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LOGO

2002 Population and Housing Census
Volume I

Methodology Report

**Central Census Office
National Bureau of Statistics**

**President's Office
Planning and Privatization**

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List of Abbreviations

ACC	-	Accounts
ADM	-	Administration
APC	-	Type of UPS
ASCII	-	American Standard Code for Information Interchange
CCBRT	-	
CCC	-	Central Census Committee
CCO	-	Central Census Office
CD	-	Compact Disc
CENTS	-	Central Tabulation
CLT	-	Census Logistics Team
CONCOR	-	Consistencies Corrections
CPC	-	Commissioner of Population Census
CRE	-	Central Register of Establishments
CSPro	-	Census and Survey Program
DC	-	District Commissioner
DCEO	-	District Census Executive Officer
DESA	-	Department of Economic and Social Affairs
DFID	-	Department for International Development
DG	-	Director General
DPU	-	Data Processing Unit
DRS	-	Data and Research Services
DSA	-	Daily Subsistence Allowance
EA	-	Enumeration Area
FIG	-	Figure
FINNIDA	-	Finnish International Development Agency
GIS	-	Geographic Information System
GPS	-	Global Positioning System
HF	-	High Frequency
IEC	-	Information, Education and Communication
IPC	-	International Programs Centre
IRA	-	Institute of Research Assessment
JICA	-	Japan International Cooperation Agency
LQ	-	Long Questionnaire
MP	-	Member of Parliament
MHR	-	Member of House of Representatives
NACTE	-	National Council for Technical Education
NBS	-	National Bureau of Statistics

NGO	-	Non-Government Organization
NORAD	-	Norwegian Agency for Development
OMR	-	Optical Mark Recognition
PC	-	Personal Computer
PES	-	Post Enumeration Survey
PHCF	-	Population and Housing Census Form
PMO	-	Prime Minister's Office
PP	-	Planning and Privatization
PS	-	Permanent Secretary
R	-	Rural
RCC	-	Regional Census Coordinator
RSO	-	Regional Statistical Officer
SA	-	Supervisory Area
SADC	-	Southern Africa Development Community
SIDA	-	Swedish International Development Agency
SMZ	-	Serikali ya Mapinduzi Zanzibar
SQ	-	Short Questionnaire
SSRS	-	Systematic Simple Random Sample
SWMT	-	Sensa ya Watu na Makazi Tanzania
TANSTAT	-	Tanzania Statistics Sweden
ToT	-	Training of Trainer
TSED	-	Tanzania Socio-Economic Database
TSHS	-	Tanzanian Shillings
U	-	Urban
UCLAS	-	University College of Lands and Architectural Studies
UK	-	United Kingdom
UN	-	United Nations
UNDESA	-	United Nations Department Economic and Social Affairs
UNDP	-	United Nations Development Program
UNECA	-	United Nations Economic Commission for Africa
UNFPA	-	United Nations Population Fund
UNICEF	-	United Nations Children's Fund
UPS	-	Un-interrupted Power Supply
URT	-	United Republic of Tanzania
US	-	United States
USAID	-	United States Agency for International Development
WD	-	Wheel Drive
XP	-	Expanded Programme

Foreword

The Methodology Report is the second of the many 2002 Population and Housing Census documents which will be published during this financial year. It will be remembered that the first 2002 Population Census document came out in January, 2003 under the title "2002 Population and Housing Census General Report". The purpose of producing this report is to explain how the different activities before, during and after enumeration were carried out. Problems which were encountered during the census operations are highlighted with the intension of:

- i) Getting the responsible authorities to be aware of some basic problems relating to census operations and to take corrective action, wherever it is possible, before the next census; and
- ii) Alerting those who will be responsible for the next census to be well prepared.

In the same vein we have suggested solutions to some of the problems which we faced.

Unlike the other post-independence censuses, the 2002 Population and Housing Census was executed by the Director General (NBS) and the Chief Government Statistician (SMZ) who managed the technical aspects of the census on the one hand and the Commissioner and Commissar of Population Census from Tanzania Mainland and Tanzania Zanzibar respectively who were in charge of the administrative aspects of the census as Chief Executive Officers of the project. This management arrangement worked fairly well as it is evidenced by the timely release of the basic census data. However, the success of the 2002 Population and Housing Census depended upon the contributions and cooperation of the rest of the Government, various institutions both public and private and the general public. In particular, we would like to extend a word of thanks to all Government leaders at national, regional, district, ward/shehia, village and vitongoji levels; Regional and District Census Committee Members; Regional Census Coordinators and District Census Executive Officers; field reviewers and all teachers and other government officers who participated as supervisors and enumerators. Likewise, we would like to extend a special word of appreciation and thanks to the Central Census Office and Zanzibar Census Office staff members for their hard work and dedication to the successful conduct of the census, compilation of the census data and activities which have led to the publication of the General Report in January and this Methodology Report.

The success in carrying out the 2002 Population and Housing Census also depended on the generous material, financial and moral support which we received from our development partners. We would therefore, like to make use of this opportunity to express our appreciation and gratitude to the following development partners: first, the United Nations Population Fund (UNFPA) for coordinating census funding mobilization efforts and for providing office equipment (including computers), transport, training and technical back-up support; second, SIDA for providing funds which were used for acquiring office equipment, payment of transport costs for questionnaires which were air freighted from the UK and for census materials which were transported to and from the regions, carrying out aerial photography and production of orthophoto maps, supporting data processing activities and payment for long-term consultancy services from both local and external consultants; third, the United Nations Development Programme (UNDP) for providing funds for IEC, analysis and census data dissemination activities; fourth, the Government of Japan for providing funds for the purchase of 18 vehicles, four scanners and radio communication equipment; fifth, USAID for providing funds which were used to delineate enumeration areas; sixth, DFID for

providing funds for acquiring office equipment and printing of census documents. Likewise, we would like to thank, the World Bank, UNICEF, NORAD and FINNIDA for providing the CCO with motor vehicles which were used for cartographic work during the initial phase of census preparations.

We would also like to acknowledge with gratitude the vital contributions that have been made by our national leaders to the success of the 2002 Population and Housing Census. In their various addresses to the nation, His Excellency Benjamin William Mkapa, President of the United Republic of Tanzania and His Excellency Abeid Amani Karume, President of the Revolutionary Government of Zanzibar did educate the people on the importance of the census to the development of the nation. More so, of greater significance was the address to the nation which was given by the President of the United Republic of Tanzania on the eve of the census day in which he dwelt extensively on the importance of the census and the need for everyone to be counted. Without the full support of these national leaders the cooperation we received from the general public would have been less.

We would like to record our sincere appreciation to the Prime Minister, Hon Frederick Tluway Sumaye (MP) and the Chief Minister, Hon. Shamsi Vuai Nahodha (MHR) who were Co-Chairpersons of the Central Census Committee for their guidance and clear directives which gave us census managers much encouragement and a clear sense of direction. Their encouragement and guidance made a significant contribution to the overall efficiency of the census operations.

Finally, we would like to thank our advisors who played a very vital role of guiding our work through their regular advice. In this regard we would like to thank our long term SIDA funded advisors; Mr. Martin Butterfield and Mr. Kjell Tambour and their local counterpart Mr. N.K. Mbalilaki who worked tirelessly during all the critical stages of the 2002 Population and Housing Census exercise. UNFPA funded short-term consultants from the United Nations Economic Commission for Africa (UNECA) – DESA, Addis Ababa, also played an important role in their areas of competence. Their vital contributions to the 2002 Population and Housing Census were as follows: Mr. R. Hare in cartographic work; Mr. J.O. Onsembe in monitoring, evaluation and quality control as well as Post Enumeration Survey; Mr. Jean-Marc Hie in data processing and Ms. L. Kwendo in IEC. Other short term consultants who assisted us include Mr. H. Loots in GIS development; Mr. H. Beckles and M.J. Levin in data processing; and DRS (UK) staff members as well as Mr. M. Mwale of the National Examinations Council of Zambia in data scanning. Last, though not least, we thank all staff members of the US Bureau of Census at the International Programme Centre for their assistance in data processing i.e. data cleaning and editing. The advice and other contributions of all these advisors notwithstanding, all errors remain the burden of the Central Census Office.

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Organization of the Report

The Methodology Report is in twelve chapters. Each chapter deals with one important aspect of the census operations. The main contents in each chapter are a description of the activities, a description of problems faced while carrying out the particular census operation and recommendations which aim at dealing with the problems.

Chapter one deals with the importance of the population and housing census to the country's policy makers and planners as well as to researchers. It points out that without population and housing census data it is difficult to plan for sustainable development, to implement meaningfully any plan and to monitor and evaluate the implementation of the plans. Having established a strong case for conducting the population and housing census in general the chapter continues to outline the short-term and long-term objectives of conducting the 2002 Population and Housing Census in Tanzania. The chapter ends with the conclusion that the 2002 Population and Housing census was conducted successfully as the information covered under "Population Trends" shows.

Chapter two deals with the census organization. It is worth noting that the 2002 Population and Housing Census was managed by the Central Census Office which was under the Commissioner/Commissar of Population Census but in close collaboration with the National Bureau of Statistics and the Office of the Chief Government Statistician (SMZ) which were under the Director General, National Bureau of Statistics and the Chief Government Statistician (SMZ). The President's Office, Planning and Privatization and the Ministry of Finance and Economic Affairs had the responsibility of overseeing the operations of the census. It should further be noted that the Census Organization is a temporary structure which is to be demolished once the census operations are over. Although it makes sense for committees at national, regional and district levels to disappear, it would help a lot to maintain continuity of the Central Census Office during the intercensal period. This is the major recommendation of this chapter.

Chapter three deals with the census budget. What is worth noting is that although the government received substantial financial support from the development partners, its contribution forms the lion's share. One of the problems arising from donor funding is their reluctance to finance normal operations e.g. staff travel expenses, of the census. This limits the usefulness of the assistance in particular when the census operations, for a country the size of Tanzania, involve a lot of travelling.

Chapter four deals with logistics for the 2002 Population and Housing Census. Main issues which are discussed in this chapter are: one, census materials were procured late and had to be rushed to the enumeration centers using the fastest but most expensive means. Two, census materials were delivered in single small batches and due to shortage of time they had to be transported to the enumeration centers in single small batches at a very high cost. The main recommendation is that the managers of the next census should watch against expensive way of managing the census project by ensuring that procurement is done well ahead of the date of delivery.

Chapter five discusses census cartographic work. The main actors in this field are field reviewers and their team leaders. During the initial stages of their work they faced the problem of transport. Their work speed was retarded. Another issue which is discussed in the chapter is the cost of demarcating the whole country every after ten years; that is the time when the government decides to conduct another population and housing census. In order to cut down the costs of re-

demarcating the whole country every after ten years it has been recommended that the government should embark on the development of the Geographical Information System (GIS). This system will enable the maps which were drawn for the 2002 population and housing census to be digitized and stored electronically, ready to be retrieved at any time the government wants to carry out a census.

Chapter six discusses census documents. It has been pointed out that census documents were in three major groups: census questionnaires, instruction manuals and control forms. Questionnaires were important for carrying out field enumeration work. Instruction Manuals were meant to guide all those who were involved in the census operations to do things in the same way throughout the country. Control forms were there to control the movements of essential census documents and guide supervisors during enumeration. Unlike other censuses, the 2002 census had to have questionnaires which conformed to the specifications of the OMR data capture technology. The chapter concludes by saying that the census was a success because we managed to get all the census documents as per specifications, in particular with regard to the census questionnaires.

Chapter seven deals with the Pilot Censuses. Prior to the census of 2002 two pilot censuses, one in 1998 and another in 2001, were held. The former was for the census which was planned to be held in 1999 but had to be postponed due to financial difficulties and the latter was for the census which was conducted in 2002. Both pilot censuses revealed that we had the technical capability to carry out the planned censuses. The second pilot census, moreover, proved that it was feasible to adopt the OMR data scanning technology. Both pilot censuses, unfortunately could not be helpful in providing lessons for census logistics.

Chapter eight discusses sample design with respect to the administration of the long questionnaire. The argument is that if we did not have a long and a short questionnaire we would not have the problem of sample design. The sample design must take into account both the rural and urban domains. The long questionnaire which was administered to twenty five percent of the population had to have a fair representation of both the rural and urban domains. While it is possible in theory to construct such a fair representation of the two domains, in actual practice the census operatives in the districts may ignore the strict requirements of sticking to the plan.

Chapter nine deals with IEC/Advocacy for the 2002 Population and Housing Census. The chapter discusses the importance of IEC/Advocacy to the success of any census. In order to develop a good IEC/Advocacy plan it is important first to determine the objectives of the plan. Once objectives have been determined, it is important to identify the various stakeholders who would have to be addressed. It concludes by pointing out that, despite several problems, including those related to high costs of advertising, the IEC/Advocacy plan for the 2002 population and housing census achieved its intended objectives.

Chapter ten provides an outline of enumeration procedures. The chapter provides a summary of how enumeration was done during the census. The main topics in the chapter deal with enumeration approach, enumeration arrangements, enumeration of households, eligibility for enumeration, enumeration of special groups of populations, recruitment and training of enumerators, guidelines for interviewing, problems and recommendations. Most problems which are related to this topic have to do with inadequate preparations. The recommendations suggest that more thorough preparations are essential for a successful census.

Chapter eleven deals with data processing. An important aspect of successful data processing is thorough preparations in terms of recruitment and training of capable and diligent workers, procurement of the right equipment of machines for data scanning and data processing and training in the new technology. The chapter describes the processes of data cleaning and data editing. The chapter also points out that though data processing is a difficult exercise it has been handled successfully by Tanzanians after getting full support from the technology suppliers and intensive training through work/study programmes at the IPC-US Bureau of Census. The major problem cited is poor implementation of good plans with a recommendation that in future efforts should be directed at improving plan implementation.

Chapter twelve reviews how quality control was in place before, during and after enumeration. In general, the quality control procedures were applied at all levels of the census operations. The chapter ends with recommendations which aim at improving performance during the coming census.

CHAPTER 1

INTRODUCTION

1.1 Introduction

The history of population counts/censuses in Tanzania dates back to the decade of 1910. The last four censuses were conducted during the post-independence period i.e. 1967, 1978, 1988 and 2002. The last Population and Housing Census, undertaken in August 2002, indicated a total population of 34.6 million people.

The purpose of carrying out population censuses is to ensure the availability of updated benchmark data for formulation, implementation, monitoring and evaluation of the country's population programmes and policies. Censuses provide demographic and socio-economic data in any country, an important input for the preparation of economic and development policies, monitoring the improvement in the quality of life of the population, as well as developing a system of sustainable development in general. Censuses also provide sampling frames to support other data collection systems in the country.

At the planning level, up-to-date and reliable data are essential for the formulation of realistic development plans for socio-economic development of the people. In the Tanzanian situation where the government is decentralizing its activities i.e. most of the central government activities are being devolved to district level; reliable and up-to-date population census data will help district authorities make development plans, which will reflect the aspirations of the people at lower levels.

It is the Government's goal to reduce the proportion of Tanzanians living in absolute poverty by the year 2010 and to eradicate absolute poverty by the year 2025. Most of the indicators of the impact and outcome of poverty eradication measures can be collected through population censuses and other social and demographic surveys. This is in addition to data on population growth, population distribution and other indicators, which are vital in monitoring control of the environment. It is important to determine the relationship between the population growth, its distribution, the resource base and its impact on the environment. Environmental problems in rural and urban settings are mainly caused by poverty, which creates an increasing pressure on natural resources for basic needs. It has also been witnessed that there is a high rural-urban migration. As a result, the government has found it difficult to accommodate people in planned settlements, leading to a housing crisis following the mushrooming of squatter settlements thus creating a series of social, economic and environmental problems. Population and Housing Census is considered one of the important sources of data that facilitates the establishment of a strong and reliable environmental data base and monitoring system.

Having conducted the last census in August 1988 the next census was scheduled to be held in August 1998. Preparations had already started way back in 1996 in order to conduct the 1998 population and housing census. By the end of 1997 a substantial amount of enumeration areas had been delineated and other preparations were going on well for the census to be held in August

1998. Unfortunately, the country faced an abnormal rainy season during the months of December 1997 to March 1998. The El Nino rains washed away most of the country's road infrastructure as well as other public and private buildings. The country had to divert substantial financial resources towards restoring the damaged infrastructure and this left very limited resources for the preparations for the population and housing census. In June 1998 the Government reviewed the preparations for the census and found that they were inadequate and it decided to postpone it to August 1999. The Government again reviewed the preparations for the census in November 1998 and found that it could not commit enough resources towards the preparations for the census to take place in August 1999. It decided again to postpone the census date to August 2002. The postponement by three years aimed at ensuring that the general elections of 2000 were held without fail. Preparations for the census by way of delineation of enumeration areas continued at a slow pace during 1999/2000 in line with limited financial resources which were provided by the Government.

After the Government/Development Partners' Dialogue Meeting in March 2000, it was agreed that a joint mission of three consultants should be undertaken to review the work achieved and to propose a work plan covering the main areas of cartography, enumeration, data processing, analysis and dissemination. The mission, which was jointly funded by SIDA, DFID and UNFPA, began work on 8th May 2000 and presented a draft report to the government on 26th May 2000. Among other things the report recommended that:

"The schedule to meet the 2002 deadline is already very tight. About 46 percent of the cartographic fieldwork to delineate a standard Enumeration Area (EA) frame remains to be done, and a further 20 percent of the previously completed work needs to be re-done, particularly in the high-density urban areas. However, in order to complete the EA frame by March 2002, 15 field teams and two overall supervisors need to be deployed by July 2000. This will require the urgent provision of 18 x 4WD vehicles. If there are delays in deployment, more teams and vehicles will be required in order to meet the deadline. For security and communications purposes, the vehicles should be equipped with HF radios".

The report further recommended that:

"After the enumeration, digital mapping and a Geographic Information System (GIS) will be developed. This will initially require digital mapping and GIS hardware and software as well as staff training in digital mapping and GIS".

1.2 Objectives

Long Term Objective

The long term objective of the Population and Housing Census was formulated in terms of providing the statistics users, within the public and private sector, accurate and reliable sex and age disaggregated data on population at all levels for formulation of development policies and plans and for implementation, monitoring and evaluation of these plans.

Short-term objectives

- i) By the end of April, 2002 to have created/updated census field maps and a list of EAs for the control of 2002 census and construction of efficient area sampling frame;

- ii) By early September, 2002 to have enumerated all people living in Tanzania and to have collected information on their economic and social status, housing conditions, fertility, mortality, population migration and household characteristics;
- iii) By end of March, 2004 to have made available 2002 census data dis-aggregated by gender required for the development planning process and population programmes; and
- iv) By end of June 2004 to have evaluated, analyzed, and disseminated the census results extensively.

1.3 Strategies and Activities

The short-term objectives were realized through a number of inter-related activities. They involved:

- i) Establishment of administrative/technical machinery as well as a data dissemination/publications working group and a team of analysts; and
- ii) Development and implementation of comprehensive census information, education and communication programme to support census preparatory and post-enumeration activities; and extensive use of micro-computers for all the phases of the census programme.

The establishment of the necessary machinery through training of staff and inter-sectoral collaboration facilitated the development of the census documents (questionnaires, manuals etc.) and production of enumeration maps for the collection of the required information. More information was collected on a sample basis allowing for district level desegregation.

The data dissemination working group and team of analysts prepared evaluation/analysis/dissemination programmes as part of the census preparations. This set the stage for timely release of census results. Microcomputers and appropriate software were used to further facilitate the process.

1.4 Related Statistical Activities

The population census is closely related to the household surveys programme of the National Bureau of Statistics and other statistical inquiries by various data collecting institutions (particularly the statistical data on education and health sectors). The data from the various sources complement each other.

The population census provides information to support the implementation of the National Population Policy. Other related activities are the training/research programmes of various institutions, some of which are supported by UNFPA and other donor agencies. Census data are inputs in the research/training programmes, which in turn develop/strengthen national capacity for census data utilization. The Government of the United Republic of Tanzania, in collaboration with UNFPA Country Office, contacted the donor community to participate in the census operations with a high level of positive response.

1.5 Executing Arrangement

The Population and Housing Census is a national project and was executed nationally through the President's Office, Planning and Privatisation as the focal Government Institution. To ensure national execution of the project the Census Central Committee comprising Ministers of all pertinent

ministries under the Chairmanship of the Prime Minister, gave general policy guidelines and ensured adequate and timely availability of resources to facilitate the success of the project. The actual work of collecting, compiling, publishing and finally disseminating the population and housing census data was carried out by the Central Census Office under the day to day management of the Commissioner of Population Census and Commissar of Population Census in close collaboration with the Director General of National Bureau of Statistics and Chief Government Statistician, Zanzibar respectively, as empowered by the Statistics Act, 2002.

1.6 Population Trends

The population of Tanzania has grown from 12.3 million persons in the first post independence census in 1967 to 34.6 million persons counted in the census held in August 2002. The figures for the other two population censuses that of 1978 and 1988 were 17.5 million and 23.1 million persons respectively. In Tanzania Mainland, the four post independence population censuses revealed the following population figures; in 1967, there were 12.0 million persons, 1978, there were 17.0 million persons, 1988, there were 22.5 million persons while in 2002 there were 33.6 million persons. For Zanzibar the corresponding figures were 0.4 million persons, 0.5 million persons, 0.6 million persons and 1.0 million persons for 2002.

1.6.1 Average Annual Growth Rates 1967 – 2002

The average annual growth rates for Tanzania as a whole stood at 3.3 percent for 1967-1978, 2.8 percent for 1978-1988 and 2.9 percent for 1988-2002. The figures for Tanzania Mainland were: 3.2 percent for 1967-1978, 2.8 percent for 1978-1988 and 2.9 percent for 1988-2002. For Tanzania Zanzibar, the intercensal annual growth rates were 2.7 percent for 1967-1978, 3.0 percent for 1978-1988 and 3.1 percent for 1988-2002.

The rate of population growth differs from region to region. The average rates of growth for the period 1988 to 2002 range from 4.8 percent recorded in Kigoma Region to 1.4 percent recorded in Lindi. Other than Kigoma, where much of the growth may be due to the recent influx of refugees, the regions that show high rates of growth are dominated by large urban areas (Dar es Salaam and Urban West).

1.6.2 Population Density

The number of people per square kilometer of land area, or population density, in Tanzania varies considerably from region to region. People are particularly concentrated in Dar es Salaam Region (1793 persons per square kilometre) and Urban West (1700 persons per square kilometre). The other four Regions of Zanzibar and Mwanza Region are also relatively densely populated.

1.6.3 Household Size

The average household size, calculated by dividing the number of persons by the total number of households, in Tanzania has decreased from 5.2 persons per household in 1988 to 4.9 persons per household in 2002. For Kigoma Region the average household size is significantly affected by the existence of refugee camps in which each enumeration area is treated as a collective household, which gives a lower count of households (and thus higher household size) than would have been the case if each tent had been counted as a household. This is explained in detail in the analytical report. For Zanzibar, household sizes have increased for all regions except South Unguja.

1.6.4 Sex Ratio

The sex ratio is defined as the number of males per 100 females. In the 2002 Population and Housing Census the sex ratios were the same for Mainland and Zanzibar. Those of Zanzibar show a small decrease since 1988. Most Tanzania Mainland regions had a ratio in the range of 94 –99 males per 100 females. The highest ratios were found in Manyara (106 males per 100 females) and Dar es Salaam (102 males per 100 females). The lowest ratios were found in Iringa and Mtwara (both 90 males per 100 females) and Mara (91 males per 100 females). For Zanzibar, South Unguja stands out with a ratio of 103 males per 100 females. The other four regions show a ratio of either 95 or 96 males per 100 females.

1.7 Conclusion

The most compelling reason for carrying out a population and housing census is to enable the Government to improve the quality of planning. Quality planning is characterized by people centered planning and plan implementation as well as close monitoring and evaluation of plan implementation. With the production and distribution of various documents containing data on the 2002 Population and Housing Census, the long and short term objectives of conducting the census have been achieved. Since reliable and up-to-date data is now available, the challenge which remains is for the CCO to take census information to the policy makers and planners in as simple a format as possible and for the policy makers and planners to use the data.

CHAPTER 2

THE CENSUS ORGANIZATION

2.1 Introduction

At the highest level of authority the 2002 Population and Housing Census was under the Central Census Committee which was co-chaired by the Prime Minister and the Chief Minister. It provided general guidelines as well as organized the required resources in order to facilitate the smooth operation of the census programme. The Central Census Committee was assisted by the National Advisory Committee which was made up of Permanent Secretaries whose ministries had a bearing on the smooth operation of the census. The President's Office, Planning and Privatization was the line ministry which was charged with the responsibility of ensuring that 2002 census was carried out. The day to day management of the census project was under the Commissioner and Commissar of Population Census.

2.2 The National Bureau of Statistics

The National Bureau of Statistics (NBS) is a Government Executive Agency and has responsibility under the Statistics Act 2002 to conduct population censuses. The Director General is the chief implementation officer of NBS. The Chief Government Statistician handles this responsibility in Tanzania Zanzibar. Under the traditional Population Census in Tanzania, the Commissioner of Population Census (CPC) and the Director General worked in close collaboration with the Census Commissar and the Chief Government Statistician in Zanzibar. Their respective responsibilities are outlined under 2.5 and 2.6.

Within NBS, the Department of Social and Demographic Statistics under the Directorate of Social Statistics had the main responsibility. The organizational structure of the National Bureau of Statistics is in Fig.2.1.

