WORKSHOP ON CENSUS DATA EVALUATION FOR ENGLISH SPEAKING AFRICAN COUNTRIES TANZANIAS' EXPERIENCE

Kampala , Uganda
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Presentation Outline

- **Introduction**
- **Objectives of PES**
- **Survey Planning**
- **Methods used to Evaluate Census**
- **Main Results of the 2002 PES**
- **Challenges**

Introduction

- Post Enumeration Survey (PES) is an important undertaking for **evaluating** census results

- In Tanzania, the evaluation of the 2002 PHC was done for the first time through PES in November 2002, **two months** after the census enumeration

- Post Enumeration Survey (PES) is a **scientific tool** used to measure the **quality** and **coverage** of census and can be used to adjust census results

- Using a carefully designed survey, **under or over** counts can be converted into **adjustments factors** to **increased or decreased** the census results.

Introduction - Cont-

- Census results are used for **policy** and **planning purposes**, so it is important to check the **quality** and **coverage** of the census data

- Also, Census data is used in many **other** purposes, such as;
  - Updating population **estimates**
  - Providing **sample frames**
  - Establishment and updating the Geographic Information System (**GIS**) etc.

All these activities cause the need of assessing **coverage** and **content errors** as a crucial step for concluding a census operation.

Objectives of PES

The **main objective** of the 2002 PES was to evaluate the **accuracy** of the 2002 census results

The **specific planned objectives** include:
- Quantitatively evaluate accuracy of the census in terms of **coverage** and **content errors**;
- To evaluate quality of **enumeration areas** as sampling units for inter-censual and household based surveys;
- To identify procedural and conceptual improvements needed for **future censuses**;
- To furnish information on **sources** and **causes of errors**;
- To provide, if necessary, concrete statistical basis for **adjustments** of the census data; and
- To be used as part of the **lessons learnt** by both NBS and OCGS in conducting Post Enumeration Surveys in future Censuses.

Survey Planning

- Implementation of PES activities was shared between the Census – Evaluation and Quality Control Unit and Department of Statistical Methods, Standards and Coordination of the **NBS** in collaboration with **OCGS** and Census line **MDAs**.

- NBS/OCGS was the **overall** in charge of the census activities, which included the actual conduct of the **census** and the **evaluation**

- Data Processing Unit was responsible of **cumputer programmes, manual editing, data entry and tabulation**

- Matching clerks were involved in **office matching of households and person records**

Survey Planning - Cont-

- Supervisors and enumerators were involved in **field data collection** and in reconciling unmatched PES and Census questionnaires during **reconciliation visits**

- Subject Matter Specialist was responsible **for checking the internal consistencies of data**

- However, selection of enumerators was based on their **good** performance in the **main census** and the **distance** of the PES enumeration area from where they live.   Great care, was taken to ensure that PES enumerator **was not** assigned to the **same EA** he/she had worked on during the main census.

Methods used to Evaluate Census Data

Scope: The 2002 PES was conducted to estimate the extent of **under/over count of households** and **persons**, which unavoidably do happens in every census

Unlike the census, which is **100 percent** enumeration, PES is carried out on a **sample** basis in order to check the **coverage** and **content errors**. However, the coverage of the PES was limited to EAs with **private households only** excluding foreign diplomats and their families, special and institutional populations

To allow for better estimation of **coverage** at national and regional levels for both rural and urban domains, the survey included EAs that were selected from all regions. On **content error**, the estimation was limited to only **four** variables, i.e. namely relationship to head, sex, age and marital status.

