



THE REPUBLIC OF UGANDA



UGANDA BUREAU OF STATISTICS

2002 UGANDA POPULATION AND HOUSING CENSUS

ADMINISTRATIVE REPORT

Uganda Bureau of Statistics
Statistics House,
Plot 9 Colville Street,
P.O. Box 7186,
Kampala,
Uganda

Tel: 256-41-706000
Fax: 256-41-237553
Email: ubos@ubos.org
Website www.ubos@ubos

March, 2007

2002 UGANDA POPULATION AND HOUSING CENSUS

ADMINISTRATIVE REPORT

UGANDA BUREAU OF STATISTICS
Plot 9, Colville Street
P. O. Box 7186
Kampala
Tel: 256 41 706 000
Fax: 256 41 237 553
Email: ubos@ubos.org
Website: www.ubos.org

March 2007

FOREWORD

The Uganda Bureau of Statistics (UBOS) was established in 1998 as a semi-autonomous body responsible for coordinating, monitoring and supervising the National Statistical System (NSS). The Bureau continues to support Government's results-based agenda by providing statistics needed for planning, monitoring development performance and progress in the implementation of major national development policies and initiatives.

The Population and Housing Census is the major source of demographic and social-economic statistics in Uganda. Population counts in Uganda started nearly 100 years ago with the 1911 Population Census. The country has conducted scientific population and housing censuses at intervals of about ten years since 1948. The latest such census was conducted in 2002 and was the most comprehensive census ever undertaken in Uganda.

Planning for the Census started in 1998 with the development of a Census Master Plan. The reference date for the census enumeration was the night of 12th/13th September 2002. The actual enumeration took place from 13th to 19th September 2002. Special arrangements were made to enumerate the homeless and hotel population. The Uganda Bureau of Statistics has published Census results in different reports at different times and with varying degrees of detail both at national and sub-national levels. The data have also been made available for researchers for more detailed analysis. This **Administrative Report** describes the entire process of how the 2002 Census was planned and conducted. The report is a record of experiences and will serve as a reference document for future censuses and large scale surveys.

The Bureau is grateful to the many institutions and individuals who contributed in various ways to the success of the 2002 Census. They include those who participated in the planning and/or implementation of the Census: Members of the Inter-Institutional Steering and Technical Advisory Committees; District Census Committees; field staff including Mapping Assistants, Enumerators and Supervisors; the millions of individual respondents who provided the required information; Data Processing staff and the authors of the various chapters of this and other Census Reports.

The Government of Uganda funded the bigger part of the Census and the other part was funded by various development partners. The Bureau is grateful for this collaboration and support.

John B. Male - Mukasa
Executive Director

TABLE OF CONTENTS

Foreword	i
List of Acronyms	vii
Chapter 1: Background	1
1.1 History of Census taking in Uganda.....	1
1.2 Conceptualization of the Census 2002	1
1.3 Objectives of the Census 2002	2
1.4 Strategy of the Census 2002.....	2
1.5 Legal and Institutional Framework	3
1.6 The Census Management Team.....	5
1.7 District Census Operations	6
Chapter 2: Census Technical Planning	9
2.1 Technical Strategy.....	9
2.2 Census Instruments	9
2.3 Development of the Instruments	11
2.4 Questionnaire Pre-test	13
2.5 The MSE Pre-test.....	14
2.6 Technical Assistance to Census Planning	15
2.7 Challenges and recommendations.....	16
Chapter 3: Cartographic Programme	17
3.1 Objectives and purpose	17
3.2 Mapping of Districts and EA Demarcation of Census	18
3.3 Challenges	22
3.4 Recommendations	25
Chapter 4: The Pilot Census	27
4.1 Introduction.....	27
4.2 Preparatory activities.....	27
4.3 Personnel and training	28
4.4 Pilot Census Sensitisation.....	28
4.5 Pilot Census Enumeration.....	28
4.6 Review of the pilot census field work	29
4.7 Data processing	29

4.8	Pilot Census Recommendations	29
Chapter 5: Administrative Support Services		31
5.1	Introduction:.....	31
5.2	Staffing	31
5.3	Office Accommodation:	32
5.4	Procurement.....	32
5.5	Transport:	33
5.7	Utilities Management:.....	34
5.8	Security Arrangements.....	34
5.9	Challenges/Lessons Learnt.....	35
5.10	Recommendations	36
Chapter 6: Census Field Operations		37
6.1	Field Operations Plan.....	37
6.2	The Field Organisation	38
6.3	Setting up of the District offices.....	38
6.4	Training of Field Staff	40
6.5	Transport and Distribution of Materials	43
6.6	Census Enumeration.....	44
6.7	Operations in Special Areas.....	45
6.8	Field Supervision.....	47
6.9	Retrieval of Materials.....	48
6.10	Lessons learnt	49
Chapter 7: Census Publicity.....		51
7.1	Publicity Strategy.....	51
7.2	Publicity	51
7.3	Publicity materials	54
7.4	Advocacy component.....	54
7.5	Challenges	55
7.6	Achievements/outcome of the campaign	55
7.7	Recommendations	56
Chapter 8: Post Enumeration Survey.....		57

8.1	Rationale	57
8.2	Implementation	57
8.3	Challenges and lessons learnt	61
8.4	Recommendations	62
Chapter 9: Data Processing.....		65
9.1	Overview	65
9.2	The Data Processing Plan	66
9.3	Pilot Census Data Processing.....	70
9.4	Census Materials Stores Management	70
9.5	Coding	72
9.6	Data Entry	73
9.7	Preliminary Editing	75
9.8	Cleaning of the Geo file.....	76
9.9	Final Editing.....	76
9.10	Tabulation Programme.....	78
9.11	Census Archiving and generation of Small Area Profiles (SAPs).....	78
9.12	Technical Assistance.....	79
Chapter 10: Analysis And Dissemination		81
10.1	Background	81
10.2	Census products	81
10.3	Dissemination of final Census products	87
10.4	Challenges and recommendations.....	88
Chapter 11: Financing Of Census 2002.....		91
11.1	Background	91
11.2	Funds Control and Monitoring.....	91
11.3	Budgets and Budgetary Performance.....	92
11.4	Audits	93
11.5	Procurement.....	93
11.6	Challenges	93
11.7	Conclusion and Recommendations	93
Chapter 12: Conclusions		94
12.1	Challenges	94
12.2	General Recommendations	95

LIST OF TABLES

Table 1.1: The Census 2002 Critical Path	8
Table 3.1: The Information compiled from Mapping	20
Table 5.1: Census staff categories at various levels of data processing	31
Table 10.1: A list of Census products so far produced	88
Annexes.....	97

LIST OF FIGURES

Figure 1.1: The Structure of the Census Administrative and Technical Committees	4
Figure 1.2 Structure of the Census Management Office.....	6
Figure 6.1: The Census 2002 Field organisation structure	38
Figure 7.1: The 2002 Uganda Population and Housing Census Logo	52

LIST OF ACRONYMNS

ADCO	Assistant District Census Officer
CMT	Census Management Team
CST	Country Support Team
CTAC	Census Technical Advisory Committee
CTF	Census Task Force
CTO	Census Technical Office
DCO	District Census Officer
DCT	District Census Team
DFI	District Farm Institute
DNCC	Deputy National Census Coordinator
DPC	Data Processing Centre
DPESOs	District Post Enumeration Survey Officers
DPU	District Planning Unit
FOM	Field Operations Manual
GoU	Government of Uganda
GPS	Global Positioning System
ISAE	Institute of Statistics and Applied Economics
LAN	Local Area Network
MFPEd	Ministry of Finance Planning and Economic Development
MSE	Micro and Small Enterprises
NCSC	National Census Steering Committee
NFOO	National Field Operations Officer
PES	Post Enumeration Survey
POPSEC	Population Secretariat
TWG	Technical Working Group
UBOS	Uganda Bureau of Statistics
UNFPA	United Nations Fund for Population Activities
UPDF	Uganda Peoples Defence Forces
UPIMAC	Uganda Project Management and Implementation Centre
USAID	United States Agency for International Development

CHAPTER 1: BACKGROUND

1.1 History of Census taking in Uganda

Census taking in Uganda started with the population count of 1911. This was followed by those of 1921 and 1931. These counts used mainly group enumeration with the hut as the unit of enumeration. Taking of scientific censuses started in the pre-independence era with the 1948 census followed by that of 1959. Both censuses were conducted separately for the African and non-African populations, and the individual was the unit of enumeration. In the post independence period, three unified censuses were conducted in 1969, 1980 and 1991. These were conducted jointly for all races and they used better methods of enumeration. They also included a built-in sample survey where some topics were examined in detail. The 1980 and 1991 censuses also had modules on the housing conditions.

Several technical and methodological reports were published from the 1969 and 1991 censuses. However, for the 1980 census, the questionnaires were lost before processing could take place. Hence only the provisional results and the administrative report were published. For the first time, district specific reports were published from the 1991 census.

1.2 Conceptualization of the Census 2002

Population Censuses are the main source of demographic and socio-economic data in Uganda, necessary for policy formulation as well as implementation, monitoring and evaluation of national development programmes. Uganda's last census was conducted in January 1991, and the data were becoming obsolete. In addition, the decentralisation policy had shifted the planning function to the local government level. It was thus necessary to update the data and this formed the basis for Uganda deciding to conduct a population census in the year 2002.

The planning process for the Census 2002 started in 1997 within the Population and Social Statistics Section of the then Statistics Department. Planning started with the development of a comprehensive Census Master Plan which outlined the overall strategy of the census, the legal and institutional framework, the timeline and the human and financial resource requirements. This was later transformed into a project document which was the guiding document in the census implementation.

1.3 Objectives of the Census 2002

The long-term objective of the 2002 census was “to maintain approximate decennial censuses and ensure availability of time series population benchmark statistical information at various administrative levels for the development of a coordinated and integrated data collection system in the country”.

Immediate objectives:

- ◆ To create/update census field maps and lists of EAs for the control of the 2002 census and construction of efficient area sampling frames.
- ◆ Effectively complete conducting a Population and Housing census with an Agriculture and Livestock module.
- ◆ To generate basic demographic and socio-economic data from the 2002 census disaggregated by sex, age and administrative areas.
- ◆ To compile agricultural and livestock sampling frames to be used in the subsequent sample surveys of these components.
- ◆ To evaluate, analyze and disseminate the census results at all administrative levels

1.4 Strategy of the Census 2002

The objectives of the census were achieved through three inter-related and internally reinforcing phases, namely; pre-enumeration, enumeration and post-enumeration phases.

During the Pre-enumeration phase, setting up the census secretariat and development of the entire census programme was done. Other activities included cartographic work, conducting of a pilot census and development of the necessary machinery and instruments for implementation of the other two phases.

The Enumeration phase was the second major phase of the census. It involved recruitment and training of field staff who canvassed all categories of the population using structured questionnaires.

The Post-enumeration phase was the final phase of the Census programme and its satisfactory completion ensured a successful census. Activities under the post-enumeration phase included data processing, analysis, evaluation and dissemination of the results. As part of the evaluation, a post-enumeration survey was conducted.

The guiding principle was that the census was to be demand driven, and be able to provide all planning levels with the required data. The following issues were adopted:

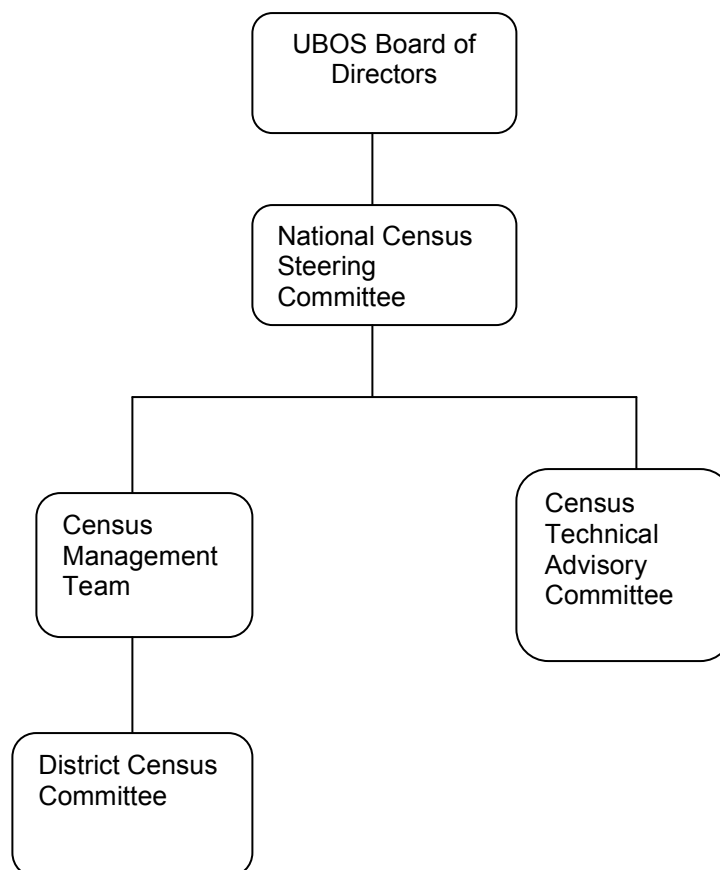
- The Census 2002 was to use a uniform and structured questionnaire for all areas in the country.
- Cartographic work was to be undertaken to update the administrative area boundaries and demarcate Enumeration Areas (EAs)
- The information was to be collected in a face-to-face interview with the enumerators moving from household to household.
- Data analysis was to be extended to levels lower than national and regions unlike as is done by the sample surveys where this is not possible.
- Quick dissemination of the results

1.5 Legal and Institutional Framework

The Uganda Bureau of Statistics Act, 1998 Section 14 empowers UBOS to conduct Censuses and Surveys as need arises". The 2002 Census was conducted under that legal framework.

Preliminary arrangements for Census 2002 started way back in 1998 under the UBOS Directorate of Population and Social Statistics. In December 2000, a National Census Task Force (CTF) was constituted in order to execute the census. A fully fledged Census Management Team (head office secretariat) was setup in October 2001, under the leadership of the National Census Coordinator.

UBOS worked in partnership with Local Governments, Line Ministries, Development partners, the Private sector and the Civil society in the implementation of the census. Two inter-institutional committees were set up. These were the National Census Steering Committee (NCSC) for resource mobilisation and policy guidance and the Census Technical Advisory Committee (CTAC) for technical support. The structure of the census committees was as indicated below:

Figure 1.1: The Structure of the Census Administrative and Technical Committees

The membership and terms of reference for the Census Management Team and the Census Technical Advisory Committee were as indicated below:

Membership of the NCSC

1. UBOS
2. Ministry of Gender, Labour and Social Development
3. Ministry of Agriculture, Animal Industry and Fisheries
4. Ministry of Education and Sports
5. Population Secretariat

NB: The National Census Coordinator was the Secretary to the Committee.

Terms of Reference of the NCSC

- Co-ordinating major policy decisions;
- Guide and direct overall Census programme;
- Advising UBOS Board of Directors on policy aspects of the Census;
- Reports to UBOS Board of Directors.

Membership of the CTAC

1. UBOS
2. Institute of Statistics and Applied Economics, MUK
3. Decentralisation Secretariat
4. Population Secretariat
5. Ministry of Works, Housing
6. Ministry of Finance, Planning and Economic Development
7. Ministry of Agriculture, Animal Industry and Fisheries
8. Ministry of Education and Sports

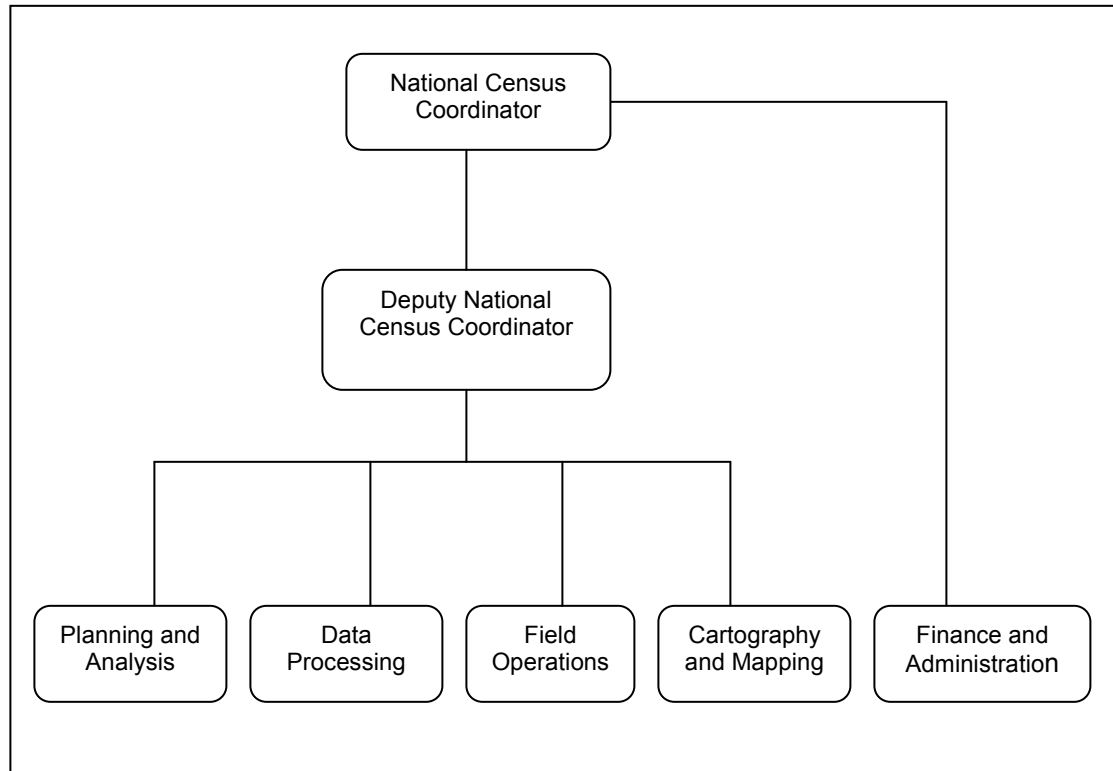
NB: The Census Technical Officer was the Secretary to the committee

Terms of Reference for the National Census Technical Advisory Committee

- Provide technical advice and guidance to CMT and NCSC.
- Ensure that the Census instruments are in place.
- Monitor the implementation of Census activities.
- Reports to NCSC.