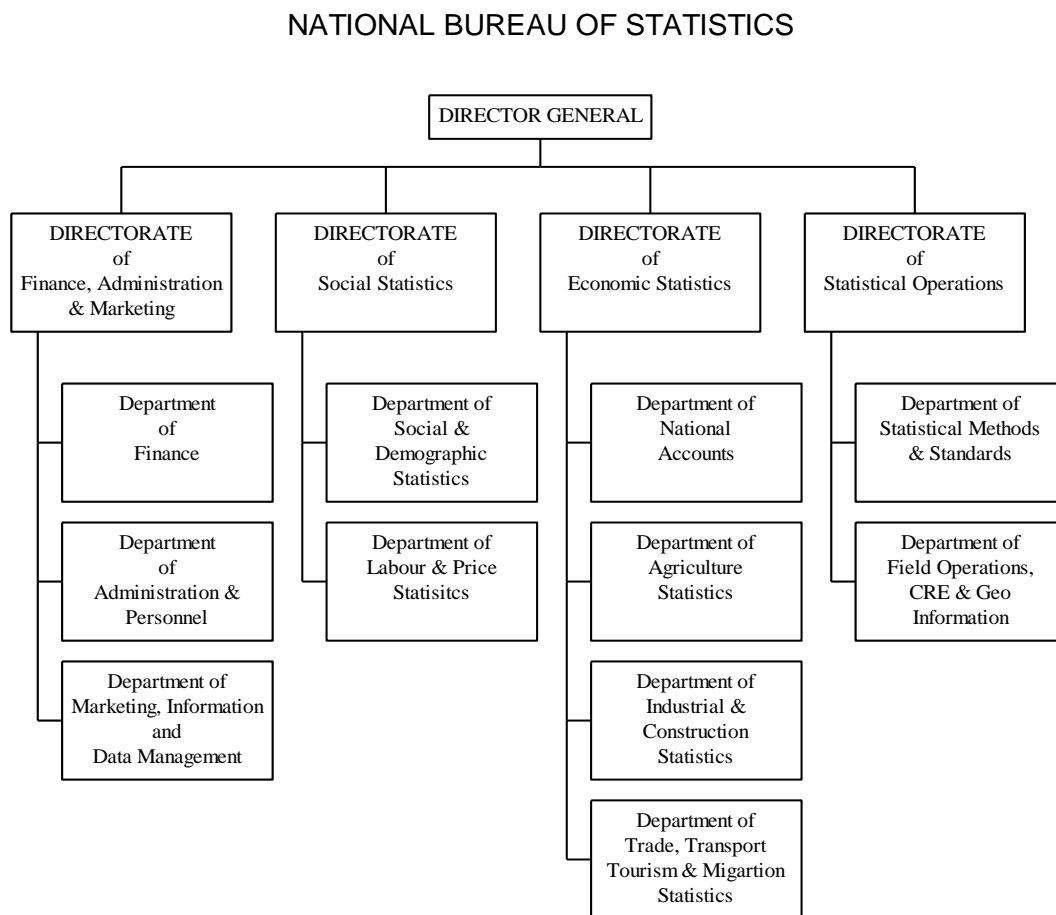
2.3 Department of Social and Demographic Statistics

Functions

This department, together with the departments responsible for field operations and that for information technology issues, were active participants in all the Central Census Office (CCO) weekly meetings. They did not only bring in all the institutional memory from the 1988 experience but also ensured a carry over of the 2002 experience to the 2012 census. They also ensured the availability of any required fallback support by the CCO.

The day-to-day management of the population census project was carried out by the Central Census Office (whose members are mainly from the National Bureau of Statistics), which was headed by the Commissioner/Commissar of Population Census.

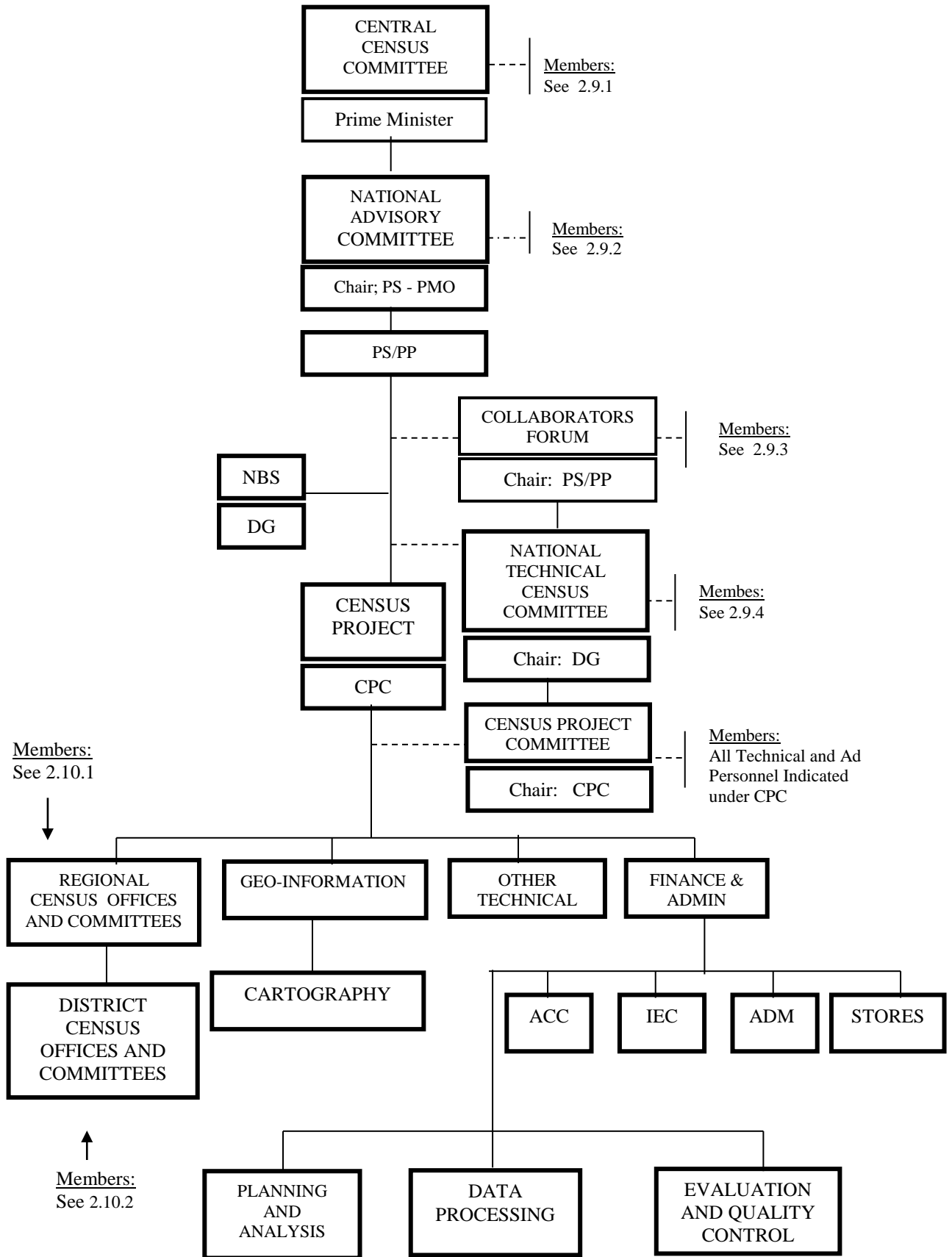
Figure 2.1 The National Bureau of Statistics Organization Structure



2.4 Census Organization

To ensure a successful census, careful planning, monitoring and evaluation of census activities were required at every level. Proper census organization was therefore vital. The census organization structure is presented in Fig. 2.2.

Figure 2.2 Population Census Organization Structure for the 2002 Population and Housing Census



2.5 Central Census Office

The Central Census Office (CCO), was charged with the day to day implementation of the census programme. The CCO comprised three main units which were also subdivided into sub-units. The three units and their sub-units were: Cartography; Other Technical Unit comprising Planning and Analysis, Evaluation and Quality Control and Data Processing; and Finance and Administration which included: information, education and communication, (IEC), accounts, supplies and administration itself.

2.6 Commissioner/Commissar of the 2002 Population Census

The Commissioner/Commissar of the 2002 Population Census had the following functions:

- i) To be Chief Executive and Chief Accounting Officer for all the activities of the population census project and to be answerable to the Permanent Secretary, Planning and Privatization;
- ii) To manage, supervise and coordinate all activities of the population census project;
- iii) To prepare and present to the Permanent Secretary, Planning and Privatization all the reports on the implementation of the population census budget;
- iv) To be Secretary to the Population Census Advisory Committee composed of Permanent Secretaries;
- v) To liaise with various organisations including population census donor organisations/countries; and
- vi) To carry out any other assignments which would be given to him by the appointing authorities.

2.7 Director General/Chief Government Statistician

The responsibilities of the Director General of NBS with regard to the Population Census Project were:

- i) To be in charge of the technical aspects of the population census project (cartography, questionnaire design, quality control, data processing and data analysis);
- ii) To ensure that adequate statistical staff were deployed for the population census project.
- iii) To work closely with the Commissioner/Commissar of Population Census in order to ensure smooth implementation of the population census project;
- iv) To be Chairman of the Census Technical Advisory Committee; and
- v) To be responsible for vetting the results of the population and housing census because of the powers which he has got from the Statistics Act 2002.

2.8 The Roles/Functions of the CCO Units

2.8.1 Administration and Finance Unit

- i) To prepare and administer the overall budget and maintain adequate controls over all the expenditures to be incurred in the census;
- ii) To process papers and payrolls for temporary staff;
- iii) To procure supplies and ensure delivery of census documents;
- iv) To perform day-day management of the census; and
- v) To identify and source transport.

2.8.2 Cartographic Unit

- i) To prepare a comprehensive cartographic programme;
- ii) To acquire necessary equipment, materials and supplies;

- iii) To delineate and produce EA maps in all parts of the country;
- iv) To develop coding scheme that will provide a unique identification for each area; and
- v) To undertake post-enumeration cartographic activities.

2.8.3 IEC/Advocacy Unit

- i) To enhance awareness on the importance of the census among key segments of the population, including Members of Parliament/Member of House of Representatives, policy makers in the central and local government, religious and business leaders, the media and civil society including NGOs;
- ii) To encourage all communities and individuals to support and participate in the census process, particularly during the enumeration phase;
- iii) To anticipate and avert erroneous or damaging publicity; and
- iv) To promote dissemination and utilization of census data.

2.8.4 Evaluation and Quality Control Unit

- i) To prepare comprehensive census evaluation and quality control procedures.
- ii) To implement all activities related to the census evaluation and quality control programme.
- iii) To prepare and implement activities related to the post-enumeration survey.
- iv) To develop a database on Sampling Frame.

2.8.5 Planning and Analysis Unit

- i) To determine the required census scope;
- ii) To develop questionnaires and related manuals;
- iii) To develop Tabulation Plan;
- iv) To prepare editing and coding specifications and instructions; and
- v) To plan for the analysis of the census results, reports and dissemination of census results.

2.8.6 Data Processing Unit

- i) To prepare a comprehensive census data processing programme;
- ii) To develop editing, data entry, data cleaning and tabulation programmes;
- iii) To produce all tables; and
- iv) To work closely with the cartographic unit to develop necessary programmes.

2.9 Composition and Functions of Various Committees at National Level

2.9.1 Central Census Committee:

Composition:

Prime Minister	Chairperson
Chief Minister	Member
Minister of Finance	Member
Minister of State, President's Office (Zanzibar) Finance and Economic Affairs	Member
Minister of Education and Culture	Member
Minister of State, Chief Minister's Office (Zanzibar)	Member
Minister of Lands and Human Settlements Development	Member
Minister of Home Affairs	Member
Minister of Works	Member

Minister of Education Culture and Sports (SMZ)	Member
Minister of Labour, Youth, Development of Children and Women (SMZ)	Member
Minister of State, President's Office, Regional Administration, Local Government and Special Forces (SMZ)	Member
Private Sector Representative	Member
Minister of Labour, Youth Development and Sports	Member
Minister of State, President's Office Regional Administration and Local Government	Member
Minister of State, President's Office, Planning and Privatization	Member
Permanent Secretary, Prime Minister's Office	Member
Principal Secretary, Chief Minister's Office	Member
Principal Secretary, Ministry of Finance and Economic Affairs	Member
Permanent Secretary, President's Office Planning and Privatization	Secretary

Functions

- i) To guide, direct and organize overall census programme;
- ii) To ensure adequate and timely availability of census resources;
- iii) To monitor and ensure that census procedures were undertaken according to plan;
- iv) To assist in census advocacy; and
- v) To ensure proper dissemination of census results.

2.9.2 National Advisory Committee

Composition

Permanent Secretary, Prime Minister's Office	Chairperson
Permanent Secretary, President's Office, Planning and Privatization	Member
Permanent Secretary, Ministry of Finance	Member
Permanent Secretary, Ministry of Education and Culture	Member
Permanent Secretary, Ministry of Labour, Youth Development and Sports	Member
Permanent Secretary, President's Office Regional Administration and Local Government	Member
Deputy Permanent Secretary, President's office, Planning and Privatization.	Member
Principal Secretary, Chief Minister's Office	Member
Principal Secretary, Ministry of Finance and Economic Affairs (Zanzibar)	Member
Principal Secretary, Ministry of Education Culture and Sports (SMZ)	Member
Principal Secretary, President's Office, Regional Administration, Local Government and Special Forces (SMZ)	Member
Permanent Secretary, Ministry of Labour, Youth, Development of Children and Women,	Member
Private Sector Representative,	Member
Permanent Secretary, Ministry of Home Affairs,	Member
Permanent Secretary, Ministry of Lands and Human Settlements Development	Member
Commissioner/Commissar of Population Census	Secretary

Functions

- i) To advise the Central Census Committee on all technical matters related to the census programme;

- ii) To ensure that the census work plan was strictly followed;
- iii) To ensure that census inputs were obtained as planned; and
- iv) To monitor implementation of activities at national and regional levels.

2.9.3 Collaborators Forum

Permanent Secretary, Planning and Privatization	Chairperson
Permanent Secretary, Ministry of Finance	Member
Director General, National Bureau of Statistics	Member
Commissar of Census	Member
Chief Government Statistician, Zanzibar	Member
DFID	Member
Government of Japan	Member
SIDA	Member
UNDP	Member
UNFPA	Member
USAID	Member
World Bank	Member
Commissioner of Population Census	Secretary

Functions

- i) To mobilize financial resources;
- ii) To mobilize expertise; and
- iii) To strengthen Government and Development Partners collaboration.

2.9.4 Central Technical Census Committee

Composition

Director General, National Bureau of Statistics	Chairperson
Commissioner of Population Census	Member
Census Commissar	Member
Director Social Services and Human Resources	Member
Commissioner for Budget, Treasury	Member
Director of Macro Economy Sector (Planning and Privatization)	Member
UNFPA Representative	Member
University of Dar es Salaam: representatives from Demographic Training Unit, Department of Geography, IRA, UCLAS	Members
Director, Eastern Africa Statistical Training Centre	Member
Chief Government Statistician, Zanzibar	Member
Representative, Ministry of Education and Culture	Member
Director, Information Services	Member
Finance and Administrative Officer (Central Census Office)	Secretary

Functions

- i) To advise the National Advisory Committee on all technical issues;
- ii) To closely follow up and assess implementation of census activities;
- iii) To make recommendations and necessary adaptations to the census programme; and
- iv) To meet fortnightly for the above functions.

Central Census Office and Zanzibar Census Office.

The Central Census Office and the Zanzibar Census Office were composed of the following units:

- i) Administration and Finance;
- ii) Cartographic;
- iii) IEC/Advocacy;
- iv) Evaluation and Quality Control;
- v) Planning and Analysis; and
- vi) Data Processing;

2.10 Census Organization at Regional and District/Municipal/City/Town Levels

2.10.1 Regional Census Committee

Regional Commissioner	Chairperson
Regional Administrative Secretary	Deputy Chairperson
Regional Police Commander	Member
Regional Education Officer	Member
Regional Statistical Officer	Member
Regional Community Development Officer	Member
Regional Land and Development Officer	Member
Regional Planning Officer (if not RCC)	Member
Media Representative	Member
Sub Treasury Officer	Member
Officer in charge of the Uhuru Torch Race	Member
Two Appointees of the Chairperson	Member
Regional Census Coordinator (RCC)	Secretary

Functions

- i) To plan, organize and guide census implementation at the regional level;
- ii) To ensure that census documents and resources are received as planned;.
- iii) To closely monitor census activities at regional level; and
- iv) To plan census advocacy role at the regional level.

Regional Technical Advisory Committee

Regional Administrative Secretary	Chairperson
Regional Statistical Officer	Member
Regional Surveyor	Member
Media Representative	Member
Any other technical person appointed by the Chairperson	Member
Regional Census Coordinator	Secretary

Functions

- i) To advise the Regional Census Committee on technical matters relating to the census operations;.
- ii) To control and supervise the planning and conduct of the census particularly those related to cartographic work and enumeration; and
- iii) To monitor technical issues.

2.10.2 District/Municipal/City/Town Level

District/Municipal/City/Town Census Committee

District Commissioner	Chairperson
District/Municipal/City/Town Executive Director	Vice Chairperson
District Administrative Secretary	Member
Officer Commanding District	Member
District/Municipal/City/Town Community Development Officer	Member
Member(s) of Parliament/ Member(s) of House of Representatives	Member
District Planning Officer (in case not DCEO)	Member
Officer in Charge of the Uhuru Torch Race	Member
Media Representative	Member
Two other members nominated by the Chairperson	Member
District/Municipal/City/Town Census Executive Officer	Secretary

Functions

- i) To plan, organize and guide census implementation at the district level;
- ii) To ensure that census documents and resources were received as planned;
- iii) To closely monitor census activities at the district level; and
- iv) To plan census advocacy role at district level.

District/Municipal/City/Town Technical Advisory Committee

District/Municipal/City/Town Executive Director	Chairperson
District/Municipal/City/Town Surveyor	Member
Media Representative	Member
Any other technical person appointed by the Chairperson	Member
District/Municipal/City/Town Census Executive Officer	Secretary

Functions

- i) To advise the District/Municipal/City/Town Census Committee on technical matters relating to the census operations;
- ii) To control and supervise the planning and conduct of the census particularly as related to the cartographic work and enumeration; and
- iii) To monitor implementation of technical issues.

At Regional and District/City/Municipal/Town levels, executive responsibility will be vested in the Regional Census Coordinators (RCCs) and District/City/Municipal/Town Census Executive Officers (D/C/M/TCEOs) respectively. Their functions are outlined below:

Functions of the Regional Census Coordinator

- i) To coordinate work which was being carried out in the districts;
- ii) To liaise with the CCO through the Commissioner of Population Census on work and problems which were associated with work in the region;
- iii) To appraise the regional authorities on census work and problems experienced in the region;
- iv) To be secretary to the Regional Census Committee; and
- v) To be secretary to Regional Technical Advisory Committee.

Functions of the Regional Statistical Officers (RSOs)

By devolution, the RSOs did perform the functions of the DG-NBS at the regional level. His/her close counterpart at the regional level was the RCC.

Functions of the District/Municipal/City/Town Census Executive Officer

- i) To make sure that all census activities were conducted according to plan in the district.
- ii) To be in charge of census activities in the district.;
- iii) To supervise census work being carried out in the district;
- iv) To facilitate the census project through solving basic problems like transport, communication with lower levels of Government in the district, etc;
- v) To communicate with the CCO on urgent problems that might affect census operations in the district, with a copy to the RCC.;
- vi) To appraise District/City/Municipal/Town Authorities on census issues in the district.;
- vii) To be secretary to the District/City/Municipal/Town Census Committee; and
- viii) To be secretary to the District/City/Municipal/Town Census Technical Advisory Committee.

2.11 Problems Faced and Recommendations for Future Censuses

- i) In order to carry out a successful census, it is important to make adequate preparations. These preparations include keeping abreast of new technologies which are developed for census data collection, processing, analysis and dissemination. It is therefore important that there is a permanent Central Census Office. Other responsibilities of the permanent Central Census Office include:
 - a) Carrying out a regular update of population estimates;
 - b) Monitoring variables that may affect population growth;
 - c) Development of reliable village registers;
 - d) Strengthening the system of registering births and deaths; and
 - e) Provision of services to clients who want to get population census data.
- ii) Directives from the CCO to the regions were sent out late and sometimes were inconsistent. It is therefore recommended that they should be prepared well and should be sent out well in advance.
- iii) The 2002 Population and Housing Census faced the problem of frequent staff transfer thus affecting implementation of census activities. It is recommended that census staff should not be transferred without good reasons; and
- iv) Besides, the 2002 Population and Housing Census faced the problem of dropouts because of religious beliefs that forbid them to work on certain days. It is recommended that in future, census management should take into account such issues.

CHAPTER 3

THE CENSUS BUDGET

3.1 Introduction

The 2002 Population and Housing Census project was financed by the Government of the United Republic of Tanzania and development partners, namely: UNFPA, SIDA, UNDP, Government of JAPAN, DFID and USAID. Other development partners who had supported the census project when it started in 1997, by way of providing vehicles for cartographic work include the World Bank, UNICEF, FINNIDA and NORAD.

3.2 Total Budget

The Census Budget was TShs 38,027,607,910 covering four financial years from 2000/01 - 2003/04. The funding gap for this budget was TShs. 2,022,860,390/=. The government of Tanzania contributed TShs 26.35 billion. The following is a summary of government and donor contributions for four financial years.

Table 3.1: Donor and Government Contribution to the 2002 Population and Housing Census

TShs

Donor/ Government	2000/2001	2001/2002	2002/2003	2003/2004	Total
USAID	188,937,000	437,872,330	-	-	626,809,330
UNFPA	83,027,204	418,676,654	1,530,486,304	-	2,032,190,162
UNDP	-	270,500,000	-	200,000,000	470,500,000
DFID	-	359,979,044	134,182,758	534,000,000	2,028,161,858
JAPAN	-	700,889,044	-	-	700,889,044
SIDA	-	672,111,568	2,908,031,293	219,857,139	3,800,000,000
Total from Donor	271,964,204	2,860,028,696	5,572,700,355	953,857,139	9,658,550,394
Government	359,372,704	8,609,198,911	17,192,118,111	185,507,400	26,346,197,126
Census Budget	603,964,204	12,248,164,765	23,223,517,359	1,951,961,582	38,027,607,910
Funding Gap	(27,372,704)	778,337,158	458,698,893	812,597,043	2,022,860,390

3.3 Census Activities Performed

The main census activities performed were as follows:

- i) Delineation of Enumeration Areas (EAs);
- ii) Acquisition of equipment and materials;
- iii) Conducting of Pilot census;
- iv) Carrying out IEC activities;
- v) Acquisition of census materials including printing of questionnaires and census manuals;
- vi) Transportation of census materials;
- vii) Census enumeration;
- viii) Data processing;
- ix) Data analysis; and
- x) Dissemination of census data.

3.4 Cartographic Work (Delineation of Enumeration Areas)

The mode of payment for this activity was piece rate based on the number of Enumeration Areas (EAs) delineated. The payment rate applied per EA was divided into two categories, rural and urban rates. **The rates for rural EAs were TShs. 20,000/=, 6,000/= and 4,000/= for field assistant, team leader and field driver respectively for each correctly delineated EA.** However, the rates for urban EAs were TShs. 8,500/=, 1,850/= and 1,000/= for field assistant, team leader and field driver respectively for each correctly delineated EA.

3.5 Disbursement of Funds to the Regions

Funds were disbursed to the regions after receiving regional monthly reports, which showed the number of Enumeration Areas delineated for the month in question. The amount of money was transferred to the Regional Census Coordinators through the Sub-Treasury Offices.

3.6 Pilot Censuses and the Census

The pilot census was conducted in August 2001, and the source of funds was UNDP and the Government. The financial regulations and procedures applied were based on the government financial regulations.

IEC activities, census enumeration, training of trainers, training of enumerators and supervisors were funded by the Government. With the exception of junior enumerators, senior enumerators and supervisors, all staff members who were working on the census project were remunerated according to the government financial regulations. Junior enumerators, senior enumerators and supervisors were paid special rates which covered the period from the day they started training to the day they handed over to the DCEOs the questionnaires which were duly filled. These special rates had been approved by the Central Census Committee (CCC) and Government Circular No. 2 of 2002 was issued by the Prime Minister to effect the decision made by the CCC. The following rates formed the package applied during training and census enumeration. For details, see the Government circular No.2 of 2002 which is attached as Appendix 3.1

Table 3.2: Remuneration to Enumerators and Supervisors

	TShs	
	Training package	Census Enumeration package
Junior Enumerator	60,000	50,000
Senior Enumerator	100,000	60,000
Supervisors	100,000	70,000

The amount of money required by each region was computed on the basis of the number of junior enumerators, senior enumerators and supervisors. Money was also sent out to the regions to meet costs relating to vehicle maintenance and fuel, transport costs, costs of training venues etc. The amount of money required was transferred to the Regional Census Co-ordinators through the Sub-Treasuries to effect payment

3.7 Transportation of Census Materials

Census materials were transported to various regions using SIDA funds. Payments were effected by the Census Long Term Advisor.

The transportation of census materials to and from the regions was by road, water way and air transport. The bulk of the materials were transported by box body trucks to avoid rain and dust. Since the delivery of the questionnaires and other census materials was done as they were received, materials were delivered to the regions starting with the most remote ones, e.g. Kagera, Mara, Kigoma, Mwanza and Shinyanga.

Since there was a time constraint, many transporters from the private sector were contracted to transport census materials; most of them had to undertake several trips in order to beat the set deadline. The time limitation also necessitated the air freighting of the materials to the Mafia Island as well as Mara, Kigoma and Shinyanga Regions. With regard to Zanzibar Islands, boat transport was used. Boats were also used to deliver census materials to the Zanzibar islets and to the islets on Lake Tanganyika and Lake Victoria. Although, at the end of the day, the exercise was conducted successfully, the project went through very rough phases as it has been described in other chapters, in particular in the chapter on census logistics and procurement.

