

**SOME CHALLENGES IN CONDUCTING POPULATION
AND HOUSING CENSUSES IN SRI LANKA**

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1. Introduction

Sri Lanka has a long history of Census taking. The first of a scientific series of decennial Censuses was conducted in 1871. Five regular Censuses were held thereafter up to 1921, establishing a well defined Census methodology. The Census of 1931 was restricted to a head count due to financial reasons arising from economic depression. The Census due in 1941 was postponed until 1946 on account of World War II. A paper shortage resulting from the Korean war caused a rescheduling of the Census from 1951 to 1953. The Census in 1960's was held in 1963. The practice of conducting Census in years ending with digit 1 was reestablished in 1971, which marked the 100 years of experience in conducting Censuses. The twelfth of the series was taken in March 1981, but the Census due in 1991 could not be held due to the disturbed conditions prevailing in the Northern and Eastern provinces of the island. The last Census in 2001 has special significance as it was the first Census to be taken in the new millennium after a lapse of 20 years from previous Census, which is the largest time gap recorded for an intercensal period in the history of Censuses in Sri Lanka. However, Census 2001 was able to carry out completely in 18 out of 25 districts due to the disturbed conditions in Northern and Eastern provinces of Sri Lanka.

2. Census Methodology

2.1 Conducting the Census

Census 2001 was carried out in 4 stages

1. Mapping Operation
2. Listing Operation
3. Preliminary Census
4. Final Census

To avoid omissions or duplications of building units, maps were drawn at smallest administrative division level (Grama Niladhari Division) with clear identifiable boundaries. Such divisions were further divided into Census blocks. A Census block comprised of around 60 building units in the rural sector and around 80 units in urban sector. The Census block boundaries were also marked on the map during the mapping operation. Based on the maps prepared, all the building units were listed in a separate form during the listing operation. All building units were classified into housing units, collective living quarters, institutions and non-housing units and listed in convenient and suitable order.

During the preliminary Census, enumerators collected information pertaining to every individual who usually live in the household. Housing information were also recorded. The final Census night, between 6.00 p.m. and 12 mid night the enumerators visited all the units and verified the entries made in the schedules during the preliminary Census. Special arrangements were made to enumerate people staying outdoors on the final Census night.

2.2 Census Questionnaires

In 2001 Census, two types of schedules were used. **The Population and Housing Schedule** and **Disabled Schedule**. Information on migration, fertility and housing were collected on a complete enumeration basis, whereas these were collected from a sample of Census blocks in 1981 and 1971 Censuses.

I Population and Housing Schedule: This schedule was used to collect 24 items from individuals pertaining to demographic and economic characteristics.

- General information (name, relationship, sex, date of birth, religion and ethnicity)
- Migration patterns (district of birth, district of usual residence, duration of residence and district of previous residence)
- Educational characteristics (education during last 30 days, educational attainment and literacy)

- Economic characteristics (types of activity, occupation, industry, employment sector and status and non economic activities)
- Nuptiality and Fertility (marital status, total live births, number of living children and date of birth of last live birth)

In addition, 9 items on housing characteristics (occupancy status, number of households in the unit, number of occupants in the unit, construction material of wall, floor, roof, type of structure, year of construction, unit usage, availability of rooms and number of rooms) and 7 items of household information pertaining to each and every household were collected. (number of occupants in the household, availability of toilet, type of toilet, source of drinking water, type of lighting, type of cooking fuel, tenure)

II Disabled Schedule: This schedule was used to collect information pertaining to 6 types of disabilities (seeing, hearing/speaking, disabilities in hands, disabilities in legs, other physical disabilities and mental disabilities).

3. Challenges in Conducting Census 2011

Planning for the 2011 Population and Housing Census remains a major challenge. Based on the lessons learnt from 2001 Census certain issues and problems were identified and those need to be addressed for smooth data collection activities, timely release and dissemination of Census data and extensive use of the Census results by data users.

3.1 Census Data Capture

The current system of data capture is centralized key-to-disk procedure. This causes considerable delays in data processing. In addition to delays, data entry can be a potential source of error unless carefully planned verification procedures are adopted. Application of image based form processing technology such as OCR / ICR can be explored in order to expedite the release of the Census data. Before implementation of any such technology greater attention should be given to examine its suitability. The

success depends on the extent to which the necessary conditions prevail such as the quality of the specially printed questionnaires, training given to enumerators in recording the responses clearly and of course on the selection of technology considering the uncertainties. If this methodology is selected for implementation after several pilot studies, the possibility of decentralizing the data capture at regional levels should be explored. This needs substantial allocations of resources at district level in terms of equipment and human resources.

3.2 Computer Assisted Coding

The usefulness, quality and timeliness of the Census outputs depend on the methods adopted to process the data. Although most of the items of the Census questionnaire are pre-coded, certain items need to be coded before computer processing begins. Even the form processing technologies such as OCR / ICR methods are used, this type of coding needs to be carried out prior to scanning. Occupation and industry are two items usually need to be coded. Past experience reveals that this is laborious, time consuming and can be an important source of error. Software can be developed to assist the coders in finding the most suitable code for particular occupation or industry classification. This computer assisted coding system (CAC) will greatly reduce the time taken for coding and the risk of having errors.

