale)  
• Some hired labour (hired labour = 1 yes)  
• Some improved technology  
• “Progressive farmer” | >= 10 and < 50 acres of cropland | Institutional farming (Prisons, Army, School, Research etc)  
Registered in the Uganda Business Inquiry 2002  
Rancher  
Specialized horticulture  
Green house production  
Flower production |
| 3    | Large scale holdings | • Commercial production  
• Mostly hired labour  
• Significant use of improved technology | >= 50 acres of cropland |  |
5.2 Sampling
1. A total of 10 holdings per EA should be selected for further interviews from the list of the small/medium scale holdings in column 17 of UCA Form 1: Listing Module. Large-scale holdings will be covered in a separate questionnaire (UCA Form 6: Private Large Scale and Institutional Farm) on a complete enumeration basis by the District Supervisor (s).

2. In order to have a good spread of the selected holdings across the EA, a selection procedure called Systematic Sampling will be adopted. National Supervisors from UBOS/MAAIF together with the District Supervisors will sample for the Enumerators.
6. AREA MEASUREMENT AND CALCULATION

6.1 Introduction

1. One of the most important factors for production used in growing crops, raising livestock or any other farming activity, is land. The pattern of Land-Use usually varies by seasons or by different regions of the country. Thus, accurate data on area used for agricultural purposes is an important aspect of agricultural planning.

2. Total land operated by the holder (i.e. the agricultural holding) is a crucial variable for the analysis of agricultural data. The area of a holding may vary from time to time. A holder may sell or leave part of his/her holding or he/she may buy or rent from others.

3. At any time the holder has the option to fully or partially utilise the holding. Thus the proportion of the holding under crop also varies from season to season or from year to year. Since production can be estimated as a product of Yield and Area, there is definite relationship between area planted and amount of crop harvested. The product can easily be computed in the case of crops are grown in pure stand. The problem is however quite complex if crops are in mixed stand.

6.2 Area to be Measured

1. The area to be measured is limited to that one within the selected EA and includes:

   (i) The area of parcels and plots under various crops.
   (ii) Pasture land.

2. The area of the holding will be obtained by measuring separately each of the holder’s parcels (and then the respective plots.)

3. The area occupied by farm buildings and residential buildings on the farm in which the household lives should be measured as a separate parcel (or as a plot within a bigger parcel). These areas should be identified/coded as “farm houses etc”.

4. When you are through with the parcel measurements, you repeat the same procedure for the crop-plot areas to be measured. Those include only:

   (i) Plots under crops
   (ii) Plots under fallow land
   (iii) Plots under farm buildings etc
   (iv) Planted pasture

Bush, swamps, pasture, forest etc will not be measured as plots.

5. Make sure that you identify each crop plot and land under fallow by crop name as well as include it in the sketch of the parcel. This will facilitate identification of the plot for subsequent visits.

6. If in a plot a sizeable part (e.g., more than 0.01 hectares) is left unplanted, it should be treated as a “patch left unplanted”. It will be deducted from the area of the plot. This deduction should not be made if the patch has been planted in the agricultural season, but the crop has failed or already been harvested – for temporary crops. Patches in the plot left unplanted should be measured after the measurement of the whole plot.
6.3 Measuring Unit

1. Land area will be measured with a Global Positioning System (GPS) device and recorded as hectares with one place of decimal in UCA Form 4: Crop Area Module.

2. Experience shows that the GPS device does not take accurate readings when it comes to very small plots. To overcome this short-coming, pacing will be adopted as explained below. UCA Field Staff will be instructed on how to pace and ultimately convert the paces into hectares.

<table>
<thead>
<tr>
<th>Conversion of area measure units:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 acre ≈ 4000 m² ≈ 0.4 hectares</td>
</tr>
<tr>
<td>1 hectare = 10,000 m² = 2.5 acres</td>
</tr>
</tbody>
</table>

3. It is expected that the holder will normally give his/her area estimates (Farmer’s/holder’s Estimate) in acres and fractions of acres. Fractions must be converted to decimals by the Enumerator before recording them on the questionnaire.

6.4 Equipment/items for Area Measurement

6.4.1 Necessary equipment/materials for area measuring

1. When conducting area measurement, the Enumerator will have the following tools available:

   (i) A GPS device
   (ii) A notebook/pen
   (iii) The UCA Form 4: Crop Area Module Characteristics and Measurement

6.4.2 The GPS Device

1. There are many models of GPS devices. However, in the UCA we will use a GARMIN 76 Series hand-held GPS device. A GPS is in principle a high precision digital watch combined with a signal receiver. It is equipped with AA batteries/cells, and only these batteries/cells must be used. The District Supervisor (DS) will be responsible for timely replacing the discharged batteries/cells. The GPS device should be handled with great care switched off and stored in a safe place when not in use.

2. The Enumerator will carry out area measurements on all parcels constituting selected holdings, using on a GPS device.

6.5 Making a Sketch - Map

1. The area to be measured be it of parcels or plots will be in different shapes and sizes. The first thing to be done, with the help of the respondent, is to survey and sketch the areas to be measured by going around them in order to determine the number of sides and angles. An identification number should be allocated to each parcel, plots etc. roughly drawn on the sketch. These identification numbers should also be filled in the measurement forms. The holder’s/farmer’s area estimate for each parcel should be filled in UCA Form 4 while this first mapping/inspection is conducted.

2. Make the sketch-map as follows:

   (i) With the assistance of the respondent, the Enumerator will start by walking around the parcel to establish its boundaries as well as the number of plots which constitute it.
   (ii) Draw a sketch map (for each of the parcels) showing the plots and boundaries on it. This will be drawn in a counter book provided. Add demarcations of some
easily recognizable points/elements such as road, farmhouses, big tree or stream etc. for purposes of easy retracing of parcels/plots boundary should a need arise in future.

(iii) Assign each parcel and each plot a unique serial number starting from 1 and 01 respectively.

(iv) Parcel and plot identification numbers should be carefully transferred to UCA Form 4: Crop Area Module. This will ensure that Supervisors can easily identify a required parcel/plot and take the necessary action.

(v) An X for demarcation of reference point (Ref. point) where coordinates are recorded with a GPS-device, should be added on the sketch map in the counter book (preferably at the entrance of the holdings main dwelling house if this exists on the holding). The coordinates of the entrance will be recorded in Form 4.

(vi) Instructions for use of GPS device for taking the X Reference Point at the Holder’s House mentioned in step (v) above are as follows:

**Step 1:** Press and hold ENTER key until the Mark Waypoint page displays. The Location \((N,E)\) and Elevation \((\text{m})\) are displayed on this page.

**Step 2:** Press MENU key and accept Average Location by pressing ENTER key, and wait for Measurement Count = 20 and Save by pressing ENTER key again, read the coordinates and record them in the questionnaire.

(vii) Add a line at the bottom of the sketch indicating the approximate map-scale.

**Draft example map:**

3. Remember that the main purpose for this sketch is to plan for later area measurement and to make it easier for yourself and other persons to find the correct holding, parcel(s), plot(s) and sub-plot(s) and their boundaries at a later stage.

4. The measurements will be carried out in the following sequence for both parcels and crop plots (except in the case of very small plots where pacing will be used):

(i) The Enumerator should ask the respondent to provide the estimate of the parcel area and record the answer in UCA Form 4 in acres (the conversion is given in paragraph 2,
(ii) Thereafter, the Enumerator will measure the parcel(s) using the GPS device and record the area in UCA Form 4 (Qn. 21), following exact serial numbering as recorded in the counter book.

(iii) The last step will be for the Enumerator to measure the crop plots using the GPS device.

(iv) For very small plots (say 10 x 10 metres), the Enumerator will pace and record in hectares.

5. The District Supervisor will be the first officer to cross check some randomly selected parcels and plots by each Enumerator by measuring, using the GPS device. UCA Forms which will have been filled and signed by the Enumerator, checked and signed by the DS, will in turn be randomly selected and verified for accuracy by the National Supervisors.

6.6 A guide to a respondent in making area estimate for a parcel

1. For parcels outside the EA, the Enumerator will ask the holder for an estimate of the parcel area in the measuring unit the holder is familiar with. If the holder is able to give the area of the parcel, perhaps using some local unit of measure, such as "Kipande", the use of this unit should be specified in the in the counter book. Calculations to convert these units into hectares should be carried out and the area (in hectares) recorded in UCA Form 4.

2. You must ensure that any local units are given in terms of area. For example, the respondent says the parcel is 50 Bipande x 100 Bipande; you should take practical steps and determine the length of a Kipande; supposing it is 5 meters. The equivalent area in M² is 12,500 (i.e. (50x5) x (100x5)). In terms of hectares, this is 1.25 (i.e. 12,500/10,000) which should be recorded appropriately in UCA Form 4. If the holder reports the area in fractions, those have to be converted into decimal points. For instance, if a holder says he has a holding ¾ of a hectare, the number to be entered in the relevant form is 0.75 hectares (0.8ha).

3. If the holder has some title to the land, they will most probably know the exact area of the land.

4. The following guidelines could be of help for the estimation of areas:

(i) An acre is a measure on the ground of approximately 70 yd x 70 yd (or 64m x 64 m) or half a standard football field.
(ii) By casually walking round a square of 50 steps by 50, one covers an area of approximately ¼ (or 0.25) of an acre (or 0.1 hectare)
(iii) An area measuring 22 yd x 22 yd (or 20.1 x 20.1 meters) covers 0.1 acres (0.04 hectares)
(iv) An area measuring 11 yd x 11 yd (or 10 x 10 meters) covers 0.03 acres (0.01 hectares)
(v) Any area less than 11 yd x 11 yd (or 10 x 10 meters) should be recorded as 0.03 acres
6.7 Area Measurement by using GPS Device

1. When the parcels and crop-plots identification and the holder’s/respondent’s estimates for parcel sizes are registered and filled in for the UCA Form 4 and a sketch map of the holding is drawn, the parcel and plot(s) area should be measured by using a GPS device.

2. The area to be measured is found by using the sketch map, and then walking clockwise the perimeter (outline) of each parcel and plot with the GPS device active. The area of each parcel and plot is generated by the GPS device as shown in “Track Information Page: Area Option” and calculated directly in acres, however the value should be corrected to two decimals.

3. The GPS device makes it possible to find the geographical position on the earth surface by longitude and latitude (decimal degrees). The position is determined by continuously measuring the time that a signal uses to reach from satellites in the sky to the signal received by the GPS device on the earth surface.

4. Clear signals from at least four satellites are necessary to calculate the geographical position with reasonable accuracy. The better sight to the sky the GPS device has, the clearer and more signals are received. Shadows of trees, buildings etc should be avoided while using the GPS device in the field. A lot of clouds may also affect the GPS readings.

5. **Step by step instructions for use of GPS device for area measuring:**

   **Step 1:** Go to the starting point of the parcel/plot you will measure, and mark this point temporarily on the ground by fixing a peg.

   **Step 2:** Turn on the GPS device by pushing and holding (for approx. 1 to 2 second) the START key (with a read bulb symbol on the right of the interface keys as shown).
Step 3: The GPS device will be turned on, but then wait for it to process through the following pages:

Process 1  
Process 2  
Process 3

Step 4: Now, press the MENU key twice to display the main menu window.

Step 5: Use the ARROW key to move to the System Info option and press ENTER to display the GPS device number.

Step 6: Record the Unit ID: in your notebook and select OK and press ENTER (Please report the number to the District Supervisor latter).