3.8 Data Processing

Data Processing equipment and materials were procured directly by UNFPA, while remuneration of data processing personnel were financed by SIDA. The rates applied for remuneration were TShs. 15,000/= and 10,000/= per day of work for programmers and other data processing staff respectively.

3.9 Problems Faced and Recommendations for Future Censuses

The following problems were experienced with regard to budget management:

- i) Transfer of funds from Dar es Salaam to the regions took a long time. It is recommended that there should be sufficient lead time between the transfer of funds from the CCO to the regions and the need of the same in the regions;
- ii) During the initial stages of census preparations donors indicated that they would support the census project if the government had committed substantial amounts to the project. It is recommended that the Government should come up front in providing funds for the census in order to attract donor support;
- iii) Some donors indicated reluctance to fund expenditures related to travelling and per diem for census operatives. It is recommended that, Government should be prepared to have money up front for such activities and also donors should be urged to be flexible in the use of their financial resources; and
- iv) During enumeration there were problems relating to the proper assessment of financial needs in the regions and districts and transfer of the same. In many cases funds transferred to the regions were not enough because of poor assessment of needs by both the CCO and the regional/district authorities. It is recommended that a thorough needs assessment should be carried out before funds are sent to the regions/districts.

CHAPTER 4

LOGISTICS FOR THE 2002 POPULATION AND HOUSING CENSUS

4.1 Introduction:

The 2002 Population and Housing Census, required huge amounts of materials of different types in order to conduct the census successfully. These materials included special bags, census yellow coats, census questionnaires, instructions manuals for enumerators and supervisors as well as a series of control forms. Apart from the above, there were also other materials such as T-shirts, caps, stickers, leaflets and stationery.

The materials had to be transported from Dar es Salaam to all the regions and from the regions to the districts and to the divisions, where the enumerators and supervisors were being trained ready for the census exercise. It was at the divisional level where the materials were distributed to the enumerators/supervisors.

In order to ensure smooth and efficient handling and transportation of census materials countrywide, a Census Logistics Team (CLT) was duly constituted in early May, 2002. The CLT proved to be of great importance in particular when delays in procurement and delivery of the materials emerged. The team had then to work around the clock to ensure that materials reached all places in time.

4.2 The Census Logistics Team (CLT)

The logistical issues for the 2002 Population and Housing Census were vested into a team known as the 2002 Population and Housing Census Logistics Team (CLT). The CLT was formed in May 2002 with membership drawn from both Tanzania Mainland and Zanzibar.

The overall objective of the CLT was to ensure adequate supply and storage, safe and timely delivery of all census materials to the regions, districts and divisions. Also the CLT was required to oversee the return of questionnaires and other materials from districts and regions for storage in Dar es Salaam.

The CLT was required to perform the following specific tasks:

- i) To draw up plans for the transportation of materials to and from the regions, districts, divisions and wards by planning for various scenarios with regard to effectiveness and efficiency as well as costs;
- ii) To ensure that census materials distribution networks exist at district and regional levels for effective and speedy handling of materials with the aim of focusing on delivery of materials to the regions;
- iii) To ensure that materials being sent to the regions and districts were of the amounts required plus a few extras;
- iv) To provide backup support to the field teams during training, enumeration and post enumeration periods;

- v) To be constantly in touch with CCO and allied staff in the field, RCCs, RSOs and DCEOs with a view to monitoring progress as well as dealing with any emergencies that might arise from time to time;
- vi) To furnish comprehensive reports to CPC, DG, Commissar and Chief Government Statistician on a daily basis; and
- vii) To deal with any other issues.

The CLT started its work on the 26th May, 2002 and was to be dissolved on 31st December, 2002 when it had completed its work.

4.3 Implementation of The CLT Objectives

At its meeting held on 29th May, 2002 the Census Logistics Team prioritised the tasks to be performed as follows:

Most Urgent

- i) Availability of storage for census materials in the regions and districts;
- ii) Availability of training venues for Field Enumerators and Supervisors based on 55,285 EAs;
- iii) Follow-up on the Customs Clearance Procedures to ensure timely clearance of census materials;
- iv) Deliberate on Transport Mode and Transporters of census materials from Dar es Salaam to the regions, districts and wards; and
- v) Arrangement for transporting questionnaires and various materials from the Airport to the National Council for Technical Education (NACTE) data processing site.

Urgent

- i) Give advice to Regional Census Co-ordinators and District Census Executive Officers on various logistics issues; and
- ii) Ensure availability of transport to other staff.

Least Urgent

Ensure smooth return of census materials from the regions to Dar es Salaam.

4.4 Storage Facilities

In order to ensure adequate provision of storage facilities in the regions and districts the CLT resolved that some of CLT members should visit the regions in order to follow-up on the progress of logistical arrangements for the Population and Housing Census, 2002. The following regions were visited, Kilimanjaro, Iringa, Kigoma, Lindi, Mtwara, Singida, Dar es Salaam and Pwani. Following these visits it was concluded that appropriate arrangements were in place.

4.5 Transport Arrangements for Distribution of Census Materials

Transport Mode

The CLT held several meetings for the purpose of setting strategies for the distribution of the census questionnaires and other materials from Dar es Salaam to the regions, districts and wards. It was agreed that shipping containers on the railways and road system was the best mode of transport for effectiveness, timeliness, security and minimization of risks relating to getting the forms spoilt through dust and water.

However, as it turned out, delays in procurement meant that road transport was the only feasible option (supplemented by boat to Zanzibar and occasional air charter to overcome emergencies).

Census Materials Delivery Schedule

The CLT prepared the census materials delivery schedule. This schedule showed the various tasks to be performed and the time needed.

According to this schedule, the earliest date for receiving first questionnaires from DRS was 2nd July, 2002 while the latest possible date for delivery of census materials to the regions was 21st August, 2002.

Deliveries of some other materials were greatly delayed by the procurement process and required several loads to be dispatched to the regions. This added greatly to the cost of the logistics exercise.

It is worth noting that the first batch of 39 tons of questionnaires from London (UK) was safely delivered at Dar es Salaam and cleared within three hours on the 9th July, 2002.

The second and third batches of 70 and 35 tons each of the questionnaires were delivered at Dar es Salaam on the 20th July and 30th July, 2002 respectively.

Distribution Charts for Census Materials

The distribution charts for the 2002 Population and Housing Census materials for all the regions were prepared for ease of implementation. The charts indicated the volume and quantities of all census materials required in the training centres for all the regions/districts/divisions e.g. Long and Short questionnaires, Instruction Manuals to senior and junior enumerators, Handbooks for RCCs/RSOs and DCEOs, Control Forms, notebooks, special bags, pencils, sharpeners, erasers and other materials. An example of the distribution chart for Dodoma Region is attached as Appendix 4.1.

Immediately after receiving the questionnaires, transport arrangements were put in place to ensure that they were safely delivered to the regions/districts as planned.

4.6 Identification of Transporting Companies

After a thorough search, the CLT identified and approved a range of prospective transporters for the census materials from Dar es Salaam to the regions/districts.

Decision to offer transportation contracts to private transporters was inevitable due to lack of capability by the Government Stores Department to provide box body long-vehicles to cater for all the regions within the specified time frame.

4.6.1 Organizing the Transportation of Census Materials to and from the Regions

The main assignment of the Census Logistics Team was very much focused on the movement of materials to and from the regions. The census materials were delivered first to the furthest regions followed by other regions close to Dar es Salaam.

The CLT held several site meetings at NACTE, Mikocheni for the purpose of ensuring constant supervision of the casual labourers and ensuring that the census materials were timely and smoothly loaded and delivered to the regions under police escort.

4.6.2 Supervision for the Transportation of Census Materials

It was agreed that as much as possible, some of CLT Members would supervise and accompany the transportation of census materials to the regions.

Likewise, in order to ensure maximum security of the census materials in transit, the Inspector General of Police issued a special order to the Regional Police Commander for Dar es Salaam to provide policemen in groups of two to escort the census materials throughout the country.

4.6.3 Specific Instructions Given to the RCCs, RSOs and DCEOs

Specific instructions were given to the above-mentioned officers from time to time regarding the transport arrangements; loading and unloading as well as packing format for all the census materials before and after census field operations.

Likewise, through a consultative process, in collaboration with the CLT, Regional and District authorities facilitated the transportation of census materials to the districts, divisions/wards/shehias from the regional offices and vice versa.

By adhering to the above arrangement, the census materials were delivered smoothly and timely back to NACTE data processing site in Dar es Salaam.

4.6.4 Achievements

The following are the major achievements of the CLT in the course of implementing its objectives:

- i) Customs Clearance process was very quick and smooth;
- ii) Packing and transportation of pallets containing questionnaires from abroad to Dar es Salaam was smoothly done;
- iii) There was minimal damage to the questionnaires and other census materials in transit to the regions, districts, divisions and wards/shehia and back to Dar es Salaam;
- iv) There was a well-organised transport network between Dar es Salaam and the regional offices;
- v) There was high co-operation amongst the transporters and the CLT members;
- vi) There was smooth payment for the transportation costs to the transporters;
- vii) There was very good co-ordination amongst the RCCs, RSOs, DCEOs, CLT Members, Central Census Office, NBS, Office of the Census Commissar and Chief Government Statistician (Zanzibar) the President's Office, Planning and Privatization, and the Ministry of Finance and Economic Affairs, Zanzibar;
- viii) Transporting, handling and packing of the questionnaires and other census materials before and after census field operations was very smooth;
- ix) Police escort provided maximum security for the questionnaires and other census materials in transit to and from the regions.

4.7 Problems Faced and Recommendations for Future Censuses

In order to carry out a successful census a lot of materials must be procured and distributed to the regions and districts as well as returned to the CCO in time. Therefore, a lot of effort has to be put in

identifying and quantifying the materials that are to be sent to regions and districts as part of the logistics exercise. In spite of having good plans we faced costly problems as follows:

- i) Most of the materials were delivered late because of the need to go through a new, elaborate and lengthy procurement plan. Therefore, it is recommended that logistics plan for procurement and distribution of census materials should bear in mind the need to meet the requirements of elaborate and lengthy procedures;
- ii) During the 2002 Population and Housing Census the procurement of census materials was handled by the supplies office, President's Office, Planning and Privatization while the census operations were under the CCO. This dualistic management arrangement led to several problems:
 - a) Most census materials were delivered in "piecemeal" and had to be transported to the regions in "piecemeal" at greatly increased cost;
 - b) Some census materials were not procured according to specifications and they had to be reshaped at additional cost. Assessment of tenders in the future must include compliance with specifications, including delivery dates, as a key item. As a part of this process tenderers should be asked to provide a sample of their solution where this is possible;
 - c) Some census materials were under tendered (training manuals) and had to be reproduced through photocopying at a cost. On the other hand, some census materials were oversupplied and had to be disposed off at a cost;
 - d) There was a problem of maintaining proper documentation because of "crisis management" approach to handling of census materials due to late procurement; and
 - e) Since these costly shortcomings were caused by the dualist management arrangement it is recommended that during future censuses all activities relating to the census should be under one administration and good plans which aim at getting census materials in time should be in place.
- iii) The 2002 Population and Housing Census faced the problem of reaching small islands in lakes and the ocean because of inadequate preparations. In such cases it is recommended that means of reaching such places i.e small islands in lakes and the ocean should be explored in advance and adequate means of transport should be provided for; and
- iv) In order to carry out a successful census it is important to have a reliable transport capability. The 2002 Population and Housing Census had eighteen new vehicles and twenty- nine old vehicles under the management of CCO. These were not enough, given the fact that we had 26 regions and 129 districts that required transport. The solution to this problem was to involve the regions and districts in providing transport facilities for the census materials. The CCO provided funds for fuel and maintenance for the vehicles. This arrangement proved cost – effective for census operations. It is therefore, recommended that the coming census should adopt a similar arrangement to solve their transport problems.

CHAPTER 5

CENSUS CARTOGRAPHIC WORK

5.1 Introduction

Note: *There is a separate Report on the details of the Cartographic work published in September 2003. The Report describes in detail the process used to delineate the entire country into Enumeration Areas (EAs). However, in view of the importance of the cartographic work to the overall census programme, a summary of the work is provided in this chapter.*

The Cartographic work for the 2002 Population and Housing Census started way back in 1997 with the aim of taking a census in 1998. However, as a result of budget constraints which were compounded by the El Nino rains in early 1998, the census was postponed. The work that had already been done by then was used as an input into the 2002 Census.

Delineating the whole land area of Tanzania into small enumeration (counting) areas to be used at the time of enumerating all the people in August 2002 was costly as well as timeconsuming. Nevertheless, the process was of real value in that:

- i) It ensured total coverage of people during the enumeration time;
- ii) It ensured no double counting of persons during the enumeration;
- iii) It provided the basis for allocation of enumerators and supervisors to specific areas during the enumeration time;
- iv) It provided a sampling frame for use both in the census and for other subsequent censuses and surveys; and
- v) It provided guidance to proper logistics of supply of materials, transport needed during enumeration, number of enumerators and supervisors required, budget for the enumeration work and so on.

5.2 Preparations

As explained above, preparations for the Cartographic work started well in advance with a first training course in February 1997.

The Central Census Office first notified the Regional and District Authorities about the planned census project and thereafter requested them to provide information on the number of wards, villages and village population estimates in each district. For the urban wards, the population estimates were provided for the entire ward.

This exercise enabled the Central Census Office to forecast the volume of work lying ahead in terms of materials and personnel needed, the budget for the mapping work and the estimated number of enumeration areas in each district. Other preparations done by the Central Census Office were:

- i) Acquisition of maps (both for rural and urban areas) from the Surveys and Mapping Division. The maps were essential for effective delineation of enumeration areas. They had to be identified and acquired well in advance before the start of the fieldwork;
- ii) The Field Assistants Instruction Manual was also prepared before the start of the mapping work. This was an important document for all those engaged in the mapping work for two reasons:
 - a) As a reference manual containing instructions to be followed in the delineation exercise; and
 - b) It ensured uniformity of the work all over Tanzania;
- iii) Appropriate arrangements were made in regard to transport availability prior to the start of the mapping work. Without transport during the fieldwork, very little or nothing substantial could have been achieved.

As indicated above, it was necessary to suspend cartographic work in line with the postponement of the 1988 Census. At the time of postponement, approximately 60 percent of the mapping work had been completed. When cartographic work resumed in 2001, it was estimated that about 1/3rd of the total Enumeration Areas demarcated in 1997 – 98 required re-demarcation as a result of population growth and other infrastructure changes within the three-year period.

Quite a number of initiatives were undertaken to ensure that the resumed programme was as effective as possible. Among the initiatives were:

- a) To conduct refresher courses to all the staff involved in the cartographic work;
- b) To institute a system of quality control through systematic field checks by the Central Census Office; and
- c) To ask for assistance from the donor community e.g SIDA, USAID, DFID, UNFPA, UNDP and others to facilitate quality and acceleration of work through the provision of funds and technical capacity.

5.3 Recruitment of Field Staff

In order to execute the census mapping work effectively and efficiently, it was necessary to identify the appropriate personnel (at all levels) who could be engaged in the preparations of the 2002 Population and Housing Census.

Hence, apart from the staff based at the Central Census Office, the following staff were either recruited or appointed at regional and district levels:

- i) Regional Census Coordinators (RCCs);
- ii) District Census Executive Officers (DCEOs);
- iii) Field Reviewers/Assistants;
- iv) Geographical Supervisors/ Team Leaders;
- v) Draughtsman; and
- vi) Other support staff such as drivers, typists, etc.

The Regional and District Authorities were given full mandate to identify and recruit Regional Census Coordinators and District Census Executive Officers. Similarly, the Central Census Office

issued instructions to the RCCs to recruit Field Reviewers, Geographical Supervisors and other support staff on the basis of qualifications dictated by the nature of the work. The required number of field staff for each region was pre-determined by the Central Census Office.

The technical duties in the regions were managed mainly by the Regional Statistical Officers (RSOs) on behalf of the Director General of the National Bureau of Statistics (NBS) while the administrative issues were addressed by the RCCs on behalf of the Commissioner of Population Census (CPC). The two regional officers formed a bridge between the regions and the NBS/CCO through a routine progress reporting system.

5.4 Field Work

In order to carry out the census mapping work effectively, four important steps had to be taken:

i) Training

The training of all field staff was done at zonal level (two or more regions grouped together) at eight centres as follows:

- Zone 1 – Kibaha (Dar es Salaam and Pwani)
- Zone 2 – Lindi (Lindi and Mtwara)
- Zone 3 – Mbeya (Mbeya, Iringa, Ruvuma and Rukwa)
- Zone 4 – Moshi (Kilimanjaro, Tanga, Arusha, and Manyara)
- Zone 5 – Mwanza (Mwanza, Mara and Kagera)
- Zone 6 – Tabora (Tabora, Kigoma and Shinyanga)
- Zone 7 – Dodoma (Dodoma, Singida and Morogoro)
- Zone 8 – Unguja (all five regions of Zanzibar)

Trainers at the zonal centres came from the Central Census Office. Prior to going to the zonal centres, the trainers had to undergo an intensive training in mapping work techniques conducted by the Central Census Office. They were local staff with wide experience in census mapping acquired from past population censuses.

ii) Supply of Materials and Equipment

The timely supply of materials and equipment for both the zonal training and the fieldwork facilitated a smooth take off of the project. Most of the materials and equipment for field mapping work and training were delivered to the zonal centres by the respective zonal trainers for distribution to the regional teams. The equipment and materials supplied to the regions by the Central Census Office included:

- a) Base maps of 1:50,000 series for rural areas;
- b) Maps of scale 1:2,500, 1:5000 or 1:10,000 for urban areas;
- c) Base maps of 1:10,000 for Unguja and Pemba;
- d) Form EA 1 & 2 for recording details of the enumeration areas and lists of households;
- e) Field mapping instructions manuals;
- f) Vehicles;
- g) Drawing sets, pens, drawing ink, rulers, coloured pencils, erasers and related stationery; and
- h) GPSs, batteries, etc.

iii) **Field Organisation**

Each region had its own field team(s), which worked in districts under close supervision of the District Census Executive Officers. The fieldwork was checked daily by both the geographical supervisor and the DCEO and periodically, by the quality control staff from the CCO. As a result, the quality of the geographical work was far better than that of the 1988 Census. The fieldwork teams remained in the districts until delineation work was completed. The responsible DCEO had to be satisfied with the work before he/she could allow the team to move to another district

iv) **Demarcation of Enumeration Areas and Supervision Areas**

The procedures for delineating the EAs and SAs will be detailed in the 2002 Census Cartographic Report. However, the normal EA size used for the 2002 Census was about 800 people within the limit of (700 – 900) people for the rural areas of Tanzania Mainland while the urban areas for Tanzania Mainland and for both rural and urban areas of Zanzibar, the EA target size was 400 people within the limit of (300 – 500) people. Obviously, some variations around the targets were expected.

For the Supervision Areas, it was decided that, one SA should have a maximum of five EAs. In many cases, the size of the area to be covered was a factor in determining the number of EAs in an SA.

5.5 Types of Enumeration Areas

The Enumeration Areas were classified into three broad classifications:

- i) Normal EAs composed of private households;
- ii) Special category EAs composed of collective households like hotels, hospitals, permanent work camps, prisons, boarding schools, hostels and the like; and
- iii) Special category EAs capturing the migratory population settlements such as temporary camps of nomadic pastoralists, fishermen, honey collectors etc.

Table 5.1 has the total number of delineated EAs and SAs by region.

Table 5.1: Results of the Field Work: Number of EAs and SAs Created

Code	Region	Number of EAs	Number of SAs
01	Dodoma	2,262	591
02	Arusha	2,246	514
03	Kilimanjaro	2,418	630
04	Tanga	2,337	586
05	Morogoro	3,095	1,053
06	Pwani	1,432	379
07	Dar es Salaam	6,812	1,728
08	Lindi	1,372	378
09	Mtwara	2,095	513
10	Ruvuma	1,514	397
11	Iringa	2,493	598
12	Mbeya	3,092	1,060
13	Singida	1,527	433
14	Tabora	2,342	709
15	Rukwa	1,757	662
16	Kigoma	2,185	598
17	Shinyanga	3,919	1,261
18	Kagera	2,634	592
19	Mwanza	3,899	897
20	Mara	2,061	566
21	Manyara	1,642	392
Total Mainland		53,134	14,537
51	North Unguja	326	71
52	South Unguja	217	48
53	Urban West	871	172
54	North Pemba	376	85
55	South Pemba	361	89
Total Zanzibar		2,151	465
Total Tanzania		55,285	15,002

5.6 Problems Faced and Recommendations for Future Censuses

5.6.1 Problems

- i) **Lack of reliable transport:** At the beginning of the census mapping work, reliable transport for fieldwork was not available, a problem, which hindered the smooth running of the work as, laid down in the census work plan;
- ii) **Lack of modern mapping equipment:** Modern equipment particularly GPS were not enough for every field assistant. Instead, one GPS served a group of four to six field assistants. This problem retarded the speed of work and reduced the quality of the output;

- iii) **Shortage of maps:** Some urban areas lacked large scale maps and the available base maps were out dated. (1960 – 1970 series); and
- iv) **Changes in administrative boundaries:** Abrupt changes in administrative boundaries initiated by the government especially during and after the delineation exercise not only had a cost implication but also caused some delays and distortions in the quality of work.

5.6.2 Recommendations

- i) The above mentioned problems could have been avoided if the cartographic work was a permanent and a regular activity during intercensal periods. This was one of the recommendations of the 1988 Population and Housing Census but was not implemented. The 2002 Census therefore recommends the same with a slight modification of **Establishing a permanent Geographic Information System (GIS)** within the National Bureau of Statistics, which will automatically address the issues of an up to date census cartographic frame;
- ii) Regional and district boundaries should not be changed during the census year in order to avoid extra costs which are related to having to redemarcate the enumeration areas;
- iii) During the revision of the present geographic frame, the enumeration areas should be based on a hamlet/kitongoji;
- iv) EAs of special population groups should be given special identification codes; and
- v) Also, the geo-coding system should be revised so that the population totals of urban parts of a given village in a mixed ward are reflected in the respective village(s).

CHAPTER 6

CENSUS DOCUMENTS

6.1 Introduction

The population census is the main source of information on the number and important demographic, social and economic characteristics of the population in any country. The uses of census data are innumerable. They are used in formulating policies for national development such as manpower development, formulation of housing policies and programmes, planning for social welfare programmes, and formulation of policies for investment (United Nations, 1992 etc.).

In Tanzania, a population census is the major source of population data; hence there is always a need to be careful in determining the scope and content of the census. In the 2002 Population and Housing Census, as with all previous censuses, great care was taken to ensure that the census collected the highest priority information for use by planners, researchers, etc. It was in particular recognized that improving the timeliness of production of the results was a key performance indicator.

6.2 Census Content

One of the early decisions which was made, concerned the topics to be included in the 2002 population and housing census. The major factor, which was used to determine the choice of topics, was users' needs for accurate and comprehensive statistical information. A list of topics was drawn up in the Central Census Office by taking into consideration the resources available and the contents of the previous two censuses, which provided the basis for understanding the long-term trends, UN and SADC recommendations on the census basic topics.

A key meeting to set out the content of the census was held in April 2001¹. Participants at the meeting included data users from government departments, University of Dar es Salaam, research institutions, individuals and international organizations particularly the United Nations Agencies. The main purpose of this meeting was to agree on the topics to be included in the census questionnaire and to consider the tabulations to be adopted for the responses. The participants were free to indicate which topics they wished to be retained, dropped or added. A first draft list of standard tabulations was also circulated for discussion.

6.3 Questionnaire Design: Questions and Responses

The 2001 Pilot Census questionnaire provided the basis for preparing the final questionnaire which was used to collect and record information obtained from the respondents. In order to collect accurate information the questionnaire was well designed so that the questions did solicit the right answers, and did not offend the people providing the information or those recording and processing the information. It was thus crucial that they were well tested before the main census was taken. The census questionnaire is shown in Appendix 6.1.

¹ "2002 Population and Housing Census: A report on the data users meeting held at the Prime Minister's Office Conference Room on 20 April 2001" Central Census Office, Dar es Salaam, April 2001.

When the final list of topics was adopted, one of the early decisions to be made regarding the questions was whether to be simply a topic heading (for example “Marital status”) or a complete, scripted question (for example “What is the person’s marital status?”) The latter, which is usually referred to as verbatim question was adopted and, subsequently, the questions were developed.

There were two major benefits from the use of verbatim questions. First, verbatim questions achieve more uniformity and thus reduce the bias that results from permitting enumerators to interpret and phrase questions according to their individual understanding and experiences. Secondly, they allow the enumerators to proceed smoothly with the interview and relieve them of the burden of formulating the questions themselves.

The initial question design was based upon the enumerators writing pre-assigned codes on an A3 page questionnaire. However, following a decision to test the use of the Optical Mark Recognition (OMR) technology in the Pilot Census the questionnaire was extensively revised to meet the standards required by the OMR technology.

6.3.1 Physical Structure of the Questionnaire for the Pilot Census

After the content and forms of questions were determined the immediate task on questionnaire design was to decide on the layout of the forms. Two types of OMR questionnaires were designed to be administered in the field². The short questionnaire covered one side of an A4 sheet (providing enough space for the responses for 10 people). The long questionnaire (with 37 questions) required a folded A3 sheet (in effect a booklet of 4 pages of A4 size) to accommodate the responses for 6 people. A relatively smooth flow of questions was arranged so that people dropped out when they reached the end of the questions applicable to them (for example, responses for children under 5 years were up to question 12; and those for men were up to question 20 - other than the head who was expected to answer household level questions on mortality and housing conditions). However, it was found necessary to fit the questions on housing conditions early in the questionnaire and this caused some problems in the field and during data processing. Some small problems were to be expected given the speed required to revise and print the questionnaires in time for the Pilot Census.