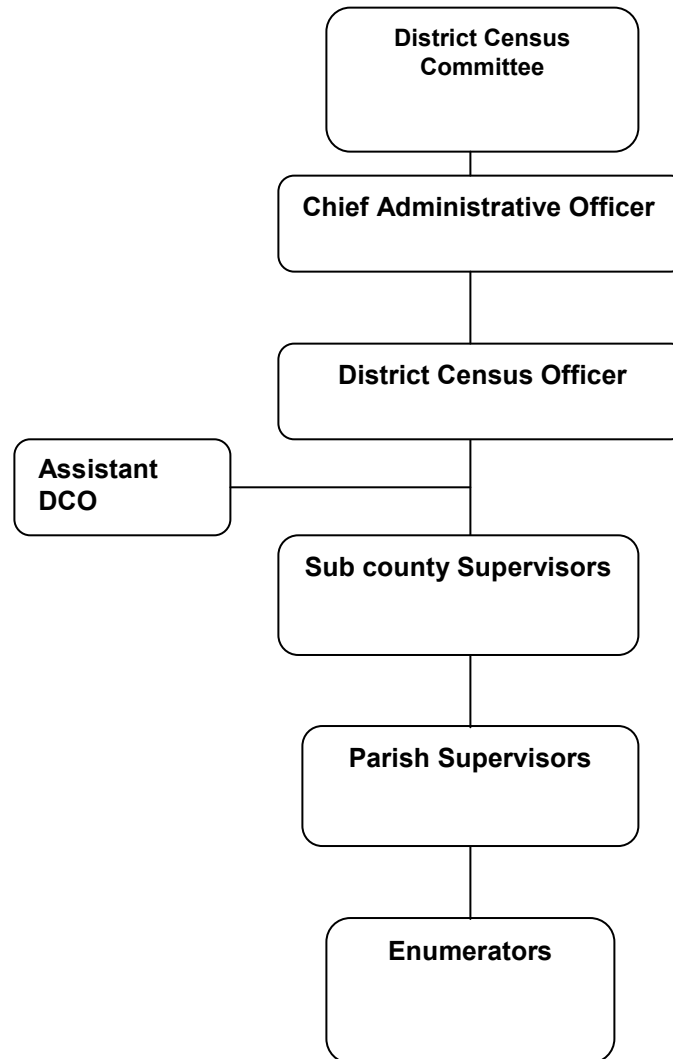
1.6 The Census Management Team

A Census Secretariat was set up in October 2001 headed by the National Census Coordinator (NCC). The secretariat had Six (6) sections as shown in Figure 1.2. The Deputy NCC was responsible for overseeing all technical operations. Most of the census staff were drawn from other sections of UBOS. The heads of the various sections were constituted into the Census Management Team (CMT) under the chairmanship of the National Census Co-ordinator (NCC).

Figure 1.2 Structure of the Census Management Office

1.7 District Census Operations

At the district level, census implementation was vested in the office of the Chief Administrative Officer (CAO). However, the day-to-day running was done by a member of the District Planning Unit (DPU) who was designated as the District Census Officer (DCO). In cases of districts with many subcounties, the DCO had an assistant(s). District Census Committees were set up to oversee implementation of the census in the district.

Figure 1.3: Hierarchical set up of the District Census Office

The composition for the District Census Committee was as below:

1. Chief Administrative Officer
2. District Agric Extension Co-ordinator.
3. District Education Officer.
4. District Community Based Services Co-ordinator.
5. District Information Officer.
6. Resident District Commissioner - ex-official
7. Chairman LCV- ex-official member

NB: The District Census Officer was the Secretary to the District Census Committee.

The terms of reference for the District Census Committee were:

- Mobilization of the Population.
- Overseeing Census activities within the district.
- Mobilization of locally available resources.
- Advising the Census Management Team on Census activities in the district.
- Reports to Census Management Team.

1.8 The Census Timeline

The census project document had a guideline on the time frame of the census activities. The Technical Working Group (TWG) with Technical assistance from the US Bureau of the Census modified the work plan and developed the Critical Path, as a guide to implementation of the Census. The Critical Path synchronised the major activities but also included sub-activities as seen in Appendix 2. This was summarised into 12 major activities of the Census as outlined below:

Table 1.1 The Census 2002 Critical Path

Major Activity	Starting Date	Ending Date	Duration (months)
A. Census Organizational Structure	01-Dec-00	02-Apr-01	4
B. Cartographic Work	01-Apr-99	20-Oct-04	67
C. Design Of Census Forms And Procedures	01-Apr-99	03-Jun-01	26
Census Questionnaire Pre-Test	09-Mar-01	12-Mar-01	0
D. Pilot Census	23-Mar-01	22-Jan-02	10
4. Pilot Census Enumeration	04-Sep-01	12-Sep-01	0
E. Census Publicity	27-Aug-01	27-Aug-02	12
F. Preparation And Printing Of Enumeration Materials	21-Jan-02	27-Jun-02	5
G. Field Operations And Enumeration	27-Feb-02	23-Oct-02	7
Census Enumeration	13-Sep-02	19-Sep-02	0
H. Compilation Of Provisional Results	13-Sep-02	11-Nov-02	2
I. Post-Enumeration Survey Activities	28-Mar-01	22-Apr-03	25
PES Re-Interviewing	14-Jan-03	18-Jan-03	0
J. Data Processing Activities	27-Feb-02	02-Oct-03	19
K. Data Analysis And Report Writing	05-Feb-03	07-Apr-04	14
L. Publication And Dissemination Of Results	08-Apr-04	13-Jun-05	14

CHAPTER 2: CENSUS TECHNICAL PLANNING

2.1 Technical Strategy

The overall strategy for the Census 2002 was a modification of the one from the 1991 census. The guiding principle was that it had to be demand driven, and be able to provide all planning levels with the required data. Rising out of this principle, the following were adopted:

- The Census 2002 used a uniform and structured questionnaire for all areas in the country. There was no sampling like in the 1991 census where the short and long the long questionnaires were used and the long questionnaire was administered to a sample of respondents.
- The information was collected in a face-to-face interview with the enumerators moving from household to household.
- The Census 2002 was highly consultative in an effort to accommodate the views of the various stakeholders.
- Data analysis was extended to levels lower than national and regions.

The 2002 census was the most comprehensive census ever undertaken in Uganda. This census collected household-based data on population, housing, agriculture, micro and small enterprises as well as community-based data.

2.2 Census Instruments

Three questionnaire types were used in the census. These included the Household, Community and Micro and Small Scale Enterprises questionnaires. Manuals of Instructions code lists and summary sheets were developed to facilitate the process of data collection. The Census instruments included;

- i. Household questionnaires
- ii. Community questionnaire
- iii. Hotel questionnaire
- iv. Micro and Small Scale Enterprises questionnaire
- v. Pest Enumeration Census questionnaire
- vi. Code lists
- vii. Supervisors Manual
- viii. Enumerator's Manual
- ix. Summary Sheets

- x. Training Guidelines

2.2.1 The Census Questionnaires

The census used a structured questionnaires to be administered at household and community level. The census used three different types of questionnaires namely the Household Questionnaire (including the Agricultural Module), the Micro and Small Scale Enterprise (MSE) Questionnaire, and the Community Questionnaire.

The **Household Questionnaire** was the main module of the census, which was an expanded version of the 1991 Census long questionnaire. It included questions on demographic and socioeconomic conditions of the household members as well as household and housing characteristics. The household questionnaire was later expanded to include questions on household deaths as well as questions measuring the welfare of households. It was administered to household population and institutional population.

An **Agricultural Module** was included in the household questionnaire of the Census 2002. The major aim of the module was to provide sampling frames for the planned Census of Agriculture (CA) in 2003 and Census of Livestock (CL) in 2004.

The **Micro and Small Enterprises (MSE)** Module was included as a separate questionnaire with the aim of obtaining basic information about the volume and activities of MSEs in Uganda.

The **Community Module** was included to capture those variables relevant for poverty mapping but is experienced more at a community than individual level. Examples of such variables include natural calamities like draught, man made disasters like war/insurgence and facilitation available to the society e.g. motor able road access.

The **Hotel Questionnaire** had some basic questions selected from the household questionnaire and was self administered in hotels.

The **PES Questionnaire** was developed by extracting some basic questions from the household questionnaire. The questionnaire was used during the Post Enumeration exercise that was conducted after the main census enumeration.

To enhance efficiency in the data collection process, the Census questionnaires were extensively pre-coded.

The Census instruments are included in Appendix V

2.3 Development of the Instruments

The Census Technical Office was responsible for developing of the census instruments. The process was initiated in 1997 when the Population Unit of the then Statistics Department developed a draft questionnaire for discussion with stakeholders.

2.3.1 Stakeholder consultations

Various stakeholders were requested to submit their requirements towards the development of the questionnaire. Over 600 submissions were received. The draft questionnaire was revised accordingly. The process culminated into a stakeholders meeting, held in March 1999.

2.3.2 Role of the Census Task Force (CTF)

The CTF was put in place in December 2000 with the major tasks being:

1. Finalisation of the development of the Census Instruments
2. Continuation of the mapping process;
3. Setting up the national Census office.

The CTF discussed the stakeholders' submission and a set of questions agreed upon. These formed the basis for the first draft of the Main Household Questionnaire.

2.3.3 The role of the CTAC

Following the formation of a fully fledged Census Office in October 2001 (replacing the CTF), the Census Technical Advisory Committee (CTAC) was constituted. The first task the CTAC embarked on was finalisation of the Census instruments. To date the CTAC has held 21 meetings, many of which were either fully or mainly devoted to the review of the census instruments.

2.3.3.1 Final Review of Questionnaires

After CTAC had approved the questionnaires, the final set of instruments (questionnaires, code lists and instruction manuals) were reviewed by two eminent statisticians (Demography and Agricultural Statistics). The aim of which was to identify any minor errors prior to printing.

2.3.3.2 Questionnaire Translation

For purposes of ensuring uniformity and understanding of the questionnaire into local languages, the Census household questionnaire (other than other instruments) was translated into 17 (seventeen) local languages, namely; Luganda, Ateso, Luo, Lusoga/Lugwere, Runyankole/Rukiga, Rutooro/Runyoro, Kakwa, Japadhola, Lukonzho, Lusamia, Lugbara, Lumasaba/Lugisu, Rufumbira, Kupsabiny, Madi, Ngakarimojong, Lwamba/Iwabisi. There were both forward and back translations.

The process involved translations of only the questions that were to be asked to the respondents. The other components of the questionnaire like the code list and instructions to field staff were not translated. These were printed separately on cards that were used during Enumerator Training. Each Enumerator was assigned a copy of the translation card. Experience in the field however showed that the cards were not extensively used by the Enumerators. A copy of the translation card for Luganda language is shown in Appendix V.

2.3.3.3 Development of Other Instruments

In addition to the structured questionnaires, several other instruments were developed to ease the enumeration process.

The code list had an exhaustive and mutually exclusive list of possible responses to a given question and their respective codes. Codes were developed for all questions asked except Occupation and Sub county of Birth. During the Pilot Census, a provision was made for the enumerators to specify the exact response if it did not fall in the categories provided. These were reviewed and the findings were used to improve on the code list.

Instructions Manuals for the enumerators and Supervisors were developed to ensure uniformity in the interpretation of census questionnaires and procedures. These were continuously updated as and when the questionnaires and procedures were changed.

The other instruments developed included the following:

- i. Training Guides –These helped the trainers to ensure uniformity of the training to all field staff. A Verbatim Training Guide had been proposed but because of time constraints, it was not developed.
- ii. Parish Supervisors Checklist/Guidelines – These were developed to standardize the supervision process. They provided the parish supervisors with a timetable for supervision as well as a checklist of items to use during the supervision process.

- iii. Enumerator's Checklist – same as ii) above. This included a list of guidelines for field work for the enumerator, outlined on a daily basis
- iv. Population Summary Sheets – These were used to compile provisional household and population counts for all levels starting at the EA levels. These were consolidated upwards up to the district.

2.4 Questionnaire Pre-test

A questionnaire pretest was carried out in July 2001 with the aim of testing the technical appropriateness of the draft questionnaire and Instructions Manuals. The pretest which was conducted by 6 UBOS Staff was implemented in 214 households in Wakiso district. The findings of the pre-test were used to improve on the questionnaire content, layout and instructions manuals. A major amendment was the introduction of a Community Questionnaire to collect information on issues that affected the entire community rather than individuals. Thus no population estimates or characteristics were produced from the pretest.

2.4.1 Preparatory work and the Field Pre-test

Identification and training of the field staff was carried out by staff of the Census Technical Office. A total of 12 enumerators and 3 field supervisors were recruited for the pre-test. The pretest enumerators were mainly UBOS staff (Directorate of Population Statistics and the Directorate of Production - Agricultural Statistics Section) with good knowledge of both English and Luganda languages which is the commonly spoken language in Wakiso District. Prior to the enumeration, the interviewers were given one-week training, which included classroom instructions (based on the questionnaire and Instruction Manuals), mock interviews and field practice in area estimation for the agricultural module.

Because the pre-test was not aimed at generating representative data, the EAs were purposively selected and these were Tyabire, Bumpenja, Katabi - Busambaga, Kitinda, Bwerenga A & B and Jungo LC 1's. With the help of guides, the enumerators purposively selected the households so as to be able to get a good mixture of Luganda and English speaking respondents, as well as having enough households that are involved in agriculture.

The enumeration was carried out for two days (July 18 – 19, 2001). A total of 214 households (with a total population of 984 persons) were interviewed in the exercise.

Because of the design of the pre-test, the Material Control Forms and Population Summary Sheets were not used.

2.4.2: Pre-test findings

A debriefing session was held in July 2001, immediately after the data collection. The reports focused on the questionnaire wording (Luganda and English versions), the flow of the questions, the instruction manuals and the code list scheme (to ensure that it is mutually exclusive and exhaustive). The pre-test revealed the following:

- There were some weaknesses and inconsistencies in the questionnaires and instruction manuals
- On average, it took about 30 minutes to interview a household which is engaged in agriculture, while one which is not, required about 20 minutes.
- Most interviews were conducted in Luganda. Therefore, it was confirmed that the translation of the questionnaire into local languages is essential to ensure uniformity in understanding the questions by interviewers and respondents.

2.5 The MSE Pre-test

The Micro and Small Enterprise (MSE) sector is second only to agriculture in overall economic importance in Uganda and is believed to be the most dynamic sector in the economy. However, there is no information on the overall universe of micro and small enterprises. It was therefore proposed to include an MSE module in the 2002 Population and Housing Census.

Prior to taking the decision on the inclusion of this module, a pre-test of the module was carried out. A Task Force including UBOS (Census Office), MFPED (MSE Policy Unit) and SPEED project was constituted to oversee the pretest. The overall objective of this pretest was to determine the feasibility of including the MSE module in the 2002 Population Census.

Specifically, the pretest examined the following:

1. Whether the module can be included in the Census 2002;
2. What are the time and data quality implications as a result of inclusion of the module;
3. A test of the proposed instruments to be used.

2.5.1 The MSE Pretest Enumeration

For purposes of the pre-test, the census night was the night of April 19, 2002. The enumeration took place between April 20 – 26, 2002. Each enumerator was required to enumerate the entire EA within seven (7) days. The enumerators were supplied with maps showing the location of their respective EAs within the Parish. The enumeration was intensively and continuously supervised by CTO staff.

Four out of the five enumerators were able to complete their enumeration within the seven days. However, one enumerator enumerated a total of 156 households and had another 187 not completed¹.

2.5.2 The findings of the MSE Pretest

A half-day debriefing workshop was held during which the enumerators shared their field experiences with the Task Force. Further, UBOS staff reviewed the field returns to ascertain the data quality and enumeration time. Like the earlier pretest, the MSE pretest did not produce characteristics of MSEs. In addition to administrative and publicity issues identified in earlier studies, the MSE pretest revealed the following:

- i. MSEs can be easily identified at the household levels and the information was basic and easy to obtain.
- ii. Nearly one third of the households have an MSE.
- iii. It is not feasible for an enumerator to enumerate more than 140 households within the recommended seven days.

The major conclusion from the MSE pretest was that the inclusion of the MSE module in the census was feasible. However, the targeted households per enumerator should be reduced to maintain data quality and completing the exercise in the planned period.

2.6 Technical Assistance to Census Planning

Technical assistance was sought during the process of Census Planning.

- In 2000, an advisor from the UNFPA Country Support Team (CST) in Addis Ababa made a two week visit and offered guidance in overall census planning. He facilitated the finalisation of the Census Master Plan and accompanying budget.

¹ The Mapping exercise estimated this EA to have 171 households, not 343 as actually observed.

- In 2000, a two person delegation from the US Bureau of the Census, with funding from USAID/Uganda visited UBOS for a period of four weeks to help with the overall planning of the census activity. The major output of this technical assistance was the development of the Census Critical Path.

2.7 Challenges and recommendations

2.7.1 Challenges

- i) delayed funding caused shifting of census activities from time to time
- ii) the MSE module was introduced after finalisation of the household questionnaire. The instrument was not pretested, neither piloted alongside other questionnaires. This led to increased workload for the enumerator's that affected the main census process.
- iii) The process of developing the supervisor's and enumerator's checklists was carried out late and therefore they were produced separately and did not form part of the Enumerator's Instruction Manual.
- iv) The enumerator's manual did not specify the inclusion of hotel population as part of the total population count
- v) The use of translation cards was not implemented during the questionnaire pretest and pilot testing
- vi) The questionnaire was too overloaded which increased enumerator workload.
- vii) The stakeholder consultations for questionnaire design were held in 1999 and yet implementation was done in 2002. This could have led to a missed opportunity to include any recent developments and demand changes for stakeholders.

2.7.2 Recommendations

- i) Deadlines for questionnaire finalisation should strictly be adhered to. This will avoid overloading the questionnaire and creating excessive work without careful planning
- ii) Increase wider stakeholder consultations for questionnaire development
- iii) There is need to devise strategies of sensitising stakeholders about the implications of late submission of questionnaires, perhaps by indicating that any late submissions for the questionnaire would require pretesting and piloting the survey instruments. (UBOS should stick to its guns and should reject late submissions)
- iv) The use of translation cards needs to be pre-tested and piloted

CHAPTER 3: CARTOGRAPHIC PROGRAMME

3.1 Objectives and Purpose

The Census Office established Cartography and Mapping Unit as one of its five units, charged with both census field mapping and office cartographic map production activities. However, the training had taken place back in 1997, and field mapping work started in 1999 with staff seconded from UBOS. The major reason for carrying out the census mapping exercise was that since the 1991 census, many changes had occurred throughout the country. Some of the settlements that were there previously no longer existed or had moved, some localities had grown bigger, others had diminished in population size, and completely new settlement had sprung up where there were none few years ago. There had been many changes to the number of districts, counties, subcounties, parishes and villages since 1991. This meant that the maps previously used were then out of date and could not be relied upon for planning and controlling the 2002 Census operations.

In order to maintain the mapping standards and specifications, a Cartographic Advisor was sourced from the Department of Lands and Surveys (DLS), whose responsibility was to ensure quality of the cartographic work and mapping. Because census mapping is a point event that is decennial, It was important for the Census programme to collect information that would be compatible and integratable with DLS, whose mandate is to update topographical base maps.

3.1.1 Major Objectives

The major objectives for the cartography and mapping unit included:

1. To create and update census field maps together with the lists of enumeration areas required for controlling the 2002 census field enumeration and the construction of an efficient area-sampling frame for intercensal statistical surveys and other activities.
2. To evaluate, analyze and disseminate the 2002 census results through statistical map publications and other media that will facilitate effective and extensive applications.

