



Some Improvements to 2011 Population and Housing Census in Sri Lanka

H. R. Gunasekera
Director
Department of Census and Statistics, Sri Lanka

Outline

- Introduction
- Enumeration procedure
- Data Capture
- Computer Assisted Coding
- On-line Editing and Imputations
- Master Register of Census Blocks
- Data Dissemination
- New Urban Definition
- E-Census

Introduction

- Sri Lanka has a long history of Census taking
- Started in 1871, 140 years ago: usually once in 10 years
- No Census in 1991, Last one in 2001
- Carried out completely in 18 out of 25 districts due to disturbed conditions in North and East
- 2011 Census has special significance: covers whole of Sri Lanka after 30 years

Census Methodology

- 2011 Census is carried out in 3 stages
 - Mapping
 - Listing of all buildings
 - Enumeration of population and housing



Improvements to 2011 Census

Previous Enumeration Procedure

- Two Stages: Preliminary and Final.
- At preliminary stage people are enumerated at their usual place of residence.
- Final Census conducted between 6 p.m. and 12 mid night after about 1 week from PC.
- Update the information by
 - deleting those who are not present
 - including the information of visitors present
- ‘Outdoor’ enumeration for those who are on move
- Based on De facto method.

Main Issues in De facto Approach

- Operational Issues

Conducting final Census within 6 hours created many practical constraints.

- Operational problems in mobilising large no of enumerators within 6 hours
- Inability to constraint movements of public (even with a good publicity campaign)
- High cost

Main Issues in De facto Approach (Ctd...)

- Data users Issues

The data tabulated include people who do not reside in the place where they are enumerated.

- Data users require data on population who reside in the area.
- Usual residents are the ones that are using services such as education, transport, health, security etc.

Revised Enumeration Procedure

Enumeration Round

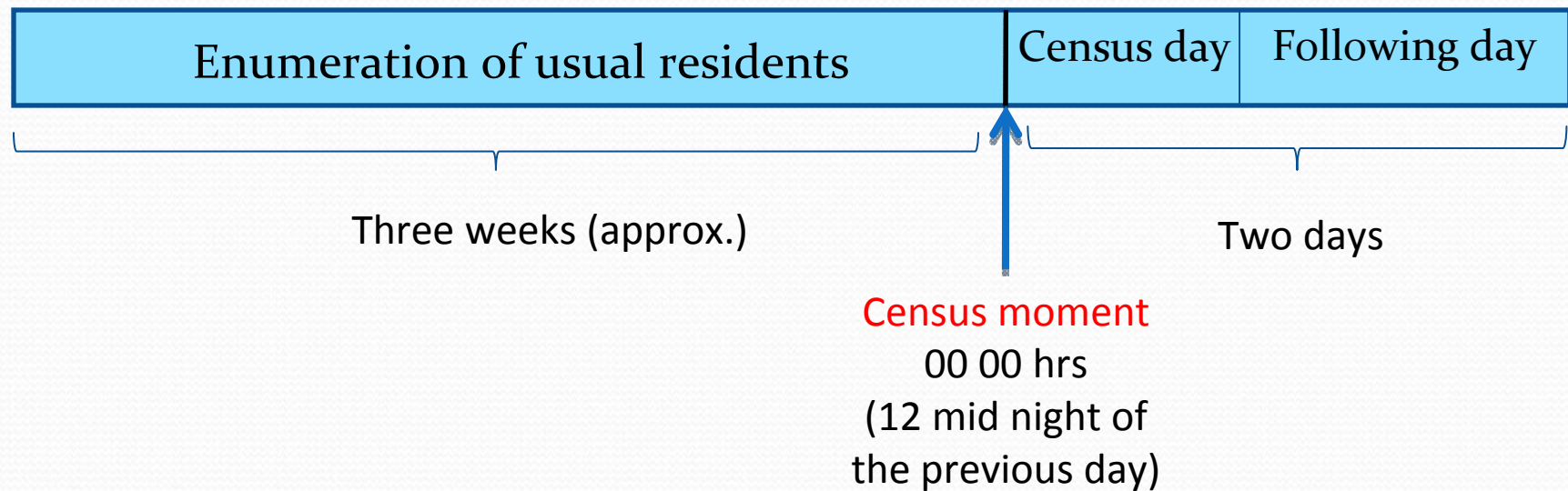
- Information is collected from all usual residents three weeks prior to the Census day.
- Census moment refers to 12 midnight of the day immediately before the Census day (or 00:00 hrs of Census day)
- Persons who do not have a usual residence are enumerated at the Census moment (Homeless)

Revised Enumeration Procedure (ctd...)