3.3 Enumeration Procedure

Censuses in Sri Lanka are conducted on 'de facto' basis. i.e. persons are enumerated whether they happened to be at the place of final enumeration during the specified time period irrespective of whether the place is their usual residence or not. This procedure creates so many practical constraints in conducting the final Census within a 6 hour period. In particular,

- enormous difficulties are encountered in carrying out out-door enumeration i.e. persons who are on the move during the final Census night. It is possible to miss out some persons creating certain degree of under enumeration.

- in the current socio-economic set up, it is very difficult to get co-operation from public to stay at home during the final Census night, although many publicity programmes are launched.
- Census tabulations usually show the population according to the place of enumeration, but many policy makers actually need the usual residence population.

Therefore it is necessary to consider to shift from the current ‘de facto’ approach in undertaking the Census as in many other countries in the developing world.

3.4 Definition of Urban areas

Urban areas in Sri Lanka are defined on the basis of administrative boundaries. During early 1980’s urban areas comprised of all Municipal Councils,(MC) Urban Councils (UC) and Town Council (TC). In 1987, Town Councils were abolished and absorbed into Pradesheeya Sabahs, which were essentially rural areas. Since then only MC and UC areas have been considered as urban areas. The Census of Population and Housing conducted in 2001 also used this definition. As a result, the urbanization in Sri Lanka is underestimated and does not actually reflect the ground situation. There are areas outside the administrative boundaries of MCC and UCC with highly urban characteristics. Hence it is very necessary to have a new definition of urban areas considering the current socio-economic set up. Attempts are being taken to develop a statistical definition of urban areas using multivariate analysis of variables related to urbanization which are available from the last Census. The final conclusion has to be taken as a joint effort of all stakeholders dealing with urban development and planning.

3.5 Improvements of Census Cartography

Enumeration area maps are vital for a successful Census enumeration. Each enumerator should have complete information about the area to be covered and the location of each housing unit to be interviewed. These area maps were developed for the first time in 2001 Census using the base maps available from Surveyor Generals Department. Two types of maps, i.e. smallest administrative area (GN/Ward) maps

and Census block maps were developed. Each GN/Ward maps showed the location of all Census block in that area. Each Census block map showed the boundaries, streets /roads, lanes, landmarks and location of every building unit to be visited by enumerators. These were digitized after the Census but it was found that certain maps are deficient in terms of identifying the boundaries. In order to rectify this situation a program has already been launched to redefine boundaries of smallest administrative divisions using Global Positioning System (GPS). This is very labourious and time consuming procedure as all the boundaries need to be verified in the field. Co-operation is obtained from all the stakeholders.

3.6 Addressing the Emerging Social Issues.

In Sri Lanka, the main source of data on disability is the Census of Population and Housing. In Census 2001, persons with disabilities were identified with a screening question and specially designed disability module was used to collect the data. Information related to disabilities in seeing, hearing, speaking, hands, legs, other physical disabilities and mental disabilities were collected during the Census 2001. The definition and measurement approach was based on impairment dimension. Hence the incidence of disabled population was only around 2 percent, which was not acceptable to data users. The definition adopted was not consistent with International Classification of Functioning and Disability (ICF) framework. In order to get comparable and meaningful disability data it is necessary to follow the ICF framework and identify the suitable questions to estimate the incidence of disability. In addition to the incidence rates, it is very important to produce tabulations in order to compare persons with and without disabilities on key social and economic characteristics.

Millennium Development Goal (MDG) Indicators serve as a framework for assessing and monitoring progress towards a set of internationally agreed development goals and targets. Denominators of most of the indicators and several indicators themselves are derived from Census data. In addition, to assess the benefit of new technologies, specially in information and communications, the introduction of new data items such as use of personal computers and internet users could be explored.

Another growing concern is to measure international migration effectively. In particular, the magnitude of Sri Lanka migrant workers overseas, students leaving the country for higher education and migrations due to conflict situation in Northern and Eastern parts of Sri Lanka are of paramount importance. The last Census attempted to estimate the overseas Sri Lankan workers; administrative records, however, claim higher figures. This does not necessarily mean that Census figures are underestimated. Administrative data too have their own deficiencies. However, further improvements to the collection of such data need to be explored.

3.7 Dissemination and Utilization of Census Information

Improving the Census dissemination system is another challenging task. Currently Census information are disseminated through printed as well as electronic media and also via internet. These are limited to pre-defined sets of tabulations. It is very important to develop on line 'One Stop Service' system which will help users to access data and information more conveniently. However confidentiality of data should be maintained in order to safeguard the privacy rights of the public. Interactive viewing of data with the maps to enable a thematic view of the information will be very useful for the users of data.

Utility of Census data demands further analysis of such data beyond basic descriptive analysis. Census 2001 data together with Income- Expenditure survey data were used to estimate poverty measures for Sri Lanka and districts. However further analyses are generally restricted due to the shortage on highly technical manpower.