3.1.2 Specific Objectives

The specific activity objectives included:

- To update the maps used in the 1991 census. To include all administrative boundaries and names, villages, roads, tracks, etc.
- To geo-locate all the important land marks using global positioning systems (GPS) sets. To include all the socio-economic infrastructures like schools, churches, mosques, industries and hospitals.
- To carry out tally counting and listing of households in order to obtain up-to-date estimates of the population.
- To delineate enumeration areas (EAs) on the updated maps.
- To produce Enumeration Area and Supervision Area Maps for census enumeration.
- To create a sampling frame for future surveys.

3.2 Mapping of Districts and EA Demarcation of Census

3.2.1 Staffing

The staff of the unit included: the Census Cartographer, 1 Cartographer, 6 Cartographic Assistants, 1 map-filing clerk; and 53² mapping assistants. This formed a strong labour force of energetic and courageous personnel that managed to complete the field mapping and EA map production tasks early in time for enumeration.

In 1997, the then Statistics Department had recruited and trained 23 mapping staff, but due to financial constraints, the census activity never continued and these staff never worked. The Census Office first recruited 20 mapping assistants in 1999 and later as the momentum and the date for enumeration was agreed upon; an extra 23 were brought on board in September 2001. This is latter evident in the output coverage that drastically changed from October-December quarter of 2001³. The minimum requirement for qualifying to be a mapping assistant was O'level certificate, and recruitment was made under temporary terms of appointment.

The mapping assistants underwent training for two weeks (at Mukono DFI and Nabinonya, Entebbe) in map reading/interpretation as well as techniques of graphic representation of

² See Appendix II

³ See Appendix III

up dated features. Basic mapping tools used included traditional instruments i.e.: prismatic compass, pedometer, ruler, and protractor⁴.

The listing, tallying, boundary identification and GPS geo-locating of important land marks including socio-economic infrastructure like schools, churches, mosques, industries, hospitals, etc, was done with the assistance of the local council officials and authorities.

The field mapping exercise was carried out with full time involvement of District Census Officers and their assistants, who participated in the supervision of mapping in their districts. This collaboration between the National Census Office and district administrations was of very great assistance as a strategy to speed up coverage and bring about ownership of the entire census exercise right from the start was realised. The entire top district leadership, opinion leaders and the area members of parliament, were informed ahead of the exercise, and were requested to give a hand in publicity during their public meetings and rallies within their areas in the district.

The Chief Administrative Officers forwarded letters⁵ of introduction to the field teams, and some of them assisted the teams whenever transport and other logistical problems arose.

The LCI chairperson or their representatives in the rural and town agents for the case of towns guided the mapping teams in identifying their local village/zone boundaries as well as the available socio-economic facilities. This kind of work was done systematically and the neighbouring villages would be reconciled before the area boundaries would be deemed valid. These officials exhibited good knowledge of the extent of their local areas and were very instrumental in the achievement of a completed nation wide census mapping.

3.2.2 Field Map Updating

The mapping teams visited the entire district and canvassed the areas systematically in order to update the existing administrative units and socio- economic infrastructure. The listing, tallying, boundary identification and GPS geo-locating of socio-economic infrastructure like schools, churches, mosques, industries, hospitals, etc, was done with the assistance of the local council officials and authorities.

⁴ Details of procedures and materials available in the 'Manual for Mapping April 1999'

⁵ See Appendix IV

The teams were provided with subcounty base maps. The base maps are produced from 1: 50,000 topographic sheets covering the sub-county, which are enlarged or reduced to convenient scales depending on the area covered by the administrative units. The 1991 sub-county census enumeration maps were used as reference during the exercise.

The names and different levels of the administrative units were recorded on the specially designed control forms. Locations of the existing socio economic infrastructure especially point feature co-ordinates were also recorded in separate forms⁶. These would form the basis for the establishment of the geodatabase.

3.2.3 EA Demarcation

The Enumeration Area (EA) demarcation was done based on the region down to the parish level, by having a coding system that identified each region, district, county, sub-county, and LCI/villages levels. This was done by having one digit for region, two for district, one for county, two for sub-county, two for parish, and two for village/LCI.

The enumeration areas were demarcated on the updated maps based on the number of households in an LCI/village. This ranged from 50-200 in rural areas and 100-150 in urban areas. In addition to this, the ease of accessibility in the locality was taken into consideration. Based on the above criteria, villages/LCIs were either split or combined to form an enumeration area, This implied that EAs were demarcated within a parish, i.e. no EA crossed the parish boundary.

In total 56 districts, 163 counties, 958 sub-counties, 5238 parishes were delineated, and 34,064 EAs were demarcated.

Table 3.1 The Information compiled from Mapping

Geographical Area	District	Counties	Sub-counties	Parishes	EAs
Number of units	56	163	958	5,238	34,064

⁶ The spatial reference system used is Universal Transverse Mercator; Datum Arc 1960; Central Meridian 33°E based on Ellipsoid Clarke 1888 projection.

3.2.4 Preparation of Maps for Enumeration

3.2.4.1 Production Process

In order to complete mapping before enumeration, the most appropriate production line was adopted. The updated maps were hand drawn based on the traditional methods using simple tools i.e. pen and markers to show the updated features.

To ensure conformity and completeness, the updated maps were cross checked against the control forms (manual filled field forms indicating the changes found in a particular village/LCI surveyed). Copies of the final maps were then labeled and stored for reference. A total of 958 sub-county maps were up dated and produced.

EA maps provided guidance to the enumerators about the location and extent of the area to be covered during enumeration. For purposes of mass reproduction of copies of EA maps, the photocopying option was adopted.

EA maps were produced from sub-county maps by photocopying the particular parish area, where that EA was demarcated from. Each parish supervisor was provided with a copy of the parish maps showing all EAs in the parish. The sub-county supervisors were provided with sub-county maps of their respective areas.

Training was later conducted at different levels for supervisors and enumerators on proper use of maps for the purpose of census enumeration.

3.2.5 Post Enumeration Mapping

The returns from the enumeration exercise revealed a number of gaps in the geographical data captured during the initial mapping exercise. This could be seen in the number of administrative units from village to sub-county. Some districts which were mapped in 1999 and 2000 had by the time of enumeration newly created administrative units at lower levels. Secondly, the first fifteen districts the exercise started with (Kumi, Soroti, Kaberamaido, Lira, Katakwi, Masindi, Hoima, Kibaale, Mbabara (partly), Ntungamo, Gulu, Moyo, Adjumani, Nebbi) were not geo-referenced. Therefore, there was great need to revisit these districts to capture the geo-locations and also update the administrative units according to the census returns.

During the post enumeration exercise all the above mentioned districts were revisited and geo-locations collected. UNFPA provided financial assistance for this exercise. The data collected was very useful in validating and cleaning the geography file during the data processing phase.

3.2.6 Preparation of Geodatabase

After census mapping fieldwork, the generated sub-county maps were carefully filed and stored. Through support from development partners, computer software and equipment including specialised computers were procured. Subsequently, training of Cartographic and Mapping Unit staff to handle the tasks of digitization of the sub-county maps and transformation of the geographic information was conducted. Because the staff lacked skills of handling such big data set, the Bureau sought assistance from other CSOs to assist in building capacity in this area from Statistics South Africa.

Data specifications and geodatabase construction procedures were formulated with assistance from EFMP/II capacity to UBOS after post enumeration mapping was completed. The database platforms that were constructed are simplified to facilitate its integration with other bureau systems. Therefore, the current strategy allows growth and smooth migration of file-based systems to geodatabase processing framework. This will work as a base for future census undertakings.

3.3 Challenges

3.3.1 Lack of regular supply and sufficient funds

Through out the whole mapping exercise period, there were breaks caused by supply of funds from GoU, this caused even the planned date for the Census to be shifted from 2001 to 2002. UBOS was therefore, kept under its knees praying for best at any given end of a district field work, and this is the reason for not having recruited a big number of mapping staff from the very beginning to speed up work. There was an indirect association with lack of enough vehicles, and therefore fewer teams (4) were deployed, although the same number of personnel would have been able to raise 2 extra teams and register more output per each quarter of the year.

The consequences of lack of this were:

1. Delays in acquisition of necessary expendables like map photocopying machines, stationery, and field equipment like GPS systems for field work. This resulted in mapping of the first 14 districts without GPS.
2. Limited supervision of the fieldwork teams by the census office affected the quality and the progress of work, in situations where supervision was adequate the

supervisors took advantage to speed up work and improve on quality of the map data.

3.3.2 Security matters

Because of the insecurity in areas of the north and southwest of the country, the census mapping planning was affected and changed in different ways:

1. Postponement of the planned fieldwork until such a time when the situation was permissible for the mapping to take place. This brought a lot of anxiety and uncertainties to the administration as to whether mapping would be completed in time for enumeration. In these, only LCIs were plotted instead of EAs, and administrative lists were obtained from the local authorities. These areas were mainly characterized by camps for refugees, Internally Displaced Persons (IDP) and army detachments.
2. Use of escorts, extra vehicles and personnel increased costs of carrying out the mapping in these areas. The security situation in the districts of Bundibugyo and Kasese in the south-west was never predictable and serious caution was taken by the field teams.

Escorts were always provided to the teams going out to such areas, which the officials would deem insecure. The census office was also keen on making sure that the vehicles were in good condition and equipped with excellent working communication systems. The deployed teams would make sure to carry enough fuel, water and other requirements like spare tyres and tool boxes.

3.3.3 Geographical issues

1. The nature of poor roads and infrastructure in the mountainous parts of the western districts of Kabale, Bundibugyo and Kasese and eastern districts of Kapchorwa and Mbale posed a lot of movement challenges to the mapping exercise, especially during wet weather conditions and due to the ragged road nature. The exercise had to engage big 4WD vehicles (preferably cruisers), that could manage rough terrain.
2. The Lake Victoria region, whose water weather was a bit unpredictable, required extra logistical and operational provisions like lifejackets, more funds for guides, hire expenses for high horse-power boats, and a lot of fuel.
3. In Karamoja area village boundary identification was very time consuming and very difficult, due to the sparse population, floating population (nomadic nature of peoples

livelihood in the area), and conglomeration of households “Manyattas”. Generally, there was resistance of allowing mapping staff from entering the kraals

3.3.4 Administrative unit changes

The EA maps were of limited value in many districts because they were already out of date. This was due to the large number of administrative changes that had taken place since the EAs were demarcated (from 1999-2002). A case in point is EA mapping in Kumi District, which was originally done in April 1999, but in 2001 the administrative structure was upgraded, with parishes becoming sub-counties, LCIs becoming parishes, and new LCIs were formed within the new parishes. Administrative changes were made in most of the other districts, though not to the same extent as Kumi.

3.4 Recommendations

1. In future with better planned census mapping, funding of the program without breaks should be addressed. This will enable to reduce its expenses and burden on the overall census management and administration, and will heavily harvest benefits along the entire process of census data entry, validation, post-enumeration surveys and processing. Good quality census cartographic products are a vital base in census data analysis including production of reliable national poverty maps. Mobilization of funds for census mapping should start early enough in order to have commitment of resources and better planned activities.
2. At census mapping strategy stage, all stakeholders in geo-information production should be involved. The Government should take advantage of the census mapping phase to generate better quality geo-information and data for use beyond the census programme.
3. The involvement of CST Expertise in Census Cartography valuably strengthened involvement of the stakeholders at national and international level, which also ensures reliability and quality of the information produced.
4. A lot of innovativeness and knowledge of the national geography is a necessary requirement for conducting a successful census mapping exercise; this brings about better planning and reduces the expenses of operations.
5. The quality of census mapping staff is very vital, and the recommended qualification of staff should be senior four and above with a bias in Math and Geography.
6. The use of modern mapping technology like GPS and GIS should be procured early in the stages of census preparation in order to facilitate timely conduction of Cartographic programme.
7. The Cartography and Mapping Unit should unfailingly labour to maintain its focus on the 'Critical Path' of the census programme to ensure delivery of information and cartographic products in time for the census night.

CHAPTER 4: THE PILOT CENSUS

4.1 Introduction

The pilot census was carried out in September, 2001 one year prior to the planned census date.

The overall objective of the Pilot Census was to test technical and logistical procedures for the census. Enumeration for the Pilot Census was carried out on a de facto basis and the reference date (Pilot Census Night) was September 21, 2001. A detailed pilot census report was produced in reference for detailed information. Specifically, the Pilot Census was aimed at testing the following:

- 1) Operational and training procedures,
- 2) Effectiveness of map guides and other materials,
- 3) Technical appropriateness of census instruments i.e. questionnaires, manuals, code lists etc,
- 4) Required and available calibre of personnel,
- 5) Individual workload and appropriate approach to enumeration,
- 6) Effectiveness of budgeted resources and
- 7) Duration of completing an EA.

4.2 Preparatory activities

The Pilot Census was conducted in 12 districts purposively selected to cover each of the four regions, taking care of the highly urbanized districts and districts with special characteristics of nomadism. These included; Gulu, Nebbi, Luwero, Nakapiripirit, Jinja, Kampala, Kibale, Kabale, Kamuli, Lira, Masaka and Soroti. From each district, a total of 16 EAs were selected to represent the urban, peri-urban and rural areas. A total of 192 EAs were purposively selected countrywide.

Prior to the Pilot Census preliminary visits were made to each of the selected districts. These visits were made by selected members of the Census Task Force (CTF) and other UBOS staff. The purpose of these visits were to verify and confirm the existence of the selected sampled areas, discuss the budget estimates for the District with the Chief Administrative Officers (CAO) and the nominated pilot District Census Officers (DCO), review the administrative arrangements and identify any peculiar operational cases within that district.

4.3 Personnel and training

Each participating district was required to recruit Census Enumerators to participate in the pilot census exercise. To this effect, the District Census Officer (DCO) together with the assistance of the Sub county Chiefs recruited the enumerators and the supervisors to cover the selected EAs. The Sub county Chiefs were requested to identify enumerators from their respective EAs with the requirement that they were residing in the selected EAs.

UBOS provided the guidelines for the recruitment of field staff (sub county supervisors and enumerators). However, some districts did not adhere to the criteria as were laid out. This affected the time taken for training, enumeration and the quality of work.

All persons who participated in the pilot exercise underwent training on the census instruments and procedures. The DCOs were trained by the UBOS Census Task Force (CTF). The DCOs assisted by a member of the CTF conducted training of the Sub-county supervisors and enumerators in different centres in the selected districts. The training period varied from district to district but had been scheduled to last two weeks.

4.4 Pilot Census Sensitisation

Two strategies were adopted to publicize the census namely:

- i. Deployment of respective LC1 personnel to mobilize the people; and
- ii. Making announcements over the local radios.

4.5 Pilot Census Enumeration

Enumeration for the Pilot Census was carried out on a de facto basis. The reference date (Pilot Census Night) was September 21, 2001. The enumeration was planned to last a maximum period of 7 days (September 22 - 28, 2001). In some instances it took up to 10 days due to insecurity and spilled over due to the late start of training of the field staff.

Field Supervision was carried out at three levels. Each District was supervised by the DCO and at least one UBOS staff. At the Sub-county level, the sub county supervisors supervised enumerators within their respective sub counties. The supervision was carried on throughout the enumeration period. In addition, there were National Supervisors from UBOS management and partner ministries who made visits to a few districts with a purpose of ensuring that the laid down procedures were followed.

4.6 Review of the pilot census field work

A one-day review workshop for stakeholders (MAAIF, POPSEC, MWHTC, MOES, MGLSD, DCOs, and Consultants etc) was organized in October 2001. The objectives of the workshop were to share field experiences from all the 12 pilot districts and to map a way forward for better implementation of the main Census. The participants who attended this workshop included the DCOs, Supervisors from UBOS, and partner Ministries. The following were the issues raised in the meeting:

- 1) Efforts should be made to provide more comprehensive definitions of terms used to ensure that everybody understands a given term in the same way.
- 2) EAs which had more than 150 households be identified and if necessary some reserve Enumerators be recruited in the event that the workload is unmanageable.
- 3) Since UBOS would not raise enough personnel to supervise all the 56 districts, some Ministries should be approached to release some of their staff to support the census supervision.
- 4) Field practice during training should be done twice to ensure that the enumerators master the skills of conducting the interview, obtaining the responses and recording them appropriately. Special attention should be paid to the questions on the labour force and agricultural holding area estimates.
- 5) Adequate publicity should be carried out in order to overcome the respondents' prejudices. This would lead to good livestock data being collected.
- 6) EA maps be distributed to the field staff to serve as a guide for them to plan their movements within their respective EAs during the exercise especially for enumerators who would work in LCs that had been split into more than one EA in order for them to determine their area boundaries

4.7 Data processing

Partial data entry was done with the aim of testing the data entry screen and the entire data census processing system.

4.8 Pilot Census Recommendations

From the experiences got from the Pilot census the following were recommended.

- 1) Since some district officials recruited unqualified enumerators who were not competent enough to administer the questionnaire, UBOS was to be involved in the recruitment exercise to collect quality data.
- 2) The enumerators' instruction manual be detailed enough and statements like 'this is self explanatory' be avoided. Phrases which needed further explanations be explained for the enumerators to read and understand on their own.
- 3) Enumerators to be recruited within their respective EAs in order to track the respondents more especially in urban areas where they leave their households very early and come back very late.

CHAPTER 5: ADMINISTRATIVE SUPPORT SERVICES

5.1 Introduction:

The Administrative support services provided included Procurement, Transport, Staffing, Secretarial Services, Office Accommodation, Cleaning Services, Security, Assets Management, Stores and Utilities Management. The section worked closely with the Directorate of Finance and Administration of the Bureau.

5.2 Staffing

The Programme was run by the Bureau using mainly the regular staff. The staff were only assigned duties on the Programme and they kept doing their regular activities of the Bureau as well, this sometimes had a negative effect on the census activities. They were seconded to the programme by the UBOS Board of directors.

In addition to the regular staff, the Bureau constituted a Census Office with some staff who worked on the Census Programme on a permanent basis. These were as illustrated in the table below:

Table 5.1: Census staff categories at various levels of data processing⁷

S/N	Staff category	Number before Data processing	Additional Number upon start of data processing	Staff During Data processing
1	National Census Coordinator	1		1
2	Senior Census Administrator	1		1
3	Census Accountant	1		1
4	Auditor	1		1
5	Accounts Assistant	3		3
6	Administrative Assistant	1	3	4
7	Security Guard	2	6	8
8	Sanitary Cleaners	2	2	4
9	Security Guards	2		2
10	Secretary/Receptionist	3		3
11	Office Attendants	2	10	12
12	Drivers	13		13
13	Stores Supervisors		3	3

⁷ Excludes core data processing and field operations staff

The census core staff were on the census programme during the period 2001-2004.