Another key issue was the choice of colour for the questionnaires. It was essential that all printing near a response area be done in a colour that was not picked up by the scanner. The advice from the supplier was to use questionnaires which were light red in colour and this was done.

6.3.2 Lessons Learnt from the 2001 Pilot Census

The 2001 Pilot Census was a major success and clearly showed that data capture using OMR technology was feasible. The short questionnaire worked very well. However, a number of issues emerged from the 2001 Pilot Census relating to the design of the questionnaires. These included:

- i) There was no provision for supervisor’s identification mark after editing the questionnaires;
- ii) There was no provision for a mark to show that the household responses continued in more than one questionnaire;

² An English language version of the long questionnaire was also created to provide assistance if the interviewee was unable to respond to questions in Kiswahili. Even where this was used it was necessary to record the responses on a Kiswahili questionnaire.

- iii) The English version of the questionnaires was not available;
- iv) The way questions appeared on the questionnaires was not as was originally designed. Some were mere captions and font size was rather small;
- v) The format for questions number 1 - 8 on both the short and long questionnaires was not the same ;
- vi) The questions were not serially arranged (e.g. Household questions appeared on page 1 of the questionnaire) and thus caused considerable confusion to enumerators; and
- vii) The red colour was too bright and had a blurring effect. Light green and purple colours were recommended.

As a result of these findings the questionnaire was restructured and it was found that reducing the intensity of the colour produced good results. During this restructuring much use was made of e-mail to transfer successive drafts of the questionnaire between the printer, based in the UK and the Central Census Office in Dar es Salaam. Details of the 2001 pilot census questionnaire are to be found in Chapter 7.

6.4 Manuals

Population census is an enormous exercise and requires instruction manuals at various stages so as to ensure uniformity of the exercise. During the 2002 Population and Housing Census exercise there were Training Manuals, Instructions to Regional Census Coordinators (RCCs) and District Census Executive Officers (DCEOs), Instructions to Supervisors and Instructions to Enumerators.

The training manual was a document which was to be followed by all trainers at national, regional and lower levels. This document was prepared with great care; it includes relevant examples and solutions. It was prepared before the Pilot Census and it was tested during Training of Trainers to ensure that it was satisfactory for the main training.

The instructions to RCCs and DCEOs were documents which were prepared to guide them in their day-to-day activities before, during and after enumeration. It included instructions on how to complete control forms which were expected to be filled in by them.

The Instructions to Supervisors document, included all quality control checks in the field during enumeration as well as what role the supervisors had to play before, during and after the enumeration. It also explained procedures to be followed by the supervisor during enumeration and how to complete control forms which were expected to be completed by them.

The Instructions to Enumerators document was a reference book not only to the enumerators but also to supervisors and the rest in the field; it covered the background and purpose of the census, administrative requirements for enumerators, techniques for interviewing and detailed technical instructions on how to handle the questionnaires and other related forms.

6.4.1 Control Forms

All Census project documents are important; therefore their movements to and from the field had to be monitored. To do this, the use of control forms is highly recommended. These forms have a variety of functions, but they were used primarily in connection with record keeping, recording of movement of materials from one operation to another and progress reporting. They were designed

in such a way that all the documents which were to be used during enumeration were known as well as who was responsible. It was important to have quality control forms during enumeration to check if the supervisors followed quality control instructions. Also, use of control forms reminded officials about the type and quantity of materials which were required in the field and what had to be collected from the field. The list of the 2002 Population and Housing Census control forms is in appendix 6.2

6.5 Problems Faced and Recommendations for Future Censuses

6.5.1 Problems

There was delay in printing of census questionnaires because of the need to conform to a new Procurement Act which involved elaborate and lengthy procedures. This resulted in expensive delivery as the questionnaires had to be airlifted at extra cost.

Some of the control forms were not well understood by the trainers and later enumerators. As a result some were not filled in at all and those filled in, some were not filled in properly.

The late decision on procurement of OMR technology disrupted the workplan on production of other census documents, such as Instruction Manuals.

6.5.2 Recommendations

- i) In order to avoid delays, if any technology is tested and approved during the pilot exercise, arrangements for it to be taken as a solution for the main census should be agreed on early in the process; and
- ii) Adequate time should be allocated for training in the use of control forms.

CHAPTER 7

PILOT CENSUSES

7.1 Introduction

Preparations for any census take necessarily a long time and involve quite many distinct activities. These activities include conducting a pilot census, an exercise which aims at replicating at a smaller scale the actual conditions of undertaking the actual census. The testing of various aspects including logistics of the census plan prior to the enumeration is a crucial component of delivering high quality results.

This chapter describes the pilot censuses which were designed to test all aspects of the Population and Housing Census. Two such pilot censuses were carried out; the first was held in 1998 as a test for the census planned for 1999 and the second in 2001 as a test for the census taken in 2002. Both are described below, with more weight being given to the 2001 Pilot Census since that had much greater relevance to the procedures used in 2002.

7.2 The 1998 Pilot Census

7.2.1 Objectives

The main objectives of the pilot census were to:

- i) Test the suitability and adequacy of the census instruments such as enumeration area maps, questionnaires, control forms, instruction manuals, enumeration procedures, quality control procedures, editing specifications and editing;
- ii) Evaluate the quality of data on important items such as age, fertility, mortality, migration, economic activity, education and housing conditions;
- iii) Provide information on the average time required for enumerating a single household, which was an important input in estimating the staff and financial requirements for the main census;
- iv) Test the adequacy of field and central organization;
- v) Assess the data processing methods and quality control systems;
- vi) Serve as a practical training in census operations;
- vii) Assess the population's awareness of the census and their reaction to census questions;
- viii) Assess the census logistics such as storage facilities, transport and communication problems in the field; and
- ix) Assess the possibility of including agriculture and gender questions in the main census.

7.2.2 Coverage

The first pilot census was held in August 1998. Enumeration areas from five districts were covered. The districts were Bagamoyo, Kinondoni, Makete, Kahama and Chake Chake.

A total of 150 EAs were sampled. The purposive sampling method was employed to draw 30 EAs from each district. This type of sampling method was used to make sure that as many different categories of the population were represented in the sample.

7.2.3 Dispatch of Materials to and from Regions/districts

Finance and Supplies Unit of the Central Census Office dispatched materials from the Headquarters to the Regional/District Offices. Due to the small quantities of materials needed for the pilot census in each district, no special arrangement was needed as most of these materials could be and were sent to the regions using office vehicles which were taking trainers to regions/districts. The same method was used to bring back the materials to Dar es Salaam after enumeration. Dispatch of materials in the pilot census did not provide the actual picture (in terms of cost, logistics and tonnage) for the proper census when tons of materials had to be ferried to each region and back.

7.2.4 Recruitment and Training

Recruitment of enumerators and supervisors was done jointly by Regional Census Officers and Regional Statistical Officers with instructions and guidelines from the Central Census Office. Supervisors/enumerators were mainly recruited from among primary school teachers and a few from secondary school teachers.

There were two levels of training; level one was training of trainers, which was held in Morogoro; and level two training was held in the selected districts. Trainers at level one training came from the National Bureau of Statistics, Ministry of Agriculture, Ministry of Youth and Labour, Ministry of Education, President's Office, Planning and Privatisation and Building Research Unit.

Training involved both theory and practice. Supervisors and enumerators were taught how to identify the enumeration areas and how to handle effectively the interviews. They were also taught how to fill in different control forms and how to control the quality of information.

7.2.5 The Questionnaire

Only the detailed questionnaire was used in the pilot census. It had a total of 48 questions divided into 10 sections, namely:

- i) Identification;
- ii) Questions for all persons;
- iii) Questions on all persons aged five years and above;
- iv) Questions on all persons aged ten years and above;
- v) Questions on all women aged twelve to forty nine years;
- vi) Deaths;
- vii) Housing conditions;
- viii) Gender;
- ix) Agriculture; and
- x) Total Population.

7.2.6 Enumeration

The Pilot Census was carried out on the last Sunday of September 1998, exactly one year before the intended census date. Enumeration was based on *de facto* approach with some characteristics of *de jure* for specific questions. Persons were enumerated on the basis of where they spent the pilot census night. Enumerators spent about three days familiarizing themselves with their areas. This period was used to introduce themselves to local leaders, make appointments and to identify their enumeration areas. They also updated the list of the heads of households. Enumeration took a

maximum of seven days in most cases. However, in a few cases enumeration took more time than the intended period of seven days.

7.2.7 Data processing

Questionnaires and other pilot census questionnaires were received at the Central Census Office mid October 1998. Data capture was done manually as planned for the census itself.

7.2.8 Information, Education and Communication

The Central Census Office used several means to sensitize the public in general. Means used were:

- i) Meetings with Regional and District leaders involved in the pilot census;
- ii) Press conferences: A total of three conferences were held between the Commissioner of Population Census and the media personnel;
- iii) Advertisements through radio stations, newspapers and television stations. On the eve of the pilot census, The Minister of State, President's Office, Planning Commission delivered a speech that was aired by Radio Tanzania, Dar es Salaam and was televised by Independent Television Limited. Similarly, question and answer sessions were held with Radio Tumaini and Sauti ya Tanzania, Zanzibar. These were conducted by the Commissioner and Commissar of Population Census for Tanzania Mainland and Tanzania Zanzibar respectively;
- iv) Posters and leaflets were another kind of mobilization used. About 5,000 leaflets and 700 posters were printed and distributed in the piloted areas; and
- v) To complement the use of electronic media in Dar es Salaam the public address system was also used.

7.2.9 Analysis

A team of analysts produced a report titled "The 1998 Pilot Census for the 1999 Population and Housing Census". Topics covered in this report were:

- i) Introduction;
- ii) Evaluation and Analysis of the Age Structure;
- iii) Disabled and Marital Status;
- iv) Migration;
- v) Literacy and Education;
- vi) Economic Characteristics;
- vii) Gender;
- viii) Fertility Levels and Patterns;
- ix) Mortality Levels and Patterns;
- x) Housing Characteristics;
- xi) Agriculture;
- xii) Data Processing; and
- xiii) Information, Education and Communication Activities.

The conclusion reached in the Pilot Census Report³ was that the planned census operations appeared to be feasible, although improvements would be desirable in some areas.

³ "The 1998 Pilot Census for the 1999 Population and Housing Census" Central Census Office, Dar es Salaam, March 2001

7.3 The 2001 Pilot Census

7.3.1 Introduction

The 1998 pilot census was meant to test the adequacy of preparations for the 1999 Population and Housing Census, which was postponed to 2002. With a postponement period of three years, there was a need for carrying out another pilot census in 2001. Most of the procedures and techniques used in 2001 pilot census were more or less similar to those used in 1998 with one major exception. The 2001 pilot census was used to assess the possibility of using the new data capture technology known as OMR (Optical Mark Recognition) in the main census in 2002.

7.3.2 Objectives

Objectives of the 2001 pilot census were similar to those of the 1998 pilot census with the major exception of evaluating the new data capture technology.

The Government had earlier decided that the Optical Mark Recognition (OMR) be tested as a method of data capture instead of the traditional manual data entry approach. The 2001 pilot census was used to test the new technology before the final decision could be made.

The DRS company of the UK was given the responsibility of designing and printing questionnaires. The company was also given the responsibility of providing scanners and technical support.

7.3.3 Coverage

Unlike the 1998 pilot census, the 2001 pilot census was conducted in all districts whereby three enumeration areas were selected randomly in each district. A total of 369 EAs were covered of which 123 were rural and the remaining 246 were from urban areas. The high proportion in urban areas reflected an expectation that they were more difficult to enumerate and thus required greater investigation.

7.3.4 Questionnaires

Two questionnaire designs were employed, just as intended for the main census. The key feature was that the designs had been created to utilise the OMR technology. The short questionnaire comprising one A4 sheet, printed on one side only had sufficient space to record details of 10 persons. The long questionnaire with 37 questions was an A3 sheet printed on both sides and folded to give 4 A4 pages.

The detailed questionnaire had seven sections with a total of 37 questions. Topics covered were like those in the 1998 pilot census minus the agriculture and gender questions. The topics were:

- i) Identification;
- ii) Questions for all persons;
- iii) Questions for all persons aged five years and above;
- iv) Questions for all women aged 12 years and above (fertility);
- v) Questions for number of deaths in the households;
- vi) Questions for housing conditions;
- vii) Summary for total persons in the household.

The short questionnaire had a total of eight questions only. The topics covered were:

- i) Identification;

- ii) Questions for all persons;
 - a) Serial number;
 - b) Name of the household member;
 - c) Age;
 - d) Relationship to head of household;
 - e) Sex;
 - f) Marital status;
 - g) Disability;
 - h) Nationality; and
 - i) Summary of total persons in the household.

7.3.5 Recruitment and Training

As planned for the main census, and following established practice, enumerators were primary school teachers who lived in, or were very near to the selected enumeration areas. The role of the supervisor was taken by staff members from the Central Census Office assisted by staff members from a range of other Ministries (some of whom had administered the training program for the Pilot). The Central Census Office issued guidelines for recruiting enumerators. The guidelines instructed Regional Census Coordinators, Regional Statistical Officers and District Census Executive Officers to recruit capable personnel to do the job. Like during the previous pilot census, Grade A Primary School teachers were given preference.

Training was conducted at two levels. Level one was Training of Trainers, which was held in Morogoro. Level two training involved Regional Census Coordinators, Regional Statistical Officers, District Census Executive Officers, supervisors and enumerators and was held in the respective zones.

Training involved both theory and practice. The training had a special session on how to shade and handle the OMR questionnaires.

7.3.6 Enumeration

This pilot census was conducted in August 2001, precisely one year before the 2002 census. This timing coincided with plans for the actual census and thus tested issues such as whether people were at their usual residence, as expected, at this time of the year.

7.3.7 Data Processing

To test the OMR data capture method, technical assistance, including borrowing of some personnel from the National Examinations Council of Tanzania who had experience in using the OMR technology in marking examinations was sought. They also provided the required hardware. The scanning operation was undertaken at their premises at Mikocheni while data cleaning and other analytical work was done at the CCO.

The overall results showed that good quality data had been achieved during enumeration with only a low proportion of questionnaires requiring remedial action prior to data capture. While some enumerators performed better than others there was no general evidence of significant difficulty in carrying out the shading requirements for responses as required by the OMR technology.

7.3.8 Analysis

In terms of data analysis the results of the Pilot Census showed that all the core indicators gave results which were comparable with those obtained from the results of earlier censuses and relevant surveys (adjusted for known changes in policies and behaviour). Some problems known to exist in African census data (notably age heaping and digital preference) were also observed – with levels similar to those experienced in previous censuses.

Recommendations recorded in the report of the pilot census mainly relate to improvements in the administration of the census.

7.3.9 Other Recommendations Based on the 2001 Pilot Census were

- i) The training period of 10 days for enumerators administering the long questionnaire was not enough;
- ii) Enumeration period of 10 days was not enough in some places;
- iii) Enumerators and supervisors should be paid bus fare during enumeration period. They should also be paid for the days spent on familiarization. Lunch allowance was recommended for this;
- iv) EA maps and their descriptions should be improved;
- v) One rural Supervisory Area (SA) should have a maximum of three EAs while an urban SA should have a maximum of five EAs;
- vi) The allowances to enumerators and supervisors should be increased;
- vii) Publicity should be intensified in all areas; and
- viii) The color and layout of the questionnaire should be changed.

7.3.10 Conclusion

The organization and conduct of the pilot censuses enabled the Central Census Office Staff (the technical staff in particular) to identify, and resolve deficiencies in readiness for the 2002 Population and Housing Census.

These pilot censuses provided important information on how various aspects of the Census Project should be conducted and processed. It is considered that experience gained from the pilot censuses contributed greatly to the successful conduct of the 2002 Population and Housing Census.

A key point was that the 2001 Pilot Census showed that it was feasible to use OMR technology for data capture in the main census. As a result of this experience major efforts were directed towards developing techniques and procedures using the OMR technology.

7.4 Problems Faced and Recommendations for Future Censuses

7.4.1 Problems

- i) Remuneration for enumerators and supervisors during the pilot census were different from those paid during the main census. This was a major contradiction and defeated the whole purpose of testing the census mechanism. This also had a budget implication;
- ii) Some of the recommendations from the pilot census were not adopted in the main census. For example, it was recommended after the pilot census that trainers should arrive at the training centers one day before the training starts, but this was not done during the main census;

- iii) Adopting new technology after the pilot census, for example use of aerial photos in identifying enumeration areas was adopted after the pilot census had been conducted and as such they were not included in the training manuals to enumerators and supervisors;
- iv) A pilot census is not a good measure for testing logistics in full because the pilot census involves only a few EAs compared to the main census;
- v) The pilot census did not test the financial transactions. Mode of payment to enumerators and supervisors during the pilot census was quite different from the main census; and
- vi) Having no PES for the pilot census meant that some key instructions were omitted from the main census.

7.4.2 Recommendations

- i) Pilot census should really be a measure of the main census. Therefore recommendations from the pilot census should be taken on board;
- ii) Careful planning and budgeting is needed for logistics during the main census. Observations from the pilot census on this approach should only be taken as a guide for the main census;
- iii) No new technology or procedure should be used during the main census if it was not tested in the pilot census; and
- iv) In future censuses, a PES should be carried out for the pilot census.

CHAPTER 8

SAMPLE DESIGN

8.1 Introduction

During the planning of the 2002 Population and Housing Census it was decided to collect information on education, economic activity, disability, migration, fertility, mortality, housing conditions and ownership of selected assets through a sample survey within the framework of the census. This followed the strategy employed in previous post independence censuses of Tanzania.

Generally, in the context of a developing country like Tanzania¹, there are several arguments in favour of a sample approach for collection of detailed statistical data of persons, households and dwellings as follows:

- i) Needs for information related to statistics at several levels, e.g., national, regional, district and smaller geographic levels. At the lower geographic levels there is only limited capacity for analysing and using the data;
- ii) The expected presence of measurement problems which should be kept under control, as far as possible, favour a limited scope for data being collected and processed;
- iii) Costs of collecting and processing the data are reduced by a sampling strategy; and
- iv) The timeliness of the results is improved through handling less data.

The Central Census Committee decided to use two questionnaires in the 2002 Population and Housing Census. These were:

- i) A short questionnaire with 8 questions for all households; and
- iii) A long questionnaire with a further 29 questions for a sample of households.

As for the 1988 census, results from the 2002 Population and Housing Census are presented at district level, broken into rural and urban domains. In the 1978 and earlier censuses, a smaller sample size was used and the lowest level of geographic breakdown for which reliable data was possible was for regions.

Since most of the subsequent parts of this chapter draw heavily on the report on sample design² it is suggested that the readers interested in further technical details may refer to the document.

It is important to note that the Enumeration Areas (EAs) which covered institutions like hospitals, guest houses, schools, fishing and mining camps etc. were excluded from the sample design for 2002 Population and Housing Census. The same practice was followed in earlier censuses.

¹ It should be noted that many of the more developed countries (including the USA, UK and Canada) also employ sampling as part of their census taking strategy.

² TANSTAT 27th May, 1988, Sampling in Tanzania, A mission report, by R. Petterson, 9th April – 5th May, 1988.

8.2 Sample Design for the Rural Areas

The sample of households for the long questionnaire was selected in clusters formed by all households within an EA (Ultimate Area Unit). The target size of rural EAs in the 2002 Population and Housing Census was about 800 people. This size was still considered on the high side for Ultimate Area Units at least for socio-economic variables. However, the advantage of using an existing area as an Ultimate Area Unit is so great that it was felt that this would offset the loss in precision. Since rural parts of the district as domain of study varied in size, various sample sizes were used. These are summarised in the following table.

Table 8.1: Selection Criteria for Sample Enumeration Areas

Total EAs in the domain of the study	Number of EAs selected in each domain of the study
< 30	All EAs
30 – 199	30
200 –399	40
400+	50

The assumption made was that each EA had equal probability of being selected. The method adopted for drawing a sample was Systematic Simple Random Sampling (SSRS).

8.3 Sample Design for Urban Areas

The size of the urban EA in the 2002 Population and Housing Census was about 400 people, as it was for the 1978 and 1988 Population and Housing Censuses. In the previous censuses investigations had concluded that there were benefits from a design with a larger sample per district in the urban areas than in the rural areas.

It was concluded that the sample allocation used in 1988 was still basically appropriate. For the cities of Mwanza and Dar es Salaam and the municipality of Zanzibar, it was decided to take 70 EAs in the sample. For urban areas in other districts a sample of 50 EAs per district was taken. Where the number of EAs in the urban domain was less than 50, all EAs were covered by the long questionnaire.

As with the rural domain each EA had equal probability of being selected and SSRS was used in the selection.

8.4 Selected and Utilized Enumeration Areas

Overall, about 99 percent of all the selected EAs were utilized during the post enumeration survey. These were the areas in which the long questionnaire was used during the main census. Urban areas were slightly better on utilization than rural areas. Table 8.2 below gives the breakdown of utilization of selected enumeration areas by rural/urban localities.

Table 8.2: Selected and Utilized Enumeration Areas

Area	Mainland			Zanzibar			Tanzania		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
Selected Eas	4,474	4,988	9,462	270	260	530	4,744	5,248	9,992
Utilized Eas	4,422	4,955	9,377	270	260	530	4,692	5,215	9,907
% Covered	98.84	99.34	99.10	100.00	100.00	100.00	98.90	99.37	99.15

Appendix 8.1 shows the distribution of total EAs and number of selected EAs in which the long questionnaire was used in respective regions; Tanzania Mainland, Tanzania Zanzibar and Tanzania as a whole.

8.5 Problems Faced and Recommendations for Future Censuses

8.5.1 Problems

Overall the sample design used for the selection of the sample and **estimation of different characteristics**, was appropriate. Most of the estimated characteristics that were obtained by using the design were of reasonable quality. However, some problems were encountered as follows:

- i) At a later stage in the sample selection process it was necessary to revise the sampling frame to accommodate the split of the previous Arusha Region into the two regions of Arusha and Manyara; The Cartographic Unit undertook the allocation of EAs to the new regions once the boundaries were declared as the official boundaries;
- ii) In some cases EAs were incorrectly included in the urban or rural domains. This led to some urban EAs being selected as rural or vice versa. Since this was only discovered after enumeration the problem had to be tolerated and appropriate adjustments made to the weights. The extent of errors was not significant and mostly affected the rural sample for Kinondoni Municipality in Dar es Salaam Region.
- iii) Each DCEO was furnished with the list of EAs selected to be covered with the long questionnaire. As was the case with the 1988 Census, not all the districts utilized the sample listing properly. In some cases EAs not in the sample used the long questionnaire, while in others the selected EAs had been enumerated with the short questionnaire. These errors had limited adverse effect on the quality of the results; since in most cases the difference was only plus or minus 1.
- iv) There were incidences where names of villages were not clear.

The impact of the problems described above was more for the rural areas than for the urban areas.

8.5.2. Recommendations

To avoid the shortcomings which were observed in the 2002 Population and Housing Census it is recommended that:

- i) For future censuses efforts should be made to find ways of accommodating changes to administrative boundaries without having to reselect the sample;
- ii) To avoid the errors which were evident in allocation of EAs to rural and urban domains the Cartographic Unit should, as part of its GIS work, establish a data base in which the nature of an EA is an attribute of that entity, rather than just the EA number;
- iii) Special category population i.e. fishing camps, mining camps, nomadic populations, etc, should be included in the sample design; and
- iv) Use of one reasonably designed questionnaire for the entire population will reduce problems, which are related to long and short questionnaires.

CHAPTER 9

IEC/ADVOCACY FOR THE 2002 POPULATION AND HOUSING CENSUS

9.1 Introduction

Information, Education and Communication (IEC) activities were amongst the major strategic components of the 2002 Population and Housing Census. Since 1998, when the planned census failed to take off due to financial constraints, IEC was a regular feature of the planning process leading to the 2002 census. In the period before the launch of the publicity campaign on June 2, 2002, IEC activities focused more on informing the government and development partners and hence the use of more interactive communication channels. A regular monthly publication, coupled with regular meetings by the various interest/stakeholder groups sufficed to sustain their continued interest in the census project.

First amongst IEC strategies was to identify the various stakeholders that would be addressed. These were found to be:

- i) Individuals in urban and rural areas;
- ii) Census implementers all over the country;
- iii) The various supervising committees at the national, regional, district, ward and village levels;
- iv) Media practitioners and other mass communicators; and
- v) The donor community, which provided financial support for the census to augment government funding.

The IEC activities, messages and choice of channels of communication were tailored to suit the specific needs of these target groups. The publicity aspect was to make the public and stakeholders fully aware of the importance of the census and the data to be generated from the exercise. The people were to be educated on the content of the questionnaires, and the role of the various authorities during the enumeration exercise. The advocacy aspect was to maintain a continuous support from the government, donors and social partners, so that the requisite resources could be assured. The ultimate goal of all this was to facilitate the collection of complete and accurate information and data on socio-economic characteristics of the population during the 2002 census.

9.2 Objectives

- i) To sensitize and mobilize Tanzanians so that they would support, co-operate and participate in the 2002 Population and Housing Census;
- ii) To secure continuous support and commitment by the government at all levels, development partners and the private sector; and
- iii) To promote acceptance and extensive use of the census results by various users.

9.3 Outputs, Strategies and Activities

The IEC was designed to achieve specific outputs through linking of various strategies and activities.