Step 7: Use the ARROW key to move to Setup and ENTER, which displays the General page, and select the following options (Battery Saver, Disabled, 15 seconds, Key and Message, English):

Step 8: Use the ARROW key to move to Altimeter page and select the following options (On, On, Millibars, Variable Elevation):

Step 9: Use the ARROW key to move to Compass page and select the following options (On, 6, 1 1/2 Minutes):
Step 10: Use the ARROW key to move to **Time** page and select the following options (12 Hour, Other, _, +03:00, [Date], [Time]):

Step 11: Use the ARROW key to move to **Units** page and select the following options (Meters, msec, Metric, Celsius, Numeric Degrees, Auto):

Step 12: Use the ARROW key to move to **Location** page and select the following options (hddd.ddddd°, WGS84, True, _)

Step 13: Use the ARROW key to move to **Alarm** page and select the following options (Off, Off, Off, Off, Off):

Step 14: Use the ARROW key to move to **Interface** page and select the following options (GARMIN):

Step 15: Press QUIT key and use the ARROW key to move to **Tracks** and press ENTER key, followed by MENU key, and finally move to **Setup Track Log**

Step 16: Press ENTER key and select the following options (Wrap When Full, Time, 00:00:10), and press ENTER at OK.

Step 17: Use the ARROW key to move to the display [Date] track log and select the track and press ENTER key to select it, and Delete it.
Step 18: Check again by moving to **Clear** and press ENTER key, move to **Yes**, and press ENTER key to clear the track log, i.e. Track Log should read **0% Full** before starting area measurements.

Step 19: Press MENU key to return to the screen in Step 16. At this moment wait for at least 10-20 seconds at the start point i.e. at the pegged reference point, and then move gently around the parcel/plot keeping the GPS in front and away from your body with the antenna upwards. Walk the perimeter of the actual parcel/plot clockwise slowly and taking approximately 10-15 seconds rest at each major corner point (to enable the GPS to “catch up”). When you are back to the marked starting point, wait for yet again 10-15 seconds and then follow the steps below to obtain the GPS calculated area of the parcel or plot.

Step 20: Use the ARROW key to move to **Save** and press ENTER key, use ARROW key to move to **Entire Log** from the drop-down menu that pops-up, and press ENTER key.

Step 21: Read the **Area** which is in 6 decimal places and record the Area corrected to 2 decimal places in your notebook and questionnaire, i.e. should be recorded as 0.32.

6.8 Procedure for Area Measurement by Pacing

1. The enumerator would require measuring his/her pace length (pacing coefficient) which is calculated by following the procedure below:

   (i) Using a tape measure, mark a distance of 100m on the ground.
   (ii) Pace normally along the 100m. Repeat the procedure three times so that you can get the average number of paces by dividing total number of paces by three:
       \[ P_N = \frac{(d1+d2+d3)}{3} \]
   (iii) To get the pacing coefficient \( P_C \): Divide 100m by the average number of paces \( P_N \).
       \[ P_C = \frac{100}{P_N} \] (rounded off to the nearest 0.05)
       e.g. if \( P_C = 0.73 \) (= 0.75 to the nearest 0.05)

   Exercises will be carried out during the training.

2. On arriving at the plot, the Enumerator should enter the following information on Form 4 questionnaire/recording form.
   - i) Crop name(s) if the parcel is not subdivided into plots
   - ii) Plot number
   - iii) Name or names of crops grown in the plots and codes

3. Go around the plot to get a rough idea of the shape of the plot, sketch the plot/parcel at the back of the questionnaire showing its shape. Approximate the plot to a regular shape such as a rectangle or a square using ‘give away’ and ‘take in’ method (commonly
referred to as ‘**give and take**’). The portion of the plot ‘given away’ should be approximately equal to the portion ‘taken in’. Show the approximation on the sketch.

**Example:** Below is an irregular land, which has been made regular by ‘giving away’ and ‘taking in’ some portions of the field:

![Sketch of Parcel/Plot](image)

It should be noted that approximating an irregular field to a square could increase errors when it is supposed to be a rectangle.

**If a plot is T or L - shaped, divide it into subplots and number them.**

4. The Enumerator paces normally along the length and width of the field counting and noting down the number of paces.
5. Convert the paces to meters using the pacing coefficient and a Ready Reckoner below. The distance in metres is equal to the intersection of the pacing coefficient and the number of paces.

For example: Let the pacing coefficient be 0.7 and the number of paces 38.

Using Annex 2, the distance in metres = 27 metres.

6. If the shape of the plot is rectangular, calculate the area in square metres by using Area \((A) = \text{Length} \times \text{Width}\) (square metres). Square metres are converted to hectares by dividing by 10,000.

7. Go to the next plot operated by the selected household and repeat the above procedure using a new sheet of questionnaire and enter the following information:
   i) Identification
   ii) Details of area measurement distances and
   iii) Sketch of parcel/plot

8. Follow the same procedure until all parcels/plots operated by the selected household are completed.

9. **Sketches of Parcel/Plot**

   Observe closely the general shape of the field and draw a rough sketch using your own judgment. Use a counter book.

10. **Summary of Area Measurement**

    10.1 The summary is by crop, holding, parcel and plots within a sub-sample.
10.2 Check that the following details have been recorded in the questionnaire

(i) crop name
(ii) parcel number
(iii) plot number and
(iv) the area cropped in square metres.

10.3 For each holding:

(i) cover all the plots in which the crop was grown
(ii) go to the next parcel and list all the plots under that crop
(iii) when all the parcels under that crop for a holding have been covered go to the next holding and repeat above procedures.

10.4 Repeat this process for all the other plots including those under fallow.
7. PRODUCTION ESTIMATES

7.1 Introduction
1. Reliable estimation of annual production of food crops and other agricultural commodities is 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.

2. A number of methods for estimation of crop production exist, for example:
   (i) Interviewing the Holder,
   (ii) Crop-cutting/weighing on sub-plots and,
   (iii) Weighing of produce from the entire plot (can be once for crops like rice, or several times for continuously harvested for crops like sweet potatoes), and
   (iv) Recording using a crop card

3. For purposes of the UCA 2008/09, ‘Interviewing the Holder’ method will be adopted. From earlier experience with surveys and censuses, it was established that if the frequency of visits to the Holder is increased, the quality and accuracy of production data will be high. This is true because memory lapse is substantially reduced. In the case of the UCA 2008/09, the Enumerator will fill UCA Form 5: Crop Production Module, shortly after harvesting of a given crop.

7.2 Crops to be Covered
1. Interviews will cover all crops grown on the holding during the second season of 2008 (July – December) and the First season of 2009 (January–June). This includes also cocoa, tea, cotton, tobacco, flowers and other typical cash crops for which it is expected that the farmer will be able to give reasonably accurate estimates.

2. A complete list of crops and crop-codes is annexed to this manual. (Annex 4)

7.3 Measuring Unit
1. Many holders in Uganda are expected to have a fairly good idea on quantities of the crop they produce, even if they normally do not keep farm records. However, when it comes to compiling information for statistical purposes, the holder’s estimate may be difficult to use due to the absence of standard measurement units. If guided on the use and conversion of various measurement units, experience shows that holders can give fairly accurate estimates. A number of countries in Africa have thus applied this method for collection of agricultural statistics.

3. The holder should estimate his/her harvest in measurement units he/she is familiar with. These measuring units will vary with kind of crops, districts, traditions etc. The Enumerator is requested to take note on the measurement units used locally and convert these units into kg and fill in UCA Form 5: Crop Production Module.

7.4 Conversion Factors
1. In Uganda, crops are grown and harvested almost continuously. When production estimation is made, the Condition of the crop has to be given, i.e., whether wet or dry. Obviously, there is a complication as there are bound to be various stages of wetness or dryness. The State of the crop is also required. This indicates whether the crop is in shell, without shell, with stalk, without stalk, or in the cob/head. Thus, there are a number of combinations and in all these situations, conversion factors to some standard condition and state are needed for each crop. Thus, identification is needed of the most common states of each crop. These seem to vary by district.
2. This means they are in different conditions and states. As the data has to be given in one final or standard condition and state, Conversion factors are required to convert to this standard condition and state.

3. Similarly, the holders harvest and sell the crops in different weights and measures, e.g. sacks, tins, basins, heaps, etc. For example, coffee, maize, beans are normally measured in sacks or tins, bananas are measured in bunches or clusters, while sweet potatoes may be measured in baskets, tins or heaps. These also need to be converted to the standard weights and measures, often kilograms or tonnes, in order to add them up.

4. UBOS has done some work to draw up some of the conversion factors. Tables for codes which will be used to convert the different conditions and states plus the weights and measures are given in Annexes 1 and 3, respectively. These will be up-dated, where necessary, with the assistance of the supervisors.

7.5 Crop Disposition

The total production of a crop is put to different uses including: home consumption, sales, animal feeds, given away to relatives and friends, payments in kind, stored for future use, seeds, losses, etc. An attempt will be made to identify these in Module 5.
8. HOW TO FILL IN THE FORMS

8.1 UCA 2008/09 Forms and Sections

1. The following six (6) forms were designed for use by the Enumerator:
   - **UCA Form 1: Listing Module**
     - Section 1.1: Enumeration Area Identification Particulars
     - Section 1.2: Listing Summary
     - Section 1.3: Staff Details and Survey Time
     - Section 1.4: Listing of all Households and Holdings in the EA

   - **UCA Form 2: Agricultural Household and Holding Module**
     - Section 2.1: Identification Particulars
     - Section 2.2: Household Member Characteristics
     - Section 2.3: Utilization of land on the Holding
     - Section 2.4: Agricultural Technology and Extension Services
     - Section 2.5: Sources of Agricultural Information
     - Section 2.6: Access to Facilities
     - Section 2.7: Means of Transportation
     - Section 2.8: Storage Facilities
     - Section 2.9: Access to Credit
     - Section 2.10: Irrigation System
     - Section 2.11: Other types of water management practices
     - Section 2.12: Holding exposure for flooding/water retention
     - Section 2.13: Land Tenure System of parcels
     - Section 2.14: Number of tree crops
     - Section 2.15: Agricultural Inputs
     - Section 2.16: Agricultural Equipment
     - Section 2.17: Labour Input
     - Section 2.18: Livestock
     - Section 2.19: Aquaculture
     - Section 2.20: Api-culture (Bee Keeping)
     - Section 2.21: Forestry
     - Section 2.22: Household food security
     - Section 2.23: Other Economic Production Activities
     - Section 2.24: Sources of Household Income
     - Annex 1: Codes for activity status and education.

   - **UCA Form 3: Community Module**
     - Section 3.1: Identification Particulars
     - Section 3.2: Enumeration Particulars.
     - Section 3.3: Land use
     - Section 3.4: Food shortage and disasters
     - Section 3.5: Community Infrastructure and Services
     - Section 3.6: Any Other Issues

   - **UCA Form 4: Crop Area Module**
     - Section 4.1: Identification Particulars
     - Section 4.2: Area characteristics.
     - Annex 1: Crop Codes

   - **UCA Form 5: Crop Production Module**
     - Section 5.1: Identification Particulars
     - Section 5.2: Disposition of crops (within EA) During Reference Year
     - Section 5.3: Production and disposition of crops (Outside EA)
     - Annex 1: Crop codes.
Annex 2: Codes for Unit of Quantity.
Annex 3: Codes for Condition/State

- **UCA Form 6: Private Large Scale & Institutional Farms Module**
  - Section 6.1: Identification Particulars
  - Section 6.2: Farm characteristics.
  - Section 6.3: Area characteristics and crop production
  - Section 6.4: Livestock and poultry farming
  - Section 6.5: Fish farming (Aquaculture)
  - Section 6.6: Api-culture (Bee-keeping)
  - Section 6.7: Agricultural input characteristics
  - Section 6.8: Labour characteristics
  - Section 6.9: Access to credit

Annex 1; Crop codes.

### 8.2 General Instructions on how to fill in the Forms

1. In the forms you will find some text that you are supposed to read out to the respondent as appropriate as they appear in the forms, and some text that will guide you through the form. Also, in many cases you will have to read out the alternative answers provided for the question, so as to alert the respondent regarding different possibilities. In other cases, you will not read the answers.