Survey Design: The main objective of the PES design was to give reliable estimates of census **coverage** and **content errors** for selected items at **national and regional** levels, for **both** rural and urban domains

The sampling frame for the PES consisted of **53,071 EAs** covering both rural and urban areas. The frame excluded institutional and special group populations

Given the limitations of resources and time, **915 EAs** (about 1.7 percent) were selected of all non-institutional census EAs which is an average of **30 EAs** per region

The EAs were selected with **Probability Proportional to Size** (PPS) in the region. The cumulative total method was used to obtain the PPS sample of EAs

The main PES instruments include **questionnaires, manuals, EA maps** and **control forms**

PES **questionnaire** was bounded in booklets of ten pages each for easy handling and recording of information. It had **four** main sections: i) Identification block, ii) household enumeration/Matching status iii) questions for all persons iv) questions for out-movers and Dead persons

The questionnaire had **ten** questions of which **eight** questions were administered in the **field** and the remaining **two** were for **office use**

Three types of **manuals** were used during 2002 PES namely, training manual, instructions to supervisors manual and instructions to enumerators manual

The **Training Manual** is a document to be used by all trainers at National and Regional levels. It includes relevant examples of problems and solutions.

Instructions to Supervisors manual includes all quality control checks during enumeration and roles of the supervisor before, during and after the enumeration. It also explains procedures to be followed by a supervisor during enumeration and how to complete the control forms.

An **Instruction to Enumerators manual** will be the main source of information not only to enumerators but also to supervisors and the rest in the field. It covers the background and purpose of the PES, administrative requirements of enumerators, techniques for interviewing and detailed technical instructions for the questionnaire.

Methods used to Evaluate Census Data - Cont-

- The PES uses the same **EA maps** which were used during the 2002 Population and Housing Census

- Like during the main census, PES **Control forms** were designed to track the movement of PES materials. The use of control forms **reminds** supervisors and enumerators of the **type of materials**, **quantities** required and **type** of information to be collected from the field

- **Notebooks** were provided to enumerators and supervisors for recording main events during training and fieldwork. At the end of the fieldwork, the notebooks together with EA maps, questionnaires, and control forms were handed over to supervisors.

Main Results of the 2002 PES

- About **99%** of those interviewed during the **PES** reported to be enumerated during the main **Census**

- The Census **coverage** rate was about **94%** of the targeted population thus giving unmatched rate of **only 6%**. It was higher in rural areas (96%) than in urban areas (90.2)

- Total **omission rate** was **6.89%.** The rate was higher in urban areas (6.95%) than in rural areas (6.74%). Male omission rate was higher (6.90%) than females rate (6.77%)

- Rates of under **coverage** and **omissions** are within **acceptable limits**, especially if compared to recent round of surveys in African countries.

Challenges

At the Planning Stage

- The 2002 PES came as **an ad-hoc activity**, possibly as part of UNSO requirement
- To some extent, **inadequate** of funds and **delays** of provision of funds the implementation of PES
- No formal training was provided to PES staff on the matter. It was then **"learning by doing"**, which has limitation"
- The 2002 PES took the advantage of **competence and experience** of census staff to conduct it instead of a recommended completely **independent** institution/firm.

Challenges - Cont-

Cartographic Materials

Cartographic materials possibly contributed to **omissions of households** and **persons** in PES due to **large size** of some rural EAs, lack of **prominent features** on the EA maps and **poor** description of some of the EA boundaries are some of the challenges that faced the PES enumerators