5.3 Office Accommodation:

The National Census Taskforce (NCTF) conducted its business within the UBOS premises since membership was drawn from within UBOS. However, with the recruitment of the above Census Office staff, the space at the UBOS headquarters was inadequate to accommodate all of them. The Bureau hired premises, 3km from its headquarters to house the Census Office. This had an Office Space of 692 square meters and 413 square meters of parking space. This office worked as the Secretariat of the Census Programme. In addition to the permanent staff in the Census Office, the premises housed some of the members of the Census Management Team. It had a Board Room, pantry and a store

There was no adequate space at the Census office to store the Census materials before dispatching them to the field for enumeration. A total space of 2,928 m³ was rented for a period of 2 months from Uganda Printing and Publishing Corporation in Entebbe to provide temporary storage.

There were no suitable premises that could accommodate Data Processing activities in Entebbe. A suitable premise was identified on plot 56 Industrial area in Kampala. The initial space rented was 1,323 m² of which the store was covering 785.230 m². After fully occupying the premises, it was later discovered that the total space occupied by the DPC was actually 1,764.088 m².

5.4 Procurement

The Bureau undertook the procurement of several goods and services to facilitate the Census exercise. These included Census Instruments (questionnaires and manuals) Field Stationery, paper boxes, polythene bags, umbrellas, enumerators aprons, report forms, summary sheets, supervisors badges, car stickers, publicity posters, furniture, cotton strings, hire of vehicles, computers, security of the census office and the data processing centre, transport of field supervisors and field materials etc. The details of the items procured are herewith attached as appendix 5.1.

The procurements were undertaken by the UBOS Contracts Committee in accordance with the Public Finance (Procurement) Regulations 2000. Because of the late release of funds, the restructured Central Tender Board allowed the Bureau some flexibility in the

systems and procedures used so as to meet the deadlines. For instance in the majority of cases, the Request for Quotations method (RFQ) was used instead of Open Tendering method. The UBOS prequalified suppliers were allowed to compete amongst themselves instead of carrying out fresh advertisements in the press. In a number of cases there was a delay in the specifications of the items for procurement leading to the exercise to be done in a hurry and becoming expensive. UBOS also received some computers and cartographic equipment in kind towards the implementation of the census programme from UNFPA.

5.5 Transport:

Transport for the Census activities was provided by the acquisition of vehicles and hiring from the private sector. In addition, all the UBOS fleet consisting of 50 vehicles was channelled to census activities at the peak of the exercise.

Unlike in the 1991 Population and Housing Census where a fleet of vehicles were procured for the activity, transport facilities were mostly outsourced. The transport hired included vehicles and trucks for delivery of census materials and field supervision. The rest of the vehicles for field work were got from a fleet of UBOS vehicles.

The mapping and Cartography exercise, which started in 1999, received 3 new double cabin pickups procured under the Bureau's development Budget. This was boosted by 7 more new double cabin pickups in 2001 donated by UNFPA. In addition, the Bureau released more 8 double cabin pickups and station wagons to this activity from its old fleet.

Under the Government of Uganda budget line, the Bureau procured 2 Station Wagon Land Cruiser vehicles in August 2002 for the Census head office. In addition a bus was procured for ease of transport for staff at the data processing centre.

For field supervision, the Bureau did not deem it economically viable to procure a fleet of vehicles, as had been the tradition in the past. It had been anticipated that a total of 125 vehicles would be procured. Using a private firm M/S Acacia Safari Ltd, the Bureau hired a total of 50 4WD vehicles to supplement the fleet.

The Districts were allowed to hire 2 vehicles each for a maximum period of 2 months (during the peak period of field activities) for District Census Officers and their Assistants.

It was only 10 districts, which indicated their inability to locally hire the vehicles and vehicles were sent there from the head office.

For the distribution of materials, a private firm M/S WKK Investments LTD was contracted to transport materials from Entebbe to district headquarters. The firm provided 7 – 10 ton body build trucks to transport materials to district stores and completed the task within a period of 2 weeks. It was subsequently awarded the contract of retrieving the materials from the district stores to the Data Processing Centre in Kampala.

The respective districts using hired trucks from within the districts undertook the distribution of materials from the district stores to the sub-county headquarters. From the sub-county headquarters each parish supervisor was facilitated to transport materials to and from the parish. The same procedure was used for the retrieval of the returns after enumeration.

The arrangement of outsourcing transport services, saved census management the burden of administrative details of handling vehicles. The service providers shouldered the burden.

5.7 Utilities Management:

Upon taking up the Census office in Entebbe in September 2001, arrangements were made to install telephone, e-mail/internet, fax facilities in the premises. A total of 4 direct telephone and 1 fax line plus intercom were installed to allow easy communication. The same services were extended at the Data processing centre.

The premises were already connected to the main electricity and water services. At the Data Processing Centre, the same provision was made. The data processing centre office had power fluctuations and therefore needed a generator. The landlord already had a standby generator, which he handed to the Bureau to co-manage under some agreed terms.

5.8 Security Arrangements

The Population and Housing Census is a sensitive exercise and hence additional security arrangements had to be put in place to ensure the security of materials, personnel equipment and premises.

At the Census head office in Entebbe, a private firm was hired to provide armed guards on a 24 hours basis. These supplemented the locally recruited unarmed security guards.

When the Data Processing Centre was established, more stringent security arrangements were put in place. This was because the number of personnel engaged was big, equipment a lot, Census returns already in place and yet the data had to be kept strictly confidential until officially released. The Uganda Police was requested to provide 8-armed police personnel working in 2 shifts over 24 hours per day. Six locally recruited armed guards also supplemented these.

At the close of data processing, no serious security incident had been reported about the census returns.

5.9 Challenges/Lessons Learnt

Delayed release of funds caused insufficient time for procurement. The time to procure materials was very short and there was no enough time to follow the due process as required. This led to “emergency procurements” and the end result was over and at times poor quality supply.

The Census Materials were delivered when a clear logistical plan was not yet in place. This resulted into problems of storage, packing and entire record keeping system.

The Census Programme is gigantic and needs careful planning and management. The regular UBOS staff that were on the Census Programme were over stretched between Census and their regular activities. There was no extra remuneration to motivate them and at times the census Programme was given secondary attention. This adversely affected meeting deadlines as planned.

The out sourcing of transport services from the private sector was a big relief to the Census Programme. The Service provider was given strict guidelines and the Census Office was doing only the supervision and monitoring. This reduced a lot of administrative burden from the Census management and ended up being more cost-effective and efficient. This good practice could have been extended to other services like cleaning.

The distance between the Data processing Centre in Kampala and Census Office in Entebbe posed increased transaction costs and where consultations were required

between the 2 offices were delayed. This is about 35 km apart and following what was taking place on a continuous basis was a problem.

5.10 Recommendations

The procurement for the Census Exercise should be planned well in advance. This should be done at the time of producing a Census Plan and Budget. The product of this is a Census Procurement Plan, indicating what will be procured and the time when all stages of procurement will be undertaken. This will avoid last hour rash and emergency procurements.

A Plan for Logistics Management should be prepared before the materials are procured. This will include the storage arrangements, issuing systems and retrieval arrangements.

The UBOS staff seconded to the Census Programme should at the optimal time relinquish other UBOS activities and concentrate on the Census. The Census should be managed as a project within the Bureau, using Bureau systems, but with some adequate level of autonomy to make decisions. They should temporarily handover other Bureau activities to other officers within the Bureau until the end of the exercise. To enhance motivation, the staff should get some extra remuneration because the job involves working long hours.

There is need to have a Management Information System to Monitor the arrival of materials from the field versus the actual materials dispatched to the field.

The Census Programme should outsource the non-core activities to the private sector. These include Transport, cleaning, guarding and the like. This will relieve the Census staff to concentrate on the core activities of the programme. Besides, the outsourcing of transport proved more cost effective and efficient.

The different census activities should be close to each other for ease of management of census activities. This includes the Secretariat, Stores and Data Processing Centre. If possible, they should be located near the Bureau head office.

CHAPTER 6: CENSUS FIELD OPERATIONS

6.1 Field Operations Plan

The field operations office played the role of ensuring the successful implementation of the field enumeration exercise. The terms of reference for the Field Operations Office included:

1. Conducting Census Enumeration
2. Training District Census Staff
3. Determining the number of enumeration and supervision areas in each District
4. Determining the quantities of Census instruments and other field logistics
5. Designing strategies for covering special and abnormal population groups
6. Delivering, retrieving of Census materials and ensuring full accountability of all Census Instruments
7. Organising field editing and evaluating of field returns
8. Co-ordinating the Field Operations part of the Post Enumeration Survey Exercise
9. Overall supervising of all the Field Activities

The office was assisted by other members of the Census Management Team (CMT) and UBOS whenever need arose. The Uganda Population and Housing Census 2002 covered all the 56 Districts of Uganda at the time.

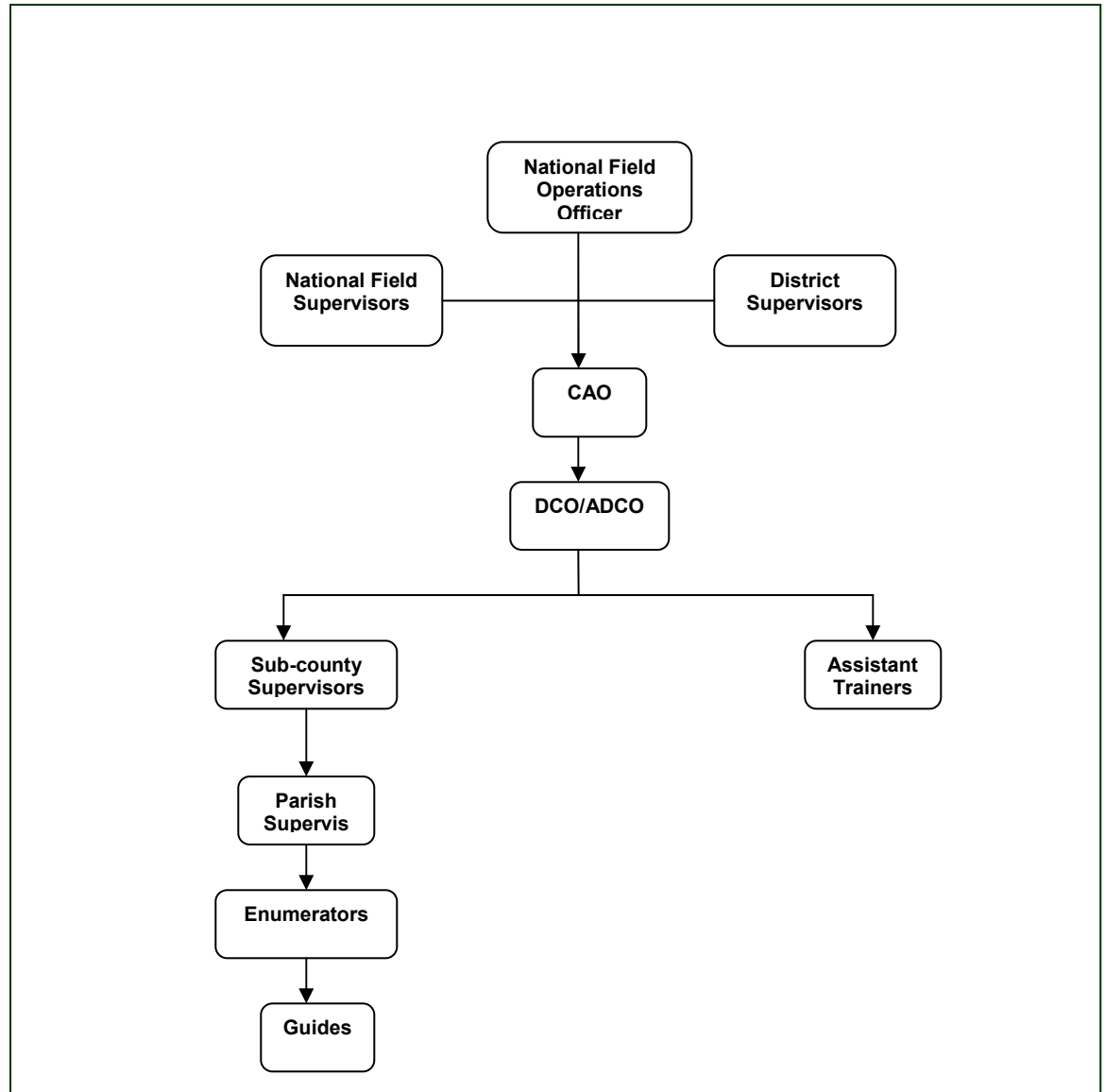
A field operations manual was developed before the enumeration as a guide to all census field duty bearers of what was expected to be done before, during and after the enumeration. One of the recommendations from the pilot census was a review and revision of the methodology and field organisation. The Field Operations Manual (FOM) to a large extent was a reflection of the views and suggestions of recommendations of the Pilot Census.

The manual outlined the staffing requirements and terms of reference for the field operations office, remaining preparatory activities, field logistics, entire field organisation, the training plan, enumeration and supervision and post enumeration activities. Details on how the information would flow and the roles and mandates of the different persons were clearly indicated in the FOM.

6.2 The Field Organisation

The field organisation structure was as follows:

Figure 6.1: The Census 2002 Field organisation structure



6.3 Setting up of the District offices

6.3.1 Preliminary visits

The experiences from the Pilot indicated a need to undertake preliminary visits early enough to enable both the DCT and the CMT to carefully and timely address all emerging

issues. Preliminary visits were therefore undertaken to each of the Districts with the following main objectives:

- Verify the existence of all the administrative/ enumeration areas
- Discuss the budget estimates for the District
- Review the administrative arrangements
- Identify peculiar operational cases
- Estimate the likely Population in Hotels on the Census Night

During the preliminary visits, a half-day workshop was organised for Sub-County chiefs. The Chiefs were briefed on the need and requirement to verify and reconcile the administrative units as listed by the Census Cartography Section.

Prior notification was made to confirm the appointments. A detailed timetable concerning the visits was developed before the exercise. Comments were made there and then and lists returned to the Census headquarters for further action. Each Sub-County chief was required to endorse on the verified list of administrative areas as the true status of the Sub-County. The lists helped in finalising of the budgets and planning for revisits by the Cartography Section.

6.3.2 Appointment of District Census Officers and Assistant Census Officers

In its recruitment guidelines to Districts, UBOS specified the qualities of staff for the field at different levels and the Districts were expected to adhere to these specifications.

The DCOs and ADCOs were preferably staff of the planning unit with at least an honours degree. The appointment of the District Census Officers (DCOs) took place after the inaugural workshop for the District leadership held in March 2002 in Kampala. The DCOs designate also were invited to attend this workshop. The deliberation of the workshop positively influenced the final choice of the DCOs by the CAO in some districts whereby substitutions were made or effective assistants appointed. The DCO was preferably a member of the District Planning Unit. The prerogative of appointment was with the Districts. In addition, Assistant District Census Officers (ADCOs) were recruited to assist the DCOs in the execution of their duties in the Districts. The three Districts of Wakiso, Kampala and Mbarara had two Assistant District Census Officers due to their big sizes.

6.3.3 Recruitment of other Field Staff

Recruitment of other field staff followed the hierarchy of supervision. The Sub-county Supervisors were recruited by the DCO from among at least 3 people recommended by the respective Sub-county Chief. Each Sub-county had a Supervisor and an Assistant to help in training. However, for every group of 60 trainees at the Sub-county level, an Assistant Trainer was recruited at the level of an Assistant Sub-county Supervisor. The Sub-county Supervisor in turn, recruited the Parish Supervisors and Enumerators. Guides were selected from among village leaders on the basis of full knowledge of the locality and acceptability by the community.

6.4 Training of Field Staff

The Census 2002 training timetable was developed by Uganda Bureau of Statistics (UBOS) and it was to be followed at all levels of training.

6.4.1 Briefing of DCOs

A one day workshop was held preceding the 1st technical training of DCOs. The objectives of the workshop included:

- 1) Submission of update reports on the District preparations by DCOs. The DCOs were required to submit in writing reports of the preparatory activities undertaken since the inaugural workshop.
- 2) Identifying any likely developments or shortcomings that could affect the smooth running of the census exercise.
- 3) Hold a final joint briefing of the DCOs on the remaining activities of the Census i.e. training, enumeration, population summaries, retrieval of materials and payments to field workers.

The workshop was held in the same venue as that of the technical training.

After the briefing of DCOs, training in both the technical and supervisory roles was carried out. Two trainings of Trainers/Supervisors were implemented. In all, three levels of training were carried out for field staff as outlined below:

6.4.2 Training of DCO/ADCO and District Supervisors

The District Census Officers and Assistant Census Officers were charged and trained to train all the lower level cadre staff. The training was centrally organised in Jinja and conducted by the Census Technical Team (CTT) for seven days. The External facilitators from the key stakeholders were invited to strengthen the training in specialised areas. A total of 56 DCOs, 59 ADCOs and 50 District specific UBOS supervisors were trained. The facilitation for all trainees followed the UBOS guideline on full board facilitation. The External facilitators were, however, provided with their full allowances. The training of UPDF national coordinators and divisional trainers was done along with the national level training. However, the subsequent training was done separately. Arising out of demand of a District Supervisor per District, more UBOS staff were trained in Entebbe after the first technical training. The District Supervisor's main role in the Districts was to oversee technical issues in the Districts.

6.4.3 Training of Sub-County Supervisors & Assistant Trainers

The Sub-county Supervisors and their assistants were trained centrally within their respective Districts. The trainings were done by the DCO/ADCO under the supervision of UBOS Supervisors and other Supervisors. It was residential at convenient training centres, which mostly, were located within the District headquarters or any other training place within the District. The Trainees were facilitated with a training allowance and transport refund in accordance to the established public fares to and from their Sub-county headquarters. Training of the Army Supervisors was conducted within their respective barracks. Other security institutions joined the closest District training venue. All the training at all levels involved 7days and field practice with no evaluation. Although it had been proposed to have all lower training to be a replica of the national technical training, this was not strictly followed in some areas.

6.4.4 Training of Parish Supervisors and Enumerators

Training of the Parish Supervisors and Enumerators was done centrally within each Sub-county and conducted by the Sub-county Supervisors and their assistants. The entire training duration was seven days with the last day devoted to supervisory skills and boundary identification.

During the training, guides were identified to help Enumerators tour and make a quick listing of the households within their enumeration areas. A guide was identified for each village. The Enumerator was required to report to the Sub-county Supervisor, the number of households counted as a way of verification and estimation of workload. Instructions on how to carry out the listing of the households and institutions within the EA were given to successful applicants after their recruitment. The Enumerators were required to seek guidance from the LC1 Chairman on the boundaries of the Local Council (LC). A Split LC1 i.e. (more than one EA) was covered by all concerned enumerators and the count took into account the entire LC1. A plan was made among enumerators to cover the LC1 without any omission or double counting. The count ended 10 days before the start of the actual census enumeration. An exercise book was provided to each Enumerator to record in the details as required, during the listing exercise. The Sub-county Supervisors then made a quick summary on to the listing summary form that was provided. The Summary form was presented to the DCO one week before the start of the enumeration exercise. A decision was taken quickly on whether to recruit additional Enumerators or not and the additional selected Enumerator trainees were notified to attend the training.