   - To help you separate between those various options, the text that you are supposed to read out for the holder is typed *in italics*.
   - Text that will guide you is typed in ordinary letters, bold or not.

2. A few examples are given below:

   *Which of the following sources does the holding use for receiving agricultural extension services? (Read out as appropriate).*

<table>
<thead>
<tr>
<th>Extension Services on;</th>
<th>NAADS</th>
<th>Other Government (Crops)</th>
<th>Other Government (Livestock)</th>
<th>Farmers’ Association</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farm Management</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Selection of Crop varieties</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>Input use e.g. fertilizers etc</td>
<td>C</td>
<td>C</td>
<td>C</td>
<td>C</td>
<td>C</td>
</tr>
<tr>
<td>Credit</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>Farm Mechanization</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>E</td>
</tr>
<tr>
<td>Animal Health</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
</tr>
<tr>
<td>Plant protection</td>
<td>G</td>
<td>G</td>
<td>G</td>
<td>G</td>
<td>G</td>
</tr>
<tr>
<td>Environmental conservation</td>
<td>H</td>
<td>H</td>
<td>H</td>
<td>H</td>
<td>H</td>
</tr>
<tr>
<td>Marketing</td>
<td>I</td>
<td>I</td>
<td>I</td>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td>Training</td>
<td>J</td>
<td>J</td>
<td>J</td>
<td>J</td>
<td>J</td>
</tr>
<tr>
<td>None</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>
How many times (on demand and by routine) did the holder receive advice on the following issues during the last 12 months?

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

3. According to the rule given above, in this case you should read the question the way it is phrased and you should also read out the extension services on each of the various areas of interest.

4. The second line in the table as well as the code numbers in column 2 is for data processing purposes only. The numbers indicate where to capture the information from the table.

5. In a number of the questions, you will be asked to record numbers. In case the holding does not have trees, you leave the relevant space blank.

Assign the relevant crop code and number of trees.

<table>
<thead>
<tr>
<th>Serial No</th>
<th>Tree name</th>
<th>Crop Code</th>
<th>Number of trees</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Has this holding received a loan or credit in the last 10 years?

(1)
1=yes  If yes, go to 33
2=no   If no, skip to 37

6. In this case you pose the question exactly as it is written to the respondent. Depending upon his/her answer, you are then given guidance on how to proceed with the interview.

8.3 Issues and Observations During Field Work

1. While the manuals have been prepared with utmost care by experienced officers, it is still possible that there will be some unforeseen issues and observations during the field work. Always bring these to the attention of the DS as soon as possible or even the national Supervisor on their next field visits. Further, feel free to legibly and neatly write any other additional information or observations that you may come across on the back or bottom of the questionnaire.
9. DETAILED INSTRUCTIONS FOR EACH MODULE

9.1 UCA Form 1: Listing Module

1. This module will be used to draw up a list of Households and then Agricultural Households or Holdings in the EA, classifying them into small/medium and large scale, before a sample of 10 small/medium scale is selected for further data collection.

Section 1.1: Enumeration Area (EA) Identification Particulars
1. In this section you will fill in the information needed to identify the EAs that are assigned to you and fill in the following information:
   - District name and code, using three digits, of which the first digit identifies the region and the last two digit identify the district within the region
   - County name and code
   - Sub-county name and code
   - Parish name and code
   - Enumeration Area (EA) name and code
   - LC1/Village name and code

2. All this information is needed to uniquely identify the EA. The appropriate list of codes will be provided to you by the District Supervisor.

Section 1.2: Listing Summary
In this section you will fill in the summary of the findings during the listing procedure.

Section 1.3: Staff details and survey time
In this section you will fill in names, date for the last day the listing was conducted and time used for the listing. Time used for the different operations should be the effective time i.e. time excluding long breaks or travelling to and from the area. When the form is completed, cross-check all the entries before writing down your name and signing.

Section 1.4: Listing of all Households and Holdings in the EA
This is the form in which all households in the EA should be registered/listed.

Column 1: Household serial number within the EA
All households identified in the EA are to be numbered serially using a 3 digit approach starting with 001 followed by 002, 003 and so on until the last household. Move systematically from one end of the EA to the other.

Column 2: Name of head of household
Write the name of head of household in the space provided. For name you should record the initials first and then the surname in capital letters. This should be done in such a way that a person can uniquely be identified later. For definition of household and head of household, see Chapter 4 sections 4.3 and 4.4, respectively.

Column 3: Sex of head of household
For each household, record the sex of the household head.

Circle correct answer (Male = 1 and Female = 2)

Column 4: Members of household operating a holding
Definitions of an agricultural household or holding and a holder are given in Chapter 4 (sections 4.9 and 4.10). By interviewing, find out if any member of the household operates a holding within the EA. In the majority of cases a household will only have one holding, but a very low probability may exist that there are more than one holding in the household. Probe to find out whether this is the case, bearing in mind the definition of a holding.
If you have identified more than one holding for the household, firstly consult your District Supervisor, before attempting to assign a new line for each holding identified, and give each holding its own holding serial number. Circle correct answer (Yes = 1 and No = 2)

If the household does not operate any agricultural holding, the listing for that household will end after filling in column 1-3. Further, there will be cases of Holdings without a Household. These are common where land is rented out and squatters in gazetted swamps, national parks, forests, etc. Rice is commonly grown in swamps with no households. A lot of care is required in identifying the holdings without households and the respective owners to be filled in column 2.

If you are in doubt about a holding without a household, again consult your supervisor or even the National Supervisor.

Column 5: Holding serial number within the EA
A serial number (001,002,003…N) should be allocated to each holding in the EA. The number should only be given if the household operates a holding i.e. answer in Column 3 is Yes = 1.

Column 6: Size of Cropland
Ask for the holder’s estimate of total holding cropland or agricultural land size (Section 4.19.6). Convert the cropland size to acres in case other measurement units are used (1 hectare = 2.5 acres). No decimals should be used. All the areas less than one acre should be recorded as one acre.

Columns 7&8: Cattle
Specify number of cattle (by breed) belonging to the holding on the day of listing.

Column 9: Litres of milk produced per day
Specify milk production (litres per day as respondents estimate average for the last month).

Columns 10-15: Number of animals/poultry
Fill in the number of animals/poultry (different types) belonging to the holding on the day of listing.

Column 16: Number of fishponds
Specify number of fishponds, stocked and un-stocked, on the day of listing.

Column 17 Small/ medium scale serial number within EA:
This column should be used for sorting the holdings which are small/medium scale in size. The criteria for classification are outlined in section 6.1 of this manual.

Column 18: Private Large scale serial number within EA
This column should be used for sorting the holdings which are large-scale in size. These will be isolated and covered on a complete enumeration basis within the district as opposed to small and medium scale holdings that will be covered on a sample basis. Again, details on how to categorise are found in section 6.1.

After listing the particulars of each household using chalk, write its serial number (from column 1) in an easily visible place on the main house, preferably the front door. It is courteous to obtain the permission of the household head or respondent. Explain that the number will be required during subsequent work.

Time used by the Enumerator for the different operations should be the effective time i.e. time excluded long breaks or travelling to and from the area.
9.2 UCA Form 2: Agricultural Household and Holding Module

This module will be used to collect data on various agricultural household and holding characteristics.

Section 2.1: Identification Particulars

The information on this section is applicable to similar sections of other forms. It will be used to link the various UCA questionnaires during subsequent operations. Therefore it is important that you take the utmost care in filling in this front page in a correct way. The front page consists of 2 sub-sections:

(i) Sub-section 2.1.1 Holding Particulars
(ii) Sub-section 2.1.2 Enumeration Particulars

Sub-section 2.1.1: Holding Particulars

This section requests for information to identify the EA and the holding. As stated above, it is of the utmost importance that this section is correctly filled in, to enable links and cross-tabulations between the different forms to be used. The EA will be identified by:

(i) District name and code, using three digits, of which the first digit identifies the region and the last two digits identify the district within the region.
(ii) County name and code.
(iii) Sub-county name and code.
(iv) Parish name and code.
(v) EA name and code.
(vi) LC1 name and code.

All this information is needed to uniquely identify the EA. The District Supervisor will provide appropriate codes.

Qn.7: Holdings serial number should be transferred from the listing form – Column 5 NOT column 1.

Qn.8: Holder’s name should be written in such a way that the holder can be easily identified should a need arise. The names should be transferred from the listing form (column 2). The initials will be recorded first, followed by the surname in capital letters.

Qn.9: The holder’s physical/location address should be written here, that is the holding’s physical address if such one exists. In rural areas most holdings will not have a physical address, so for those cases you should write down how to locate the holding. If the holder has a P.O. Box address, you should NOT use that. The intention is to be able to locate the holding.

Sub-section 2.1.2: Enumeration Particulars

In this form you will fill in information as to when and with whom the enumeration was carried out and the result of the enumeration.

Qn.10: Here you will write down who actually provided the information. You should as much as possible try to interview the holder himself/herself, and if necessary go back to the household in case he/she is not present at your first visit. If you cannot manage to interview the holder, you should interview another responsible adult person in the household, well informed about the holding. Under no circumstances should the respondent be a child under the age of 18 years.

Qn.11: Find out what relationship the respondent has to the holder and assign the proper code. If the respondent is the holder himself/herself, the correct code is “1”, if it is his/her spouse, the correct code is “2” etc. The codes are given.
Qn.12: Here you should assign the appropriate code for result of the enumeration after the maximum number of call-backs have been made. You should attempt to carry out the interview at least 3 times before you accept a non-response. In case of refusals, code , you should notify your District Supervisor as soon as possible, to see whether he/she can help solve the problem. There will be no substitutes in case of a non-response.

(i) “No respondent available” code 3, means that no person qualified to answer the questions could be found.
(ii) “Household moved” code 4, means that the household sampled for the survey has moved away from the holding and is not traceable.
(iii) “Dwelling destroyed/not found” code 5 means that you are not able to locate the structure containing the sampled household
(iv) “Dwelling vacant” code 6 means that no one occupies the dwelling
(v) “Refusal” means that the holder refuses to participate in the Census. In that case, you should report this as soon as possible to your District supervisor as mentioned above.

Any other reason for not participating in the UCA should be classified under “other” – code 96 and the reason specified in the space provided.

Qn.13: Take a note of when you start and end the interview, and also keep account of substantial breaks during interview time. It is the actual time spent on the interview that should be filled in.

Qn.14: Day and month will be recorded as: 25 10 in the case of 25th October. If you have had to make several visits, you should fill in the date for your last visit. Finally you write your name and signature to verify the information given. The appendage of your signature means that you have checked thoroughly all entries and edited them to the best of UCA 2008/09 standards. Deviation from this position will attract a requisite penalty.

Qn.15: when you have completed and cross-checked the rest of the questionnaire write down your name and sign before submitting it to the supervisor. This space should be left blank for the District Supervisors to fill in.

Section 2.2: Agricultural Household or Holding Member Characteristics

Sub-section 2.2.1: Household Member Characteristics

Qn.17: This form provides information on each and every person usually staying in the agricultural household. The definition of usual household member is given in section 4.8.

Columns 1-2: Household member number and name of person
You start by listing the names of all usual members. The first person to be listed should be the household head, then the spouse, then biological children starting with the eldest and ending with the youngest, then parents, then other relatives and finally non-relatives. Make sure that all usual members are listed, and take special care to include newborn babies yet without names, usual members not present at the date of enumeration etc. Write down religious name or initial and surname for all the persons. Write the names clearly, preferably in CAPITAL LETTERS. In the case of a new born baby not yet given a name, write “Baby” and then the surname of the mother.