Output 1:

Strengthened capacity to undertake effective publicity in support of the 2002 census

- i) The Central Census Office secured the attachment of professional mass communications officers from the Tanzania Information Services and the Zanzibar Department of Information who were later on assisted by a UNFPA sponsored consultant from Kenya;
- ii) Census mobilization committees were formed in all the regions and districts;
- iii) Members of Parliament and the House of Representatives attended special workshops whereby they received advocacy techniques, materials and orientation for the census mass mobilization;
- iv) A directive was issued assigning leaders at all administrative levels the duty of ensuring that all people were fully mobilized for the exercise; regional and district leaders were to be held accountable for any flaws; and
- v) Advocacy booklet containing all-important information and messages was produced and distributed to all mobilizers as a guiding document.

Output 2:

Enhanced partnership with the media

- i) A National Media Advisory Committee was formed to advise the IEC Secretariat on the campaign messages and publicity strategies. The committee comprised representatives from the public and private media;
- ii) Media owners and managers were briefed at a luncheon, and reporters had an opportunity of discussing the census at workshops held in Dar es Salaam and Zanzibar, where they had a chance to discuss their role in the coverage of the census. The aim was to sensitize them and win their support as important partners in publicity and mobilization;
- iii) The media were invited and facilitated to participate in all census functions and events;
- iv) Census up-dates in the form of press releases and press briefings on the progress of the exercise, were done throughout the census period; and
- v) During the enumeration period, press briefings were held almost every day.

Output 3:

Continuous commitment and interest by the government and development agencies

- i) Regular briefing meetings on the progress of the census were held by the Central Census Office with the Central Census Committee, Census Advisory Committee, Collaborators Forum, the Census Technical Committee, the Regional Census Coordinators and District/City/Municipal/Town Council Census Executive Officers;
- ii) A monthly newsletter on the progress of the census exercise was published and distributed to all relevant authorities; and
- iii) Top ranking government officials were invited to officiate at census functions.

Output 4:

Increased capacity for sensitization by other support groups

- i) Regional and District mobilization committees were facilitated;
- ii) Poetry and theatre groups were sensitized through workshops and given the guiding document with relevant messages to help them with their creations and compositions;
- iii) A cartoonist was sensitized and contracted to draw educative cartoons that were distributed to mainstream newspapers; and
- iv) Pop music, choir and traditional *ngoma* groups were commissioned to produce songs on the census and copies were distributed to broadcasting stations.

Output 5:

Enhanced public awareness and popularity of the exercise

- i) The public sensitization campaign was launched in a 'bang style' on 2nd June, 2002 during the start of the Uhuru Torch Race at Sumbawanga, Rukwa Region. The event was officiated by the Vice President and witnessed by several Regional Commissioners and government officials from the neighboring districts of Zambia and Malawi. The national radio broadcaster covered it live;
- ii) Over 2 million leaflets containing key messages were distributed throughout the country;
- iii) The Uhuru Torch Race was used to disseminate census information through a special publication called "Uhuru Torch Message";
- iv) The private sector was requested to display the census logo on their products, and several of them did;
- v) Radio and television phone-in programmes were arranged, whereby the Commissioner/Commissar of Population Census answered listeners' questions and explained issues on the census;
- vi) Slogans were developed and broadcast on key radio and television stations;
- vii) A series of radio programmes were broadcast over the national radio and a few collaborating private stations;
- viii) Special television programmes were aired on major TV stations;
- ix) Over one million stickers were distributed all over the country;
- x) Information articles were sponsored in 8 national newspapers;
- xi) A demo video was produced for showing in buses and travel vessels;
- xii) Sponsored commemorative postage stamps were issued with the census logo;
- xiii) *Khangas*, *vitenges*, T- shirts, caps, sun visors, waving flags with the census logo and important messages were also distributed widely; and
- xiv) The President of the United Republic of Tanzania gave a speech on the eve of the census date, as part of his monthly speeches in which he emphasized the importance of the census to the nation in order to rally public support for the census. The speech of H.E. the President of the United Republic of Tanzania when launching the census on the census night is attached as Appendix 9.1.

Output 6:

Increased dissemination and use of the 2002 census data

- i) The 2002 Population and Housing Census General Report was launched at a press conference and distributed free of charge to all key institutions, development and social partners;
- ii) Production of fact documents on the themes relevant to the interests of various stakeholders and planning requirements of the government and the private sector; e.g. district profiles, etc.;
- iii) Re-packaging in appropriate formats and publishing for distribution in friendly forms of analyzed data by using simple standard tables on hard copy, complex tables on CD ROMS, and floppy discs etc.;
- iv) Holding of end users meeting with national government, regional and district administrators; academics, schools, private sector, political parties, NGOs and international organizations;
- v) Development of a marketing strategy for census data that would take into account the relevance to various users, accuracy, cost etc;
- vi) Posting the data on the internet. It is on the national website www.tanzania.go.tz/census; and
- vii) Introduction of super cross programme for use at regional and district levels,

For details on the logframe matrix of IEC activities see Appendix 9.2.

9.4 Problems Faced and Recommendations for Future Censuses

- i) IEC is very important for a country to carry out a successful census. For 2002 Population and Housing Census staff members from the Information Department, Prime Minister's Office and the Zanzibar Department of Information were seconded to the CCO to carry out Population and Housing Census IEC activities. However, not all the seconded staff were competent enough. It is therefore recommended that one of the staff members at the recommended permanent CCO should be an expert on IEC. This person must have background knowledge in statistics;
- ii) Choice of media was also problematic because of the multiplicity of newspapers, radio and television stations. However, not many of these did reach all corners of the country. Since most media outlets are expensive, in order to get the maximum coverage at a reasonable cost, a proper trade off must be made between coverage and cost. However, lower costs should not be achieved at the expense of coverage;
- iii) The 2002 Population and Housing Census faced problems in getting the proper interpretations of the census exercise in particular because of the environment of multiparty politics. In some cases census was viewed as an activity of the ruling party. This posed a problem of possible boycott by members of other parties. It is therefore recommended that census activities should be politically neutral in order to get everybody fully involved. Thorough IEC work is very important in this area;
- iv) The 2002 Population and Housing Census faced problems of people refusing to be enumerated on the basis of religion. They were arguing that their religion forbids them to be counted. In such a case it is important to invoke the Presidential Order issued under the Statistics Act, 2002 which requires everybody to be enumerated. It is the role of the IEC expert to explain this order to the public well in advance in order to achieve maximum cooperation. For a sample of the 2002 Presidential Order see Appendix 9.3.

- v) The 2002 Population and Housing Census faced a problem of people refusing to be counted unless they were given meat, and local brew. In such a case it is recommended that the government must be prepared to comply with their reasonable demands, in order to win their cooperation; and
- vi) The 2002 Population and Housing Census benefited substantially from total commitment to the census by national, regional and district government authorities. The census organization chart included regional and district census committees, which were serviced by RCCs and DCEOs respectively. Moreover, during the meeting which was chaired by the President of United Republic of Tanzania (URT) and attended by regional and district authorities just one week before the census, the president directed them to give top priority to the census exercise. This directive was a big boost to IEC work. It is recommend that future censuses should involve fully national, regional and district authorities in the census operations.

CHAPTER 10

ENUMERATION PROCEDURES

10.1 Introduction

Enumeration in a Population Census in simple terms, means counting the people of a particular area with recognized geographical boundaries. To be more scientific, enumeration is a procedural activity, whereby the information about the people, needed for planning, research, etc. are collected from primary sources.

During the planning stage, enumeration activities were given special attention in order to make thorough preparations before enumeration. The importance of the administrative machinery during enumeration cannot be over-emphasized. The complexity and delicate nature of the work is evidenced by the enormous manpower and materials involved.

10.2 Unit of Enumeration

The basic unit of enumeration in 2002 census was the “person.” However, for purposes of social and economic analysis it was desirable to associate each person with a human group of which he/she is part (household) and with specific living quarters.

10.3 Enumeration Approach

Population may be enumerated in two different ways. One is **de Jure** census (a person is enumerated at the place of usual residence) and the other is **de facto** census (a person is enumerated where he/she spent the census night) approach.

The de facto approach was used for the 2002 census due to the following reasons;

- i) For continuity and comparison reasons; since all post-independence censuses had been conducted by using **the de facto** approach.
- ii) Comparatively, this approach costs less than the **de jure** approach.
- iii) Technically, there were fears that if strict care was not taken, the **de jure** approach would have resulted into having more omissions compared with the **de facto**.

The reference night for the 2002 census was the night of 24/25 August 2002. This date relates to the last Sunday of August 2002. This means that a household was enumerated as it was on that reference date.

10.4 Special Enumeration Arrangements

The geographical work had resulted in a sub-division of the country in enumeration areas; called EAs. An EA in urban areas in Tanzania Mainland has an estimated population of about 400 persons and in rural areas about 800 persons. In Zanzibar (Unguja and Pemba) both rural and urban EAs have an estimated population of about 400 persons.

In addition to this, there were special population categories, which by definition did not belong to any demarcated EA, or for other reasons required special arrangements to be enumerated. These special population categories include ship's crew, homeless, passengers on trains, buses, aero planes etc, unstable population in institutions and migratory populations. Special Enumeration procedures were required to enumerate these populations, since they did not fall under normal EAs. These categories of population were enumerated using the short questionnaire and male enumerators were used. District Census Executive Officers' (DCEOs) local knowledge was required to make these special arrangements.

10.5 Enumeration of Private Households

For the purpose of the 2002 population and housing census a "private household " was a group of persons who lived together and shared living expenses. Usually these were husband, wife and children. Other relatives, boarders, visitors and servants were included as members of the household, if they were present in the household on the census night.

If one person lived and ate by himself/herself, then he/she was a one-person household even if he/she stayed in the same house with other people (these cases were more prevalent in the urban areas). Household members staying in more than one house were enumerated as one household if they ate together.

During enumeration, persons were enumerated where they spent the census night. Two types of questionnaires were used. A long questionnaire was used to enumerate private households in sampled EAs, while the short questionnaire was used to cover other private households in non-sampled EAs.

10.5.1 Enumeration of Special Populations

10.5.1.1. Ship's Crew

The DCEOs in harbour/port towns contacted in advance harbour/port authorities, and explained about census requirements regarding visiting ships. Arrangements were made for enumerators to start the enumeration in the early morning of the 25th of August, 2002. Crews on all ships docked in the harbour port on the **census night** were enumerated. Ships docked on 25th August 2002 were not included.

10.5.1.2. Collective or Institutional Households

A collective household comprised groups of persons in camps, boarding schools, hospitals, hotels, prisons, etc. Again, only the persons who spent the census night in such places were enumerated.

10.5.1.3 The Homeless

Some people in urban areas are outdoor sleepers with no fixed dwellings. They are usually found in and around markets, at railway stations, or under trees and the roadside. DCEOs in advance noted where such homeless groups could be found. Male enumerators, working in pairs and accompanied by plain clothes Police Officers (who were required to stay at a distance during enumeration so as to get maximum co-operation from respondents) covered these people. Enumerators were sent out very **early on the morning on 25th of August 2002.**

10.5.1.4 Passengers on Trains, Buses, Aeroplanes, etc

Some people embarked on trains, buses, etc, on 24th of August, 2002, and traveled on the **census night**. DCEOs in advance, contacted authorities concerned to find out transport timetables, and agreed on necessary arrangements for enumerating passengers. Enumerators were placed at the main stations from the morning on 25th of August, for at least 24 hours. They enumerated people who embarked or disembarked during this period. In order to avoid double counting or omission, individuals enumerated in such places were given a **Census Card**, showing that he/she has been enumerated (*Nimehesabiwa*). The short questionnaire was used to enumerate this category.

10.5.1.5 Migratory Population

This category comprises people who have no permanent living residence. They usually move from one living place to another. The reason for this could be that they are looking for new fishing areas, grazing grounds, etc. Before enumeration, the DCEOs contacted their local leaders so as to make special arrangements on how to locate and enumerate such a population. All persons belonging to this category were enumerated where they spent the census night. .

10.5.1.6 Scattered Population

DCEOs in advance got information about scattered populations in remote areas in their districts. All persons belonging to this group were enumerated where they spent the census night. Again, male enumerators were used to enumerate this group.

10.6 Eligibility Criteria

The following were the eligibility criteria during the enumeration:

- i) List of all usual members of the household. For the purpose of the population census, a household was a group of persons who usually live and eat together (share their living expenses). Usually this will be the husband, wife and children. Other relatives, visitors and servants were included as members of the household, if they were present in the household on the census night;
- ii) Enumerators were asked to enumerate all persons in households in their respective areas. These included Household members who were out in the fields, fishing, attending funerals, or away on a night shift, etc. were also enumerated even though they were not present when the enumerator visited the household;
- iii) Visitors and servants living in the same premises were enumerated; and
- iv) Persons who spent the census night in hotels, camps, prisons, hospitals (sick people) etc. were enumerated in these places and were excluded from their normal households.

10.6.1 Other persons who were included in the enumeration were

- i) Those who slept in a household but were absent when the enumerator arrived, e.g. those who left their households in the early morning to tend their gardens, farms, etc;
- ii) All visitors who spent the census night in a household;
- iii) Those who did not spend the census night in the household because they were on night shifts, attending funerals, etc (nurses, watchmen, etc);
- iv) Those who spent the census night in Tanzania but crossed the border into neighbouring countries, the next morning for various reasons such as business, work, etc;
- v) Those who were not citizens, but spent the census night in Tanzania;

- vi) Those who died after census night;
- vii) Those who had no permanent residence but usually do shift from one place to another provided they were in the country during the census night; and
- viii) Tanzanian diplomats who happened to have spent the census night in the country.

10.6.2 Persons who were not included in the Enumeration were

- i) Foreign diplomats and their families, except Tanzanians who worked or lived with them as relatives, visitors, servants etc.;
- ii) Foreign military attaches;
- iii) Children who were born after the census night;
- iv) Those who died before census night; and
- v) Those who were residents in neighboring countries or other countries but crossed into the country in the morning of census date or later.

10.7 Enumeration Staff and Their Functions

It is essential to bear in mind that every Supervisor and Enumerator enumerated himself/herself in the area where he/she conducted the enumeration.

During enumeration, the fieldwork group comprised enumerators, supervisors, DCEOs, RCCs and RSOs. Enumeration started on the night of 24/25 August 2002. However, before the census night, enumerators and supervisors spent three days updating lists of heads of households (where available), EA boundaries, Supervision Area maps, etc.

This job was done with the help of local leaders like Village/Area Executive Officers, Vitongoji chairpersons, etc. The role of enumerators was to enumerate all household members in their respective EAs.

The role of supervisors was to ensure that the enumeration was properly done by the enumerators as well as, deal with problems faced by the enumerators in the field.

As part of quality control, supervisors had the task of checking and correcting the questionnaires which were filled in by enumerators. During and after enumeration, the major part of the workload was borne by the **DCEOs**. The primary function of **RCCs/RSOs** was to co-ordinate all census activities within their respective regions. RCCs/RSOs, however, had other specific engagements as follows:

- i) Participated in the training at level II as trainees;
- ii) Ensured that arrangements for training at level III were properly done by the DECOs;
- iii) Ensured that the geographical materials prepared in their offices - particularly EA and SA maps - were correct, complete and ready, well in advance for the start of the training at all levels;
- iv) Co-ordinated the activities for counting special categories in the region to ensure that they were properly enumerated; and
- v) Kept the Regional Census Committees well informed about the census.

On the other hand, the DCEOs performed the following functions during enumeration;

- i) They were trained (together with their assistants), by the Central Census Office Staff on the duties of supervisors and enumerators, on their own duties, and on how to train supervisors and enumerators (training level II at every regional headquarters);
- ii) Recruited supervisors and enumerators and arranged training venues;
- iii) Received and checked materials required for the training and enumeration from the Central Census Office;
- iv) Prepared geographical materials for supervisors and ensured that the supervisors distributed the materials to enumerators;
- v) Distributed materials to supervisors and ensured that the supervisors distributed them to enumerators.
- vi) Made special arrangements for enumerating special population groups. (homeless, nomads, passengers on trains, buses etc.);
- vii) Checked the work of supervisors and enumerators;
- viii) Received materials from supervisors, when enumeration was completed;
- ix) Packed the questionnaires;
- x) Handed over the materials to the Regional Census Office;
- xi) The DCEOs with his/her assistant also worked on materials after the enumeration, check-ups, and compilation of population figures; and
- xii) DCEOs kept District Officials well informed about the census. They organized meetings of the District Census Committees.

10.8 Recruitment and Training for Enumeration

Proper planning with statistical figures, requires intensive and extensive training and well coordinated data collection from the village to national level. Population census is a single, extensive, and probably the most expensive statistical operation undertaken by any country. In order to accomplish this task to the required standard it was necessary to ensure that proper recruitment and training of personnel involved in the Census Project were given the attention they deserved.

Enumeration of the total population of the country required services of approximately 70,287 persons (about 55,285 Enumerators and 15,002 Supervisors). Experience from the previous censuses showed that, primary and secondary school teachers were used as junior and senior enumerators.

It was decided by the Central Census Committee that teachers should again be engaged as enumerators and supervisors during the enumeration phase for the following reasons:

- i) Teachers are normally accepted by the community in which they live; and
- ii) Teachers are employees of the government, thus the public expects them to be responsible enough while conducting census enumeration.

10.8.1 Training Organization

The purpose of the training was to equip all the census staff with requisite knowledge and skills to carry out the fieldwork during and after enumeration. In order to standardize the training and reduce the risk of every trainer having his/her own interpretation as how to carry out the enumeration, various instructions were used during the training.

The technical staff from the Central Census Office worked on the organization and conduct of the training. The training involved both theory sessions in the classrooms as well as practical field exercises, including mock interviews.

The training programme was based on the Enumerator's Instructions Manual. Other materials included Enumeration and Supervision Area maps, and Quality Control Forms.

There were three training levels namely; national, regional and divisional levels.

10.8.1.1 National Level

The Training of Trainers (ToT) was conducted by the Central Census Office Staff and involved about fifty-three people (two trainers per region). The training was held for 10 days. The trainees at this level served as trainers at the regional level.

10.8.1.2 Regional Level

Trainees at this level comprised Regional Census Coordinators, Regional Statistical Officers, District Census Executive Officers, District Education Officers, District Supplies and Logistics Officers, District Adult Education Officers, Educational Coordinators and teachers from secondary schools. In total, about 1370 trainees were trained at this level. The training was held for 12 days. Subsequently, the trainees served as trainers at division level.

10.8.1.3 Division Level

Enumerators and supervisors were trained at this level. It was decided to organize the training at the divisional level in order to avoid problems in terms of logistics and reduce costs.

Trainees at this level comprised Education Coordinators, Head teachers and Grade A primary school teachers (to work as supervisors and senior enumerators), and primary school teachers (to work as junior enumerators).

Supervisors and senior enumerators were trained for 10 days while junior enumerators were trained for 6 days.

10.9 Guidelines for Interviewing

Clear instructions and well defined procedures guided the enumerator in contacting households and conducting interviews. The following points were among those that were covered in the instruction manual:

- i) How to ask the questions and how to record answers;
- ii) How to plan the routing and sequence of visits to ensure that the enumeration will be efficient in terms of distance and that all units will be covered;
- iii) Whom to interview;
- iv) What to do when no one is at home;
- v) Under what conditions callbacks should be arranged;
- vi) How many call backs should be made to one address and when they should be made;
- vii) How to handle refusals; and
- viii) How to deal with vacant units.

10.10 Equipment for the Enumerator

The basic enumeration instrument used in the field was the census questionnaire. An enumerator, was supposed to be thoroughly familiar with the **census questionnaire** as well as the enumerator's Instructions Manual. In addition, the following materials were also issued.

- i) 1 copy of the EA map;
- ii) 1 copy of the description of the EA;
- iii) 2 blank copies of the household listing forms (EA2) for up-dating the list (where available);
- iv) Oath of secrecy;
- v) Special bag;
- vi) HP pencils;
- vii) Special erasers;
- viii) 1 clip, 2 blue biro;
- ix) 1 Note book;
- x) 1 file cover;
- xi) 2 pieces of chalk; and
- xii) 1 Notebook; the notebook was an official census document. Enumerators were required to write their names on the front page together with the names and codes of their EAs, i.e. region, district, ward/shehia and village, street/kitongoji. The following four pages of the notebooks were used for the timetable. The rest of the notebook was used as follows:
 - a) In case he/she had to return to the household to enumerate absent members, he/she wrote down the name and address of the household and time which he/she was expected to go back; and
 - b) Wrote down all other relevant comments on the enumeration, e.g. questions for which he/she needed additional help from his/her supervisor.

10.11 Enumerator in his/her Enumeration Area:

Each enumerator was assigned a single enumeration area. A supervisor who was in-charge of about five enumerators was responsible for checking and coordinating the work of all enumerators within his/her areas. Each person was guided by EA/SA map, boundary description and a list of heads of households if available. The local leader played a very crucial role at this stage.

An enumerator arrived in his/her EA two or three days before the enumeration started. These days were used to:

- i) Contact local officials – Ward/Shehia Executive Officer, Village Executive Officer, etc and brief them on the census and the necessary assistance needed from them;
- ii) Check the accuracy of the household list with local officials together with the boundaries of that EA ; and
- iii) Introduce themselves to their households and prepare a tentative timetable such as the one below:

Table 10.1: Enumerators Timetable

Area/Village Executive Officer	Address	Planned time for enumeration	Real time for enumeration
		(eg. 30/08/2003) 07:10 to 08:30am	

10.11.1 Role of the Enumerator

An enumerator was required to make every effort to obtain complete and accurate answers and to record them, correctly. The quality of his/her work determined the quality of the census. It was important that all enumerators working for the census follow carefully the procedures laid down by the Central Census Office. Supervisors were supposed to be in contact with enumerators all the time. More details are provided in the junior and senior enumerators Instruction Manuals.

10.11.2 Role of the Supervisor

In order to ensure the quality of the enumerator's work, the supervisor did the following during enumeration:

- i) Scrutinized in detail all the completed questionnaires, to ensure that each interview had been completed properly;
- ii) Sport-checked some of the interviews; and
- iii) Met with the enumerators each day to discuss their performance. More details are provided in the Supervisor's Instruction Manual.

10.11.3 Checking Completed Questionnaires

After an interview had been completed, the enumerator reviewed the questionnaire he/she had just completed. This meant going over again the entire interview by reading carefully through all relevant questions and answers.

While checking, he/she might correct spelling mistakes or clarify on the answers given. This check was to be done before leaving the respondent. It was most important to check if information for identification of the enumeration area had been provided.

10.12. Problems Faced and Recommendation for Future Censuses

10.12.1 Problems Experienced

- i) **Enumeration Period:** Duration of the enumeration was too long, this caused memory lapse among respondents.
- ii) **Economic Activity Questions:** These questions were not clear to some enumerators;
- iii) **Disability Questions:** Definition of disability was not well understood by some of the enumerators.
- iv) **Confidentiality:** In some cases, confidentiality (i.e. local leaders not to be around during interviews) was not followed as instructed in the manuals.
- v) **Calendars of Events:** In some districts, calendars of local events were not available.

10.12.2 Recruitment and training for Enumerators and Supervisors

Main problems faced in this area include:

- i) Some enumerators were not physically fit;
- ii) Lack of enough qualified enumerators and supervisors in some areas; and
- iii) The method used in selecting senior enumerators and supervisors caused frustration among teachers with higher ranks who were not selected as supervisors.

10.12.3 Training

- i) There was over-crowding and poor facilities ie. poor accommodation, no water, electricity, etc at levels II and III of training;

- ii) In some areas, time allocated for practical exercises was not enough;
- iii) Inadequate Instruction Manuals particularly at levels II and III;
- iv) Discontinuation of some trainees due to religious beliefs and other social problems.
- v) Insufficient number of trainers in some centers;
- vi) Reserve senior enumerators were too few in some areas;
- vii) Almost all RCCs/RSOs and DCEOs did not participate fully in the training due to administrative work; and
- viii) It was very difficult to identify different special groups in the final output because of lack of unique EA codes.

10.12.4 Enumeration of Special Population Groups (i.e homeless, nomadic etc.)

- i) There was no budget provision for police escort;
- ii) Special forms for guest houses; -some forms were not filled in properly;
- iii) Lack of knowledge by guest house owners or attendants in filling in the forms
- iv) Editing; - Supervisors did not do edit as required;
- v) Some enumerators did not follow the enumeration procedures; and
- vi) In the final output it has been difficult to identify the different groups of populations because of lack of identification codes.

10.12.5 Recommendations

- i) To avoid memory lapse, enumeration period should be reduced from the current 10 days;
- ii) For economic activity questions there is a need of revisiting them and if possible this information should be collected in the labour force survey otherwise the questions should be reduced to two questions that is current and usual economic activity;
- iii) On disability, these questions should be revisited in close collaboration with NGOs dealing with disability i.e. CCBRT, etc,. Basic questions should be included and detailed information should be collected separately (carrying out a survey of its own);
- iv) Concerning confidentiality, IEC should pay adequate attention to this issue;
- v) About the calendar of events: the permanent Central Census Office should make a follow up on updating the calendar of events in the respective regions and districts;
- vi) Recruitment and training of enumerators and supervisors; instructions or procedures should be adhered to;
- vii) Maximum number of trainees per class should be 45 persons;
- viii) Training at level III should be conducted at the District Headquarters when a comfortable and cost effective training venue is not available at division level;
- ix) Time allocated for practical exercises should be observed;
- x) Instruction manuals and other materials should be delivered at the training venue well in advance;
- xi) There should be at least two trainers per class;
- xii) All reserve enumerators should be trained as senior enumerators;
- xiii) RCCs/RSOs and DCEOs should attend training and administrative work assigned to them should be planned in advance;
- xiv) There should be budget allocation for police escort;

- xv) Enumerators should educate Guest House owners/attendants on the use of forms during the familiarization time;
- xvi) Delineation of EAs should consider geographical distribution of population (i.e. scattered population);
- xvii) Delineation of EAs should be done close to the census date;
- xviii) Structure counting method of delineating EAs should be discouraged;
- xix) Population estimates should range between 300-500 in both urban and rural EAs;
- xx) The role of the supervisors should be revisited during preparations for the next census;
- xxi) Trainers from CCO, RCCs/RSOs and DCEOs should make sure that enumerators strictly follow the enumeration procedures;
- xxii) Definitions of head of household as well as “household” itself should be revisited; and
- xxiii) Assign a code for each special population group (i.e. nomadic population, boarding schools etc.).