The last afternoon was dedicated to distribution of materials and labelling of questionnaires ([including geo-coding]). Each Enumerator was assigned a unique identification code within the parish.

Training of Army Battalion Supervisors and Enumerators was done within their respective barracks.

All training was overseen and supervised by the UBOS/National and District Supervisors

6.4.5 Training on Vital Registration

A decision was taken to revitalise the Vital Statistics Registration System (VSRS) in the whole country during the Census 2002 enumeration. Training of chiefs directly involved collection of birth and death information as follows:

The training of Trainers for the Vital Registration System was done simultaneously during the Training of DCOs & ADCOs on the Census Instruments. One of the District Trainers, mostly the assistant was charged with the responsibility of training the Sub-county Chiefs.

The Sub-county Chiefs were trained at the time of training Census Sub-county Supervisors. Preparations for this training were jointly organised with the Census Sub-county Supervisors though the actual training venues were different.

Like the training of Sub-county Chiefs, Parish Chiefs were trained at the time of training of Parish Supervisors and Enumerators. The training was organised in a manner similar to that of Sub-county Supervisors but not residential. The Parish Chiefs were trained by Sub-county Chiefs.

6.5 Transport and Distribution of Materials

Delivery of materials was planned and executed in a hierarchical manner. The Census Office delivered all materials to the District headquarters. The DCO/ ADCO on receipt of the materials, delivered them to the Sub-counties accordingly. The delivery to Sub-counties was done before the start of the actual training of Parish Supervisors and Enumerators. The distribution of these materials, however, was not done until the end of training, and it was centred at the training venues. Specific control forms were designed and produced to guide the management of the materials. The training materials were delivered separate from the enumeration materials.

All field logistics were based on the estimated requirements. The bulk of the required materials were based on the registered EAs. A reasonable contingency (above the normal allocations) was provided. Timely packing and delivery of all the required materials enabled the timely execution of different phases of the Census. The preparation of the field logistics was in line with the developed critical path. The materials included:

Questionnaires, instruction manuals, summary sheets, translation cards, badges, stationery (pens, markers, carbon paper, cello-tape, reams of paper, exercise books etc), control forms, maps, appointment letters, Aprons, paper boxes, cotton string, umbrellas and progress report forms. Among these materials, the Enumerator letter of appointment, Apron, Census badge, maps and the summary sheets were supposed to be returned to UBOS after enumeration.

6.6 Census Enumeration

The Census Night was Thursday the 12th/13th of September, 2002. The enumeration began in the morning of Friday 13th September and continued for the official seven days. The Micro and Small Scale Enterprises (MSE) questionnaire was simultaneously administered with the Household Questionnaire. The Community interviews were conducted mid-way during the census period depending on the arrangement with the LC1 Chairperson. In some areas, however, enumeration continued for some few additional days. All areas were covered during enumeration.

6.6.1 Enumeration of Population in Households and institutions

The questionnaires below were administered in households:

- ✓ The Household questionnaire;
- ✓ The MSE questionnaire.

Only trained persons conducted the Census enumeration. The Enumerators canvassed their allocated EAs and interviewed all the households within. Guides were instrumental in identifying the households and the boundaries of the EAs.

In the insecure areas, efforts were made to enumerate people back home where they were displaced from.

6.6.2 Hotels and lodges

Enumeration also covered travellers who spent the Census Night in hotels, lodges or bus stations. These were mostly done through self-interview or assisted by the receptionists. This exercise was co-ordinated by the Parish Supervisors. Special forms were delivered to the respective reception desks on the 12th September 2002 and each guest was required to fill the form and leave it with the receptionist before departure. The filled in forms by the guests were enclosed in envelopes with return addresses and were accounted for. The DCO sensitised hotel management on enumeration in hotels.

In cases of other boarding institutions like hospitals and schools, an Enumerator or more was assigned to each of these institutions. A complete list of all these institutions was compiled during the preliminary visits.

6.6.3 How the Floating Population was enumerated

The Floating population includes the homeless like street children, beggars vagabonds etc. For some of the floating populations like lunatics or vagabonds, direct interviews were not possible. However, they were included in the count with limited questions asked or filled. Guidance was sought from NGOs associated with this type of population by the DCO and how to best cover it. They were all enumerated on the first day after the census night.

6.6.4 Administration of the Community Questionnaire

The community questions were administered at LC1 level and the respondents included opinion leaders and knowledgeable persons (males and females) from within every LC1. Membership of the respondents included: LC1 Chairperson, LC1 Women Councillor and the LC1 Youth Councillor. Where an LC1 contained more than one EA, then only one community questionnaire was administered.

6.6.5 Compilation of Household and Population counts

The summaries of population counts and households were made for each administrative level. Summary on the booklets was made after the day's work for each completed book. At the end of the enumeration, a summary of all persons enumerated within the EA was made. The Enumerator then forwarded the summary sheet to the Parish Supervisor who in turn summarized the Parish summary sheet and forwarded it to the Sub-county Supervisor. Likewise, the Sub-county Supervisor summarized parish entries appropriately on to the Sub-county summary sheet. The DCO and ADCO made the overall District summary. The final District summaries were handed over to the UBOS District specific Supervisor, who forwarded them to the Census Technical Office to enable the compilation of the preliminary results.

6.7 Operations in Special Areas

6.7.1 Uganda People's Defence Forces (UPDF)

The UPDF was given a District status and, therefore, enumeration here, was done under laid down guidelines from District Census Offices. The UPDF headquarters, on UBOS request, identified and attached two officers to the Census exercise. The officers were responsible for the entire operations within the Army jurisdiction. The officers were assisted by Supervisors from Army Divisions, Brigades and Battalions. There were seven

identified divisions. The households within barracks were not treated as part of the institutional population. For every 150 households i.e. equivalent of a company, one Enumerator was assigned. A Battalion level Supervisor was assigned up to 10 companies. All field staff below the Division level received their training within their Districts of deployment. The Brigade Supervisors trained along with the DCOS/ADCOs. The financial aspects of the army staff were handled through their hierarchy.

The Enumerators to cover the more sensitive installations and residencies were recruited.

A Committee equivalent to a DCT was set up and comprised 10 members. The Committee was charged with overseeing the preparations for the Census within the UPDF. The same Committee also advised the Census Office on matters related to the security situation in the country.

Facilitation of the Committee included the sitting allowance, per diem for Division Supervisors, their fuel, Drivers' allowances and allowances for two Escorts.

6.7.2 Islands

Districts bordering Lake Victoria have at least an island each. The Parish Supervisors and Enumerators from smaller islands that were part of a Sub-county were provided with a per diem during training and were expected to reside on or near the training venues. Special arrangements to provide Enumerators' transport facilitation for inter-island connectivity was considered in some cases. In many of the cases, Enumerators were not required to cross from one island to another. Special facilitation was provided to complete enumeration in islands.

6.7.3 Insecure areas

To allow for the effective enumeration of insecure areas, provision was made for security escorts in the affected Districts. The budgeting was based on the estimates compiled during the preliminary visits and advice from security officials. The population within Internally Displaced People's (IDPs) camps followed the original residence patterns that alienated to their villages of origin. An effort was made to recompose such population into the normal settlement villages. Where not possible, they were counted as part of the defacto areas. Great care was, however, taken to avoid double counting. The Refugee camps were given special consideration.

6.7.4 Embassies and Other Diplomatic Residences

Special arrangements were made with the Ministry of Foreign Affairs to cover such Areas. Contact was made with the Ministry to enable a successful enumeration of these special areas.

6.7.5 Residencies of the Presidency and Other High Profiles

Special arrangements were made with the relevant officials from the Ministry in charge of the Presidency under Presidents Office to map a strategy to cover the homes of the President, Vice President, Prime Minister, Movement Vice Chairman, Cultural Leaders [Kings] and any other such dignitaries. The Executive Director made contact with the concerned institutions. These areas were enumerated directly by officials from UBOS at National Supervisory Level.

6.8 Field Supervision

The aim of supervision was to ensure quality in the data collected. Four levels of supervision were arranged during the Census as enumerated below.

6.8.1 Sub-county Specific Supervision

The sub-county Supervisors had an administrative area equivalent to a sub-county to supervise. They were updated on the progress of the work during the supervisory tours. The progress report forms were finally submitted to the Districts along with the other control forms.

6.8.2 Parish Specific Supervision

Parishes were operationally and technically supervised by Parish Supervisors. However, to improve on efficiency, Parish Supervisors had a specified number of Enumerators to supervise, of at most six. Therefore, where a given parish was composed of more than six EAs, additional Parish Supervisors were used. The enumeration progress was recorded on a daily basis. The Parish Supervisor was responsible for completion of the Progress Report Form each time that they visited their enumerators in the field.

Editing of field returns was vigorously carried out at all levels of supervision. Spot checks and witnessing of interviews was emphasized and adopted by all Supervisors. In cases of

any doubt, Supervisors ordered a call back to the household. The likely circumstances or instances that posed danger of any errors were pointed out at the time of training.

The Parish Supervisors were given pocket guides which contained a check list of the activities they were supposed to carry out during and after field enumeration.

6.8.3 District Specific Supervision

Each District was administratively supervised by the Chief Administrative Officer (CAO). The CAO was also facilitated to supervise for a total of 10 Days during both training and enumeration periods. The operational and technical supervision was mainly done by the DCO and ADCO.

Other District Supervisors included UBOS staff (one for each District). Members of the Census Technical Advisory Committee (CTAC) and other senior UBOS staff were also included in the supervision. These Supervisors covered the entire process starting with training.

6.8.4 Senior Supervision

The Senior Supervisors from UBOS included the Executive Director (ED), Deputy Executive Director, (DED), National Census Coordinator (NCC), Deputy NCC, Secretary to the Board/ Director for Finance and Administration (SB/DF&A), National Field Operations Officer (NFOO), National Census Administrator (NCA), Census Technical Officer (CTO), Deputy CTO, Census Cartographer (CC) and the Senior Statistician (SS) in charge of Agriculture Statistics. Some of the external facilitators also participated in the senior supervision. The special attachés from the army were the senior Supervisors in the army jurisdiction. Facilitators from Ministries of Lands and Water Development, Gender, Labour & Social Development, Agriculture, Animal Industry and Fisheries, Health and the Population Secretariat also supervised at senior level.

6.9 Retrieval of Materials

After enumeration, materials were stored in safe places in Sub-counties, mostly the headquarter offices where the DCO retrieved them. The Census office made final arrangements to retrieve and deliver these materials to the Data Processing Centre.

All materials were packed and labelled clearly. Batching of questionnaires was done at EA level. The Community Questionnaires were packed together with the other

Questionnaires, but separately batched. The process of retrieval inversely simulated that of delivery. All the used and unused materials had to be accounted for and sorted.

Retrieval of materials from the Districts started two weeks after the Census night. Contrary to what was expected, some summary forms were not returned

6.10 Lessons learnt

1. There was need to have a clear system of retrieval of materials. There was need for this to be computerised at District level. The UBOS Supervisor should have left Districts after all materials were retrieved.
2. There was need to carry out utility study of all materials used during the census.
3. In future, there should be means of formal evaluation.

CHAPTER 7: CENSUS PUBLICITY

7.1 Publicity Strategy

A strategic framework for the implementation of the Publicity and Advocacy campaigns to support the Uganda 2002 population and Housing Census exercise was written earlier before the implementation of the campaign.

The document's aim was to help inform the public with accurate, timely and relevant information about how data derived from the exercise can help improve their individual, family, community and national welfare. This was supposed to work towards motivating individuals, communities and other social actors and forces to work together in bringing about maximum participation, physical involvement and support for the Census, taking into account existing beliefs, perceptions, values and practices, as the key function of the communication support program.

A multi media campaign was included in the document as away of engaging different actors in the industry on how best they can supplement each other to drive the message faster and effectively to every household.

7.2 Publicity

The publicity and social mobilization component sought to create critical public awareness and knowledge that facilitated the commitment to, public support for and country wide grass root participation in the Uganda 2002 Population and Housing Census enumeration exercise.

7.2.1 Implementation

A census logo was developed to give the census exercise a brand image. The Bureau advertised in the media for interested bidders to come and develop the logo. A number of people submitted entries and these were pre-tested by an independent person who selected the best entrant. The official census publicity programme was launched at celebrations to mark the World Population day, by the Minister of Finance, Planning & Economic Development in July 2001.

The logo encompassed all aspects of the census including household characteristics, agricultural module, demographic and socio economic characteristics. It was however overcrowded and difficult to interpret easily.

Figure 7.1: The 2002 Uganda Population and Housing Census Logo

Deregulation Of the media in Uganda started with the liberalization of the airwaves in 1993. Before that, the country had only one radio station, that is, Radio Uganda and one public television station, i.e., Uganda Television. Government under the Ministry of Information controlled them both.

Therefore, the 1991 Population and Housing Census had a different experience with the media compared to the 2002 Population and Housing Census. The publicity organization in 1991 was easier because the media was under government and the census is one of the government's major activities. At the time of the 2002 Population and Housing Census, the country had more than eighty operational radio stations spread all over the country. Uganda now has seven newspapers, two English dailies; the others are in vernacular. There are five television stations. This directly shows that the task of publicizing the Census was very challenging and costly too. At the moment, no media can claim to have a homogenous audience because of the stiff competition in the industry. To get people's active participation in any national exercise, there is need to strive and reach all people at their doorsteps.

The initial campaign targeted ten major regional radio stations, which were selected according to geographical location, coverage and listenership. Talk-shows were organized on these radio stations in major local languages. Census technical officials were hosted on these telephone-in shows and they were able to answer questions directly

from the public. The idea of these talk-shows was to help the communications office identify pertinent issues that might have raised controversy from the public and diverted their active participation in the census exercises. The talk-shows generated a lot of interest from the public who kept on asking questions. It also helped the technical team to focus and be able to develop relevant publicity messages.

Weekly census updates were also run in all newspapers to reach out to the audiences that might have missed out on the radio talk-shows. A census brochure and newsletters were also produced to give people especially opinion leaders an insight to the census preparations and what the Bureau expected from them. Many were circulated to donors, enumerators and supervisors to equip them with more information about the census exercise. The publicity component targeted mainstream media like newspapers, radios and television stations.

Television: talk-shows, short drama, public service announcements, news updates and briefings, and news features.

Newspapers: earpiece adverts (show countdown to the census night), features and census updates.

Radio: talk-shows, drama, DJ mentions, jingles and news updates.

The external factors that were likely to affect the census were addressed through the media. These included:

- Insecurity in some parts of the country
- Cattle rustling
- Land issues that result into tribal conflicts e.g in the two districts of Kibaale and Teso
- Internally displaced persons
- Refugees
- Cultural barriers and taboos i.e beliefs such as counting of children may lead to deaths.
- Social stigma

7.2.2 Ways of addressing the above issues

Technical officers who included District Census officials, census technical staff, opinion leaders, etc addressed issues on radio talk-shows, in newspapers, on television and through advocacy workshops. The publicity and advocacy component that adopted a multi-sectoral approach that involved many other stakeholders, followed thereafter.

7.3 Publicity materials

The publicity materials used included brochures, newsletters, calendars, posters, handbills, t-shirts, caps, aprons for enumerators, and umbrellas for enumerators.

All the above were supplemented by media coverage such as press conferences, news updates, etc. A popular musical group was contracted to compose a census slogan song that featured prominently in jingles and some radios used it as fillers to remind the people about the activity.

7.4 Advocacy component

The advocacy support component, on the other hand, was meant to lobby for the enhanced commitment and support for the Census by the decision makers and opinion leaders at various levels. This commitment was expected to be shown through the active promotion of appropriate, supportive and collaborated changes in positions, programs, strategies, resource allocation and statements made to the respective constituents, to ensure grass root community participation in the Census exercise.

7.4.1 Partner Participation (POPSEC)

The advocacy component was meant to reinforce what publicity had already been passed on to the masses and it also targeted special groups such as: cabinet ministers, district leaders (RDC, DPC, CAO, LCV, etc), adolescents, women and men, refugees/internally displaced persons, parliamentarians, cultural leaders i.e kings, religious leaders, and local council leaders.

The said groups were expected to pass on the information to the rest of the community. The advocacy component was run in two phases at the national level targeting high-level leaders and at the community level, targeting community leaders.

The Uganda Bureau of Statistics contracted the Population Secretariat to carry out the national level sensitization of leaders, while the Uganda Project Management and Implementation Centre (UPIMAC), a local NGO did the community mobilization. During the Enumeration week, local council (village) leaders were contracted to distribute handbills door to door and mobilize their residents to participate in the census.

7.4.2 Community Mobilisation (UPIMAC)

The community mobilisation was carried out by the LC secretaries for information who distributed handbills at every household during the week of enumeration. This was an adhoc arrangement that came in to boost other publicity and advocacy efforts herein mentioned in the report. They were paid a honoraria of five thousand shillings for the work. The money came from the Ministry of Finance, Planning and Economic Development.

7.5 Challenges

- Publicity for the 2002 Population and Housing Census started late partly because the communications person was recruited late.
- Publicity unlike other components like field operations did not have funds.
- Multi-lingual nature of Uganda' society. It was not possible to translate publicity materials in 56 languages. Most of the materials were produced in English. It was only posters that were translated in 18 languages, which are major. This brought confusion as minority groups felt alienated. The budget was simply not enough for such an activity.
- Local council leaders were co-opted late in the publicity programme due to lack of funds.
- Unlike other census committees, there was no publicity committee. Publicity for the census was run mainly by the communications officer and the publicity expert who was later hired by UNFPA to help in that task.
- It was very expensive to utilise all the media houses, due to their high numbers unlike in 1991 when there were few media houses.
- Difficult to reach out to people who did not have access to radio and television broadcasts and those who are illiterate or cannot access newspapers. It was difficult to monitor the work and effectiveness of partner institutions.
- No media monitoring company was hired to carry out the monitoring and evaluation of census programs on their placement and airing in the media.
- There was no time to pre-test all media materials
- It was difficult to get donor commitment on funding of publicity activities.

7.6 Achievements/outcome of the campaign

- Unlike other national programmes that are usually ridiculed in the media, the census received positive media coverage that helped it to succeed.

- UNFPA funded a media workshop on message development where information used in census adverts was conceptualized.
- There were few cases of people who claimed not to have been counted and those who did, including a government minister were later found to have been enumerated.

7.7 Recommendations

- Need to start publicity as early as the mapping exercise.
- Enough funds should be allocated to the publicity programme to ensure a successful campaign.
- Publicity committee should be put in place to effectively coordinate these activities.
- Need to train media in the importance of the census exercise.

CHAPTER 8: POST ENUMERATION SURVEY

8.1 Rationale

The census enumeration was massive in nature involving over 50,000 enumerators and supervisors covering over five million households in the country. Regardless of quality control measures put in place, the exercise inevitably attracts errors like omission, duplication, erroneous recording etc. It was, therefore, planned to undertake a Post Enumeration Survey (PES) with a broad objective of measuring the magnitude, direction and sources of errors.