The household member number is a serial number used to identify all the members in the household uniquely. It has nothing to do with the relation to the head of household. For instance, all children to the head of the household will be assigned code 3 in column 3, but each of them will have their own serial number.

If a household has 5 members, the head, Edward Menyha (40 years old), his wife Clare Menyha (35 years old); their three children Joseph Magumba (17 years), John Isabirye (14
The first five columns in the household roster should be filled out in the following way:

<table>
<thead>
<tr>
<th>No</th>
<th>Name of person</th>
<th>Relationship to head</th>
<th>Sex</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>EDWARD MENYHA</td>
<td>1</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>CLARE MENYHA</td>
<td>1</td>
<td>2</td>
<td>3.5</td>
</tr>
<tr>
<td>3</td>
<td>JOSEPH MAGUMBA</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>JOHN ISABIRYE</td>
<td>1</td>
<td>2</td>
<td>1.4</td>
</tr>
<tr>
<td>5</td>
<td>PHIONA NAIGAGA</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>SOPHIA MOKIRI</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

**Column 3: Relationship to head**

For each person you should identify his/her relationship to the head and write down the appropriate code. The head will always have code “1”, the spouse will have code “2” etc. Stepchildren are classified as ‘other relatives’.

It refers to relationship between the head of Agricultural Household/holder and the other usual members of the household. It should be noted that this is what the holder regards or “calls” the other person(s). For example; if Okidi is a male child of Menyha the relationship is son and not father. There could be confusion if Okidi is the one interviewed.

Secondly, in many communities all the children of one’s brother and sister are referred to as “sons and daughters”. While all the paternal/maternal uncles are “fathers” while all the paternal/maternal aunts are “mothers”. For purposes of this census, the term “father/mother” and “Son/daughter” will strictly be used to describe biological parents and children respectively.

**Column 4: Sex**

Identify each person as either male or female and assign the appropriate code. Ensure that the sex is correctly determined especially of small children on their mothers’ backs.

**Column 5: Age**

Age should be recorded in completed years as of the date of enumeration. If a person is 29 years and 11 months, the age to be recorded is 29 years. If a person is 34 years and 1 week, the age to be recorded is 34 years. Children below 1 year of age should be given the code “00”. See section 4.6. A list of historical events may have to be used in cases where by some individuals do not know their exact ages.

If it is not possible to identify the age (this is expected to be in very few cases), use code 99. If actual age is 99 or greater then record 98.

**Column 6: Marital status.**

Marital status is the status of the household member in relation to the marriage laws or customs of the country. The marital status categories should be based on international standards used in the population census programme (UN, 1998, paragraph 2.96), ensuring consistency with other national statistics. The following groupings are recommended: never married, married, widowed and not remarried, divorced and not remarried, phase married but separated with the respective codes given below the table.
People living together as man and wife should be shown as married whether or not they have been through any civil or religious ceremony. Accept the answer as given to you.

**Column 7: Highest grade of education completed**
This applies to everyone who has been to school, i.e. those who have left as well as those who are still attending school. You shall state the highest level or grade the person has completed, using the proper code. Note that for those presently attending school, it is the level or grade completed, not the level or grade being attended. “Incomplete” is meant for those who have left school but without completing the relevant stage. For persons who have ever been to school, but did not complete Primary 1, use code 10. Do NOT use this code for persons who have never been to school. In this case, use code '00'.

There may be inconsistence between the question, "Highest grade of education completed" and the set of codes that includes options like "Incomplete certificate training". It was agreed that if a household member is attending P2 on the day of the interview, he/she should be recorded with the code 11 for completed P1.

**Column 8: Can read and write.**
Here we intend to find out whether the person is literate or not. The question is about both reading with understanding and writing with meaning in any one language. If a person can read, but not write, the correct answer is therefore “No” – Code 2.

Note that this question must be asked regardless of whether the person in question has attended school or not. It is perfectly possible for a person to have attended school, but still not being able to read and write. You should not imply that because a person has attended school he or she can read and write. Similarly, you should not imply that because a person has not been to school, he or she can not read and write.

**Columns (9) and (11): Main and Secondary Activity**
For each of the household members, information will be required on both main and secondary agricultural activities. This is the main purpose of agricultural production. Codes are provided in Annex 1. The Main and Secondary Usual Activities will be referring to the last 12 months.

Usual activity status is defined as the normal activity situation pertaining to a person in respect to his or her participation in gainful or non-gainful activities during the last 365 days. A person might be engaged in more than one activity, in that case, the most important activity according to time spent and not monetary gain is the main (usual) activity and will be recorded in column (9).

Note that here, interest is in Agricultural Activities on the holding within the EA, Non-Agricultural Activities or agricultural activities outside the EA are covered in Section 2.23 Other Economic Activities.

**Columns (10) and (12): Situation or type of the main and secondary activities**
This is a categorisation of the members of the holding. For each of the members, information will be required on both “in main and secondary activity”. Codes are provided in section 2.2. The "situation in main and secondary activity" will also refer to the last 12 months.

**Column (13): Management of a crop plot**
Information will be sought about managing of a crop plot by each member of the household deemed to manage a crop plot.

**Column (14): Ownership of Livestock**
Information will be sought about ownership of livestock by each member of the household.
**Column (15): Receipt of credit**
For each of the household members, information will be required on whether or not, credit was received in the past five years.

**Column (16): Household member’s membership to farmers’ organizations**
Information will be sought about each member of household deemed to have membership to a farmers’ organization.

If there are more than 15 members (the number of rows available on the form) in the household use lose continuation sheets but ensure that they are properly labelled and the numbering is 16 to 30. Should the lists cover more than two sheets continue the numbering appropriately starting at 31 on the third sheet and labelling it also.

**Sub-section 2.2.2: Holder identification.**
Qn.18: Which of the household members is the holder? Transfer the household member number from the household member characteristics table. Normally there is only one holder per household, see definition in Chapter 4.4. To identify the holder, you should transfer the household member number of the holder from column 1 in the household roster (section 2.3.1) form to the space provided. If the holder is household member number 1, you write 1 in the space provided, if it is the person listed as number 5 in column 1, you write 5.

**Sub-section 2.2.3: The legal status of the agricultural holder**
Qn.19: Three possibilities for the legal status of the holder exists i.e. an individual, two or more individuals. Juridical Person??

**Section 2.3 Utilization of Land on the Holding**
This refers to activities – such as growing crops, raising livestock or cultivating fish – carried out on the land making up the holding with the intention of obtaining products and/or benefits. Land use should be distinguished from “land cover”, which describes the physical characteristics of the land, such as grassland or forest. In the agricultural census, the area of the holding is classified according to its main land use.

Qn.20: This question finds out how the total land (hectares or acres) operated by the holder is used according to the various land use classes e.g. land under temporary crops, land under temporary pastures, land under permanent crops etc. The definitions on land use are discussed in section 4.19.

Qn.21: It seeks information on total land area by various uses but from the point of view of agricultural land, kitchen gardens, forest or wooded land, bodies of water and other farm land. In addition information will be sought on other land (not owned by this holding) from which the household uses the trees grown on it.

A Kitchen Garden is a very small plot mostly growing vegetables like tomatoes, cabbages, etc, Often the crops are scattered in the plot.

**Section 2.4 Agricultural Technology and Extension Services**
Qn.22-26: Agricultural extension refers to the provision of agricultural advice and information to crop and livestock producers etc. Extension services may be provided by government institutions, non-government organizations, farmer organizations, educational institutions, informal grass-roots organizations, and others. Extension services may cover advice to farmers in areas such as farm management, selection of crop varieties, use of inputs such as fertilizers, credit, farm mechanization, animal health, plant protection, sustainable development, and marketing. Extension services may also be used by Governments to
distribute inputs, disseminate market information, and promote the production of particular commodities or crop varieties.

In most countries, government is the principal provider of extension services through its network of agricultural field staff. The organization of government extension services varies from country to country. Sometimes, extension services are centralized in a single ministry with all-round extension officers providing advice on all disciplines. In other countries, there are specialized extension services in crops, livestock and perhaps other fields.

There are many different methods of implementing extension services. Often, extension workers visit farmers to provide on-the-spot advice. Demonstrations of new farming practices or technologies are sometimes arranged for small groups of farmers, or more formal training programmes organized for larger groups of farmers. Sometimes, study tours are arranged for farmers to observe agricultural practices in other places. Usually, agricultural extension is free of cost to the farmer; sometimes, it is not.

Sources of agricultural extension services refer to the use of agricultural extension services by the holding during the census reference year. It refers to personal contact with extension personnel or direct participation in extension activities such as a farm demonstration. It does not include accessing extension material though printed brochures, radio, television or the Internet. Also, extension services should be limited to formal contacts with extension workers specifically employed for that task; advice received from other informal sources should not be included. A farmer may have received extension services from more than one source.

The categories for sources of agricultural extension will depend on the way extension services are organized in the country. Countries may want to identify the discipline (such as crops or livestock) and the type of organization providing the service (such as government institution or farmer organization).

Typical source categories are: Government organization (crops, livestock), Farmer association, National Agricultural Advisory Services (NAADS) and other.

Qn.22: This question tries to find out if a holding has been visited by an extension worker during the past 12 months.

Qn.23: If a holding has been visited by an extension worker in the past 12 months, information is sought about the number of times the extension worker visited a holding.

Qn.24: This seeks information about the sources of agricultural extension services for a number of areas e.g. farm management, credit etc. It is possible to receive information from more than one source

Qn.25: This question tries to find out if there is a holding member(s) that has/have participated in a training program organised by NAADS.

Qn.26: Information is required (on demand and by routine) the holding members received advice on a number of issues e.g. type of seeds to use, when to plant etc. by sex. Demand is the case where the members specifically asked for the information. For example, the members could call the extension staff to advise on what seeds to grow, treat an animal. On the other hand, “Routine” is where the extension staff make pre-determined trips in the area to advise the holders.

Section 2.5 Sources of Agricultural Information

Sources of agricultural information refer to where the holder received information to help manage the agricultural holding. This includes information on weather, selection of crop varieties, new agricultural practices, farm machinery, credit facilities, plant diseases and pests, marketing, and commodities or crop varieties being promoted by the Government.
The reference period is the census reference year. Most farmers use various sources of information.

Qn.27: information is required on the main source the holding uses for receiving information related to agriculture on various aspects. Sources of information and their respective codes are provided in this section.

**Section 2.6 Access to Facilities**

Qn.28: Here we want to find out about the holding's access to various facilities of special importance to agriculture, namely local produce market, district produce market, market for input goods, feeder roads, year round gravel road and tarmac road. We want to find about access to the nearest facility, regardless of whether this is the facility normally used by the holding or not.

*Column (3)*: Distance should be given in km with no decimals, if less than one (1) km, write 1. Where the distance is given in Miles, convert to Km before filling in the form (1 mile = 1.6 Km). Make sure that you do not mix the two measuring units (km and miles) when filling in the questionnaire. Finally, many respondents have problems estimating distances, so enumerators should assist the respondent in estimating the distances.

*A Farm Supply Shop* is described as bigger and with more goods than a *Local Input Dealer*.

“*Feeder Road*” is normally smaller than “*Year Round Gravel Road*”. The former is also normally maintained on a communal basis while the latter is maintained by government – central or local.

**Section 2.7 Means of Transportation**

Qn.29: Here information is wanted on type(s) of means of transportation the holding owns, can borrow or can hire. For each means of transportation, fill in the appropriate code provided for kind of access to transportation. The codes are listed according to priority from owned to no access.

**Section 2.8 Storage Facilities**

Qn.30-31: Here we want information on whether the holding has any storage facilities and if so, what kind of facility and what is the storing capacity of each specific kind used measured as the volume (cubic metres). Some of the storage facilities listed are:

*Improved granary*; is special storage house which has been constructed in such a way that e.g., rodents will not easily access the granary.