CHAPTER 11

DATA PROCESSING

11.1 Introduction

Due to space constraint at the National Bureau of Statistics and the Central Census Office, data processing of the 2002 Population and Housing Census was carried out at the National Council for Technical Education (NACTE) compound. The Government facilitated the acquisition of the site and renovation of two warehouses. It was important to construct two structures namely: the data processing centre and the container shed, in order for the site to be ready to receive and process the questionnaires. Although the generator house was provided and plans to install a generator were made, due to very late delivery the intended generator was never installed.

11.2 Recruitment and Training

11.2.1 Recruitment

Two types of personnel were charged with the task of processing the 2002 Population and Housing Census: permanent and temporary staff. Permanent staff were recruited from the National Bureau of Statistics, Tanzania Mainland and from the Office of the Chief Government Statistician, Tanzania Zanzibar. Some of the permanent staff were seconded from other Government institutions, namely, the President's Office, Planning and Privatisation; Eastern Africa Statistical Training Centre; and the National Examinations Council of Tanzania. Temporary staff members were recruited from the open market by advertising in the various local media.

The selection criterion was based on **oral and practical interviews on use of personal computers** and thereafter the best ones were recruited. This strategy was necessary due to the fact that the time allocated for data capture and processing of results was limited; the time allocated for training did not permit basic computer course rather it was allocated for the computer specific data capture application training; and the census output was required to be ready at the shortest possible time. The results of the recruitment were to have a team that would work around the clock in three shifts as such individual discipline was critical for the whole exercise. The following is the summary of the recruitment.

Table 11.1: Number of Data Processing Staff

SNO:	SECTION	SHIFT			TOTAL
		A	B	C	
1.	Supervisors	3	3	3	9
2.	Network Administrator	1	1	1	3
2.	Database Administrator	1	1	1	3
3.	Scanner Technician	1	1	1	3
4.	Scanner Support Team	3	4	3	10
5.	Data Entry Clerks	3	3	3	9
6.	Control Clerks	2	2	2	6
7.	Computer Data Editors	40	40	40	120
8.	Scanner Operators	33	33	33	99
9.	Casual Labourers	10	10	11	31
10.	Cleaners	3	2	2	7
	Total	100	100	100	300

11.2.2 Training

From past experience, and in particular from the processing of the 1988 Population and Housing Census whereby use of the Census and Surveys Processing package developed and maintained by the International Programs Center of the US Bureau of Census was made, the same package was adopted again. However, there was a need to update the programmers on new features and enhancements of the same. One permanent staff attended a four week workshop at the center that was conducted just three months before the enumeration period. The staff member had also an opportunity to attend a two week work/study session at the centre where support from the Bureaus' staff was obtained to start setting up the data entry programs, just in case manual data entry was adopted. This time was also used to develop the computer editing programs and tabulation programs which were based on the United Nations standards.

Another capacity building training programme for three permanent staff on the use and maintenance of scanners was carried out at Milton Keynes, England for a period of two weeks. It was found necessary to familiarize the staff with the new technology so that they could be of help to others during the actual exercise. This training also enabled CCO staff members to develop ownership of the system rather than depending totally on the supplier of the technology.

A one week workshop for ten (10) selected supervisors was carried out in advance of the general training for the rest of the temporary staff. This was done in order to increase the number of supervisors due to the fact that permanent staff were few and sections which needed supervision were many. This team was later given supervisory responsibilities over various sections and the permanent staff became overall supervisors.

A two week crash program was carried out for temporary staff at the Data Processing Center. This training was mainly based on the familiarization of the questionnaires, the process involved in the data capture and flow of the work at the site. During the last three days before the start of scanning, a dress rehearsal was conducted for all shifts by practical testing of all subsystems with questionnaires flowing from one subsystem to the other and repeating as many times as necessary in order to build confidence of the staff.

11.3 Receipt of Questionnaires from the Field and Storage

The receipt of questionnaires began with those from Ilala and Kinondoni Districts on September 16th 2002. During the receipt period, the Data processing Center was receiving questionnaires from one, two, or three regions in a day. The peak day was on September 28, 2002 when the centre received questionnaires from five regions. The last region to submit its questionnaires was Tabora, and that was on October 8, 2002, seven days before scanning was scheduled to begin.

Most regions followed CCO instructions for packing questionnaires for each Enumeration Area (EA) by starting with unused questionnaires, followed by destroyed questionnaires and finally used ones with the types of questionnaires kept apart by separators. The EA boxes were then labelled on the outside with the respective identification names and codes. A group of six EA boxes were packed in a bigger box with codes of the content EAs on each.

Activities that were being carried out during the receipt of questionnaires were:

- i) Physical verification of EAs from the regions against the inventory that was developed by the cartographic unit;

- ii) Removing the unused and destroyed questionnaires from the EA boxes;
- iii) Resizing, re-taping and re-labelling the EA boxes;
- iv) Arranging the EA boxes serially by region, district, ward and Enumeration Area on the racks that were installed in the two renovated warehouses; and
- v) Sorting out cartographic materials and control forms as well as all unused stationery that were delivered together with the questionnaires from the regions.

11.4 Scanning of Questionnaires and Archiving

11.4.1 Introduction

In general, questionnaire handling in the field was good as care was taken to ensure that they were kept clean and tidy. Shading was also so good that even the scanning technology suppliers remarked that they had not seen forms of the same nature anywhere. There was only one exception out of over 55,200 Enumeration Areas (EA) where an EA was entered manually after failing to be scanned. The questionnaires in this EA from Pwani Region seem to have come into contact with water.

11.4.2 Equipment Used

Data Capture was done using eleven (11) CD 800 series scanners under Optical Mark Reader Technology (OMR) attached to COMPAQ PCs running under Windows XP professional operating system with flat screens. An APC Uninterruptible Power Supply unit was attached to each set of equipment. Although 12 scanners were purchased for the purpose, one was damaged in transit from UK to Dar es Salaam. These sets of equipment were connected in a Local Area Network to a dual processor server running under windows 2000 operating system.

11.4.3 Software Used

Development of the software used to scan the census forms was done in collaboration between the permanent staff of the Data Processing Unit in the Central Census Office and Data & Research Services (DRS) of the United Kingdom. DRS were the technology suppliers who developed the scanning edit specifications as well as several verification procedures which were tested at DRS, UK and Mikochoeni Data Processing site in Dar es Salaam. This helped build confidence that the technology was manageable after having an opportunity to see the conditions of questionnaires that were being scanned at DRS. The scanning software was developed in Delphi programming language.

A separate Batch Registration System was developed in Microsoft Access to register and produce batch headers, in specific Enumeration Areas.

11.4.4 Stages Involved in Scanning

The following were a few but necessary activities that had to be carried out just before the scanning of the questionnaires:

- i) Counting the number of used forms in an EA, splitting the long questionnaires and writing the count and the type of form on top of the EA box. This was necessary to facilitate checking of the number of forms during the scanning process;

- ii) Registering the EA received from the field and producing two batch headers for use by the scanning section to label the accepted and rejected forms as well as preparing envelopes that were used to store rejected forms; and
- iii) Registering the batches ready for scanning.

Scanning of census forms began on October 15, 2002 with three shifts in operation for an average of eight (8) hours each.

During the scanning session, questionnaires which had been accepted by the scanner were returned to their original boxes and sent back to the warehouse. Few rejected ones were sent to the data validation section.

In the validation section, the rejected forms were recalled from the system using barcodes and handheld scanners and the necessary corrections were done. The rejected forms which were kept in envelopes were later sent back to warehouses and put in their respective EA boxes.

11.4.6 Completion

The Scanning exercise was completed on November 9, 2002 after 26 days that is a scanning average of a region a day. Since questionnaires from all regions were on site before starting, management at the Data Processing Center decided to follow the ascending order of regional codes to scan forms and easily monitor progress. Rescanning of rejected forms was conducted in parallel with the main scanning exercise and was completed five days later.

11.5 Comparison with Manual Counts

During the scanning process comparison of scanning count that had undergone basic editing of the sex variable was done with that from the field which was derived manually after enumeration. The outcome of the comparison was that there was a very small difference between the respective counts. For more details see Appendix 11.1.

11.6 Data Cleaning and Preparation of the General Report

After successful completion of scanning, data processing activities continued with the first activity which was to enable the production of the General Report **that had the numbers of population counts by sex for use by planners.**

The cleaning of scanned data images began on November 15, 2002. During that exercise, the following set of activities were carried out:

- i) Export of data files by region. This exercise was necessary to convert questionnaire scanned images into ASCII format files as per format that was developed ready for use by the application package of Census and Surveys Processing (CSPPro);
- ii) Resolving mismatch of identification blocks by subjecting the data through a basic program written using CONCOR package and identifying the offending records by barcode;
- iii) Creating regional backups of the exported and aligned data;
- iv) Merging of the regional files to create one master file for the whole country;
- v) Development of a basic program to edit the data and distribute the same by sex in order to prepare the General Report;

- vi) Development and production of the basic tables using the CENTS package that segregated the data by region, district and ward/shehia; and
- vii) Saving the above output in text formats and later editing the same in Excel, making them ready for use.

11.7 Computer Editing

The main computer editing began after the preparation of the General Report that enabled the announcement, by the President of United Republic of Tanzania, of the basic counts of population on the 2003 new year's eve.

There were two types of edit specifications that were developed. One type was based on United Nations Guidelines that points out how each missing value should be handled by looking through other variables in the questionnaire. At this stage subject specialists/users developed the other set of edit specifications. In this set all missing values were supposed to be assigned the code of 9 meaning "not stated". It was later agreed that all types of edit specifications be utilized and later the subject matter specialists/users will decide which set of results will be useful to them. Hence it was necessary to have this part of processing split into two phases whereby the first would deal with the structure of the collected data and the next phase would carter for content editing.

11.7.1 Structural editing

The main objectives of the first phase of structural editing were to work on the following areas:

- i) General ordering of hierarchy, looking for duplicates and gaps;
- ii) Relationship between total counts on the housing record and sum of population records total, and by sex. Methods of correcting the problems, including determination of the number of entries to trigger a person;
- iii) Problem of extra housing records for continuation forms;
- iv) Problem of housing records for collective households;
- v) Problem of non-blanks for short forms, collective households and whether these were to be deleted or to be given a second look; and
- vi) Problem of merged households that created the problem of extra heads of households.

In order to accomplish the above listed objectives, several small programs were written using the CONCOR editing package. The main purpose of the said programs were:

- i) To identify and eliminate blank questionnaires. There were two types of such questionnaires: One type was of forms, which did not have any identification block filled in. The second type was of forms that had the identification block filled in but no housing or person records. There was an opinion that the main cause of such forms being found in the enumeration area was that of enumerators mixing blank and filled in forms as well as filling in many forms with the identification block in advance before reaching the house to be enumerated and forgetting to remove them from the lot when they had not been utilized;
- ii) To identify and eliminate the "ghost" records. These were determined by ensuring that each person had at least the first basic variables of Relationship, Sex and Age filled in. These were found to be crucial in accepting one as a person in the database. As a result after this edit the population count reported in the General Report decreased by 0.36 percent;

- iii) To certify that each private household had a head of household. This person had to have a Relationship code filled in as 1. While this certification was going on, five sets of cases were identified:
- a) **A case when there was no head.** This case was treated by assigning the first person listed in the house as the head and other members of that household retaining their reported relationships;
 - b) **A case with only one head.** This case was accepted as a valid private household;
 - c) **A case with only one head but under age.** This case was resolved by assigning the young head as child and locating the oldest person in the house who was related to the young as head, that is with relationship code other than 7 that was assigned to non-relative to replace the young head. Since some of the young heads were as old as zero years it was decided that the cut –off age for a child to be head of household should be 5 years.
 - d) **A case with more than one head.** This case was caused by two main reasons namely miss-shades on the identification block up to the last identification field of form number; and the miss-shade on the relationship code. A split was done where necessary. Duplicate households were determined by first searching for extra head of households. Where it was found, another check was done to determine whether it was a private or collective household. All collective households were not supposed to have heads.

Once it was determined that they were private, yet another check was done to find whether there was more than one barcode and if not, that house was not split. If extra heads and extra barcodes were found, an investigation was done to a person under serial number 7 for long forms and serial number eleven for short forms. The aim was to determine whether it was a continuation form with age of the head looked at and the respective relationship if it is that of head. For cases where there was no continuation form, the house was split and the first part of the house retained the same household number with the rest being assigned an alpha on third position ready for proper allocation of numeric household number.

Used household numbers were saved in an array for each EA and those unused were given to the ones with alphas once a match on an EA was found; and

- e) **A case of collective households having heads.** Collective households include fishing camps, hospitals, schools, hotels, guest houses, migratory populations and vagrants. In actual fact, most of these people are not related in any way hence it was not necessary to assign heads of households in such houses. It was finally agreed to have the relationship code of 7, reserved for non-related people assigned to all those identified to have the relationship code of 1 that was reserved for head of household in private households;
- iv) To certify that if there is a spouse in the house, that is a person assigned a relationship code of 2 is not under age, it was decided to have a cut-off age of 10 years for spouses and those below the cut-off age were changed to children of the head of household by assigning them a relationship code of 3;
- v) To ensure that in a household where there is no head, there is no spouse as well. If a spouse is found in that house, the relationship code for that person is changed to 6 implying that the person is changed to another relative;

- vi) To ensure that in case a house had more than one spouse, all spouses, however many, were checked individually for their age. All were not to be under 10 years;
- vii) To ensure that distinction between private and collective households was clear. This implied that we had to ensure that all Enumeration Areas and household numbers for these groups of households were known; and that only checks relevant to private households were carried out on such households. Generally, collective households were all those with the following identifications:
 - a) **Enumeration Areas from number 501 to 699** were mainly used to identify people who were resident in the Kagera Region refugee camps; number **788** was used to identify vagrants and those who were travellers on the census night; from number **801 to 899** were used to identify migratory population and fishing camps; and from number **901 to 999** were used to identify schools, hospitals, etc.; and
 - b) **Household Numbers from 901 to 999**. It was earlier expected that the collective household numbers would be in the range of **951 to 999** but the reality from the field was that the range had changed from the expected to 901 to 999. There was an opinion that, either the enumerators confused these numbers with the enumeration area range of 901 to 999; or the allocated range of 951 to 999 was not enough since with this range it was possible to assign 49 households only. It should also be borne in mind that some Enumeration Areas were big creating a possibility of having more than 49 collective households.

It should be noted that, in some areas where the above enumeration areas were demarcated, a few private households were among households enumerated in such enumeration areas. Such households were allocated household numbers starting from 001 as for other private households.

11.7.2 Content Editing

As explained earlier, content editing was done following the United Nations Guidelines of determining missing values by investigating the rest of the data files in the respective record or records in a household. It was necessary to determine needed records, and to write programs to add them on to the CONCOR editing program. Mainly, first it was necessary to find out whether for each field valid values as assigned in the questionnaire were reported, that is range checks. If they were missing, determination of the values was done by examining other variables. Secondly, consistency among reported values was examined and if necessary the recommended guidelines were applied to resolve the inconsistencies.

11.8 Tabulation of Results

The development of the tabulation plan started in early 2001. This tabulation plan was discussed by the stakeholders and their suggestions were accommodated wherever possible. Since the demands for data are many and varied it was agreed that there should be two types of tables. Group A tables were to contain basic data and hence were termed as priority tables. Group B tables were to contain data of lower priority. Group A tables were ready by December, 2002. Group B tables were at an advanced stage of preparation then.

11.9 Creation of Database

Steps had already been taken by the National Bureau of Statistics to establish a national database as way back as early 2001. These steps included:

- i) Dialogue with other institutions in the country which are involved in data collection with the view to harmonizing data collection procedures and finally sharing electronically the data already collected;
- ii) Establishment of Tanzania Social and Economic Database (TSED); and
- iii) Negotiations with JICA in order to get assistance in establishing Integrated Database Management System for all the data, including census data, that is available at the NBS.

11.10 Technical Assistance

In preparation for scanning the questionnaires, the data processing unit obtained technical assistance from Mr. Mwale of the Examinations Council of Zambia and from DRS of the UK. In carrying out the processing of the 2002 Population and Housing Census data, Technical Assistance was obtained from the International Programs Centre (IPC) of the US Bureau of Census. The assistance began when one programmer attended a four week Workshop on Processing of Censuses and Surveys at the Centre and later a work-study session for two weeks. The knowledge gained assisted the programmer in developing most of the editing and tabulation programs. After data capture, a one-week mission by an IPC member of staff was conducted. The outcome of that visit was a development of a fixed programme of work to accomplish the data processing activities in the shortest possible timeframe. A relay plan as outlined below, was put in place and implemented. A three week mission on structure edits to sort out structural issues in the data; development of the remaining table sets; and lastly, a final mission to finalise the tabulation programs as well as editing programs. During the last mission an investigation was done on the correctness of the data by deriving various demographic indices. It should be noted that together with the above mentioned technical assistance, nationals carried out the entire data processing exercise.

11.11 Problems Faced and Recommendations for Future Censuses

11.11.1 Problems

- i) Problems that were faced while receiving the questionnaires from the field were:
 - a) A number of big boxes did not have labels that showed the contents;
 - b) Labels of other big boxes did not match with the content labels;
 - c) Some EA numbers did not match with inventory that existed;
 - d) Mixing of EAs from various wards in one big box thus creating delay in sorting them out;
 - e) Missing expected EAs and getting others in duplicates compared to the inventory;
 - f) Some of the enumerators did not follow the packing instructions by interchanging the layers for used and unused forms;
 - g) Duplicate EAs due to poor labelling; and
 - h) Missing and poorly filled in control forms that were hardly useable.
- ii) The following were major technical problems which the data processing unit faced during scanning:
 - a) There was no standby generator for use in case of electricity failure. However, temporary staff were trained in managing all subsystems hence in a case of power failure, they were assigned to do other activities;

- b) System failures i.e. the system became very slow or sometimes hanged up completely when more than 50 computers were operating simultaneously. In such cases the staff were reduced and assigned other duties;
 - c) Fear of virus attacks due to late delivery of the server anti virus software. In order to prevent this from happening, all diskette drives were disabled;
 - d) Mixing of used and unused questionnaires and that of long and short questionnaires in an EA box. This problem was experienced in a few EAs in each region. Since scanners were programmed to accept one type of questionnaire at a time, the data processing site Management Team decided to transfer all filled in short questionnaires into long ones whenever such problems were encountered; and
 - e) File corruption due to power fluctuations that could not be prevented due to non-installation of UPSs before scanning operations began. Missed batches due to this effect were rescanned.
- iii) Problems which the Data Processing Unit faced during the production of the General Report:
The basic problem faced during the production of the General Report was how to resolve mis-shaded identification codes causing some data to appear as if they were from another region, district, ward or enumeration area while that wasn't the case. Since problems of this nature were confined to each region at a time it was possible to detect the cause of the problem and take corrective action. An example of such a case was as follows; say region **code 16** which was meant for **Kigoma Region** was shaded as **code 06** which was allocated to **Pwani Region**. A re-export exercise was then necessary to effect the necessary correction.
- iv) Problems Faced During Data Processing:
Some problems which were faced during this stage of data processing delayed the completion of the edit programs as scheduled. Such problems were as follows:
- a) Treatment of duplicate records. During training for enumerators and supervisors it was emphasized that, if thorough editing was to be done in the field then special attention should be paid to the identification block. The reality showed that this was not the case and the role of supervisors was not played well. Most of the duplicate cases in the identification block would have been reduced if supervisors had done their job well;
 - b) It was not made clear to all levels of supervision that collective households had a changed range of codes from the previously allocated one. It was after checking the actual data during the structure edits that this fact became known; and
 - c) The Data processing Teams' view was that supervision during enumeration was not done well. Considering the various levels of supervision that existed, a number of problems faced during data processing like mis-shades, un-shaded responses etc. could have been corrected in the field.

11.11.2 Recommendations

A data processing exercise is a major undertaking that needs commitment and strong support from all those involved. A series of lessons that were learnt are narrated below. We expect the managers of the next census to make use of the same to assist them in getting the results out much earlier.

i) **Preparation of the Data Processing Site**

Good plans to have the site ready for the task ahead were there. However, implementation was not on time. Such necessary items as a generator, computer tables and office furniture, curtains, UPS, anti virus software, fire extinguishers etc. were not put in place on time. Some items like the generator was not delivered at all while others were received well after the data capture exercise was complete. The series of problems that were being experienced would not have occurred if the implementation phase was executed as planned.

ii) **Recruitment and Training**

- a) It is recommended that the recruitment process be as transparent as possible to avoid complaints;
- b) It is recommended that both oral and practical interviews be used;
- c) Experience showed that those workers recruited from other working places were more disciplined than those who were direct from school. Therefore it is recommended that one of the qualifications for data processing recruitment should include past working experience; and
- d) It is recommended that an optimum time and positioning of theoretical and practical training should not be missed out. Too early or too late training before the actual work should be avoided. This must be followed by a dress rehearsal for all processes as a lot of mishaps can be corrected before live runs.

iii) **Supervision in the field, questionnaire handling and packing**

- a) It is recommended that the various levels of supervision should be revisited during the next census;
- b) It is recommended that used questionnaires should be kept separate from those unused and those destroyed should be completely cancelled across; and
- c) It is recommended that used and unused questionnaires should be counted by enumerators and the count written on top of the Enumeration Area box. The boxes should also be identified as long questionnaire (LQ) or short questionnaire (SQ) before handing the boxes over to the supervisors.

iv) **Employing Past and Other Countries' Experiences**

It will save a great deal of time and money if enough research on similar projects from other countries is done well in advance and results put to use. Experiences gained and ways used to solve them helps the project supervisors not to re-invent the wheel and wherever possible to leapfrog. During the 2002 Population and Housing Census a lot of experience was tapped and employed from other countries by means of correspondence and personal contacts with people who worked on similar projects in Ghana, Kenya, Zambia and South Africa. The gained knowledge shows that the following points need to be taken into consideration:

- a) Enough questionnaires and of the right quality should be printed once a decision to use scanning technology is reached;
- b) A Standby generator must be in place before data processing begins, because constant power supply is not guaranteed and thus this can cause considerable delay to the whole process;

- c) It is advisable to have a single supplier for all systems. This package should also include technical support and in-house capacity building. Depending fully on outside technical support creates another danger of knowledge gap and causes lack of continuity as well as creates confusion and much delay in some cases;
 - d) A smallest unit of batch once decided for processing should not be split;
 - e) Barcodes that are printed on the forms should be captured and carried on board throughout the data processing exercise;
 - f) The earmarked Data Processing Team should work hand in hand with the technology suppliers as ownership and responsibility of the system can only be achieved in this manner;
 - g) Data Processing Unit should be established well in advance and work hand in hand with the rest of the Census Project Team starting from the stage of questionnaire design;
 - h) The established management team of the Census Project should not be changed until the project is complete. This will ensure continuity in carrying out various activities of the project; and
 - i) The Data Processing Team must be ahead in testing every piece of functionality to identify anticipated problems that might arise in order to be able to take necessary actions in time.
- v) **Data Archiving**
- a) The whole exercise will be meaningless if no data set is archived for retrieval during disaster. In this regard, it is recommended that all data sets be backed up and stored in fireproof data safes at separate locations.
 - b) Good progress in the data processing exercise can only be achieved with a spirit of teamwork between various parties, especially between programmers and subject matter specialists. These two groups need to work together right from the beginning and maintain this spirit to the finishing line. A considerable amount of time can be saved if this arrangement is established early.

CHAPTER 12

CENSUS EVALUATION AND QUALITY CONTROL

12.1 Introduction

Evaluation and quality control measures are extremely important throughout any data collection process, i.e. during pre-enumeration, enumeration and post enumeration. If done properly and thoroughly, it can immensely improve the quality of the final product. In doing so therefore, the Central Census Office decided to prepare a document on quality control procedures for 2002 Population and Housing Census. These procedures were used to limit the number of errors during the whole process of the census exercise; obviously the performance at an acceptable level of accuracy was expected. This document is titled '**Evaluation and Quality Control Procedures**'. In the paragraphs below we highlight the main observations with respect to the 2002 Population and Housing Census.

12.2 The Pre-enumeration Stage

At this stage planning was well organized; there were well designed census questionnaires and other related documents (manuals, control forms etc). Also, on census mapping, supervisors assessed the work done by Field Assistants on delineation. In order to increase the quality and the accuracy of the maps, Global Positioning Systems (GPSs) were used.

12.3 Enumeration Stage

Publicity was intensified during the enumeration period through appropriate mass mobilization campaign of the leaders at all levels. Moreover, sensitization and awareness strategy through music, ie. band songs and traditional 'ngomas' were intensified. Production of IEC materials in general met the required standards and intensive mass mobilization of the leaders from the national to 'vitongoji' levels, recruitment of qualified field staff, intensive training at all levels and data collection were done well and according to the required standard.