Revision Round

- Done within two days from Census moment.
- All housing units and collective living quarters covered during the previous stage are visited.
- During the revision round
 - Usual residents absent and temporary visitors present at the Census moment are identified (recall de facto) and record the relevant code.
 - Information are recorded for the temporary visitors.
 - Information are revised for any usual resident who had died or any new birth in the household that occurred between Census enumeration and the Census moment.
- Provides De jure count; De facto count of the enumerated units can also be obtained.

Revised Enumeration Procedure (Ctd...)



Data Capture

- Data capture method used so far was the centralized key-to-disk procedure.
- This manual data entry system demands significant resources and error-prone.
 - large number of staff
 - space
- Causes considerable delays in data processing.
- Image based form processing technology such as OMR/ICR is used in 2011 census.
- If properly implemented dramatically improve the timing of processing.
- Need to evaluate the procedures carefully: design of questionnaire , selection of technology, quality of printing etc.

Data Capture (Ctd...)

- Outsourced as technology is changing fast.
- Expected accuracy levels: OMR - 99 percent OCR/ ICR - 95 percent.
- Verification : first 2 weeks - 5 percent
second 2 weeks - 2 percent
later period - 1 percent
- Output data into ASII and CSPro formats.
- Pilot test covering 10000 housing units.

Computer Assisted Coding

- During last censuses schedules were edited and coded prior to data capture.
- Occupation and Industry coding is very laborious, time consuming and error-prone.
- Software have been developed to assist the coders in finding the most suitable code for particular occupation or industry by matching.
- Tested successfully using pilot Census data.
- This CAC will greatly reduce the time taken for coding and risk of having errors.

On-line Editing and Imputations

- In the last census, error print-outs were obtained and corrected by subject specialists; sent back to D.P division and fixed the errors.
- This procedure leads to delays in releasing the timely data.
- On-line editing and imputations are being tested to improve the efficiency.
- Checks to be identified carefully as over ambitious procedures can cause errors to correct data.
- Hot-deck imputation procedures are tested.

Master Register of Census Blocks

- ACCESS data base containing information at Census block level prepared at mapping stage.
- Contains geographic id, no of housing units, population etc. : information can be added at different stages.
- Invaluable tool for monitoring the field work, planning for material and human resources and producing summary reports.
- security measures designed to safeguard the data.

Data Dissemination

- Currently census information is disseminated through printed and electronic media (CD ROMS) and via web, which will be continued.
- Information in the web, is limited to pre-defined sets of tabulations.
- This static format will be continued in future for tabulations which are in heavy demand.

Data Dissemination (Ctd...)

- For more detailed data than static web pages, interactive tabulation system is explored together with thematic mapping.
- Use of Census-Info package has been tested.

Urban Definition

- Based on administrative boundaries
- Urbanization is underestimated
- Questionnaire canvassed at the listing stage to collect basic information at Grama Niladhari Division (lowest administrative division)
- New statistical definition will be developed using multivariate analysis of variables related to urbanization.

E-Census

- Usual practice is to visit household to obtain information.
- Certain segments of population viz. most affluent people in urban areas (Colombo MC), do not co-operate well.
- It is planned to reach such limited group of population through self administered questionnaire posted on internet.

E-Census (Ctd...)

- Such households are supposed to give their consent at the listing operation.
- Can download e-questionnaire (e-Q) from internet and return after on-line completion.
- Password protected individual e-Q's to safeguard confidentiality of data



Thank you.