*Unimproved granary*; is a granary constructed in a traditional way.

*In the house*, means that any of the rooms in the dwelling is used for storage purposes, e.g., the living room.

*Specific house/room* is where there is a house or room used purely/solely for storage of agricultural produce.

*Under shelter*: outside, meaning that there are some shelters for storage, but not a house with complete walls.

If the holding has storage facilities that are not listed, specify the type of storage facility under “Other, specify”.
Several facilities may be used. The starting point for filling the capacity for each of the facilities used, is for the enumerator to assess the capacity of the holder to provide accurate information. It is known that the majority of the holders may not be to determine accurately the capacity of their storage facilities. When this is the case the enumerator should determine the storage facility capacity as provided below.

If the storage facility is:

*All the three dimensions are equal* say, say 3m X 3m X 3m, the volume = 27 cubic metres;

*With different dimensions* e.g. 6m long X 4m wide x2m high, the volume is 48m3;

*With varying diameters* (i.e. small towards the bottom and the top but large in the middle) in this case obtain the average diameter by summing the diameter towards the top, the diameter in the middle and the diameter towards the bottom and dividing by 3. This represents the diameter of this facility as if it was regular.

Cylindrical with diameter 2m, height 2m, the volume is provided by the formula below:

\[
\text{Cylinder} = \pi r^2h; \quad \text{Where:} \\
\pi = 3.14 \\
r = \text{radius (½ diameter)} \\
h = \text{the depth (or height)}
\]

Volume = 3.14 x 1 x 1 x 2 = 6.28 (square metres). This is 6.3 (rounded to 1 decimal place).

You are advised to get a measuring tape and use it to determine the length of a metre (1 metre = 100cm)

**Section 2.9 Access to Credit**

Credit for agricultural purposes refers to any type of credit received for purposes related to the operations of the agricultural holding. This includes credit for purchasing crop and livestock inputs, constructing farm buildings, and purchasing farm machinery. Credit not related to agricultural operations, such as for construction of the holder’s house, for other family businesses, or for consumption expenditure, should be excluded.

Receipt of credit refers to whether credit was made available during the reference year, not whether there was outstanding credit at the time of the census. A holder may have made use of credit on more than one occasion during the year, and therefore more that one source or type of collateral may be reported. Credit received by the holder as well as members of his/her holding should be included.

The term “credit” is used widely to cover borrowing money directly, as well as buying goods and services on credit. Borrowing money may be done through a lending institution, other organizations, or persons for a specific purpose such as buying a tractor. Buying goods and services on credit refers to an arrangement for buying goods or services where payment is delayed beyond delivery, such as where fertilizer is purchased on the basis that payment will be made after the crop has been harvested.

Source of credit refers to who provided the credit. The specific source classes will depend on the institutional arrangements for credit in the country. Typical groups are: commercial bank, agricultural development bank; cooperative credit society; money lender, etc.

Collateral is defined as assets pledged as security for a loan of money, which means that if the borrower defaults on the terms of the loan, the collateral may be sold and the proceeds used to pay off the loan. For the purpose of the agricultural census, collateral is used in a wider sense to also cover guarantee provided for the purchase of goods and services. This is usually related to the production of agricultural goods, but may also be based on assets.

The collateral for larger holdings is often the holder’s land. This is prevalent where there is a well-developed land tenure system with legal ownership of land. Otherwise, other assets
may be used as collateral. For a loan to buy farm machinery, for example, the purchased machinery may be used as collateral. Other type of collateral covers the purchase of goods and services on credit based on agreements to pay at a later date, or credit received without any collateral on a personal guarantee basis.

Period of loan or credit refers to the period over which the loan or credit is to be paid off, as agreed at the time the loan was received. Where credit was received more than once during the reference year, the period should be reported for the loan or credit of highest value. Normally, the period of loan or credit is reported in ranges to reflect the likely reasons for using credit, such as for short-term (for the current crop) or long-term (for major capital outlays). Typical groupings are: Less than 12 months, 12–35 months, 36 months or more

Qn.32: Finds out if the holding received a loan or credit in the last five (5) years.

Qn.33: Is about sources, main purpose, period and amount of loan/credit by holding (members by sex). Further, information is wanted on loan period and loan amount. Plus outstanding credit. Appropriate codes are provided in column section 2.10.

Qn.34: It establishes whether the holding needed to provide security or collateral.

Qn.35: It seeks the type of security or collateral that was provided by holding members by sex. Please note that more than one type of collateral might have been provided.

Qn.36: If holding members have not received a loan or credit in the last five (5) years, reason(s) should be provided by holding members by sex. All reasons applicable/mentioned should be recorded.

Section 2.10 Irrigation System

Irrigation refers to purposely providing land with water, other than rain, for improving pastures or crop production. Irrigation usually implies the existence of infrastructure and equipment for applying water to crops, such as irrigation canals, pumps, sprinklers or localized watering systems. However, it also includes manual watering of plants using buckets, watering cans or other devices. Uncontrolled land flooding by overflowing of rivers or streams is not considered irrigation.

Irrigation includes any process under which water is moved from a water source to apply to an agricultural crop. Water for irrigation may come from various sources, including rivers, dams or wells. The irrigation water may be the product of a major irrigation scheme serving many farmers over a large area, or a local scheme serving a small community. Farmers may also carry out irrigation individually using informal arrangements to obtain water from rivers, streams, wells or ponds, using equipment such as a pump or manual methods such as buckets. In urban and peri-urban areas, irrigation may be carried out with hoses and buckets, sometimes using the municipal water supply.

Irrigation implies the “fully controlled” supply of water, as opposed to other types of water management where the availability of water depends on rainfall conditions. Water management activities, (explained in section 2.12), such as controlling flood waters to water crops (spate irrigation), water control methods in wetland areas, and flood recession cultivation should not be included as irrigation. The use of water from water harvesting facilities, such as roof water harvesting, may be included as irrigation if the water supply is reliable.

Qn.37: Information is sought on the presence of irrigation on the holding during the last twelve-months.

Qn.38: The size (hectares) of irrigated land under male or female management is required by land use.
Qn.39: Information is wanted on the irrigated area, in Hectares by method of irrigation and by holding members by sex.

Surface irrigation:
Sprinklers:
Localised irrigation:

Qn.40: Tries to establish sources of irrigation water used on the holding by household members by sex.

Qn.41: Seeks information on whether the holding paid for irrigation water used on the holding.

Qn.42: Is about type of payment terms for the water.

Section 2.11 Other types of water management practices

Refers to whether specific water management practices, other than irrigation, were used on the holding. A holding may have more than one type of water management activity. Data on water management are normally collected in respect of a twelve-month reference period, but data may be distorted by unusual weather conditions in the reference year; for example, if there is no flood recession cultivation because of low flood levels. A longer reference period, such as a three-year period, may be considered for some countries. However, in the UCA the reference period will be the past 12 months. Types of other water management practices are provided below:

Wetland and inland valley bottoms: are lowland areas subject to seasonal flooding that are used for cropping when covered with water. Water control structures, such as canals, may be constructed to help in the crop cultivation.

Flood recession cultivation: refers to areas along the edge of rivers or other water bodies where cultivation occurs, making use of water from receding floods. Floating rice is included as a flood recession crop. Structures may be built to retain the receding water.

Spate irrigation: is a method of random irrigation using the floodwaters of a normally dry water course or riverbed (wadi). Spate irrigation is also referred to as floodwater harvesting. There are two types of spate irrigation. One is where floodwater is harvested in streambeds and spread through the wadi in which the crops are planted. Cross-wadi dams are constructed with stones or earth, often reinforced with gabions. A second type is where floodwater is diverted from the seasonal rivers into adjacent embanked fields for direct application. Here, a stone or concrete structure raises the water level within the wadi to enable it to be diverted.

Qn.43: This question seeks to find out other types of water management practices in the holding by sex of holding members.

Section 2.12 Holding exposure to flooding/water retention

Qn.44: If the holding is prone to flooding or water retention this should be indicated by putting code 1 for yes and subsequently answer the questions which follow. If not, record code 2 and proceed to the questions about land tenure in section 2.14.

Qn.45: Wants to establish whether the holding undertakes any drainage of the land.

By drainage we mean constructed channels and/or closed/sub-soil drainage pipes around or across the crop land/pasture land with the purpose of removing excess/unwanted water from the area.
Qn.46: If land is drained, information will be required on the total size of that land as well as its sub-division into area under male management and that under female management.

**Section 2.13. Land Tenure System of Parcels**

As explained in section 4.20, land tenure refers to the arrangements or rights under which the holder operates the land making up the holding. A holding may have one or more tenure types corresponding to each land parcel. Land rented out to others should be excluded. The reference period for land tenure data is usually the day of enumeration (see section 4.20 for definition of tenure types).

Qn.47: For each parcel, information is required on the parcel name (column 2) subholder or parcel manager by sex (column 3) parcel acquisition (column 4), and tenure code (column 5). Parcel acquisition methods and tenure codes are provided in the questionnaire. On the acquisition of a parcel, there may be confusion between “donation” and “inheritance”. As a rule of thumb, donation applies for a holding given by someone outside the family, while inheritance should be used within the family. Further, this is the case whether the giver is still alive or dead.

**Section 2.14 Number of tree crops**

Qn.48: Column 1 is for crop serial number, column 2 is crop name, column 3 is crop code, while column 4 is the number of trees for all ages. The crop codes are provided for fruits and nuts, permanent crops for industrial use, forest trees and plantations.

**Section 2.15 Agricultural Inputs**

The definitions of individual agricultural inputs are provided below.

- **Local seeds** are seeds obtained locally and normally of local varieties. They can be own seeds or obtained e.g., from neighbours. They are the most commonly sown/planted.
- **Hybrid/improved** seeds are mostly sold in shops, e.g., Kawanda composite for maize.

Fertilizers are divided into inorganic and organic fertilizers.

i) **Inorganic or chemical fertilizers** are divided into four types: nitrogenous, phosphate, potash and mixed complex fertilizers.

ii) **Organic fertilizers** include farmyard manure, compost, green manure and seaweed. Farmyard manure refers to farm faeces and urine mixed with litter, mainly straw, to absorb the urine.

- **Manure**: The term manure is usually used in the sense of farmyard or animal manure, which is a mixture of solid excreta of animals with litter used for their bedding.
- **Compost**: This consists of organic materials of animal, plant or human origin partially decomposed through fermentation. Sewage sludge is residual organic material derived from sewage. The term green manure describes fresh plant material which is locally produced and is worked into the soil without composting or digestion through animals.

- **Pesticides** are substances intended to prevent, destroy or control in plants or animals diseases and pests, including vectors of human and animal diseases, unwanted species of plants, or to control the behaviour or physiology of pests or crops during production or storage. They include insecticides, herbicides, fungicides, acaricides, termiticides and rodenticides and other substances. The time reference for pesticide data is the census reference year.

- **Insecticides** are substances used to destroy, control or repel insects.
- **Herbicides** are substances used to destroy or inhibit the growth of plants such as weeds.
- **Fungicides** are substances that destroy or control the growth of fungi.
- **Acaricides and termiticides** are used for the control of mites, ticks and termites.
- **Rodenticides** are substances that destroy, kill, repel or control rodents like rats.
- **Other pesticides** include substances intended for use as a plant-growth regulator, defoliants, desiccant, fruit thinning agent, or sprouting inhibitor and substances applied to crops either before or after transport.
- **Animal feeds** are those, which are prepared from grain/cotton seed usually with mineral salts bought from producers outside the holding.