12.3.1 Development of a Database-Sampling Frame

As with previous censuses, two types of questionnaires were used, namely a short questionnaire for all households and a long questionnaire for a sample of households. Selection of sampled Enumeration Areas started after cartographic work was completed. The Statistical Methods and Standards Department of the National Bureau of Statistics together with the Evaluation and Quality Control Unit undertook this exercise.

12.4 Post Enumeration Stage

At this stage, handling of questionnaires to and from the field, good storage facilities, editing and coding specifications, data entry programs, tabulation and report writing were largely carried out according to the procedures laid out.

12.4.1 The Post Enumeration Survey (PES)

The PES is one of the activities of the census process which is used to evaluate census coverage by providing necessary information to accurately determine type, size and direction of errors. This was the first PES in Tanzania.

The PES was carried out for the following main reasons:

- i) To facilitate adjustment of some demographic indices, if and when necessary;
- ii) To evaluate census maps;
- iii) To ascertain content and coverage errors;
- iv) To provide credibility to census organizers; and
- v) To provide assurance to stakeholders on the census coverage.

12.5 Problems Faced and Recommendations for Future Censuses:

12.5.1 Problems

- i) Difficulties in identification of EA boundaries in some cases especially in urban areas;
- ii) Some of the IEC materials were of poor quality for example T-shirts, special bags, etc.;
- iii) Publicity campaigns during PES were inadequate; and
- iv) Late distribution of census materials. These include control forms, instruction manuals, questionnaires, etc.

12.5.2 Recommendations

All the quality control measures were implemented according to the procedures and the evaluation of the 2002 Population and Housing Census through PES confirms this.

- i) Evaluation and Quality Control Procedures are important in any census or survey since statistical inquiries are subject to human error that may affect accuracy of the data;
- ii) The following are the recommendations for future censuses;
 - a) Number of trainees per class should not exceed 45 persons;
 - b) Training equipment should reach training venues before training starts;
 - c) All Regional and District Officials should participate fully in training;
 - d) Training on how to use control forms is highly recommended; therefore training on how to use them should be stressed at all levels;
 - e) Census materials should follow the specifications provided;
 - f) There should be training classes for supervisors only in addition to the general training;
 - g) In order to increase map accuracy, Global Positioning System (GPS) must be used during census mapping;
 - h) Census materials must reach all places in time;
 - i) Post Enumeration Survey should be conducted for both pilot and main census;
 - j) During training for both the census and PES emphasis should be put on identification of EAs boundaries;
 - k) There is a need to merge the publicity campaign of the census with that of the PES exercise; and
 - l) In future, the budget for PES should be part and parcel of the census budget.

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**WARAKA WA SERIKALI NA. 2 KUHUSU UHAMASISHAJI NA MALIPO YA
MAKARANI WA SENA, WASIMAMIZI WAO NA VIONGOZI WA VITONGOJI
WAKATI WA SENA YA WATU NA MAKAZI YA AGOSTI, 2002**

1.0 Utangulizi:

Kama sote tunavyojua, Sena ya Watu na Makazi itafanyika kuanzia Agosti 25 hadi Septemba 4, 2002. Katika hatua hii ya kuendesha sena, watekelezaji wakubwa watakuwa makarani wa sena na wasimamizi wao. Aidha, makarani wa sena watahitaji kutembeza na kutambulishwa kwa wananchi katika maeneo ya kuhesabia watu.

2.0 Malipo kwa Makarani wa Sena na Wasimamizi Wao:

Malipo kwa makarani wa sena watakaotumia dodoso fupi (Junior Enumerators) na watakaotumia dodoso refu (Senior Enumerators) pamoja na wasimamizi wao yatakuwa kwa utaratibu wa kifurushi (package) ambayo yatalipwa kwa mikupuo mitatu. Malipo hayo maalum yanazingatia kipindi chote cha kushughulikia masuala ya sena, yaani tangu siku ya kwanza ya mafunzo hadi siku ya mwisho ya kurudisha dodoso lililokamilika na kukubalika.

Malipo hayo yatakuwa kama ifuatavyo:

- a) Makarani wa dodoso fupi watalipwa Tsh. 110,000/=.
- b) Makarani wa dodoso refu watalipwa Tsh. 160,000/=.
- c) Wasimamizi watalipwa Tsh. 170,000/=.

Malipo hayo maalum yatalipwa kwa mikupuo mitatu kama ifuatavyo:

				Shilingi
Mkupuo	Shughuli	Makarani wa Dodoso Fupi	Makarani wa Dodoso Refu	Wasimamizi wa Makarani
1.	Kuanza mafunzo	40,000	60,000	60,000
2.	Kumaliza mafunzo	20,000	40,000	40,000
3.	Kurudisha madodoso	50,000	60,000	70,000
Jumla:		110,000	160,000	170,000

Aidha, makarani wa sena na wasimamizi wao watastahili malipo yafuatayo:

- a) Nauli ya kwenda kwenye mafunzo na kurudi kwa gharama zinazokubalika.
- b) Wakati wa mafunzo, posho ya chai ya Tsh. 500 kwa siku kwa muda wa siku 6 kwa karani mwenye dodoso fupi na kwa muda wa siku 10 kwa karani mwenye dodoso refu na kwa msimamizi.
- c) Wakati wa kuhesabu watu, posho ya usafiri ya Tsh. 500 kwa siku kwa muda wa siku sita kwa karani mwenye dodoso fupi na kwa muda wa siku 10 kwa karani mwenye dodoso refu na kwa msimamizi.

3.0 Posho ya Viongozi wa Vitongoji Watakao- waongoza na Kuwatambulisha Makarani kwa Wananchi:

Vile vile serikali imeamua kuwa viongozi wa vitongoji watakaowatembeza na kuwatambulisha kwa wananchi makarani wa sena kwenye maeneo ya kuhesabia watu pia watalipwa Tsh. 500 kwa siku.

4.0 Uhamasishaji:

Aidha, napenda kusesitiza maagizo yangu ya awali kuhusu umuhimu wa viongozi wa ngazi zote kuhamasisha wananchi ili zoezi la sensa lifanikiwe kwa ufanisi mkubwa kama ifuatavyo:

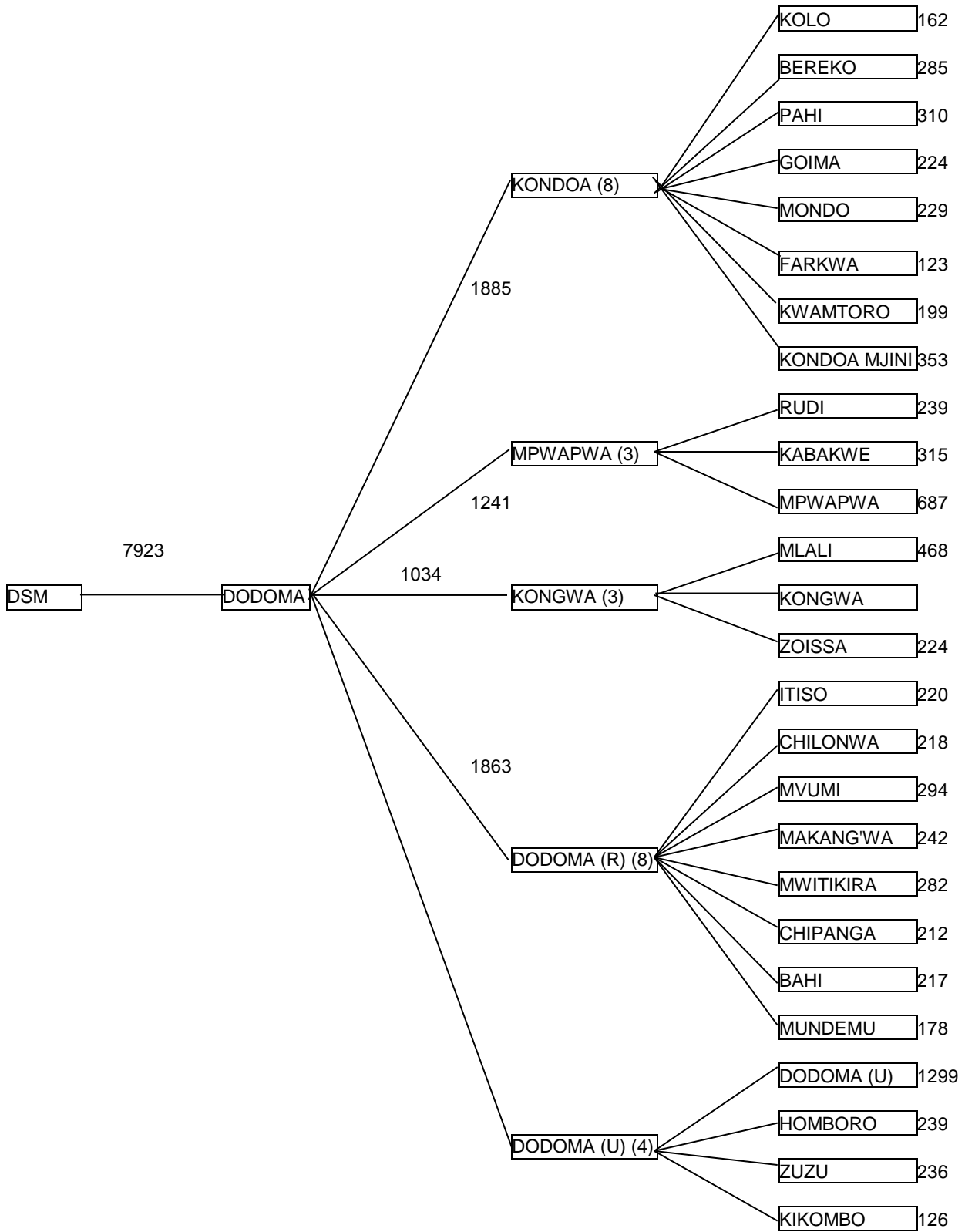
- i) Wakuu wa Mikoa wahakikishe wamejadili vya kutosha na Wakuu wa Wilaya maandalizi na matatizo yaliyopo ambayo yanaweza kuathiri utekelezaji wa sensa katika Wilaya zao.
- ii) Hali kadhalika, Wakuu wa Wilaya wakutane na Makatibu Tarafa, na Makatibu Tarafa wakutane na Makatibu Watendaji Kata, na Makatibu Watendaji Kata na Masheha wakutane na viongozi wa ngazi ya chini, ili wawaelekeze jinsi ya kuwaelimisha na kuwahamasisha wananchi juu ya sensa ya watu na makazi.
- iii) Aidha, kuanzia sasa kila Kiongozi aweke kipaumbele kwenye kufanikisha zoezi la sensa.

Frederick T. Sumaye

Waziri Mkuu

8 Agosti, 2002

Distribution of Census Materials in Dodoma Region: Quantity in Kgs.



The 2002 Population Census Questionnaire

Appendix 6.1

List of the 2002 Population and Housing Census Control Forms

S/No.	Form No.	Title of the Form
1	PHCF 11A	Dispatch of Census Materials from CCO to DCEO
2	PHCF 11B1	Dispatch of Census Materials from DCEO to CCO
3	PHCF 11B2	DCEOs Allocation of Supervisors and Enumerators to EA by Ward/Shehia
4	PHCF 12B	DCEOs Checklist for Distribution of Enumeration Materials to Supervisors
5	PHCF 13A	Supervisor's Checklist for Distribution of Enumeration Materials to Enumerators
6	PHCF 13B	Supervisor's Checklist for Receipt of Materials from Enumerators
7	PHCF 14	Supervisor's Sheet for Household in an EA – English Version
8	PHCF 15A	Summary Sheet for Household in an EA – English Version
8	SWMT 15A	Muhtasari wa Takwimu kwa Kaya na Eneo la Kuhesabia Watu – Kiswahili Version
9	PHCF 16A	EA and Village/Street Summary Sheet
10	PHCF 16B	Village/Street and Ward/Shehia Summary Sheet
11	PHCF 17A	Control Sheet for Movement of Questionnaires from Warehouse to the Data processing Unit
12	PHCF 17B	Control Sheet for Scanning
13	PHCF 17C	Control Sheet for the Validators
14	PHCF 17D	Control Sheet for Movement of Questionnaires from Data Processing Unit to Warehouse

Appendix 8.1

Total Number of EAs, Number of Selected EAs and Number of EAs Utilized Using Long Questionnaire.

Region	District	Total Number of EAs			Number of Selected EAs			Number of Utilized EAs		
		Total EAs	Rural	Urban	Rural	Urban	Total	Rural	Urban	Total
01 Dodoma	1. Kondoa	530	478	52	50	50	100	50	50	100
	2. Mpwapwa	335	286	49	40	50	90	39	49	88
	3. Kongwa	276	240	36	40	36	76	40	36	76
	4. Dodoma (R)	534	512	22	50	22	72	50	22	72
	5. Dodoma (U)	538	210	328	40	50	90	41	49	90
	TOTAL	2213	1726	487	220	208	428	220	206	426
02 Arusha	1. Monduli	338	278	60	40	50	90	40	48	88
	2. Arumeru	730	544	186	50	50	100	50	50	100
	3. Arusha	629	19	610	19	50	69	15	50	65
	4. Karatu	268	248	20	40	20	60	40	20	60
	5. Ngorongoro	190	174	16	30	16	46	30	16	46
	TOTAL	2155	1263	892	179	186	365	175	184	359
03 Kilimanjaro	1. Rombo	359	327	32	40	32	72	39	32	71
	2. Mwanga	201	134	67	30	50	80	29	50	79
	3. Same	433	261	172	40	50	90	41	48	89
	4. Moshi (R)	521	501	20	50	20	70	50	20	70
	5. Hai	477	406	71	50	50	100	52	48	100
	6. Moshi (U)	318	0	318	0	50	50	0	50	50
TOTAL	2309	1629	680	210	252	462	211	248	459	
04 Tanga	1. Lushoto	537	501	36	50	35	85	49	35	84
	2. Korogwe	387	273	114	40	50	90	40	48	88
	3. Muheza	377	302	75	40	50	90	40	50	90
	4. Tanga	481	78	403	30	50	80	29	50	79
	5. Pangani	69	53	16	30	16	46	30	16	46
	6. Handeni	287	245	42	40	42	82	42	42	84
	7. Kilindi	30	30	0	30	0	30	29	0	29
	TOTAL	2168	1482	686	260	243	503	259	241	500
05 Morogoro	1. Kilosa	816	530	286	50	50	100	50	49	99
	2. Morogoro	390	370	20	40	20	60	40	20	60
	3. Kilombero	503	268	235	40	50	90	40	50	90
	4. Ulanga	289	217	72	40	50	90	43	48	91
	5. Morogoro (U)	559	31	528	10	50	60	12	47	59
	6. Mvomero	405	337	68	40	50	90	40	50	90
TOTAL	2962	1753	1209	220	270	490	225	264	489	
06 Pwani	1. Bagamoyo	306	209	97	40	50	90	40	48	88
	2. Kibaha	244	96	148	30	50	80	29	51	80
	3. Kisarawe	156	121	35	30	35	65	30	35	65
	4. Mkuranga	283	233	50	40	49	89	40	49	89
	5. Rufiji	350	227	123	40	50	90	41	49	90
	6. Mafia	60	43	17	31	16	47	30	16	46
TOTAL	1399	929	470	211	250	461	210	248	458	
07 D'Salaam	1. Kinondoni	2918	57	2861	30	70	100	15	85	100
	2. Ilala	1700	56	1644	30	70	100	30	73	103
	3. Temeke	2140	64	2076	30	70	100	31	69	100
	TOTAL	6758	177	6581	90	210	300	76	227	303
08 Lindi	1. Kilwa	292	251	41	40	42	82	41	41	82
	2. Lindi (R)	397	328	69	40	50	90	40	50	90

Region	District	Total Number of EAs			Number of Selected EAs			Number of Utilized EAs		
		Total EAs	Rural	Urban	Rural	Urban	Total	Rural	Urban	Total
	3. Nachingwea	236	180	56	30	50	80	30	44	74
	4. Liwale	121	81	40	30	40	70	30	40	70
	5. Ruangwa	209	158	51	30	48	78	29	46	75
	6. Lindi (U)	89	17	72	17	50	67	16	51	67
	TOTAL	1344	1015	329	187	280	467	186	272	458
09 Mtwara	1. Mtwara (R)	308	272	36	40	37	77	40	36	76
	2. Newala	384	311	73	40	50	90	39	50	89
	3. Masasi	785	542	243	50	50	100	49	50	99
	4. Tandahimba	375	265	110	40	50	90	40	50	90
	5. Mtwara (U)	220	17	203	17	50	67	17	50	67
TOTAL	2072	1407	665	187	237	424	185	236	421	
10 Ruvuma	1. Tunduru	298	243	55	40	50	90	40	50	90
	2. Songea (R)	186	164	22	30	20	50	30	22	52
	3. Mbinga	491	436	55	50	50	100	50	50	100
	4. Songea (U)	263	33	230	30	50	80	31	49	80
	5. Namtumbo	235	207	28	40	29	69	43	27	70
TOTAL	1473	1083	390	190	199	389	194	198	392	
11 Iringa	1. Iringa (R)	370	353	17	40	17	57	37	17	54
	2. Mufindi	389	315	74	40	50	90	39	50	89
	3. Makete	185	169	16	30	16	46	31	16	47
	4. Njombe	671	474	197	50	50	100	48	48	96
	5. Ludewa	188	157	31	30	31	61	30	31	61
	6. Iringa (U)	257	10	247	10	50	60	10	50	60
	7. Kilolo	304	262	42	40	42	82	40	42	82
TOTAL	2364	1740	624	240	256	496	235	254	489	
12 Mbeya	1. Chunya	305	271	34	40	23	63	39	24	63
	2. Mbeya (R)	382	289	93	40	50	90	40	47	87
	3. Kyela	246	193	53	30	50	80	30	50	80
	4. Rungwe	419	374	45	40	45	85	39	45	84
	5. Ileje	151	145	6	30	6	36	30	6	36
	6. Mbozi	649	556	93	50	50	100	50	49	99
	7. Mbarali	307	230	77	40	50	90	39	47	86
	8. Mbeya (U)	588	46	542	30	50	80	31	50	81
TOTAL	3047	2104	943	300	324	624	298	318	616	
13 Singida	1. Iramba	473	411	62	50	50	100	49	50	99
	2. Singida (R)	573	532	41	50	41	91	50	41	91
	3. Manyoni	246	180	66	30	50	80	30	50	80
	4. Singida (U)	208	76	132	30	50	80	30	50	80
TOTAL	1500	1199	301	160	191	351	159	191	350	
14 Tabora	1. Nzega	579	521	58	50	50	100	49	49	98
	2. Igunga	358	311	47	40	48	88	40	47	87
	3. Uyui	267	256	11	40	11	51	40	11	51
	4. Urambo	443	385	58	50	45	95	40	50	90
	5. Sikonge	182	163	19	30	19	49	30	19	49
	6. Tabora (U)	373	94	279	30	50	80	30	54	84
TOTAL	2202	1730	472	240	223	463	229	230	459	
15 Rukwa	1. Mpanda	651	505	146	50	50	100	54	46	100
	2. Sumbawanga (R)	553	504	49	50	49	99	44	49	93
	3. Nkansi	292	218	74	40	50	90	36	50	86
	4. Sumbawanga (U)	233	77	156	30	50	80	29	50	79
TOTAL		1729	1304	425	170	199	369	163	195	358

Region	District	Total Number of EAs			Number of Selected EAs			Number of Utilized EAs		
		Total EAs	Rural	Urban	Rural	Urban	Total	Rural	Urban	Total
16 Kigoma	1.Kibondo	348	313	35	40	35	75	40	35	75
	2.Kasulu	572	500	72	50	50	100	50	50	100
	3.Kigoma (R)	498	444	54	50	50	100	50	52	102
	4.Kigoma (U)	344	16	328	16	50	66	16	51	67
	TOTAL	1762	1273	489	156	185	341	156	188	344
17 Shinyanga	1.Bariadi	822	746	76	50	50	100	48	48	96
	2.Maswa	390	328	62	40	47	87	38	49	87
	3.Shinyanga (R)	345	342	3	40	3	43	40	3	43
	4.Kahama	809	659	150	50	50	100	48	51	99
	5.Bukombe	576	498	78	50	50	100	50	50	100
	6.Meatu	324	309	15	40	15	55	40	15	55
	7.Shinyanga (U)	256	77	179	30	50	80	30	50	80
	8.Kishapu	322	287	35	40	35	75	40	35	75
	TOTAL	3844	3246	598	340	300	640	334	301	635
18 Kagera	1.Karagwe	460	455	5	50	5	55	50	5	55
	2.Bukoba (R)	547	535	12	50	11	61	50	11	61
	3.Muleba	419	402	17	50	12	62	49	12	61
	4. Biharamulo	546	469	77	50	50	100	50	50	100
	5. Ngara	415	408	7	40	7	47	39	7	46
	6. Bukoba (U)	127	20	107	20	50	70	20	50	70
	TOTAL	2514	2289	225	260	135	395	258	135	393
19 Mwanza	1. Ukerewe	332	270	62	40	50	90	40	50	90
	2. Magu	497	413	84	50	50	100	49	50	99
	3. Nyamagana	69	0	69	0	70	70	0	69	69
	4. Kwimba	367	333	34	40	33	73	40	33	73
	5. Sengerema	545	466	79	50	50	100	50	50	100
	6. Geita	845	700	145	50	50	100	55	45	100
	7. Misungwi	318	275	43	40	43	83	40	43	83
	8. Ilemela	426	96	330	30	50	80	23	42	65
	TOTAL	3399	2553	846	300	396	696	297	382	679
20 Mara	1. Tarime	724	535	189	50	50	100	50	50	100
	2. Serengeti	247	208	39	40	46	86	40	39	79
	3. Musoma (R)	408	385	23	40	23	63	39	23	62
	4. Bunda	395	257	138	40	50	90	40	50	90
	5. Musoma (U)	243	4	239	4	50	54	4	50	54
	TOTAL	2017	1389	628	174	219	393	173	212	385
21 Manyara	1. Babati	468	380	88	40	50	90	40	50	90
	2. Hanang	303	254	49	40	49	89	40	49	89
	3. Mbulu	336	299	37	40	38	78	41	37	78
	4. Simanjiro	232	129	103	30	50	80	28	51	79
	5. Kiteto	190	152	38	30	38	68	30	38	68
	TOTAL	1529	1214	315	180	225	405	179	225	404
TOTAL MAINLAND		50760	32505	18255	4988	4474	9462	4955	4422	9377
51 North Unguja	1. North A	197	194	3	30	3	33	30	3	33
	2. North B	112	109	3	30	3	33	30	3	33
	TOTAL	309	303	6	60	6	66	60	6	66
52 South Unguja	1. Central	137	135	2	30	2	32	30	2	32
	2. South	67	58	9	30	9	39	30	9	39
	TOTAL	204	193	11	60	11	71	60	11	71
53 Urban West	1. West	391	155	236	30	50	80	30	50	80
	2. Town	442	0	442	0	70	70	0	70	70
	TOTAL	833	155	678	30	120	150	30	120	150

Region	District	Total Number of EAs			Number of Selected EAs			Number of Utilized EAs		
		Total EAs	Rural	Urban	Rural	Urban	Total	Rural	Urban	Total
54 North Pemba	1. Wete	208	159	49	30	49	79	30	49	79
	2. Micheweni	158	148	10	30	10	40	30	10	40
	TOTAL	366	307	59	60	59	119	60	59	119
55 South Pemba	1. Chake Chake	171	130	41	30	41	71	30	41	71
	2. Mkoani	179	156	23	30	23	53	30	23	53
	TOTAL	350	286	64	60	64	124	60	64	124
TOTAL ZANZIBAR		2062	1244	818	270	260	530	270	260	530
TOTAL TANZANIA		52822	33749	19073	4744	5248	9992	4692	5215	9907

**HUTOBA YA RAIS WA JAMHURI YA MUUNGANO WA TANZANIA,
MHESHIMIWA BENJAMIN WILLIAM MKAPA, KWA WANANCHI,
24 AGOSTI 2002**

Ndugu Wananchi,

Leo nazungumza nanyi mapema kidogo kabla ya kufika mwisho wa mwezi kwa vile nataka nizungumzie Sensa ya Taifa inayoanza kesho alfajiri na kuendelea hadi tarehe 4 Septemba, 2002.

Nimeona nifanye hivyo maana sensa hii ni muhimu sana kwa uongozi wa nchi, na kwa mipango ya maendeleo ya taifa na ya kila mmoja wenu. Lazima sensa ifanyike vizuri, kwa usahihi na kwa wakati. Mmesikia viongozi wengi wakizungumzia jambo hili; na leo ni zamu yangu. Nataka pia msikie kutoka kwangu umuhimu wa ninyi nyote kushiriki, na pia niwatoe hofu na wasiwasi kuhusu sensa.

Lakini kwanza napenda nifafanue kuhusu umuhimu wa usahihi wa takwimu zitakazotokana na sensa hii. Kila mtu, mtu mzima kwa mtoto mdogo, mwanamke kwa mwanamume, mzee kwa kijana, mlemavu kwa asiye na ulemavu, raia na asiye raia, anapaswa kuhesabiwa. Lakini ahesabiwe mara moja tu, si zaidi ya hapo. Njia ya kuhakikisha hivyo ni kuhesabu kila mtu pale alipolala, katika usiku mmoja tu ulioteuliwa kitaifa. Usiku huo ni wa leo kuamkia kesho. Hivyo, hata kama karani wa sensa atafika kwako baada ya kesho, bado taarifa na habari atakazozihitaji kutoka kwako ni zile zinazohusu usiku wa kuamkia kesho; si usiku mwingine wowote. Hivyo kila mkuu wa kaya ajue kuwa ni wajibu wake kuweka kumbukumbu sahihi za wote watakaolala kwenye kaya yake usiku huu wa leo.