Other shortcomings: Use of names for reconciliation Matching of **households and persons** were based on names of heads of households. If the head had **multiple names** reported **differently** in the **two** enumerations, or if the same name was **misspelled**, it was likely to count that household or person as **'not matched'**
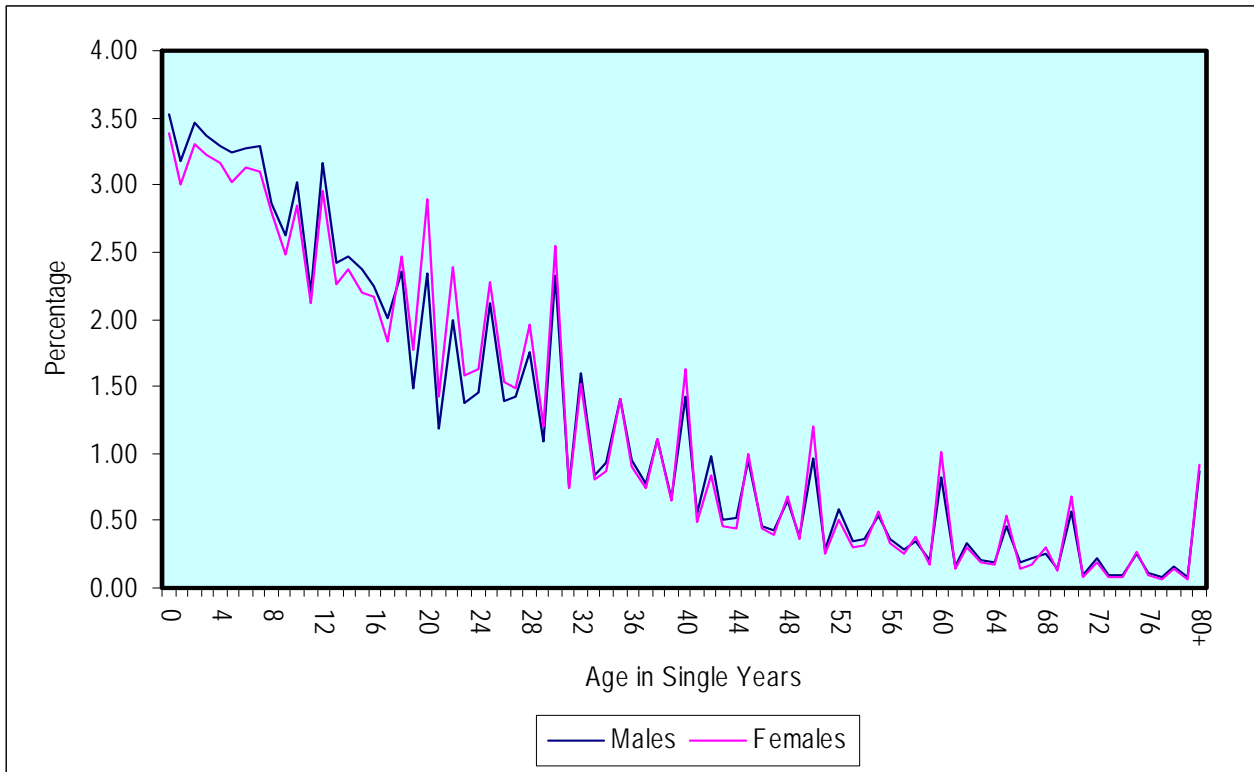
THE END

Thank you for your Attention

personal.xls -- personal workbook for storing macros

Digital Preference of Age Sex Data in 2002 - Tanzania

Table
Figure 1.4: Population Pyramid for Tanzania Mainland
Population, by Age and Sex

Age	Male	Female
All ages	16,829,861	17,613,742
0-4	2,830,545	2,834,362
5-9	2,573,993	2,556,455
10-14	2,233,401	2,209,856
15-19	1,761,329	1,834,406
20-24	1,402,077	1,746,436
25-29	1,309,661	1,492,304
30-34	1,087,599	1,141,447
35-39	824,338	845,535
40-44	669,549	678,959
45-49	478,522	506,301
50-54	428,501	455,319
55-59	290,117	300,550
60-64	287,502	317,454
65-69	213,635	226,036
70-74	180,246	197,606
75-79	113,205	108,149
80+	145,641	162,567

Source:

[FILENAME] [DISK NAME] [DATE] [INITIALS]