- **Veterinary drugs and insemination** are both classified as agricultural inputs.
Qn.49: Here we want to know about agricultural inputs used on the holding during the last 12 months. The following inputs are specified in column 1 and their codes are given in column 2. For each type of input specified, record whether it was used or not in col. 3, using 1 for Yes and 2 for No. If used, state the main supply source (column 4) for males and (column 6) for females. If not used state the main reason for not using it (column 5) the codes for columns 4 and 5 are provided.

Qn.50: This question is for those who used hybrid or improved seed in question 52. Information is required on whether each type of seed was freshly bought for this season or not.

Section 2.16 Agricultural Equipment

Qn.51: This question comprises machinery, implements and other facilities used on the holding solely or partly for agricultural production during the last 12 months. All machinery, implements and other facilities used solely for non-agricultural purposes, should not be included. Further, only machinery, implements and other facilities in working order at some point during the reference period should be reported.

In many areas of the country, holders may have lost their livestock due to looting or death due to poor disease control measures. Thus it is possible that a holder will own some machinery, implements and facilities related to livestock, but has not used them during the reference period. The machinery etc. should still be recorded, but not as having been used during the reference period.

You should go through the list of machinery, implements and facilities, and for each of them find out whether it was used during the reference period or not. Machinery etc. used should be given code 1, not used should be given code 2 in column 2. If 2 then there is no need to ask questions in columns 4-6.

If used, you should fill in how many were used (column 4) and the ownership (column 5) and when the most recent item was bought (column 6). Codes for ownership (column 5) as well as for the most recently bought item (column 6) are provided in the table in section 2.19.

In case more than one implement, e.g., hoes, were used, and the implement has various owners, you should record the owner who owned the largest number. For example if 7 hoes were used and the holder owned 2 and another holder owned 5, the correct code will be “3” for other private holder.

Description of some agricultural equipment:

<table>
<thead>
<tr>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pruning knife</strong> is used in the removal of unwanted banana leaves and small branches of tea</td>
</tr>
<tr>
<td><strong>Pruning saw</strong> is used for removal of unwanted stems or branches, especially in coffee or tea</td>
</tr>
<tr>
<td><strong>Chain/hand saws</strong> are normally used for felling large trees and removal of big unwanted stems or branches. They could be motorised</td>
</tr>
<tr>
<td><strong>Shellers/threshers</strong> are of various types and are used to separate grain or seed from straw or chaff</td>
</tr>
<tr>
<td><strong>Trailer</strong> is used for transport on the holding mainly for agricultural purposes either on a tractor or oxen</td>
</tr>
<tr>
<td><strong>Barrow/Cultivator</strong> are agricultural implements used on tractor, particularly during second ploughing</td>
</tr>
<tr>
<td><strong>Sprayers</strong>: Hand/motorised sprayers are used for application of liquid agricultural chemicals to plants/animals.</td>
</tr>
<tr>
<td><strong>Milk can</strong> is made of brass or other metal usually with the capacity of 20 or 30 litres with a tight lid. It is generally used as containers for milk</td>
</tr>
</tbody>
</table>

Looking at the holding it is often obvious that the holder does not own certain types of equipment e.g. tractor-related equipment. Therefore, tact is required when going through the list. Otherwise some respondents could be offended if asked about equipment which they cannot obviously own or operate.
**Section 2.17 Labour Input**

**Qn.52:** Information is required on number of persons, distributed by sex engaged in agricultural work on the holding in the last 12 months and by adults/children. For holding members who worked permanently on the holding during the last 12 months, numbers will be given for males (column 1), females (column 2), boys (column 3) and girls (column 4). Information will also be recorded for holding members who worked temporarily on the holding for the same period; Males (column 5), females (column 6), boys (column 7) and girls (column 8).

**Qn.53:** Information is requested about how many of the holding members who participated in each of the operations specified. For each of the operations, a code of the share of work undertaken will be recorded for males (column 3), females (column 4), boys (column 5) and girls (column 6). Codes for columns 3 to 6 are provided at the side.

**Qn.54:** This question identifies if any persons were hired to work on the holding.

**Qn.55:** For persons hired to work as permanent or temporary labourers during the last 12 months, information will be recorded on number of labourers as well as payment period in days. This will be recorded for males (col. 2), females (col. 3), boys (col. 4), girls (col. 5) for permanent labourers. For temporary labourers, information will be recorded for males, females, boys and girls, in columns 6, 7, 8 and 9, respectively.

**Definitions used:**

- **Hired labour** is labour that is supplied by persons other than holding/household members and who are paid for their work either in cash or kind or both. The persons are hired for purposes of doing agricultural work on the holding.
- **Permanent labourers** are workers whose services are utilized regularly and continuously during the agricultural season. Hired permanent agricultural workers may engage in other work on the holding, especially when no significant agricultural work is undertaken. Permanently working holding members are those holding members who work regularly on the holding.
- **Temporary labourers** are workers who are hired one or more times during the agricultural season and are not expected to work continuously on the holding. Temporary holding member labourers are those holding members who only occasionally work on the holding.
- **Household labour** is labour supplied by the holding members for agricultural work or any other holding activity or planning that is necessary for the operation of the holding, excluding the sole operation of the home.

**Qn.56:** Information is requested for share of work undertaken on various operations by each category of labourers during the last 12 months. For each of the operations, a code of the share of work undertaken will be recorded for males (column 3), females (column 4), boys (column 5) and girls (column 6) for permanent labourers. For temporary labourers, information will be recorded for males, females, boys and girls, in cols 7, 8, 9 and 10 respectively. Codes for share of operation undertaken are also provided at the side.

**Qn.57:** This question finds out the holding members who worked temporarily or permanently for cash/kind for the last 12 months on any other holding.

**Qn.58:** For persons who worked permanently and temporarily on any other holding, information will be recorded on number of labourers as well as payment period in days. This will be recorded for males (column 2), females (column 3), boys (column 4), girls (column 5) for permanent labourers. For temporary labourers, information will be recorded for males, females, boys and girls, in cols 6, 7, 8 and 9, respectively.

**Qn.59:** This question seeks information on the number of employees by adult/children by sex and form of payment. For each form of payment, record number of males (column 2), females (column 3), boys (column 4), girls (column 5) for permanent labourers. For
temporary labourers, information will be recorded for males, females, boys and girls, in cols 6, 7, 8 and 9 respectively

Section 2.18 Livestock

Qn. 60: It seeks to establish whether livestock and/or poultry is reared on the holding on the day of enumeration.

Qn.61: Information is sought on the number of livestock /poultry by type reared on the holding for each breed specified. You should record the total number kept/reared (column 3), of which owned by holding female members (column 4) as of the day of enumeration. This will be regardless of whether the livestock/poultry is present on the holding or not on the day of enumeration.

The definition of breed and type of cattle is given below.

<table>
<thead>
<tr>
<th>Cattle Breeds:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Exotic refers to livestock introduced in the country from abroad, e.g., Holstein Friesian, Jersey and Guernsey.</td>
</tr>
<tr>
<td>2. Improved refers to livestock, which are crosses of exotic and indigenous breed.</td>
</tr>
<tr>
<td>3. Indigenous refers to livestock of the local types, e.g., the Ankole long-horned cattle or Zebu or Nganda type of cattle.</td>
</tr>
</tbody>
</table>

Section 2.19 Aquaculture

For the purposes of the WCA 2010, presence of aquaculture refers to aquacultural production activities carried out in association with agricultural production. This means that the aquacultural activities are integrated with agricultural production, such as in rice-cum-fish culture, or that aquaculture and agriculture share the same inputs, such as machinery and labour.

Aquaculture carried out independently of agricultural production is not included; for example, a holding may have independently managed and operated agricultural and aquacultural activities.

Aquaculture is the farming of aquatic organisms such as fish, crustaceans, molluscs and plants. In this context, farming refers to some intervention in the rearing process to enhance production, such as regular stocking, feeding and protection from predators. Aquaculture normally involves rearing of organisms from fry, spat or juveniles. Aquaculture may be carried out in ponds, paddy fields, lagoons, estuaries, irrigation canals or the sea, using structures such as cages and tanks. It may be in freshwater or saltwater.

A distinction must be made between aquaculture and other forms of aquatic exploitation such as capture fisheries. Capture fisheries involve catching aquatic animals or gathering aquatic plants “in the wild”. An important characteristic of capture fisheries is that the aquatic organisms being exploited are common property, as opposed to being owned by the holding as is the case for aquaculture.

The boundary between aquaculture and capture fisheries may be blurred. Where fish are caught in the wild and fattened up for sale, the fattening process should be considered as aquaculture. Limited enhancement actions taken to increase fish production, such as modifications to the aquatic habitat, should not be considered as aquaculture.

Data on aquaculture usually relate to activities carried out over a twelve-month period, usually the census reference year.

Qn.62: It seeks to establish whether aquaculture is practiced on the holding on the day of enumeration.
Qn.63: For the holdings that practice aquaculture, information will be recorded for each type of site (column 2), total area (square metres) of which area is managed by holding female members (column 4).

Qn.64: For area of aquaculture and each type of site (column 2), information will be recorded for, total area (square meters) of which area is managed by holding female members (column 4).

Qn.65: It requires information about the type of water used for aquacultural activities on the holding. For each type (applicable) in column 2, record if it was used or not (column 3). Codes 1=yes; 2=no will be recorded for this purpose.

Qn.66: It seeks to establish the water source(s) for aquaculture. For each water source, appropriate code; 1=yes if it was used, 2=no if it wasn’t used.

Qn.67: Information is needed on the type of aquacultural organism cultivated. For each type of aquacultural organism cultivated, circle the appropriate code. The examples of each type of aquacultural organism are provided in the table below.

### Aquacultural organisms

- **Freshwater fish** are carps and tilapias.
- **Diadromous fish** are fish that can live in both fresh and seawater, such as trout, salmon, eels and sturgeon.
- **Marine fish** include flounder, cod and tuna.
- **Crustaceans** are aquatic animals with hard shells, such as crabs, lobsters and shrimps.
- **Molluscs** are animals belonging to the phylum Mollusca, including abalones, oysters, mussels, scallops, clams and squids.
- **Other aquatic animals** include frogs, crocodiles, alligators, turtles, sea-squirts and sea urchins.
- **Aquatic plants** include seaweed and lotus.

Section 2.20 Api-culture (Bee Keeping)

Qn.68: Seeks to establish whether bee keeping is practiced on the holding.

Qn.69: Records the number of beehives operated by type.

### Definitions

- **Comb**: A wax structure made of hexagonal (six-sided) cells in which honey bees rear young and store food.
- **Hive**: Any container provided by humans for bees to nest in.
- **Colonized Hives**: Hives which are occupied by bees
- **Not Colonized Hives**: Hives which are not occupied by bees
- **Local or Traditional Hives**: are hives which are made from any suitable materials available and bees fix their honey combs on the ceiling of the hive. i.e. hives with fixed honey combs.
- **Kenya Top Bar (KTB) Hives**: bees build their honey combs suspended from bars placed across the top of the hive i.e. top bar hives have moveable honey combs.
- **Langstroth/Modern Hives**: are hives which have been provided with flames on which bees develop their honey combs.

Section 2.21 Forestry

Forest and other wooded land is land not classified as mainly “agricultural land” that satisfies either of the following definitions:

- **Forest land** is land with crown cover of more than 10 percent of trees able to reach a mature height of 5 metres or more. It includes natural and plantation forests. Areas that are
temporarily not under trees but are expected to revert to forest are included. Forest tree nurseries that form an integral part of the forest should be included.

**Other wooded land** is land with: (i) crown cover of 5–10% for trees able to reach a height of 5 metres or more at maturity; or (ii) crown cover of more than 10% for trees not able to reach a height of 5 metres at maturity; or (iii) shrub or bush cover of more than 10%.