Maswali Yatakayoulizwa

Maswali yatakayoulizwa wakati wa sensa yatakuwa na lengo la kupata taarifa zifuatazo: idadi ya watu kwa umri na kwa jinsia, mahali wanapoishi, uraia wao, hali ya ulemavu katika nchi, hali ya uhamaji na uhamiaji, hali ya elimu na hali ya ajira. Taarifa nyingine ni hali ya uzazi, hali ya vifo, na hali ya makazi ikiwa ni pamoja na vifaa vilivyotumika kujengea nyumba, vyanzo vya nishati, vyanzo vya maji yanayotumiwa na wanakaya, aina ya choo inayotumiwa na wanakaya, na kama kaya ina vifaa muhimu kwa maisha.

Msingi wa Kisheria

Ndugu Wananchi,

Sensa hii inafanywa kwa mujibu wa sheria za nchi yetu. Hili nalo ni muhimu liwe wazi. Sensa inafanywa kwa mujibu wa Sheria ya Takwimu, Na. 1 ya 2002. Sheria hiyo inanitaka na kunipa madaraka kutoa Tangazo la Serikali la kuitishwa Sensa ya Taifa ya Watu na Makazi. Nimekwisha kutoa Tangazo hilo. Sheria hiyo pia inamtaka kila mtu ahesabiwe pale alipolala usiku wa kuamkia siku ya sensa. Sheria vilevile inamtaka kila mtu kujibu maswali yote atakayoulizwa kwa ukweli na ukamilifu. Kwa mujibu wa sheria hiyo ni kosa la jinai kwa mtu yeyote kumzuia afisa wa sensa kutimiza wajibu wake, au kutoa majibu ya uongo.

Madhumuni ya Sensa

Ndugu Wananchi,

Taarifa zinazotokana na sensa ya Watu na Makazi zitasaidia Serikali Kuu, Serikali za Mitaa, na washiriki wengine katika maendeleo yetu kufanya yafuatayo:

- Kwanza, kuandaa mipango makini na endelevu ya maendeleo ya kijamii na kiuchumi; na
- Pili, kuwa na takwimu zitakazotumika katika kupima kiwango cha maendeleo kilichofikiwa, na kasi ya maendeleo, na kuandaa miongozo itakayotumika katika kutayarisha mipango ya maendeleo ya watu, kwa kuzingatia umri wao na jinsia zao, kwa siku zijazo.

Sensa itatupatia takwimu sahihi kuhusu hali halisi ya uchumi na ustawi wa jamii, kwa kuangalia mabadiliko tangu sensa ya mwisho mwaka 1988 hadi leo. Tutajua, kwa mfano, ongezeko la watu, na mgawanyiko wao kiumri na kijinsia, na kujua mtawanyiko wao nchini.

Takwimu hizo ni muhimu kwa kila mtu, shirika, taasisi, na Serikali. Idara za Serikali na taasisi zake, mashirika yasiyo ya kiserikali, wawekezaji, wafanyabiashara, watafiti na watu binafsi, na nchi na taasisi wahisani wetu, wote hutumia takwimu za sensa kama msingi wa kuboresha na kupanua shughuli zao. Hivyo bila kuwa na takwimu sahihi wote hawa shughuli zao zitaathirika, na hatimaye kila mmoja wetu ataathirika.

Sensa pia itatoa takwimu muhimu ambazo zitatumika katika uchambuzi wa mabadiliko yaliyopo katika jamii na kuainisha maeneo ambayo yatahitaji kufanyiwa utafiti wa kina zaidi ili kujua chanzo cha hali iliyopo, iwe ya mafanikio au matatizo, na namna ya kuishughulikia.

Umuhimu wa Takwimu

Ndugu Wananchi,

Hata mtu binafsi anahitaji takwimu ili kufanya maamuzi na kupanga. Mama anapopika chakula lazima ajue kwanza watu wa nyumbani mwake ni wangapi ili apike chakula cha kuwatosha wote; bila kuwa kidogo sana hata wasishibe, na bila kuwa kingi sana hata kiharibike.

Mwenye mgahawa naye lazima akadirie anapata wateja wa aina gani, na wanapendelea kinywaji gani, kwa kiwango gani, ili ahakikishe wakati wote anavyo vinywaji vya kutosha, lakini si vingi mno ambavyo atashindwa kuviuza.

Wazazi wanajua kwanza idadi ya watoto wao, ndipo wanaweka akiba ya kutosha kuwatunza na kuwasomesha. Mifano ya kawaida ya umuhimu wa takwimu kwa mtu binafsi, kwa familia na kwa jamii ni msingi sana.

Kama ambavyo takwimu ni muhimu kwa mipango ya familia na kijiji, takwimu pia ni muhimu kwa taifa. Tena kwa taifa ni muhimu zaidi maana wahusika ni wengi, na hatujuani wote kwa karibu. Kwenye kijiji, kwa mfano, tunaweza kujua idadi ya watoto waliopo bila maandalizi makubwa. Kwenye ngazi ya taifa hatuwezi kujua idadi hiyo mpaka tuhesabu nyumba kwa nyumba, nchi nzima. Hivyo ndivyo sensa inavyofanya.

Nchini Uingereza, sensa ya kisasa ya kwanza ilifanyika mwaka 1801, na waliitisha sensa hiyo kwa vile waliogopa kuwa idadi ya watu ilikuwa inaongezeka kwa haraka kiasi ambacho watashindwa kulima chakula cha kuwatosha wote. Hivyo walitaka kujua idadi kamili ya Waingereza, kujua waongezeka kwa haraka kiasi gani, na kujua uwezo wa nchi yao kuzalisha chakula cha kuwatosha wote.

Maswali ya sensa ndiyo huonyesha mambo ambayo ni muhimu Serikali iyajue katika kipindi fulani. Kwa mfano, tukijua idadi ya watoto, tutajua mahitaji halisi ya shule, chanjo, na huduma nyingine za afya kwa watoto. Tukijua idadi ya vifo, au aina ya maradhi yanayowasumbua wananchi, tutajua tuelekeze nguvu zetu katika elimu gani ya afya, au dawa zipi za kinga na tiba.

Lakini sensa pia inatusaidia tuelewe tumetoka wapi, tuko wapi na tutazamie nini siku zijazo. Sisi hatuna uzoefu mkubwa wa sensa, kwa maana kuwa hatujafanya sensa nyingi. Hii ni sensa ya nne tangu tupate Uhuru. Lakini kwa nchi zilizoanza zamani faida ya kufanya sensa kwa lengo la kujua mwelekeo inaonekana wazi kabisa.

Nichukue tena mfano wa Uingereza, maana tumejifunza mengi kwao. Mwaka 1831, sensa yao ilibainisha kuwa ni asilimia 16 tu ya raia wao ndio walikuwa wanaishi mijini. Sensa ya 1991 ikabainisha kuwa mambo yalikuwa yamegeuka, na asilimia ya wanaoishi mijini ilikuwa 90. Dhahiri ilibidi mipango yao nayo ibadilike. Mwaka 1901, wastani wa ukubwa wa kaya zao ilikuwa watu 4.6; mwaka 2001 ulikuwa watu 2.4 tu. Mwaka 1821 karibu nusu ya watu wao walikuwa na umri chini ya miaka 20; mwaka 2001 ni robo tu ya watu ndio walikuwa na umri chini ya miaka 20. Takwimu kama hizi ndizo husaidia kujua Serikali ielekeze nguvu zake wapi katika kuhudumia wananchi kwa kuchunguza mwelekeo wa kijamii na kiuchumi.

Aina ya maswali, na takwimu ambazo Serikali inahitaji, nayo hubadilika jinsi dunia na nchi inavyobadilika. Kwa mfano, enzi za ukoloni hapa petu watu waliulizwa habari za kabila na dini zao. Sisi mtaona hatutauliza maswali ambayo hayaihusu Serikali. Dini yako ni jambo binafsi, na si muhimu kwa mipango ya Serikali. Maana, Serikali yetu haitoi huduma kwa misingi ya dini, tunahudumia waumini wa dini zote, na hata wasio na dini rasmi, sawasawa bila ubaguzi. Vilevile kabila lako si muhimu kwa Serikali. Kabila lako ni jambo lako binafsi, hali husu Serikali, ambayo inahudumia watu wote sawasawa bila kujali kabila zao. Na wala hatutakuuliza kuhusu siasa. Maana siasa nayo ni jambo la hiari, lako binafsi, na wala halihusiani na mipango ya Serikali yetu inayohudumia watu wote sawa bila kujali imani zao za kisiasa.

Lakini jinsia ni muhimu. Maana zipo huduma muhimu za wanawake ambazo Serikali inazitoa, kama vile za uzazi, shule za wasichana, nguvukazi ya taifa na kadhalika. Hali kadhalika mambo kama maradhi, vifo, uzazi na umri; haya ni muhimu kwa mipango ya Serikali, na tunahitaji takwimu sahihi. Na ninasema takwimu, sisemi majina ya watu. Taarifa zozote mtakazozitoa kwa karani wa sensa zitakuwa ni siri. Makarani wote wa sensa wamekula kiapo kutunza siri, na nawaonya wasisahau kutunza siri. Maana, wasipotunza siri watakuwa wamevunja kiapo, ambalo ni kosa la jinai, na wanaweza kufunguliwa mashtaka, na, wakithibitika, kuadhibiwa.

Historia ya Sensa

Ndugu Wananchi,

Sensa si jambo geni au jipya, katika nchi yetu, na duniani kote. Kama nilivyosema hii ni sensa ya nne tangu tupate uhuru; na tangu sensa ianzishwe na wakoloni mwaka 1921, hii ni sensa ya nane.

Lakini dola zote, tangu maelfu ya miaka iliyopita, zinataka kujua idadi ya raia wake, na habari nyinginezo kwa madhumuni ya utawala. Historia inaonyesha watawala wa mwanzo kuwa na sensa walikuwa wa iliyokuwa Babylonia zaidi ya milenia mbili zilizopita, wakifuatiwa na Wachina na Wamisri. Inakadiriwa sensa ya kwanza Uingereza ilikuwa mwaka 1086 ingawa, kama nilivyosema, sensa ya kisasa inayofanywa katika vipindi maalum ilianza mwaka 1801. Jimbo la Quebec, nchini Kanada lilikuwa na sensa ya kwanza mwaka 1666; Iceland mwaka 1703, Sweden mwaka 1749, ikifuatiwa na Ujerumani.

Ingawa Marekani ilipata uhuru mwaka 1776 sensa yake ya kwanza ilicheleweshwa hadi mwaka 1790 kwa vile wapo waliopinga kwa sababu za kidini, wakidhani sensa itafuatiwa na adhabu ya

maradhi kutoka kwa Mwenyezi Mungu. Nchini Uingereza wakati wa kuanzisha sensa wapo waliokataa kwa kuamini sensa itafichua siri za nchi kwa maadui, au zitaingilia uhuru wa watu.

Hivyo sishangai kuwa mwanzoni walikuwepo miongoni wetu wananchi ambao nao walikuwa na mashaka na dhana ya sensa, na malengo yake. Wapo walioeneza uongo kuwa sensa ina lengo la kujua idadi ya wananchi ili wapigwe bei, au wabinafsishwe. Wapo walioeneza uongo kuwa sensa ni mwanzo wa zoezi la kunyonya watu damu. Wapo waliodanganya watu kwa kuhusisha sensa na mambo ya kodi au siasa. Yote hayo si kweli. Sensa ina lengo moja tu, nalo ni kukusanya takwimu muhimu na sahihi zinazohitajika kwa lengo la mipango ya maendeleo ya taifa na ya kila Mtanzania. Hakuna sababu nyingine, na msikubali yeyote awadanganye.

Hitimisho

Ndugu Wananchi,

Namalizia kwa kurudia tena umuhimu mkubwa wa sensa, yaani umuhimu wa Serikali kupata takwimu sahihi za idadi ya watu na hali ya maisha yao, na takwimu za hali halisi ya kiuchumi na kijamii, ili iwe msingi wa mipango yetu ya maendeleo ya taifa na ya kila mwananchi.

Sensa inagharimu fedha nyingi sana; Serikali isingetumia fedha hizo iwapo kungekuwa hakuna umuhimu huo. Nchi wahisani nao wametusaia na ninawashukuru. Umuhimu huo ndio umewasukuma watusaidie; na ndio maana pia sensa inatawaliwa na sheria; imeitishwa kwa mujibu wa sheria, na ni kosa la jinai kuzuia ufanikishaji wa sensa, au kukataa kushirikiana na karani wa sensa, au kutoa majibu ambayo si sahihi.

Lakini pamoja na sheria hiyo, ningependa wananchi mshiriki kikamilifu na kusaidiana na kila karani wa sensa, si tu kwa vile kuna sheria hii, lakini hasa kwa vile mmeelewa kwa nini Serikali yetu imeitisha sensa hii, na umuhimu wake kwa maendeleo yetu sote na watoto wetu.

Narudia, lengo pekee la sensa ni kupata taarifa na takwimu sahihi, ambazo bila kuzipata hatuwezi kupanga mipango ya kushirikiana nawe kuondosha kero na matatizo yako ya kiuchumu na kijamii. Majibu mtakayoyatoa kwa maswali mtakayoulizwa yana lengo la kukusanya takwimu hizo kwa ujumla wake; lengo lake hasa si kubainisha taarifa binafsi za watu. Ndiyo maana majibu mtakayoyatoa yatatunzwa na kuhifadhiwa kama siri. Hakuna mtu yeyote, awe karani au afisa wa sensa, au mfanyakazi wa Idara ya takwimu, mwenye ruhusa ya kutoa hadharani taarifa zitakazotolewa na mtu binafsi, kaya, au hata biashara.

Hivyo, Ndugu Wananchi, msikubali kudanganywa na yeyote, wala kupotoshwa, wala kubabaishwa. Watanzania sisi sio watu wa kudanganywa ovyo, kupotoshwa ovyo au kubabaishwa ovyo. Tulale salama, Mwenyezi Mugu atuamshe salama, na asubuhi tushirikiane na kila karani wa sensa mpaka hapo kazi hii muhimu ya kitaifa itakapokamilika.

Inawezekana. Timiza wajibu wako wa kuhesabiwa.

Asanteni kwa kunisikiliza.

Mungu Ibariki Afrika!

Mungu Ibariki Tanzania!

Appendix 9.2

Logical Framework Matrix for IEC Activities for the 2002 Population and Housing Census

Aims	Objectively Verifiable Indicators (OVIs)	Means of Verification (MOVs)	Risks and Assumptions
GOAL			
To facilitate the collection of complete and accurate population data	Reduced error margins during processing.	- Census results 2002. As projected: slightly more than 34.569ml.	- Political Stability. It was there throughout
PURPOSE 1			
To sensitize Tanzanians to ensure that they are fully aware of census issues and are willing to participate and provide accurate information during the 2002 census.	- Increased participation in 2002 census - Reduced errors during data processing	- Press cuttings -Census Secretariat reports	- Sufficient funding
PURPOSE 2			
To promote the usage of census data	Increased use of census data	- No. of sales for the census results goes up. - Demand for census results increases	- The results are published on time. They were.
Output 1. Enhanced partnership with the media to increase support in sensitizing the public	- More positive reports in the media, and improved media attendance of census functions	- Press cuttings - Media monitoring	- A receptive media
1.1 Luncheon for media managers	- 30 media managers attend luncheon by June 2002	- Attendance list	- All media managers will be available
1.2. Issue update press releases	20 press releases issued between July and December 2002	- Press cuttings	- Good relationship with media
1.3. Hold workshop for reporters	- 41 reporters attend reporters workshop held on July 26 th 2002	- Attendance list Workshop report	- Sufficient funding
1.4. Organise for census countdown column	8 articles published by August 2002	- Newspaper cuttings	- Good relationship with media
Output 2: Increased capacity for sensitization for various support groups	30 sensitization workshops held successfully throughout the country by August 2002	- Attendance lists Workshop reports	- No budgetary constraints
2.1. Identify prospective support groups	Numerous support groups identified by May 2002	- Minutes of the committees	- Support groups are receptive to census message
2.2. Constitute District Census committees	129 District Census Committees established by May 2002	- Minutes of the committees - Attendance lists of the meetings	- All DCs are in good command of their districts
2.3. Hold regional sensitization workshops	Sensitization meetings held in all villages by August 24 th 2002	- Attendance lists -Workshop reports	- Availability of funds, transport etc.
2.4 Prepare and produce advocacy document to be used as a leader guide	- 1,000,000 advocacy documents printed and distributed by July, 2002	- Advocacy document Distribution lists	- Contracts issued on time for timely delivery
2.5 Provide uniforms to sensitizers	- 90,000 T-shirts distributed to leaders and enumerators in 129 districts	- Distribution lists	- Criteria set for giving t-shirts is followed

Aims	Objectively Verifiable Indicators (OVIs)	Means of Verification (MOVs)	Risks and Assumptions
Output 3: Enhanced commitment by the Government to the awareness campaign	- No of Government officials talking positively about the census increases between January and August 2002	- Press cuttings - Media monitoring records	- No spoilers
3.1 Publish and disseminate monthly newsletter to all relevant authorities	More accurate utterances by leaders	Distribution lists Press cuttings	The newsletter is read and quoted
3.2 Invite top government Officials to census functions	Top Government officials attend	- Press Cuttings - Media reports	- Availability and willingness of officials
3.3 Keep top Government officials well informed on the progress of census activities	Monthly newsletters distributed to top Govt officials.	- CCO reports - Census newsletter	- Government officials actually read the reports
Output 4: Enhanced public awareness and popularity of the exercise	Increased co-operation from the public during enumeration	- Supervisors reports - Press cuttings	Sufficient funding
4.1. Launch the census sensitization campaign during the Uhuru Torch Race	Over 100,000 people attend the launch on 2 nd June Top Government officials present	Press reports Speeches IEC report	Enough people are aware of the start of the Uhuru Torch Race
4.2. Publication and distribution of fliers	Over 2,000,000 fliers printed and distributed countrywide.	Actual fliers Distribution lists	All fliers will be distributed
4.3. Organise radio and TV programmes	-10 radio programmes aired - 5 TV programmes aired by August 24 th 2002	- TV, Radio recording	- Sufficient funding
4.4. Place adverts in media	- 96 ads placed in 8 newspapers - 84 ads placed on 7 radio stations - 48 ads placed on 8 TV by August 24 th 2002	- Press cuttings - TV, radio monitoring records	- Sufficient funding
4.5 Workshop for local artists	30 artists attend workshop	Attendance records	Enough motivation
4.6. Recording and shooting of traditional media programmes	15 programmes are recorded	Demo tapes of the recordings	
4.7. Print and distribute promotion materials	90,000 T-shirts, 90,000 caps distributed	Distribution lists	These will be printed in time
Output 5: Increased awareness of the existence of census data	- Increased use of the data. - More enquiries	- Newspaper articles - Random survey	
5.1: Organise major media launch function	Minister officiates at the launch function	- Press cuttings - Electronic media records Copy of speech	Availability of Minister
5.2: Organise dissemination seminars countrywide	Dissemination seminars held after results are out	- Seminar attendance lists - Seminar reports	Enough Funding

Aims	Objectively Verifiable Indicators (OVIs)	Means of Verification (MOVs)	Risks and Assumptions
Output 6: Increased usage of census data	- No. of people accessing census information increases	- Sales of results books and compact discs - Demand for books and compact discs More website visits	Results are published on time
6.1: Prepare simplified fact sheets	- Fact sheets printed and distributed	- Fact sheets - Distribution list	Sufficient funding
6.2: Post results on National website	- No of people visiting website increases	- National Website	It is easy to find the website
6.3: Avail census results on compact disc	Many people acquiring results on discs.	-Book/store records	Many people will be interested

Actual Achievements of Objectively Verifiable Indicators (OVIS)

Output 1:

Enhanced partnership with the media to increase support in sensitizing the public:

More positive reports in the media, and improved media attendance of census functions. Press cuttings reveal that this was achieved to quite a great extent. Most of the newspapers published the census logo on their earpieces free of charge

Activity 1:

Luncheon for media managers

20 managers attended the luncheon held on July 10th 2002

Activity 2:

Issue update press releases

8 press releases were issued and published between July and September 2002

Activity 3:

Hold workshop for reporters

The workshop was held on 26th July and was attended by 40 reporters.

Activity 4:

Organise for census countdown column

81 articles were published in the daily newspapers during the month of August.

Output 2:

Increased capacity for sensitization for various support groups

-30 sensitization workshops were to be held throughout the country by August 2002

Strategy was changed. Instead, a directive from the Prime Minister required regional leaders to hold meetings up to the village level.

Activity 1:

6 support groups were identified by May 2002

Identified groups were of Government Officials, Media, Politicians, Community leaders and Artists

Activity 2:

Constitute District Census committees

129 District Census committees were constituted countrywide

Activity 3:**Hold regional sensitization workshops:**

30 sensitization workshops were held in 7 regions by June 2002

Strategy was changed. Regional and district leaders were given a seminar at a meeting chaired by the President, and were directed to ensure that they mobilized their people for the census. A directive to that effect was issued by the National Census Committee Chairman (Prime Minister) requiring that they conduct and be responsible for the mobilization of the people to the village level. Accounts show that this was done.

Activity 4:**Prepare and produce advocacy document to be used as a guide document:**

200,000 were printed and distributed by July 2002

Activity 5:**Provide uniforms to sensitizers:**

90,000 each of T-shirts, caps, and vests were printed and distributed to all enumerators. And census administrators.

Output 3:**Enhanced commitment by the Government to the awareness campaign**

Radio reports from the regions showed that more leaders were talking about the census during the months of July and August 2002. This was especially during the opening of the training period.

Activity 1:

A monthly newsletter was published and distributed between the months of November 2001 and December 2002 and distributed widely.

Activity 2:**Invite top government officials to census functions**

A big number of Government officials including the Vice President, several Ministers and Deputy Ministers, Regional Commissioners and dignitaries from neighboring countries of Zambia and Malawi attended the IEC campaign launch. Also several top government leaders officiated the training sessions which took place countrywide.

Activity 3:**Keep top Government officials well informed on the progress of census activities**

This was achieved through regular updates to the Prime Minister, Parliamentarians seminar, meeting with Permanent Secretaries,

Output 4:

Enhanced public awareness and popularity of the exercise

Spot monitoring checks showed that awareness was quite high. District reports generally confirmed that cooperation was very high.

Activity 1:

Launch the census sensitization campaign during the Uhuru Torch Race

Exact number of people not established, but the stadium was full to overflowing. Number of top Government officials not known, but a great number were present including the Vice President..

Activity 2:

Publication and distribution of fliers

2,000,000 were fliers printed and distributed.

Activity 3:

Organise radio and TV programmes

10 Radio programmes were aired and repeated 10 times on Radio Tanzania and Radio Zanzibar between July 7th and September 4th, 2002

39 TV programmes were aired on 3 television stations between 13th - 25th August, 2002.

Activity 4:

Place adverts in media

Advertisements were placed on 8 TV broadcasts by August 24th 2002

Advertisements were placed in 8 newspapers

Advertisements were aired on 8 radio stations between July and August 2002

Activity 5:

Workshop for local artists

52 artists did attend workshop

Activity 6:

Recording and shooting of traditional media programmes

15 programmes was recorded

15 music groups recorded census songs

Activity 7:

Print and distribute promotion materials

90,000 T shirts, 90,000 caps 90,000 vests and 700,000 stickers were distributed.

THE GOVERNMENT NOTICE NO Published on

THE STATISTICS ACT, 2002
(ACT, NO.1 OF 2002)

ORDER

Made Under Section 14

THE STATISTICS (POPULATION AND HOUSING CENSUS) ORDER, 2002

In exercise of the powers conferred upon me by Section 14 of the Statistics Act, 2002 1, **BENJAMIN WILLIAM MKAPA**, the President of United Republic of Tanzania make the following Order:

1. This Order may be cited as the Statistics (Population and Housing Census) Order, 2002 and shall come into operation on the 1st day of August 2002.
2. Subject to paragraph 3, census of all inhabitants of Tanzania shall be conducted between the 25th day of August, 2002 and the 14th day of September, 2002.
3. The census shall be conducted for the purposes of obtaining information referred to in Parts 1 and II of the Schedule to this Order.

SCHEDULE

PART I

PARTICULARS OF HOUSEHOLD MEMBERS

1. Name of head of household
2. Name of other members of the household
3. Relationship to the head of the household
4. Sex
5. Age (in completed years)
6. Disability
7. Citizenship
8. Survival of parents
9. Marital status
10. Place of Birth
11. Place of residence
12. Place of residence 2001
13. Literacy
14. School education (attending, partly attended, completed and never attended)
15. Educational attainment
16. Economic activity in the last 12 months
17. Economic activity in the last 7 days
18. Employment status
19. Occupation
20. Industry
21. Number of children who were born alive and are currently living with mother (by sex); (for women aged 12 years and above)

22. Number of children who were born alive but are living elsewhere (by sex); (for women aged 12 years and above)
23. Number of children who were born but have died (by sex); (for women aged 12 years and above)
24. Number of children born during the last 12 months; (for women aged 12-49 only)
25. Number of members of the household who have died during the last 12 months (by aged and sex)

PART II

HOUSING CONDITIONS

1. Building materials used for roofing
2. Building materials used for walls
3. Building materials used for floor
4. number of sleeping rooms
5. Main source of drinking water
6. Main source of energy for cooking
7. Main source of energy for lightning
8. Types of toilet facility
9. Assets ownership.

State House,
Dar Es Salaam

BENJAMIN WILLIAM MKAPA
President

....., 2002.