GRAPH3

Figure 1.4: Population Pyramid: Tanzania Mainland - Total
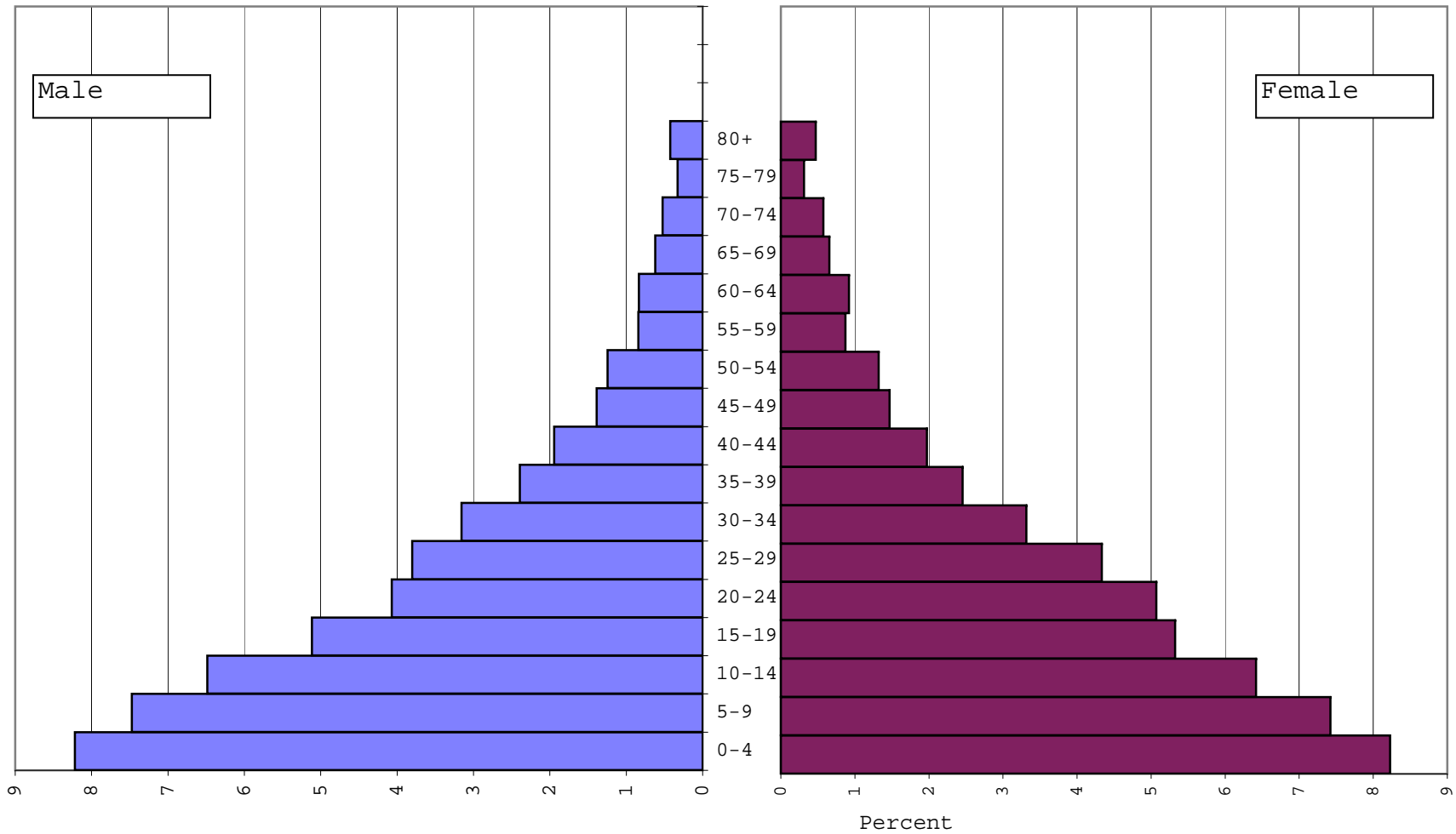
Source: The United Republic of Tanzania, 2002 Population and Housing Census