A clear distinction must be made between “forest and other wooded land” and “land under permanent crops”. Plantations of rubber, palm, and other cultivated food tree crops are generally considered to be permanent crops, whereas plantations of bamboo, cork oak, eucalyptus for oil, or any other cultivated non-food tree crops are considered to be forest and other wooded land. However, there may be some special cases, which countries should handle according to national conditions and practices.

Qn.70: Establishes the existence of forest and other wooded land on the holding as of the day of enumeration.

Qn.71: This question seeks information on area of forestry and other wooded land reported as a primary land use (column 3) and as a secondary land use (column 4). The land under forest and wooded land in section 2.14 should be equal to total area i.e. the summation of area of:

(i) Area of forest as primary use (row 1 and column 3);
(ii) Area of forest as secondary use (row 1 and column 4);
(iii) Area of wooded land as primary use (row 2 and column 3); and,
(iv) Area of wooded land as secondary use (row 2 and column 4).

The area will be measured by the Enumerator using the GPS device if it is > 100 square metres. Otherwise, measurement will be by pacing.

Qn.72: In this question information is sought on the main purpose of the forest and other wooded land. Codes are given in the section.

**Agro-forestry**

Agro-forestry is a sustainable farm management system in which trees and other wooded plants are purposely grown on the same land as agricultural crops or livestock, either concurrently or in rotation.

Agro-forestry is characterized by the existence of both ecological and economic interactions between the different components. Agro-forestry includes *agrosilvicultural* (trees and crops), *silvopastoral* (trees and livestock), and *agrosilvipastoral* (trees, crops and livestock) systems.

Agro-forestry refers to specific forestry practices that complement agricultural activities, such as by improving soil fertility, reducing soil erosion, improving watershed management, or providing shade and food for livestock. Just growing trees on agricultural land is not considered agro-forestry. Countries need to develop their own procedures to collect these data. Some may wish to collect data on specific agro-forestry activities. The reference period for agro-forestry data is the census reference year.

Qn.73: This question wants to establish whether agro-forestry is being practiced in the holding during the past 12 months.

**Section 2.22 Household food security**

*Household food security* refers to the situation where all members of a holding at all times are consuming enough safe and nutritious food for normal growth and development, and for an active and healthy life. A holding is food insecure if it is not able to afford to buy enough
food or is limited in food supply and therefore may not be able to eat safe or nutritionally adequate food. Food security refers to conditions related to a holding not producing enough food and not having enough resources to buy food; it does not refer to other causes of hunger such as dieting or physical inability to cook/buy food.

Household food security is a complex, multi-dimensional problem. Concepts such as food security, food insecurity, hunger and vulnerability are difficult to measure. Household food security may incorporate elements such as food shortages, fear of food shortages, perceptions about the quality or quantity of food eaten, and how people deal with food shortages. The nutritional quality of diets and safety of food are other elements. Access to health, sanitation, and other services also affect a household’s food security situation (FAO, 2000).

Various approaches have been used to measure household food security. Some countries have developed a household food security scale, which provides an overall assessment of where each household is on the spectrum between being food insecure and food secure, based on a series of food security related questions. Other countries undertake in-depth surveys exploring all the different elements of household food security.

It is not possible to fully cover household food security in an agricultural census, and it is difficult to make specific recommendations on which household food security items each country should include in its agricultural census. Some guidelines are provided in the paragraphs below.

Any survey involving a complex topic such as this will need extensive questionnaire development and testing. The concept of “food shortage” could be approached in different ways, such as asking about “getting enough food every day”, “facing food shortages”, or “not having enough money to buy food”. Food shortages may be reflected in various ways such as skipping meals, eating less expensive food, or cutting the size of meals.

It is recommended that food security not be included in the core agricultural census module. For the household food security supplementary module, two broad food security indicators are proposed: (i) food shortages faced in a twelve month reference period; and (ii) fear of a food shortage in the coming twelve months. Additional items on the types of food normally eaten, anthropometric data, and the effects of natural disasters are also proposed.

Qn.74: It establishes if there have been periods during the past 12 months that household members could not afford to eat what they eat.

Qn.75: For the households whose members could not afford to eat what they normally would eat, a code 1 is recorded for each month applicable. A table for 12 months stretching from September 2007 to August 2008 is provided for this purpose.

Qn.76: It seeks to establish the reasons for food shortage. Twelve (12) reasons are provided in column 2. The codes are given in column 3. Find out the main three reasons, in order of importance, and fill in the small table on the side appropriately. Note that the answers should not be in column 3 but in the boxes provided.

Qn.77: This finds out the households immediate response to food shortage, change in eating pattern. Three (3) responses have been provided (column 1 with a code in column 2). For each of these responses, either a code 1=yes will be recorded if applicable or a code 2=no if otherwise for adult male (column 3), adult female (column 4) and children (column 5). It is possible for the change to apply to more than one group.

Qn.78: Information is needed on the steps (coping strategies) which were taken to alleviate food shortage and nine (9) of them are provided in column in column 1 with codes in column 2. For each of steps/coping strategies, 1=yes will be recorded if applicable or 2=no if not.
This will be recorded for adult male (column 3), Adult female (column 4), children (column 5). Again, it is possible for the change to apply to more than one group.

Qn.79: It tries to establish if the household is likely to experience food shortage during the next 12 months.

Qn.80: It finds out whether or not the holding experienced a natural disaster. Natural disasters include the major climatic and physical events, as well as major pest attacks in the last 12 months. In Column 2 you are expected to circle appropriate code if disaster was experienced. The extent of damage is also required in column 3. Circle appropriate code for extent of damage.

Where in column 2 a disaster is not circled, then we expect 1 = None in column 3 to be circled. Similarly, where a disaster is circled, then 2, 3 or 4 is expected to be circled in column 3.

Section 2.23 Other Economic Production Activities:

The definition of an agricultural holding was provided in section 4.9. An agricultural holding can engage in other economic activities or enterprises other than agricultural production. For example, a holding may operate a shop or restaurant, in addition to operating the agricultural holding.

Other economic production activities are economic production activities undertaken by the holding enterprise, other than agricultural production on the holding. This may include fishing, collecting forestry products, craft activities, and operating a family business. It does not include paid work as an employee. The reference period is the last 12 months.

Qn.81: This question establishes whether there are other economic activities on the holding enterprise.

Qn.82: For those holding enterprises with other economic production activities, Nine (9) of them have been provided (column 1). Against each of them, circle if it is applicable for male holding members (column 2), female holding members (column 3) and children (column 4).

Nine activity categories are shown, based on ISIC (Rev. 3.1) (UN, 2004b):

- **Other agricultural production** refers to agricultural production activities of the enterprise outside the holding, such as where there are two holdings in a household.
- **Agricultural services** cover agricultural production related work done under contract on other holdings.
- **Hunting, trapping, game propagation and related service activities** include hunting for food and skin.
- **Forestry, logging and related service activities** include growing of standing timber, logging, gathering of wild forest materials, and forest management services. These activities may be undertaken on land forming part of the holding or elsewhere.
- **Fishing, aquaculture and related service activities** cover commercial fishing and related activities, including aquaculture. These activities may be carried out on land forming part of the holding or elsewhere. Note that this activity class covers all aquacultural activities of the enterprise, whereas section 2.19 only covers aquaculture carried out in association with agricultural production on the holding.
- **Manufacturing** includes a whole range of activities associated with transforming raw materials into new products. For households, the most common manufacturing activities are food processing, making clothes and other textile materials, tanning, and making wood products.
- **Wholesale and retail trade** covers services associated with the sale of goods at the final stages of distribution, such as through a market or shop.
- **Hotels and restaurants** covers all accommodation and food services.
- **Other** covers all other economic production activities, including activities related to construction and transportation.
Section 2.24 Sources of Household Income

Qn.83: Five sources of income are provided (col. 1) and for any of these applicable, should be ranked starting from 1 according to importance i.e. highest income earned, for male holding members (column 3), female members (column 4) and children (column 5).

Annex 1: Codes
This covers codes for columns 9, 10, 11, 12 in section 2.2 for main activity, situation in main activity, secondary activity and situation of the secondary activity as well as highest grade of education completed (column 7).

9.3 UCA Form 3: Community Module

UCA Form 3: Community Module will be used to collect data and information about LC1s/Villages in Uganda. The Interviewers (Enumerator) for this form will be Parish Chiefs and the respondents will be LC1 officials and other knowledgeable persons. A separate 'Interviewer’s Instructions Manual' has been prepared.

9.4 UCA Form 4: Crop Area Module

This module will be used twice during the census year to collect crop area data on all the parcels and plots operated by the holder following the explanations given in Chapter 6.

Section 4.1: Identification Particulars

The information on this section is applicable to similar sections of other forms. It will be used to link the various UCA questionnaires during subsequent operations. Therefore it is important that you take the utmost care in filling in this front page in a correct way. The front page again consists of 2 sub-sections:

(i) Sub-section 4.1.1 Holding Particulars
(ii) Sub-section 4.1.2 Enumeration Particulars

Sub-section 4.1.1: Holding Particulars
This section requests for information to identify the EA and the holding. As stated above, it is of the utmost importance that this section is correctly filled in, to enable links and cross-tabulations between the different forms to be used. The EA will be identified by:

(i) District name and code, using three digits, of which the first digit identifies the region and the last two digits identify the district within the region
(ii) County name and code
(iii) Sub-county name and code
(iv) Parish name and code
(v) EA name and code
(vi) LC1 name and code
(vii) Holding serial number
(viii) Holders name
(ix) Holders physical location address

All this information is needed to uniquely identify the EA. The District Supervisor will provide appropriate codes.

Qn.7: Holdings serial number should be transferred from the listing form.

Qn.8: Holder’s name should be written in such a way that the holder can be easily identified should a need arise. The names should be transferred from the listing form. The initials will be recorded first, followed by the surname in capital letters.

Qn.9: The holder’s physical location address should be written here, that is the holding’s physical address if such one exists. In rural areas most holdings will not have a physical address, so for those cases you should write down how to locate the holding. If the holder has a P.O. Box address, you should NOT use that, because this is a postal address.

Sub-section 4.1.2: Enumeration Particulars

Qn.10: Name of respondent. Here you will write down who actually provided the information. You should as much as possible try to interview the holder himself/herself, and if necessary go back to the holding in case he/she is not present at your first visit. If you cannot manage to interview the holder, you should interview another responsible adult person in the holding, well informed about the holding. Under no circumstances should the respondent be under the age of 18 years.

Qn.11: Relationship to holder. Find out what relationship the respondent has to the holder and assign the proper code. If the respondent is the holder himself/herself, the correct code is “1”, if it is his/her spouse, the correct code is “2” etc. codes are provided in section 4.1 (subsection 4.1.2) of the form.

Qn.12: Result of interview. Here you should assign the appropriate code for result of the enumeration after the maximum number of call-backs (if any) have been made. You should attempt to carry out the interview at least 3 times before you accept a non-response. In case of refusals, code 6, you should notify your District Supervisor as soon as possible, to see whether he/she can help solve the problem. There will be no substitutes in case of a non-response. Codes for the possible choices are provided below:

1 = Interview completed
2 = Partial interview
3 = No respondent available
4 = Household moved
5 = Dwelling destroyed/not found
6 = Dwelling vacant
7 = Refusal
8 = Other (specify)
Any other reason for not participating in the UCA should be classified under “other” and the reason specified in the space provided.

Qn.13: Coordinates of the entrance for the holders dwelling unit: Using a GPS device, an enumerator will take readings and record the coordinates of that entrance of the holders dwelling unit. Space has been provided for E-coordinates (6 digits) and N-coordinates (7 digits) in section 4.1 (subsection 4.1.2) of the form.