The specific objectives of the PES were to:

1. Quantitatively evaluate accuracy of the census in terms of coverage and content error, at national, urban/rural and administrative regions;
2. Provide, if necessary, concrete statistical basis for adjustments of the census data;
3. Evaluate quality of Enumeration Areas as sampling units for intercensal and household based surveys;
4. A basis for documenting lessons learnt for implementing future censuses;
5. Furnish information on sources and causes of errors;
6. Enhance credibility of the 2002 Uganda population and housing census;
7. Enhance skills in census evaluation at UBOS;
8. Provide quantitative information required for determining success of the census programme.

Ordinarily, a PES should be done by an independent body. However, the Uganda Bureau of Statistics (UBOS) management took a decision that the PES was to be implemented by the Census Office (directly under the office of the Census Technical Office (CTO)). For purposes of implementing the PES, UBOS constituted a PES Technical Working Group (TWG) under the chairmanship of the Deputy National Census Coordinator (DNCC). The TWG drew expertise from Institute of Statistics and Applied Economics (ISAE) at Makerere University as well as the UNFPA Country Support Team (CST).

8.2 Implementation

Planning for the PES started in June 2002 with the development of the PES Framework. The framework outlined a number of specific issues including objectives, strategies and activities, work plan, budget, the PES instruments and the PES outputs.

The Post Enumeration Survey (PES) was operationalised through the following activities:

- Preparing sampling design (including selection)
- Development of the PES analytical plan, including dummy tables (for all categories of coverage and content error estimates)
- Preparation of the PES data collection and matching tools (questionnaire, instruction manuals and matching rules)
- Training of enumerators and supervisors for the fieldwork
- Field data collection
- Development of computer programmes for editing, data entry and tabulation
- Matching PES and census household/person records
- Undertaking field reconciliation visits
- Final matching phase, using results from reconciliation visit
- Development of computer programmes for production of coverage and content error estimates
- Data analysis
- Preparation of the PES report

8.2.1 Development of Instruments

The PES involved three major instruments namely; the PES Questionnaire, the Enumerator's Instructions Manual and the matching guidelines.

The initial draft of the PES questionnaire was designed by the Census Technical Office. This was further revised by the PES TWG, and finally approved by the Census Technical Advisory Committee (CTAC). The questionnaire was designed to capture main elements for measurement of coverage. The PES questionnaire was developed by selecting a few questions from the main census questionnaire (see appendix 8.1 for details). UBOS also collected other information relevant to matching households as indicated in the appendix). Alongside the development of the PES questionnaire, an Enumerators' Instructions Manual was developed.

8.2.2 PES Methodology

In order to achieve the objective of providing quantitative information on census accuracy, the PES targeted all persons in Uganda living in households. However, due to resource constraints, a sample of the population selected through a one-stage stratified cluster design was interviewed.

The list of Enumeration Areas (EAs) from the census, their corresponding EA cartographic maps and census household counts (within the EAs) formed the sampling frame for the PES. The population was divided into two major domains of study namely; urban and rural. Within the rural domain, each region was considered as a separate stratum.

A total sample size of 350 EAs (52 urban and 298 rural) out of 34,062 EAs was selected for the PES exercise. To enhance reliability, EAs were distributed among the strata according to measures of size (provisional Census Household Counts). To ensure full coverage within EAs, census EA maps were provided. In order to minimize chances of omission or double counting errors, a single enumerator was required to canvass the entire EA, irrespective of its population or geographical size although in some cases, this was not possible.

8.2.3 PES Field Operations

The PES field operations activities included identification and recruitment of District PES Officers (DPESOs) and enumerators, training of field staff, PES publicity, the actual enumeration and supervision, retrieval of materials and payment of field staff. The PES field enumeration was carried out in January 2003.

(a) Identification and recruitment of Field Staff

The country was divided into eight training centres and 21 supervisory zones. The PES field staff included the zonal supervisors, DPESOs, enumerators and guides. The DPESOs took charge of the PES at the district level. In the case of districts with more than 9 sample EAs, the DPESO had an assistant. UBOS staff were deployed as zonal supervisors to oversee three or four districts.

The PES enumerators were selected from the parishes that they worked in during the main census. The better-performing staff were selected from among census enumerators to conduct the exercise. However, in order to reduce bias, enumerators were not deployed in the same areas where they were deployed during the main census.

(b) Training of Field Staff

Training of the PES Field staff was carried out at two levels namely national and Zonal levels. The training covered both the procedures and content.

The Zonal Supervisors underwent a one-day (January 10, 2003) non-residential training at the Census Offices in Entebbe. This was conducted by the PES Technical Working Group. The DPESOs and enumerators were trained at zonal levels in one and half-day residential workshops. The workshops took place from January 14 – 16, 2003. These workshops were conducted by the Zonal Supervisors of the respective zones.

(c) Publicity and Sensitization

The PES publicity was carried out using three approaches:

1. The guides/LC1s made door to door mobilisation in the sampled EAs informing them about the PES on the eve of the beginning of enumeration.
2. On the eve of the PES starting day for enumeration, the hand bills were distributed in the sampled EAs for publishing the PES.
3. Radio Announcements were made on local FM stations mentioning the areas where the PES was to be conducted.

(d) Enumeration and Supervision

After the training, the enumerators were issued with their respective enumeration materials. On the eve of PES enumeration (January 17, 2003), they moved around their respective EAs to identify guides, familiarize with the area and distribute the handbills. The actual PES enumeration took five days from 18th - 22nd January, 2003.

It was the responsibility of the DPESO to ensure that all materials were retrieved and the field staff paid. The Zonal Supervisors collected the materials from all the districts and carried them back to UBOS.

8.2.4 PES Post Enumeration activities

The PES post enumeration activities included records matching, data processing, reconciliation, error estimation and report writing. A local consultant was contracted to, among others, develop the Matching Instructions and a Tabulation Plan, including estimation procedures. The UNFPA CST Adviser further reviewed these in April 2003. The CST Adviser also gave the Technical Staff of the Census office a hands-on training on how to carry out the records matching. This involved actual record matching of households and individuals in two EAs.

Because of lack of funds, the initiation of records matching and data analysis was delayed and it started in September 2003. A total of 30 matching clerks, three matching

supervisors and four data entry clerks were recruited and trained to implement the PES matching and data capture process. A total of 1,637 filled-in questionnaire census booklets were retrieved for matching. The PES records matching with the Census records was carried out on 345 EAs out of the 350 EAs because some five Census EAs couldn't be identified during this period. They were, however, identified later after the process of stores audit when matching had already been completed. The processing of the PES data capture was carried out concurrently with the matching process. The data entry staff first carried out matching before engaging in the capturing of data.

All the 350 EAs needed reconciliation, however only 105 were visited. The reconciliation clerks were selected from the matching clerks bearing in mind knowledge of the local language of the selected EAs. These clerks were briefed for a period of one day on the process of field reconciliation.

A five day retreat involving UBOS technical staff and a local consultant was held to write the PES report. The Chapters were written and later reviewed in the preinary session of the retreat. The report was later reviewed by UNFPA/CST consultant together with census office technical staff.

8.3 Challenges and lessons learnt

Since the 2003 PES was the first ever held in Uganda, a lot was learnt by UBOS in particular and the country in general, from the experience acquired in the process of implementing the survey.

The PES was conceived at the time the main census was being planned. There were attempts to plan PES and the census together. However, towards the time of census enumeration, census work was so much that all efforts were focused on the census and PES activities were postponed until after census fieldwork. This meant that implementation of PES was delayed, resulting into the fieldwork being conducted four months after the census enumeration day. The lesson learnt is that if activities of PES are not planned together with the census, the fieldwork would be carried out immediately (within the recommended three months) after the census.

Due to financial constraints, UBOS' Census Technical Office and the field personnel that did the census, planned and implemented the PES. This arrangement compromised the independence of PES from census and violated a major assumption of the PES. Future PES exercises should be independent of the Censuses.

At different stages of the PES, there were persistent shortages of funds to pay for the activities of PES. This led to delays in the implementation of activities, such as fieldwork, data matching, data management and field reconciliation. If the budget for different stages of PES is not planned early, it would cause delays in the implementation of different stages of PES.

Due to lack of finances, there was sample field reconciliation instead of all unmatched EAs in the field. The effect of this on the results of reconciliation is unknown.

A mandatory pilot PES was not planned and conducted, resulting in using untested instruments. The lesson learnt is that late planning of PES would lead to some important activities to be skipped, with negative implications to the results of the exercise.

Due to delayed PES fieldwork and field reconciliation, the nomadic and urban people were given a lot of time to move away from the place they had been enumerated in during the census period. It was difficult for the PES to capture this population. As a consequence, the results of PES show low coverage rates and high omission errors, leading to an inflated true census population.

The major advantage of PES was the enormous experience the personnel of UBOS gained by conducting the PES themselves. They now know the challenges in planning the exercise, are exposed to problems of fieldwork, were trained in data matching procedures, implemented the matching procedures, participated in the field reconciliation and did the data processing, tabulation, analysis and write up. All this experience was a huge lesson to UBOS to enable it do better next time.

8.4 Recommendations

Due to the above challenges faced in the PES, it is recommended that:

- (i) Adequate planning for the PES be done and hence reduce delays in implementation. In future, UBOS should set up a PES unit and start planning the PES together with the census;
- (ii) Independence of PES from the census is vital and should be observed. This can be done if the suggested PES unit in UBOS is manned by the personnel that do not participate in census activities. Alternatively, an organization outside of UBOS can be contracted to plan and implement the PES, from the beginning to the end.

- (iii) Enough funds for PES budget should be allocated in advance to ensure smooth activities of the exercise.
- (iv) The PES should be piloted preferably along side the pilot census;
- (v) The experience gained during the 2003 PES should be exploited during the next PES.

CHAPTER 9: DATA PROCESSING

9.1 Overview

Preparations for processing the 2002 Population and Housing Census data started in 2000 with a review of the available technologies leading to the choice of technology that was used. The review was extended to a study tour in 2001 to some countries in the region namely Kenya, Zambia and the Republic of South Africa that had just conducted their censuses and were either engaged in data processing or had just completed.

The CMT opted for the traditional mode of data capture using keyboards as opposed to scanning which some other countries had used because of a number of reasons:

- i) With less than twelve months to the census, it was not to be possible to plan for, train, acquire and implement the alternative which was scanning technology;
- ii) The scanning technology required enormous financial and technical resources that had not been budgeted for;
- iii) It was advisable to use the same technology as what had been used during the pilot census;
- iv) The census instruments that had already been piloted would have to be redesigned and hence be re-piloted.
- v) The expertise to manage the traditional data entry method was already available locally
- vi) The precision required in printing forms to be used when scanning technology is to be applied was not available locally which would complicate the procurement process.

9.1.1 Objectives of Data Processing

The fundamental purpose of a census is to provide information on the size, distribution and characteristics of a country's population. Data processing is the stage at which data collected from the respondents is coded, captured, edited and tabulated. The result of these operations is the production of micro and macro databases. These databases are the ones from which tabulations, time series analysis, graphing and mapping operations are derived.

9.1.2 Data Processing Activities

Data processing involved the following major activities:

- Systems design and development
- Census Materials Stores Management
- Coding and Manual Editing of the Census returns
- Update of the Geography file (Geo-file)
- Data Entry Operations
- Data Editing
- Generation of tables

9.2 The Data Processing Plan

9.2.1 Overview of the Data Processing Plan

After the Pilot Census, a Data Processing Strategy was developed. The strategy highlighted among other things:

- 1) The detailed data processing activities as highlighted in 9.1.2 above;
- 2) The required administrative support services including administration, cleaning and security;
- 3) The number of persons required for all activities;
- 4) A description of the operations and the time frame attached to each activity;
- 5) A detailed account of the required equipment, furniture, stationery and other supplies;
- 6) The required technical Assistance and training;
- 7) The total space and layout required for all the data processing operations;
- 8) The organogram detailing the hierarchy and other reporting arrangements;
- 9) A budget for the data processing operation.

9.2.2 The Data Processing Centre (DPC) Acquisition

A decision was made to secure an independent facility away on account of the amount of space required for the data processing activities not being available at the UBOS office facility. This facility was to be named the 'DATA PROCESSING CENTRE (DPC)'.

The Data Processing Officer was detailed to identify suitable premises and report to the Census Management Team (CMT). The CMT then selected a team of five (5) people to carry out a physical assessment of the identified premises and recommend the most

appropriate one. The team carried out the assignment in May 2002 whereby it made visits to two of the premises considered most suitable. These included:

Plot 1 on 2nd street industrial area owned by Mr. M.K. Kiwanuka;

Plot 57 on 6th street industrial area owned by Peacock Paints.

The main criteria that the team used in assessing the properties included:

1. Available total space;
2. General condition and layout of the premises;
3. Security of premises and the surrounding environment;
4. Physical location and ease of accessibility especially by public transport;
5. Tenancy terms;
6. Available parking space;
7. Size of store and ease of access by large trucks;
8. Other environmental considerations;
9. Availability and reliability of 3-phase power;
10. Provisions for standby generator;
11. Rates;
12. Any other relevant information and specifications.

The team recommended Plot 57 on 6th street, Industrial Area owned by Peacock Paints Ltd as the most appropriate facility for setting up the Data Processing Centre.

These premises were easily customisable, had 3-phase power supply available, a lot of private, accessible and secure parking space, more than 3000 m² available office and storage space as compared to the required total space of only 1500 m². The structure was most secure being located between a private security firm's headquarters (Securicor) on the one side and the National Enterprise Corporation (NEC), the business arm of and managed by the Uganda Peoples Defence Forces (UPDF) on the other side. The landlord also offered the more competitive tenancy terms which included a standby generator (the modalities for fuelling were to be agreed upon). UBOS entered a tenancy agreement and took up the premises in August 2002, just before the census enumeration. Work to establish the DPC was then started by the Data Processing Officer (DPO).

9.2.3 Data Processing Centre Establishment

9.2.3.1 Layout

A new detailed layout for the DPC work areas and the census returns store was developed. This provided a basis for drawing detailed specifications and quantities for the required furniture and fittings as well as the local area network (LAN) design. The detailed equipment specifications and required quantities had been made much earlier taking into account the number of staff that were to be employed and the timeframe within which the work was to be accomplished.

The Data Processing Officer was fully involved in the procurement process by providing technical input at the procurement design and evaluation stages. This procurement process was managed by the Administration Section. In all cases, the procurement was done through competitive open bidding. The Data Processing Centre was inaugurated by the Vice President of Uganda H.E Prof. Gilbert B. Bukenya in July 2003; in the process the network that had just been installed was commissioned.

9.2.3.2 Recruitment

The recruitment process for the Data Processing Centre, managed by the Data Processing Officer (DPO) supported by the Senior Personnel Officer of UBOS, started in July 2002 with the placing of adverts for the proposed positions in the local media. Interested applicants were advised to pick, fill and return a pre-designed form to any of three reception centres established at the UBOS head office, Institute of Statistics and Applied Economics (ISAE) at Makerere University and the Census Office at Katabi.

The detailed positions and number of staff had been defined in the Data Processing Strategy. Prior to advertising, detailed job definitions, descriptions and required person specifications were developed. About 15,000 applications were received for the different positions which were in turn coded and entered to establish a database. Shortlists were derived from the database basing on the specifications set for each positions. A total of 1500 applicants were short listed and were invited for the interviews according to the interview time schedule developed.

A programme for the interviews was set and different panels set up for the different positions. The interviews were conducted at the Data Processing Centre except for the Data Entry clerks who did the practical interviews from ISAE. In most cases, interviewees were given a combination of two or three of written, practical and oral interviews.

The successful candidates were notified shortly and were advised as to when to report for work since not all the Data Processing operations were to begin at the same time.

9.2.3.3 Staffing and Operational Structure

The Data Processing Centre engaged a total of 527 staff after all had reported by January 2003. Of these, the DPO and the Assistant DPO were fulltime UBOS employees while the rest were census staff on short contracts. Throughout the entire data processing phase, new staff would be recruited to replace those who would either abscond or resign and those whose services would be terminated. Termination of services would be invoked mainly for staff engaging in unbecoming behaviour in contravention of the UBOS Terms and Conditions of Service, persistent poor attendance and/or poor performance.

Recruitment was also done for about 60 staff to process the Post Enumeration Survey (PES) returns for a period of 9 months from mid 2003 to 2004. Another 300 staff were recruited to process the Micro and Small Enterprises (MSE) returns for a period of 5 months from January to May 2004. This period marked the peak of data processing with staffing level in excess of 800 staff working over a 3-shift day.

The day to day administrative and technical operations at the Data Processing Centre were managed by Data Processing Officer who in turn reported to the Deputy National Census Coordinator (DNCC) every two weeks. The general administrative support to the DPC was provided by the National Census Administrator's office while the general technical support was provided by the office of the Census Technical Officer (CTO) on fulltime basis.

Work for the majority of the staff (Data Entry) at the DPC was scheduled to be done in a 6-day week with a 3-shift day namely: Shift A (from 7.30 am to 2.30 pm); Shift B (from 3.00 pm to 10.00 pm); and Shift C (from 11.30 pm to 6.30 am). However, some of the operations (administrative, programming, data editing and census returns stores operations) were done in either a single shift (8.00 am to 5.00 pm) or double shift (coding - Shifts A and B) arrangement. Staff would always be changed from one shift to another every 3 to 4 weeks putting into account one's preference and other peculiarities including health considerations, effect on performance, place of residence, domestic and other socio responsibilities etc.

The supervisory responsibility for the data processing activities was spread over a top-bottom hierarchy starting with the DPO down to programmer level, section supervisors,

Shift leaders and to Team leaders. The teams would always change with the change of shifts. Mechanisms were put in place to record and monitor attendance as well as manage leave and some welfare concerns such as transport and first aid.

9.3 Pilot Census Data Processing

The processing of the pilot census returns involved a few basic operations that included software development (using CsPro), Coding, Data entry and tabulation.

The exercise served its main purpose of enabling the testing and finalisation (to a large degree) of the data capture systems and the coding guide since they had to be developed from scratch.

Data entry for the 12 pilot districts took 2 months with 42 percent verification. The slow work was attributed to the fact that the systems were still under development and there were plenty of errors from the field since the census instruments were also being tested. The returns were processed as they were received starting in October 2001.

The data processing activity was able to point out the major problems with the summary forms (inconsistent totals, poor handwriting, over-writing and cancellations) and also 50 other specific problems identified with the questionnaire returns. These were to help with the finalisation of the instruments, preparation of the edits and refinement of the codes.

9.4 Census Materials Stores Management

9.4.1 Initial sorting and shelving

Returns from the field were received in October 2002 in the store which had a total area of 750 m² at the DPC. All recruited stores staff and coders totalling about 130 were then deployed to first separate the unused materials from the used ones. The spoilt ones were then separated from the valid ones. The spoilt and unused materials were then isolated after double checking to confirm that no valid materials were not included in the lot.

Double faced racks with 49 pigeon holes per face were then procured to be used for storage purposes. The books were then sorted and tied by enumeration area then bundled by parish per district. A record was made on forms in duplicate of which a copy was stapled on each EA and the other was filed for subsequent data capture to generate the Stores Returns Database.