GRAPH2

Figure 1.4: Population Pyramid for Tanzania Mainland
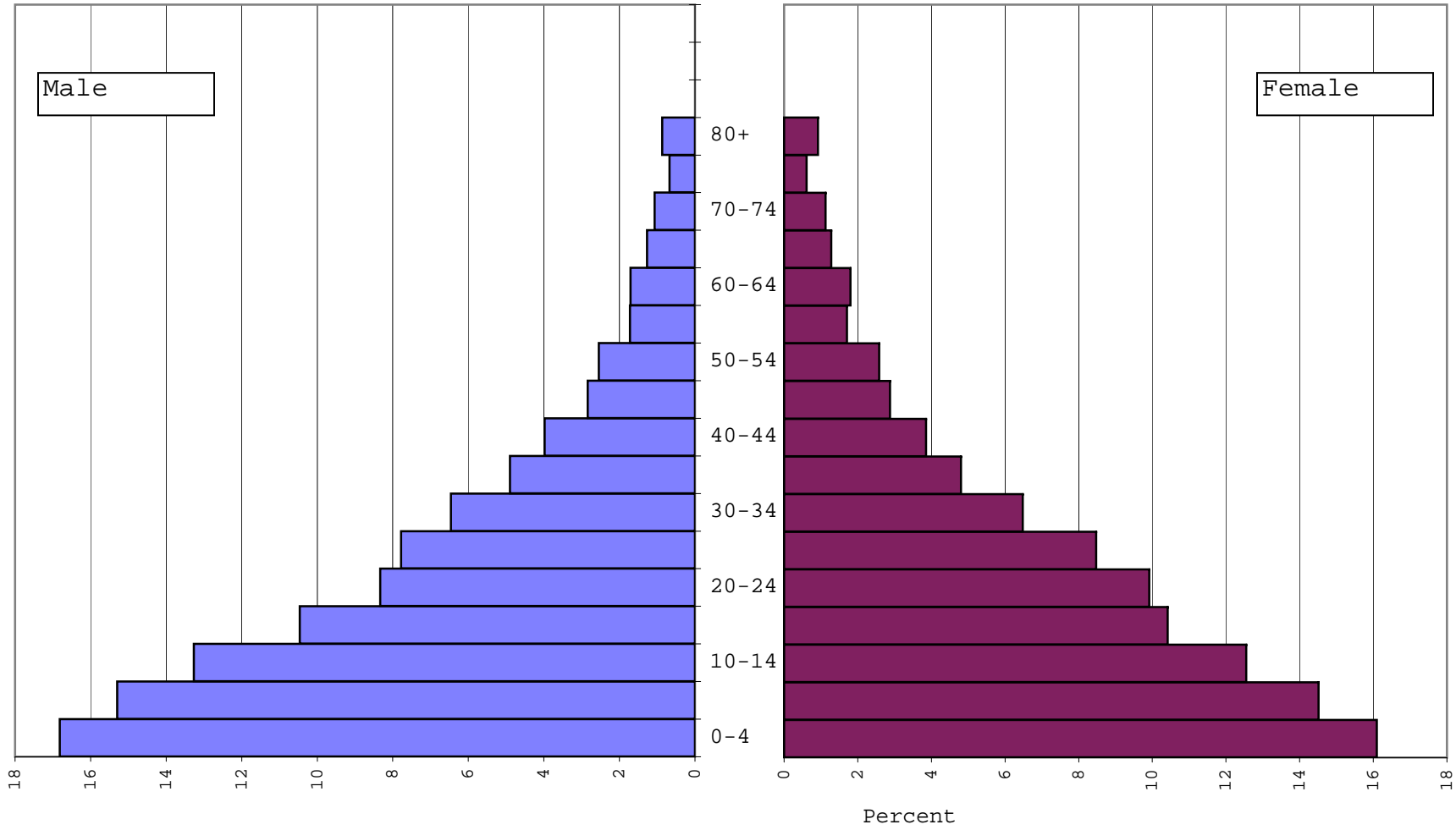2. Percent of Each Sex

GRAPH1

Figure 1.4: Population Pyramid for Tanzania Mainland

1. Population by Age and Sex

Male

Female

| 80+ |
| 70-74 |
| 60-64 |
| 50-54 |
| 40-44 |
| 30-34 |
| 20-24 |
| 10-14 |
| 0-4 |

Population