Qn.14: Time taken. Space is provided for recording time taken (in hours and minutes) to complete a form for a holding. This will require that an enumerator records the time at the start and end of enumeration in his/her counter book. Determine the difference between the 2 readings and this will be the time taken. Take a note of when you start and end the interview, and also keep account of substantial breaks during interview time. It is the actual time spent on the interview that should be filled in. Please note that the time which is not spent on actual enumeration, i.e. interruptions should be excluded.

Qn.15: Enumerators’ date of completing the form. The day and month will be recorded as: 25 10 in the case of 25th October. If you have had to make several visits, you should fill in the date for your last visit. Finally you write your name and signature to verify the information given. The appendage of your signature means that you have checked thoroughly all entries and edited them to the best of UCA 2008/09 standards. Deviation from this position will attract a requisite penalty.

Qn.16: This space should be left blank for the District Supervisors to fill in.

Qn.17: This space should be left blank for the National Supervisors to fill in.

Section 4.2: Area Characteristics

Qn.18: Seeks information about whether the holder operates agricultural land located within the enumeration area.

Qn.19: For the holder who operates agricultural land within EA, the question wants to establish if the holding has grown crops on the holding in this agricultural season.

Qn.20: If a crop(s) has/have been grown in the current agricultural season (column 2) information will be recorded for a crop code (column 3), number of plots in pure stand (column 4), number of plots in mixed stand (column 5). A list of crops with their respective codes is provided in Annex 1.

Qn.21: Area of agricultural land by parcel. For each of the parcels (within the EA) record the following:

(i) Parcel number (column 1) and name (column 2);
(ii) Sex code of the person responsible for the parcel (column 3);
(iii) Code of the location of the parcel (column 4);
(iv) Code of ownership terms, if parcel is rented (column 5);
(v) Code 1 = Yes if there is presence of shifting cultivation or 2 = No if otherwise (column 6). Shifting cultivation is the practice of moving from one plot to another during successive seasons leaving the earlier plot fallow.
(vi) Code for period (in years) since the parcel was cleared (column 7);
(vii) Area in Hectares using GPS device (column 8);
(viii) Holder’s estimate of parcel area: code for measuring unit (column 9) and area (column 10). As stated in section 6.6, all non-standard units have to be converted to area and then to Ha. before filling columns 9 and 10.

All the required codes are provided in the respective columns of Qn. 21 of the form.
For any specific row, if column 4 has 1 circled and column 8 is filled (i.e. parcel in EA), then columns 9 and 10 shall be blank, and vice versa.

The list of crops is very long. So it is not possible to go through the whole list. So you will have to find a way of leaving out some obviously inapplicable crops in the specific area. Work out the most frequently planted crops for each district (with assistance of MAAIF staff in the district).

Qn.22: Area of crop plots, crop cover, decision on proceeds from a plot and crop rotation. For each identified plot, information will be recorded on:

(i) Parcel number (column 1);
(ii) Plot number (column 2);
(iii) Code of Sex of plot manager (column 3);
(iv) GPS device area in Ha (column 4);
(v) Plot area estimate (Ha) by pacing i.e. if plot size is too small for accurate reading by GPS device (column 5); i.e. Less than 100 square metres;
(vi) Use/crop stand code (column 6);
(vii) Crop cover: crop type code (columns 7, 9, 11, 13, and 15): Respective cover percentages (columns 8, 10, 12, 14, and 16);
(viii) Code for who decides on the use of the proceeds from the plot (column 17).
(ix) Crop rotation: Code 1=yes if the same crop stand on the plot was the same as last agricultural season, 2=no if otherwise (column 18).

For the parcel with the residence, (headquarters parcel), Plot 1 should be the one with the residence/farm houses. *Exclude all area rented out and probe for any area rented in, within the EA.*

**9.5 UCA Form 5: Crop Production Module**

This module will be used twice during the census year to collect data on crop production and disposition following the discussion in Chapter 7.

**Section 5.1: Identification Particulars**

The information on this section is applicable to similar sections of other forms. It will be used to link the various UCA questionnaires during subsequent operations. Therefore it is important that you take the utmost care in filling in this front page in a correct way. The front page consists of 2 sub-sections:

(i) Sub-section 5.1.1 Holding Particulars
(ii) Sub-section 5.1.2 Enumeration Particulars

**Sub-section 5.1.1: Holding Particulars**

This section requests for information to identify the EA and the holding. As stated above, it is of the utmost importance that this section is correctly filled in, to enable links and cross-tabulations between the different forms to be used. The EA will be identified by:

(i) District name and code, using three digits, of which the first digit identifies the region and the last two digits identify the district within the region
(ii) County name and code
(iii) Sub-county name and code
(iv) Parish name and code
(v) EA name and code
(vi) LC1 name and code
(vii) Holding serial number
(viii) Holders name  
(ix) Holders physical/locational address

All this information is needed to uniquely identify the EA. The District Supervisor will provide appropriate codes.

Qn. 7: Holdings serial number should be transferred from the listing form.

Qn. 8: Holder’s name should be written in such a way that the holder can be easily identified should a need arise. The names should be transferred from the listing form. The initials will be recorded first, followed by the surname in capital letters.

Qn. 9: The holder’s physical/locational address should be written here, that is the holding’s physical address if such one exists. In rural areas most holdings will not have a physical address, so for those cases you should write down how to locate the holding. If the holder has a P.O. Box address, you should NOT use that, because this is a postal address.

Sub-section 5.1.2: Enumeration Particulars

Qn. 10 to 16 are the same as for UCA Form 4: Crop Area Module except for Qn.13 on Household Co-ordinates.

Section 5.2: Production and disposition of crops (within EA).

Data is collected on production and disposition within the EA.

Qn. 17: For each crop that was grown during the last completed season, the following information will be recorded:

Crops to be taken from Form 4 and filled in as follows:
   (i) Crop name (column 2a);
   (ii) Crop code (column 2b);
   (iii) Quantity harvested and its condition/state:
      • Unit code (column 3a)
      • Quantity (column 3b)
      • Condition/state code (column 3c).

(iv) Quantity sold and its condition/state:
      • Unit cost (column 4a)
      • Quantity (column 4b)
      • Condition/state code (column 4c)
      • Total value of production sold in UGShillings (column 5)
      • Main buyer code (column 6)

(v) Quantity used for other purposes
      • Processed for sale/animal feed (col. 7)
      • Given to landlord/proprietor (col. 8)
      • Consumed by household (col. 9)
      • Used for seed (col. 10)
      • Currently in storage (col. 11)
      • Given to others i.e relatives, friends, neighbours etc. (col. 12)
      • Portion (%) lost after harvest (col. 13)

(vi) Price (UGShillings) per unit indicated in col. 3a (col. 14)

All the required codes are provided within the form.
Section 5.3 Production and disposition of crops (outside EA).

This section is filled in like section 5.2 except it is now production and disposition outside the EA.

9.6 UCA Form 6: Private Large-Scale & Institutional Farms Module

Private Large Scale and Institutional Farms (PLS&IFs) will be covered on a complete enumeration basis. The District Supervisors will be the interviewers and a separate instructions manual has been prepared.

10 OVERVIEW OF THE UCA FIELD WORK

Fieldwork will involve a number of activities during the period. An overview of field work and the progress during the second season of 2008 and the first season of 2009 is given in Annex 5.
## ANNEXES

### Annex 1: Codes for State and Condition of Crops

<table>
<thead>
<tr>
<th>Code</th>
<th>Name</th>
<th>Description</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>111/112</td>
<td>Wheat/Barley</td>
<td>Dry – grain</td>
<td>45</td>
</tr>
<tr>
<td>120</td>
<td>Rice</td>
<td>Dry at harvest - with shell</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dry after additional drying – with shell</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dry after additional drying – grain</td>
<td>45</td>
</tr>
<tr>
<td>130</td>
<td>Maize</td>
<td>Green harvested – with shell/cob and with stalk</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Green harvested – with shell/cob without stalk</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Green harvested – in the cob</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fresh/raw harvested – with shell/cob and with stalk</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fresh/raw harvested – with shell/cob without stalk</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fresh/raw harvested – in the cob</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dry at harvest – with shell/cob and with stalk</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dry at harvest – with shell/cob without stalk</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dry at harvest – in the cob</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dry after additional drying – in the cob</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dry after additional drying – grain</td>
<td>45</td>
</tr>
<tr>
<td>141/142/150</td>
<td>Millet/Sorghum</td>
<td>Fresh/raw harvested – state not applicable</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dry at harvest – state not applicable</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dry after additional drying – state not applicable</td>
<td>49</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dry after additional drying – grain</td>
<td>45</td>
</tr>
<tr>
<td>210/222/223/320</td>
<td>Beans/Field peas/Cow peas/Pigeon peas/Soya beans</td>
<td>Green harvested – in the pods</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fresh/raw harvested – in pods</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dry after additional drying – grain</td>
<td>45</td>
</tr>
<tr>
<td>310</td>
<td>Groundnuts</td>
<td>Fresh/raw harvested – with shell</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dry after additional drying – with shell</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dry after additional drying – grain</td>
<td>45</td>
</tr>
<tr>
<td>330/340</td>
<td>Sunflower/Sim-sim</td>
<td>Dry at harvest – grain</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dry after additional drying – grain</td>
<td>45</td>
</tr>
<tr>
<td>410/420/430/440/610/620/640/740/741/742</td>
<td>Cabbages/Tomatoes/Carrots/Onions/Irish potatoes/Sweet potatoes/Yams/Bananas</td>
<td>Fresh/raw harvested – state not applicable</td>
<td>29</td>
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<tr>
<td>630</td>
<td>Cassava</td>
<td>Fresh/raw harvested – state not applicable</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dry after additional drying – state not applicable</td>
<td>49</td>
</tr>
<tr>
<td>520/530</td>
<td>Cotton/Tobacco</td>
<td>Dry after additional drying – state not applicable</td>
<td>49</td>
</tr>
<tr>
<td>811/812/813</td>
<td>Coffee</td>
<td>Fresh/raw harvested – in pods</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dry after additional drying – In pods or shell/husks</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dry after additional drying – grain</td>
<td>45</td>
</tr>
<tr>
<td>820</td>
<td>Cocoa</td>
<td>Fresh/raw harvested – in pods or shell/husks</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dry after additional drying – grain</td>
<td>45</td>
</tr>
<tr>
<td>830</td>
<td>Tea</td>
<td>Fresh/raw harvested – state not applicable</td>
<td>29</td>
</tr>
</tbody>
</table>

*Green harvested*  –  the crop is not completely grown

*Fresh/raw harvested*  -  the crop is fully grown and in some cases getting yellow before the drying starts
### Annex 2: Reckoner for converting paces to Metres

<table>
<thead>
<tr>
<th>Number of Paces</th>
<th>Pace Length or Pacing Co-efficient (Metres)</th>
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</tr>
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<td>Pace Length or Pacing Co-efficient (Metres)</td>
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### Annex 3: Unit of Quantity Codes

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<td>Gram (g)</td>
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<tr>
<td>3</td>
<td>Litre (l)</td>
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<tr>
<td>4</td>
<td>Small cup with handle (Akendo)</td>
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<tr>
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<td>Sack (120 kg)</td>
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<td>18</td>
<td>Plastic basin (20 l)</td>
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<td>Kimbo/Cowboy/Blueband Tin (1 kg)</td>
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<td>21</td>
<td>Kimbo/Cowboy/Blueband Tin (0.5kg)</td>
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<td>22</td>
<td>Cup/Mug (0.5 l)</td>
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<td>23</td>
<td>Basket (20 kg)</td>
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<td>Basket (10 kg)</td>
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### Annex 4: Conversion Table to Metric Units

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<td>Sq. Yards to Sq. Metres</td>
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<td>Sq. Miles to Sq. Kilometres</td>
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Annex 5: FIELD ACTIVITIES: UGANDA CENSUS OF AGRICULTURE (UCA), 2008/09 IMPLEMENTATION PLAN

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