The returns included about 235,000 household questionnaires booklets, 228,000 MSE questionnaire booklets, 43,000 community module questionnaires and 5,000 hotel questionnaires.

9.4.2 Staffing

The store had a supervisor, two shift leaders and a number of store assistants and attendants. The number of staff grew in response to the level of activity and was gradually scaled down at the point when the level of activity reduced.

9.4.3 Stores Materials Management Processes

The major aspects of work in the stores centred around shelving and unshelving books for storage or issue respectively. A shelving list that enabled quick access and orderly shelving was generated from the Returns Database created from the records made at the sorting stage and the initial shelving done.

9.4.3.1 Processing Issues to processing sections

The stores section would receive and process requests for questionnaires from the coding, data entry and the editing sections. The requests would in most cases involve one or more districts but in some instances, they would be for specific lower geographic areas.

The required questionnaires would then be retrieved from the shelves, recorded in detail and then be delivered to the requisitioning section supervisor with a delivery form detailing the quantities and broad geography of the materials.

9.4.3.2 Retrieval from processing sections

Once a consignment of materials (as was requested from the stores) had been processed by the relevant section, the stores section would be notified accordingly. By that time, the processing section would have received the next consignment to be worked on. The stores section would then conduct a preliminary check to confirm that all the materials had been assembled ready for returning to the store. Once in the stores, they would be checked in detail to confirm that all books are present and in the expected order prior to shelving. The shelving list would be used to guide the shelving process.

It was a policy that questionnaires would never move from one processing section to another without getting back to the stores first.

9.4.4 The Stores Audit Exercise

Towards the completion of the data entry exercise, a stores audit exercise was undertaken to confirm that all the questionnaires available at the DPC had the correct geography, had been correctly shelved and therefore had been processed once. The process was carried out in September/October 2004. It had been noted that some questionnaire booklets had serial numbers that were not clear, missing or duplicated. It was important therefore to rule out possibilities of duplication of captured data.

A team of stores auditors was recruited from amongst the coders, who by then had completed their work, to undertake the exercise together with the stores staff. It was important to do the audit quickly but systematically. A stores audit database was created and the entries were matched against the Stores returns database as well as the household data files to establish and resolve any observed inconsistencies.

Prior to conducting the exercise, all DPC space was checked to confirm that all questionnaires had been returned to the stores. However, two large districts were left with the data entry staff to process as the audit process was carried out. Reconciliation between the returns in the store and the captured data was completed in February, 2005.

9.5 Coding

9.5.1 Coding Process

The coding activity was done to check for completeness and assignment of codes in the questionnaire returns where required. The exercise was also used to confirm that the returns had the correct geography while generating input for making updates to the geo-file. The updated geo-file would then be used to cross check and update the Stores Returns database and in turn, the shelving list.

The coding exercise which was done in two shifts began in November 2002 with the Agricultural module, two months before data entry in order to create a critical workload since only 100 coders were on board as opposed to 330 data entry clerks who were to be recruited. Coding of the main household questionnaire which began in April 2003 and lasted till June 2004 was technically back-stopped by the office of the Census Chief Technical Officer. Coding of the Community questionnaire was done concurrently with the that of the MSE questionnaire from January to March 2004.

Coders had to backstop the data entry activity so as not to give room to the data entry clerks to use any codes where omissions existed. Coders were trained and issued with booklets containing the coding guidelines and relevant code lists in addition to the necessary stationery.

9.5.2 Staffing

The coding section was headed by a supervisor who was also responsible for the geo-file in addition to an Assistant supervisor who was responsible for liaising with the stores, Shift leaders and team leaders. The total work force was 100 for the main household questionnaires and 80 for the MSE and Community questionnaires. The coding team was relatively stable with a very low labour turnover.

9.6 Data Entry

Data entry started with the summary forms in October 2002 in a bid to compile the results for the provisional release. The exercise was conducted from the UBOS head office for one month since the DPC had not received the equipment yet. The major data entry operation embarked with a plan to capture the Agricultural module first with 100% verification to be followed by the Household module with an initial 100% verification that would be gradually scaled down to 20%. The Hotel, MSE and Community questionnaires would then follow respectively. It was planned to conduct the data entry operations in three shifts a day, 6 days a week. A total of 120 computers were initially deployed for the Data entry operations. An additional 30 computers were procured for processing the MSE module.

9.6.1 Staffing

At the inception, 330 data entry clerks were recruited. After training and initial operations, some were elevated to the status of supervisors, shift leaders and team leaders. The operational set up was that work was managed in teams of 10 of whom one was the team leader.

All new data entry clerks would be subjected to a one month training to perfect their keyboard skills in order to enhance speed and accuracy. Two computer programs were used to this effect. One would then start actual data entry after attaining a minimum speed equivalent to 7000 keystrokes per hour with an accuracy rate above 95%. With increased experience and verification, the error rate would be controlled to less than 1%.

These clerks were also equally subjected to training in the stores as the computer training proceeded so that they could appreciate the volume of work and the handling of the questionnaires.

This category experienced a relatively but expected high staff turnover as most of them secured better and permanent jobs while some who were studying could not continue with the pressure of combining academics with working at peak times. A review of the staffing gaps would be done on daily basis though replacements would be secured after sometime. Targets would be set as well as implementing an elaborate system for monitoring the performance to ensure that these targets were met and with minimum errors.

9.6.2 Agricultural Module

This module was the first one to be captured and was entered over a 4 month period from February to May 2003. The exercise yielded a database for the books available with a more approximate number of households which was subsequently used to monitor and control the data entry of the household module.

The installation of the local area network (LAN) was yet to be done by the time the agricultural module was captured. Diskettes were therefore used as the media for transferring all the work done in every session. The Team Leaders would copy work from the individual stations and in turn submit to the shift leaders who would then submit to the programmers.

9.6.3 Household Module

Data capture of the household module was started in July 2003 at a time when the network (LAN) had just been laid. 100% verification was maintained up to the end which accounted for completion of the work later than planned. Formal completion of the Data entry for the household module was in October 2004 though some entry and re-entry was done for some cases as was determined by the findings of the stores audit and subsequent data editing operations.

In principle, work would be allocated to a work station within a team such that in the event of changing shifts, the next session (shift) would only continue from where the previous session would have ended. The data entry process of the main household questionnaire was completed in November 2004.

9.6.4 The MSE, Community and Hotel Questionnaires

Processing of these questionnaires was done over a five month period from January to May 2004 alongside the processing of the household questionnaire by a team of new clerks recruited specifically for the purpose with the support from the European Union. This was a year later than had been envisaged due to a delay in the release of funds. A total of 268 staff were recruited to capture data for the exercise. Extra office space, new equipment and furniture were procured while the LAN was extended to provide for the processing of the questionnaires. However, the supervision including team leadership was drawn from amongst the supervisory staff who were already on board.

9.7 Preliminary Editing

A team of 12 editors was assigned the responsibility of carrying out the preliminary editing. This involved confirming that complete data entry had been done for all households and all books in relation to the records captured earlier in the stores database and the household books database.

Preliminary editing was also carried out to identify, investigate and resolve inconsistencies resulting from possible data entry and / or coding errors. Where errors or omissions were of a small magnitude, the corrections were made by the editing team. The more serious ones were referred to the data entry or coding sections. Preliminary editing was designed to cover a district as soon as it had been entered but preferably before the books were returned to the stores.

This editing process involved requisitioning even for a single book where necessary. The exercise was completed in December 2004 when the data set was merged to allow for the automated editing process.

9.7.1 Staffing

The editing team supervised by the ADPO consisted of 12 editors including an editing Supervisor. In order to execute their mandate properly they had elaborate training that required that they worked in all sections including stores, coding and data entry.

Targets were set for them and performance was monitored very closely since they provided a critical quality control check-point for the entered data. Failure to meet the required expectations led to redeployment to other sections. Replacements were

identified from amongst the data entry clerks or coders who possessed the right attributes for the job.

9.8 Cleaning of the Geo file

In 2002 when Census enumeration was implemented, changes in geography in some of the districts that had already been mapped took place. New districts and lower administrative areas had been created by then since the mapping exercise of Census 2002 started in 1999. Prior to enumeration, preliminary visits to the districts to verify the Administrative units were made by UBOS. In some cases variations were observed. This was more pronounced in the newly created districts where old Administrative units were subdivided to create more administrative units. Some of the proposed Administrative units had not been endorsed by the Ministry of Local Government.

In addition some new EAs were created by Census supervisors from the large EAs which could not be handled by one enumerator. It was not feasible to verify the boundaries of these new EAs. The following was therefore done:

- ✓ Office checking was carried out to identify areas that had variation;
- ✓ Field visits were arranged to verify the Administrative units in the affected districts. Special arrangements were made for the most affected 15 districts.

The output from the exercise was an important input in the preparation for the final release of the census results.

9.9 Final Editing

The Census Technical team held an off station Workshop to develop the Machine Editing Rules. Participants consisted of demographers, subject matter specialists and programmers. . Technical assistance to finalise the rules and the programmes was provided by two consultants from the US Bureau of the Census and an independent consultant programmer, made available with funding from DFID.

The system used both logical imputation and hot decking whenever an error (inconsistent or missing data) was detected. The system also made logical imputations by deducing from other information in the household or information based on other household members, in a bid to make the data consistent.

All the specifications were reviewed by the subject matter specialists to verify whether they were working well. Weekly review meetings were held to resolve such issues and all the changes raised were effected by the Computer Programmers at the Data Processing Centre.

After completion of the preliminary editing, the edited data was subjected to the edit programmes in two phases. The first run was to undertake structural edits which in essence was ensuring that the entries were logical. For instance, males were not expected to have fertility data.

The second run of the programmes was aimed at ensuring completeness of content and as a result, missing values had to be imputed following logic imbedded in the computer programs according to the editing specifications or rules established.

This exercise was fully automated and was undertaken by the programmers and the Census Technical Office staff. In addition to checking of inconsistent data, and correct missing information the machine editing system imputed some derived variables based on the variables collected. The end results of the post-capture editing process was clean census data for use. Editing of the MSE data was carried out by two contracted data analysts working closely with MSE-PU and the data processing centre.

9.10 Tabulation Programme

Several categories of tables were produced from the Census data and these included:

- (i) Tables for production at national and district level;
- (ii) Tables to be published at Sub-District levels;
- (iii) Specialised Tables for the Monographs;
- (iv) Tables on request

The census technical office came up with a list of dummy tables and distributed them to CTAC members and other stakeholders for review of tables in category (i). Upon their approval, they were passed over to the data processing officer for their generation. Generation for the rest of the tables followed thereafter depending on the demand.

After tabulation of the MSE data was completed, the tables were validated by UBOS before they were formally availed to the MFPED (MSE-PU) for further analysis and dissemination.

9.11 Census Archiving and generation of Small Area Profiles (SAPs)

The principal objective of census archiving was to document all the census 2002 activities by developing all procedures undertaken during the census preparatory, enumeration and post enumeration activities. The development of the Small Area Profile on the other hand was undertaken to provide information at national, district, county, subcounty and the parish level to aid in planning.

Three members of staff of UBOS were nominated to attend Training in Census Archiving and the development of the Small Area Profiles (SAPs) and subsequently carry out the process on the census 2002 data. They worked with the Consultant for 2 weeks at the Harvard Centre for Population and Development Studies, in Boston, USA. To finalise their work they will continue corresponding with the Archiving and Small Area Profile Consultant from the Centre for a further period of one week after they had returned from the Centre. Both the census archived materials and the Small Area Profiles are expected to be packaged in a user friendly interface for use.

9.12 Technical Assistance

The Data Processing programme received technical assistance at different stages as below:

1. A data processing consultant supported the setting up of the system at the data processing centre.
2. Staff from the US Bureau of Census gave technical assistance in the development, writing of the machine editing rules, compilation of data for the main release and generation of analytical tables.

CHAPTER 10: ANALYSIS AND DISSEMINATION

10.1 Background

A detailed Census Analysis plan was produced by the Census Technical Office. Included in the Plan was the targeted audience for the Census products, the amount of reports required, dissemination media, the work plan, budget and type of Technical assistance envisaged. Before its adoption the plan was reviewed by a team of consultants from BUCEN and top management of UBOS. A three-day Workshop organised by UBOS was held in November 2004 to further review and finalise the plan. Prior to the finalisation of the analysis plan, some analysis had been carried out using the provisional results.

10.2 Census products

A lot of analysis was done at different levels, which led to the production of different census products.

10.2.1 Preliminary Results Report

UBOS committed itself to release the census results in a timely manner. The preliminary results were released 2 weeks after the completion of the census field enumeration.

During the time of Census enumeration, parish supervisors, sub county supervisors and District supervisors were required to compile the number of households and the Population enumerated by sex in their respective areas of operation. Using the summaries of the hierarchical administrative areas, the Uganda Bureau of Statistics aggregated the Preliminary Results.

10.2.2 Provisional Results Report

The Enumeration Area (EA) summaries compiled by the enumerators were delivered to UBOS and captured. The captured data formed the basis for producing the provisional results. In cases where such summaries had not been sent to UBOS, office compilation was carried using the questionnaire returns to produce similar summary sheets that would have been produced by the enumerator and captured. The captured data was tabulated to produce the provisional Results report. The provisional results report provided population data up to sub county level by sex.

10.2.3 Main report

The results presented here were based on more detailed information after coding, capturing, verifying and editing of the census data. A tabulation plan for the main report was developed and reviewed internally. This formed the basis for the tables that were produced in the main report. The approved tabulation plan was presented to the data processing team that generated the tables. The tables were reviewed for internal consistency and used to write the report. About 30 tables were generated and provided data on all the areas covered by the census at national, regional, and district levels. These formed the appendix of the report. The following chapters formed the basis of this report:

- Population Size and Composition
- Population Characteristics
- Household and Housing Characteristics
- Population Trends
- Development Indicators

It also had appendices that covered the following areas

- Selected Population Indicators
- Selected Census Tables
- Number of Households and Population by Sub County
- Census Household Questionnaire

A long side the census 2002 Main Report, a census fact sheet was produced highlighting the key findings from the census.

10.2.4 District Census Reports

Due to the need to provide detailed data for planning to lower levels/units, the district census reports were produced and disseminated. The main report structure was adopted for the district report with a few changes. The Census Technical Advisory Committee resolved that reports should be produced for districts as at time of Census. These reports were produced for the 55 out of the 56 districts that existed at the time of the census. Kotido district report was not produced because the Bureau had proved beyond reasonable doubt that its data had been manipulated during the enumeration process. A decision was then taken to exclude it from the analysis. The tables were generated, formatted and reviewed by the technical office together with the data processing office. In addition to the tables, the district reports provided a wide range of indicators from the census data.

10.2.5 National Analytical report

UBOS received technical assistance from the US Census Bureau in the field of demographic analysis prior to the beginning of detailed analysis process. This was facilitated with financial support from DFID. The National Analytical Report covered all areas included in the 2002 Population and Housing Census apart from the Agriculture Module. These included Population and Housing characteristics, information on Micro and Small Enterprises (MSE) and findings from the community (using the Community Module). There was no analysis on agriculture because a detailed report had already been written about this area.

The Census Technical office developed the report-writing outline. This was intended to guide the authors in writing their analytical chapters and to ensure that all the data collected during the census was analysed. However authors were free to make changes in their respective chapters.

A Team of 26 local subject matter specialists (Data Analysts) was contracted to carry out the data analysis, and write the draft chapters. Each of the analytical chapters was written by pairing up of UBOS Co-authors with a subject matter expert from outside UBOS. This was necessary to build capacity of UBOS staff in handling report writing. In addition a report writing Coordinator was contracted by UBOS during the time of report writing. His responsibilities were: Coordinate the report writing activity, review the draft chapters and advise the authors and write the executive summary of the analytical report.

During the exercise of finalisation of the monographs, UBOS engaged a consultant to generate tables to authenticate the results in the tables. These tables were generated using a software that had not been used by the UBOS programmers during the initial stage of coming up with these tables. In addition two external reviewers were also hired to edit these monographs.

The analytical report was divided into ten monographs. Three to four related topics were merged to form one monograph. A chapter covering the background information was written and replicated at the beginning of every monograph for easy reference. The following monographs, which constituted the Census 2002 Analytical Report, were produced:

(i) Abridged Version

The abridged version was in effect the main analytical report. It contained key findings as extracted from all the monographs. A three-day retreat was organised by UBOS to develop a draft abridged version of the census analytical report. This was after all the draft analytical chapters were in their final stages. The draft abridged version was reviewed later and a final report produced. This was produced and disseminated before the other monographs were ready.

(ii) Population Size and Distribution

This monograph contained chapters on Population size and Growth, Migration and Urbanisation.

(iii) Population Composition

This monograph contained chapters on Age and Sex composition, Household composition and Religious and Ethnic composition.

(iv) Population Dynamics

It included information on Fertility, Nuptiality and Mortality.

(v) Education Characteristics

The education monograph had chapters on Literacy, School attendance, School Enrolment and Education Attainment.

(vi) Economic Characteristics

The Economic characteristics monograph contained the following chapters: Economic activity, Working Population, and Micro and Small Enterprises.

(vii) Vulnerability

This monograph comprised chapters on Children, Disability, the Youth and Elderly. The chapter on children covered aspects such as orphan hood, working children, and child abuse at community level.

(viii) Gender Dimensions

Gender dimensions covered the aspects of gender issues in the population and gender violence in the community perspective.

(ix) Household and Housing Characteristics

This monograph covered Housing, Household utilities, and Household welfare. The Household utilities included household information and communication.

(x) Data for Development

UBOS engaged a consultant to write a monograph on data for Development. At the time of compiling of this report, the monograph had not been finalised.

(xi) Population Projections

This monograph covered population projections at national, regional, district and sub county levels.

The analytical report was used to compile other Census products including the abridged version. Other products included a national wall chart, pocket fliers at national and district levels, facts and figures booklet, and the Census atlas.

(xii) Review workshops

A number of workshops were organised. The first workshop was held with the authors and co-authors to brief them about the report writing exercise and review the report structure. The participants included relevant UBOS staff, the Data Analysts and other stakeholders in the areas covered by the census. During this workshop a consensus on the content of the national analytical report was reached. Review meetings were later held to review the progress of the report writing exercise.

10.2.6 The Post Enumeration Survey Report

Post Enumeration Survey (PES) was carried out 4 months after the census enumeration. This was the first of its kind since the history of censuses in Uganda. This was intended to evaluate the census coverage. After the data collection exercise, records matching, data processing, field reconciliation, error estimation and report writing were carried out.

A five-day retreat involving UBOS technical staff and a local consultant was held to write the PES report. The Chapters were written and later reviewed in the plenary session of the retreat. UNFPA/CST consultant together with census office technical staff later reviewed the report. The report produced was limited in circulation to training and research institutions. For details, refer to the relevant chapter.

10.2.7 District Analytical Reports

UBOS carried out the national level analysis. However, it did not have sufficient manpower to carry out district specific analyses. In addition most district Planning Units (DPUs) do not have sufficient skills to carry out the data analysis and write the report independently. Therefore, UBOS in collaboration with leading Universities conducted six two-week workshops to train district staff in techniques of analysis and dissemination of census data. The collaborating Universities included:

- Makerere University;
- Mbarara University of Science and Technology;
- Uganda Christian University, Mukono;
- Gulu University;
- Kumi University;
- Islamic University in Uganda, Mbale;
- Ndejje University.

While National level analysis covered only 55 districts, the training for district analytical report writing covered all the 80 districts and all Municipalities at the time of the exercise. The Capacity Building Section in the Directorate of District Statistics coordinated the exercise. The trained staff wrote the draft reports for their districts and municipalities. During the workshops, the district and municipality staff were trained in the use of CSPro software to generate cross tabulations from census data. They also learnt techniques of Data Analysis, Report writing and Data Dissemination using Census 2002 data,.

The district and municipality staff drafted the district analytical reports during the training and completed them from their respective districts. The UBOS staff supervised the report writing exercise during the training and made follow ups thereafter. These reports were reviewed by both UBOS staff and other individuals who were hired to assist in the exercise.

10.2.8 The Census Atlas

The Census atlas showed the spatial distribution of the population and its socio-economic characteristics including literacy, population density as well as the availability of social facilities across districts plus other indicators on maps.

10.2.9 Poverty Maps:

Poverty maps were produced based on the 2002 population and housing census and the 2002/2003 Uganda National Household survey data sets. These poverty maps showed the differentials in poverty among the districts. This was necessary to explain geographical factors affecting poverty, improvement in the targeting of resources and interventions and improvement in communication on poverty conditions.

10.3 Dissemination of final Census Products

The value of census data is in their utilization and not in production. UBOS already has an IT & Dissemination Strategy. The dissemination of the Census 2002 findings was within this framework. The Census technical office organised a four day retreat and this culminated in the production of a comprehensive Census Data Dissemination Strategy. The strategy identified the census clients to include line ministries, government departments, development partners, the private sector, local governments etc. Several types of products were identified including macro data, micro data, Analytical reports (wall charts, articles,etc), sampling frame, census maps, administrative units among others.

The Uganda Bureau of Statistics committed itself to release the results from the census in a timely manner. These results filled in the data demands raised from different corners of Central Government, Non Governmental organisations, the research community and other stakeholders. The following products were produced and disseminated:

Table 10.1: A list of Census products so far produced

Main Report	Census Maps
District Report Series	National Census Maps
	District Census Maps
	Area Profile Maps
Analytical Reports	
National Analytical Report (Popular Version)	
Monograph Series (Vol 1 - 11)	
District Analytical Reports	Sampling Frames
National Wall Chart	Area frames by households
District Wall Chart	Area frames by livestock
National Pocket Flyer (A3)	Area frame by crop
District Pocket Flyer (A4)	
Booklet (Facts and Figures) – National	
Other products	
PES Report	
Administrative Report	
Unprinted National Tables	
Unprinted District Tables	
Area Profiles	
10% sample	
Complete data set	

10.4 Challenges and recommendations

10.4.1 Challenges

The enumerators compiled the summary reports that were showing the number of households and the population aggregated by sex in the area. These summaries were compiled into parish, sub county and district summaries used to compile the preliminary and provisional results. In some cases, Computational errors occurred which affected both the preliminary and provisional results. However, the preliminary and provisional results provided useful data to meet the urgent need of data for planning.

Data processing took longer than anticipated. This delayed other exercises that required the final output of data processing.

Since the Census Technical Advisory Committee (CTAC) took a decision to produce census reports to refer to districts as at the time of the census, indicators for the new districts were not reflected in the monographs. However this was partly solved by the production of district Analytical reports

Although the Authors were expected to write their respective chapters within a period of two months, the period taken was much longer than anticipated (about a year). This was mainly due to the high level calibre of the selected persons who had a lot of commitments and devoted little time to the exercise and yet UBOS had little control over them.

10.4.2 Recommendations.

During future censuses, UBOS staff should be facilitated to write the chapters and external consultants contracted to review the chapters. This will probably reduce on the time period after data processing to produce the analytical report.

Faster methods of data processing should be explored during future censuses for timely release of census results.

The Uganda National Household Survey (UNHS) and the Population and Housing Census should be carried out close to each other to facilitate the link of the census and survey data to generate poverty maps.

Additional manpower should be recruited to supplement UBOS staff attached to the Census programme who have other responsibilities and should be maintained until the last product from the census data has been produced.

CHAPTER 11: FINANCING OF CENSUS 2002

11.1 Background.

The 2002 Census was carried out in September 2002. This was the most comprehensive Census ever undertaken in Uganda. The 2002 Census started way back in 1999 by mapping and boundary opening for administrative purposes. It had a main module on population and housing, an agricultural module, a micro and small enterprises module and a community module.

11.2 Funds Control and Monitoring.

The 2002 Census budget was prepared by the Bureau Management and approved by the Board of Directors, Government of Uganda and the Development Partners. In the budgeting process, district leaders were heavily involved in determining their specific requirements. The Uganda Peoples Defence Force was taken as a district due its structural set for ease of enumeration and accountability.

All funds required at district level were transferred to every district census special account specifically opened for the purpose. The signatories to the special were the Chief Administrative Officer (CAO) with either the Chief Finance Officer (CFO) or the District Census Officer (DCO). Census funds were disbursed to Districts in four tranches and in accordance to the approved district census budget and work plans.

For effective disbursement, utilisation, control, monitoring and enforcing prompt accountability for all funds transferred to districts, a funds control and monitoring guidelines was prepared. In addition regional funds control and monitoring training workshops were organised for the CAOs, CFOs, DCOs and ADCOs. In total five workshops were conducted. There were held in Collin Hotel Mukono for Central Districts, Mbale for Eastern Districts, Lira Hotel for Northern Districts , Mbarara Rwizi Arch Hotel for Western Districts and Arua Farm Institute for West Nile Districts.

The purpose of these regional workshops were to explain fundamental aspects of funds control of Census 2002 funds disbursed to Districts, explain procedures for completing and submitting accountability forms and to stress the need for submitting timely and accurate accountability for funds disbursed to Districts. The guidelines required that:

- (a) All transactions were initiated, reviewed and properly approved by authorized personnel;
- (b) Disbursements were for authorized purposes only;
- (c) Cheques were promptly prepared and signed by approved officials, based on proper authorization and supporting evidence
- (d) Disbursements were fully and accurately recorded and fully and timely accounted for.

Proper books of accounts were basic requirement for effective funds control and monitoring. A Cash book was maintained for record of all transaction detail of receipts and payments, Stock cards, stock receipt and issue vouchers for record of all details of census materials supplied by the Bureau and issued by the districts. All receipts and payment transactions were through vouchers supplied by the Bureau.

The Bureau ensured accountabilities for all funds advanced to the districts were duly received as a program in annual entity accounts.

Overall the Census finances were managed in accordance with the Financial and Accounting regulations of the Bureau and Development Partners particular requirements.

11.3 Budgets and Budgetary Performance.

The Census was funded by the Government of Uganda and a consortium of Development Partners. The budget process was elaborate and agreed with Development Partners before disbursement. The major Development Partners which directly supported the Census activities immensely were, DFID, UNFPA, EU, Government of Japan and NORAD. There were many others whose were channeled through the Budget Support arrangement. The Total budget for 8 years was Shs.36.0 billion of which Shs.31.5 billion was disbursed to the Bureau over the 8 year period. Shs 4.5 billion was spent directly for procurement of motor vehicles, computers and data processing equipment, plan and mapping equipments, air conditioners, consultancies, study tours and visits to census of abroad and training mapping and data processing and analysis. (refer to appendix 4 for detail budget lines and annual actual expenditures)

11.4 Audits

The Accounts of the Bureau were audited by the Auditor General and clean annual audit opinion issued to the Board of Directors copies to the Speaker of Parliament and all the Development Partners. Some Development Partners, the EU and UNFPA however appointed their own auditors to audit funds which were received as support to the Census. The clean audit opinions were issued for these fund utilizations.

11.5 Procurement.

Procurement of all goods and services were according to the Public Procurement and Disposal of Assets (PPDA) guidelines. Some specific procurement for EU and UNFPA funded were however in accordance to their guidelines.

11.6 Challenges

The main challenges experienced in the management of census funds were as listed below:

- It was very difficult to get accountabilities from some Districts, especially from UPDF;
- Some Districts were not able to prepare cashbooks as per standardized format;
- Due to insurgency in the North, it became difficult to monitor and supervise in regular intervals funds usage at districts;
- Untimely release of funds from MOFPED;
- Repairs of Motor vehicles at Districts were difficult since we lacked control.

11.7 Conclusion and Recommendations

- Top District officials like RDC and LC5 Chairmen should not be in control of census activities as they tend to politicize the exercise.
- The Bureau should always provide more redesigned Cashbooks, voucher books, etc;
- Districts with Insecurity need to be given special consideration in future after studying their situation;
- It is being proposed to hire vehicles in future both at Headquarters and Districts.

CHAPTER 12: CONCLUSIONS

The Census is a gigantic exercise and in its implementation challenges are likely to be faced. This chapter gives the major challenges faced and the Recommendations for future Censuses based on the challenges faced.

12.1 Challenges

A number of the challenges that were faced during the census exercise have been highlighted in the individual chapters. The challenges therefore included in this section are of a general manner.

12.1.1 Challenges experienced with Kotido District

UBOS carried out an investigation of the Census data and found out that a number of indicators from the data for Kotido District deviated from other reliable results got from other studies. A search of a representative sample of the Census booklets for the District revealed that there was a deliberate effort to inflate the Population figures. This was done by the local staff involved in field Enumeration and was more prevalent in Dodoth County than any of the other Counties of Kotido.

A team from UBOS reviewed the Birth and Death records for 443 out of the 621 villages of Kotido and Kaabong Districts. The BDR records were also characterized by some problems including some villages having exceptionally big numbers of households, some villages having consistently large number of persons per household, cases of inconsistencies and errors in the data, villages with all members of each household having similar second name (surname), household members having only one name, and some records having the characteristics of the individual recorded except the name. In summary the investigation revealed that Population figures collected by local staff tend to be inflated. Discussions with the people from the two Districts pointed to the same conclusion because of the belief of Population figures being associated with aid.

Appropriate statistical methods were applied on the population of Kotido to come up with its reliable estimates as of 2002.

Due to this UBOS adjusted the population of Kotido district downwards to be consistent with the results from other studies. In addition since most of the indicators from the District were not reliable, a decision was taken to re-run all Census data without Kotido data.

Two computer programmers were therefore hired to re-run the data reflecting the effect of Kotido in the indicators. In addition two report consultants were hired to re-write all census analytical reports which had been written. The implication was that releasing of the census analytical reports had to take 2 more months beyond the period planned.

12.1.2 Timely Release of Census Results

There were delays in the release of the Census final results as the first set of these results were released in March 2005, 30 months after the main census. This was partly because the conventional method of data capture was slow. In addition the external authors that were hired to write the Census 2002 Analytical reports as Consultants also tended to be slow in executing their duties. This was partly because they were busy people in their respective offices and UBOS had little control over them.

12.1.3 Timely release of funds

There were reports of untimely release of funds during some operations of the census. This in effect has a negative impact on the implementation of the Census activities.

12.2 General Recommendations

- (i) During the Census field Operations a number of documents were used to carry out the work, there is need to assess the utility of the documents used and whether it will be necessary to use them during the next census;
- (ii) All the field staff were trained on the Census instruments, however they were not assessed on their ability to apply what they had been trained on in the field. In future similar exercises it is recommended to have the field staff to have tests to assess their competency;
- (iii) Given the experience with Kotido District where the census data was manipulated, UBOS should in future have greater involvement in the affairs of data collection at lower levels;
- (iv) To get timely Census results in future, it is recommended to have faster methods of data capture like the scanning method of data capture. In addition UBOS staff should be given the responsibility of being authors of Analytical reports; external staff would therefore act as reviewers of the already written Chapters.

- (v) Future Censuses should retain key programme staff up to the time of completion of the entire exercise;
- (vi) During the compilation of the Administrative report there were cases of memory elapse. This should have been avoided by writing the report early enough and documentation of all the processes at all levels of census activities as they took place;
- (vii) To ensure effective implementation of Census activities in future, it is necessary to put in place mechanisms for smooth flow of funds.

ANNEXES

- Annex 1: Procurements for Census 2002**
- Annex 2: (a) Key Resolutions of Census Committees**
(b) Members of the CMT
- Annex 3: The Census Critical Path**
- Annex 4: The Census Budget and Expenditure**
- Annex 5: Census Questionnaires**

Table A1.1 Procurements for the census 2002

S/N	Item procured	Unit	Quantity	Supplier
1	Metallic shelves	Pcs	4	
2	Metallic ladder	Pcs	4	
3	Burglar proof of entrance to store (5200mm x 4300mmx2100mm)	Pcs	1	
4	Bookshelf	Pcs	2	
5	Photocopir	Pc	1	
6	Pallets	Pcs	16	
7	Photo frames	20		
8	Filing cabinets	Pcs	3	
9	Fax machine	Pc	1	
10	Cotton strings (6mx5mm)	Pcs	15,000	
11	Parking tape	Pcs	15,000	
12	Askari's house (8x6 feet)	Pcs	1	
13	Metallic trolleys	Pcs	12	
14	Desks (1.2x0.8m)	Pcs	116	
15	Executive desk	Pcs	1	
16	Desks (1mx0.5m)	Pcs	6	
17	Trolleys (1mx0.5m)	Pcs	12	
18	Rack with pigeon holes	Pcs	53	
19	Burglar proof rack & structural braces	Pcs	1	
20	62 seater bus	Pcs	1	
21	Tables with metallic frame	Pcs	65	
22	Plastic chairs	Pcs	165	
23	Fire extinguishers	Pcs	17	
24	Computers	Pcs	17	
25	Rechargeable electric lamps	Pcs	19	
26	Block board for office partition	Pcs	36	
27	Office table with metallic frames	Pcs	40	
28	Office chairs with metal frames	Pcs	40	
29	Hire of 4wd station wagon vehicles	Units	50	
30	Hire of 7-15 ton body build trucks to transport materials to districts	Units	?	WKK Investments
31	Sme questionnaires	Booklets	310,000	Multi graphics
32	Sme training questionnaires	Copies	65,000	Multi graphics
33	Vital registration instruction manual	Booklets	8,000	Nice Print
34	Birth registration forms	Copies	18,000	Industrial Graphic Systems
35	Death registration forms	Copies	18,000	Industrial Graphic Systems
36	Short form birth certificates	Booklets	1,000	Intersoft Business Services
37	Short death certificate forms	Booklets	1,000	Intersoft Business Services
38	Enumerator identification aprons	Pcs	46,600	Classic Uniforms (u) ltd
39	Enumerator's manual	Booklets	46,600	Graphic Systems ltd
40	Supervisor's manual	Booklet	6,600	Graphic Systems ltd
41	Training questionnaires for household enumerators	Booklets	46,600	Abacus Printers & Stationers

Table A1.1 Procurements for the census 2002 Ctd

S/N	Item procured	Unit	Quantity	Supplier
42	Community questionnaires	Booklets	46,600	Abacus Printers & Stationers
43	Training community questionnaires	Booklets	46,600	Abacus Printers & Stationers
44	Questionnaires for household enumeration	Booklets	310,000	Picfare industries ltd
45	Polythene bags	Pcs	92,200	Red point
46	Umbrellas	Pcs	46,600	Red point
47	Paper boxes	Pcs	15,000	Red point
48	Installation of a lan at the dpc	System	1	Computer pont
49	Sub-county summary sheets	Copies	4,200	Abacus printers & stationers
50	Sub-county control forms	Copies	4,200	Abacus printers & stationers
51	Enumerator summary sheets	Copies	80,200	Abacus printers & stationers
52	Parish summary sheets	Copies	20,000	Abacus printers & stationers
54	Parish control forms	Parish control forms	20,000	Abacus printers & stationers
55	Rent of stores	Cubic meters		Uganda printing and publishing corporation
56	Hire of census office premises	Square meters		Mr. Basulwa sam
57	Data analyst consultant for sme	Man months		Festus ssenkumba
58	Rent of space for data processing	Square meters		Peacock industries ltd
59	Translation cards	Copies	85,349	Graphic systems ltd
60	Pencils	Dozens	18,000	Charcon enterprises
61	Cotton strings	Rolls	10,300	Charcon enterprises
62	Pens	Packets	6,000	Dezy business systems ltd
63	Carbon paper a4 size	Packets	200	KMR Business systems ltd
64	Cello tape	Pcs	200	KMR Business systems ltd
65	Writing pads	Pcs	3,000	KMR Business systems ltd
66	Duplicating paper	Reams	1,200	Central purchasing co.
67	Markers	Dozens	15,000	Kanga enterprises ltd
68	Flip charts	Pcs	130	Kanga enterprises ltd
69	White chalk	Packets	5,000	Kanga enterprises ltd
70	Coloured chalk	Packets	2,000	Kanga enterprises ltd
71	Parish supervisor ea progress report forms	Copies	42,000	Abacus printers & stationers
72	Parish listing summary forms	Copies	13,000	Abacus printers & stationers
73	Supervisors badges	Pcs	9,000	Nationwide designers and stationers
74	Exercise books	Dozens	5,000	Oscar industries
75	Enumerators and parish supervisor's	Copies		Intersoft business services
76	Hotel questionnaires and envelopes	Copies		Intersoft business services
77	Summary sheets and control forms	Copies		Abacus printers and stationers

Table A2.1: Key Resolutions of the Census Committees**A: National Census Steering Committee**

1. The census should carry the revitalisation of Birth and Death Registration Module

B: Census Technical Advisory Committee

2. Developed the census questionnaire
3. The census should have several modules including population, housing, agriculture and community. The MSE module was also taken up later.
4. The census should use a universal long questionnaire with no sampling
5. Data capture shall be done using conventional keyboard entry
6. The publication of the results should refer to the geography as of Census enumeration time
7. The enumeration will last 7 days and there will be no need for a census curfew

Table A2.2: Members of the Census Management Team

- | | | |
|--------------------------|---|---------------------------|
| 1. Mr. John Okello | - | NCC |
| 2. Mr. Z. E. A. Kaija | - | DNCC |
| 3. Mr. Andrew Mukulu | - | CTO |
| 4. Ms Helen Nviiri | - | DCTO |
| 5. Mr. Edgar Mbahamiza | - | NCA |
| 6. Mr. Godfrey Nabongo | - | DPO |
| 7. Mr. Bernard Muhwezi | - | CC |
| 8. Mr. Kizito Kasozi | - | NFOO |
| 9. Ms Loy Katali | - | Census Accountant |
| 10. Ms Mary Ofumbi | - | Senior Administrator |
| 11. Mr. Samuel Zirimenya | - | Senior Statistician, UBOS |
| 12. Mr. Wilson Nyegenye | - | Senior Statistician, UBOS |