REPUBLIC OF MAURITIUS

Ministry of Finance and Economic Development

STATISTICS MAURITIUS

2011
HOUSING AND POPULATION CENSUS

REPUBLIC OF MAURITIUS

METHODOLOGY REPORT

December 2012

FOREWORD

Statistics Mauritius conducted a Housing and Population Census in year 2011. Census 2011 was the eighteenth for the Island of Mauritius and the eighth for the Island of Rodrigues.

Table reports covering housing and living conditions, demographic and fertility characteristics, economic characteristics, educational characteristics, household characteristics, migration and disability were published during the following year. Analysis and evaluation of the census data are currently being carried out and the results will be published during the coming months.

This report attempts to describe how Census 2011 was organized and conducted. It is hoped that it will be useful to all census data users and in particular to census planners and managers.

I would like here to thank members of the public for their understanding and co-operation during Census 2011. My thanks also go to all persons and organizations who have contributed in one way or another to the success of the census operation, in particular the census staff.

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CHAPTER 1. INTRODUCTION

1.1 What is a census?

A census is
"total process of collecting, compiling, evaluating, analyzing and publishing or otherwise disseminating demographic, economic and social data pertaining, at a specified time, to all persons in a country or in a well-delimited part of a country."
Source: "Principles and Recommendations for Population and Housing Censuses" of the United Nations Statistics Division,

1.2 Why take a Census?

A census gives a complete and comprehensive picture of the nation as well as groups of people living in specific areas. It provides up-to-date and disaggregated data on the housing conditions, the spatial distribution, and the demographic and socio-economic characteristics of the population. It is the only source of information for small geographical areas.

In what type of buildings and housing units are we living? What are the amenities and facilities that are available therein? How many rooms are there and what is the extent of overcrowding? How many people live in a given town or locality? How many children are there? How many women are there? How many are old enough to vote? What is our level of education? Do we have the required qualifications or skills to satisfy the needs of the labour market? What kind of jobs are we doing? The census helps to answer these questions and many others. Census data are essential for assessing the country's demographic, social and economic performance and for developing sound policies and programmes aimed at fostering the welfare of the country and its population. They are useful to business, industrial and commercial organisations to estimate and forecast demand for their products and services, and to assess the supply of manpower with the relevant skills to run their activities.

Furthermore, population estimates based on census data are used to determine the allocation of grants to local authorities and to socio-religious organisation.

1.3 Historical background

Census taking in Mauritius dates back to the 18th Century. The first complete census for the Island of Mauritius, then known as Isle de France, was taken in 1735 under the governorship of Mahé de Labourdonnais. Since then, numerous complete censuses or partial counts of the population have been made. However, the first census report to be printed was probably that of 1846. The 1846 census was followed by another one in 1851. Since then, and up to 1931, censuses have been taken every ten years. With the outbreak of the Second World War, the one due in 1941 had to be postponed to 1944. The first census after the War was taken in 1952, and the ten-yearly programme was subsequently resumed with a

census taken in 1962 and another one in 1972. The one scheduled for 1982 was postponed to 1983 because of the 1982 parliamentary elections. The following census which was due in 1993 was advanced to 1990 to satisfy an urgent need for up-to-date data, particularly on the economic characteristics of the population. Census 2000 was conducted as planned to adhere with the ten-yearly programme of census taking for Mauritius. However, Census 2010 had to be postponed to 2011 in order not to coincide with the 2010 parliamentary elections. Census 2011 was the eighteenth for the Island of Mauritius and the eighth for the Island of Rodrigues.

1.4 Methodology

Census 2011, like the four previous ones, was taken in two distinct rounds: the Housing Census followed by the Population Census four months later. This enumeration procedure was adopted in order to obtain at the Housing Census a list of names and addresses of heads of households which served as frame for the Population Census.

1.5 Census dates

The Housing Census was conducted from 31 January 2011 to 19 June 2011 and the Population Census from 20 June to 31 August 2011 in respect of all persons alive at midnight on 3 July 2011.

1.6 Coverage

The Housing Census enumerated all buildings, housing units, households, commercial and industrial establishments, hotels, guest house and tourist residence, fruit trees of bearing age on residential premises, agricultural holdings as well as ICT facilities available in every household.

The Population Census enumerated all persons present on census night in all households and communal establishments, as well as usual residents who were away on census night.

Housing and population enumerations were conducted on the Islands of Mauritius, Rodrigues and Agalega. In the case of St Brandon islands which are fishing stations with no resident population, only a count of persons spending census night there was made.

1.7 Budget

The project value of the census was estimated at Rs 200 Mn. Given the availability of existing infrastructure, services and human resources, the actual census budget worked out to around Rs 190 Mn.

1.8 Legal framework

Census 2011 was conducted according to provisions of the Statistics Act No. 38 of 2000. The underlying procedures are given in Sections 5, 6, 9, 10, 13 and 15 of the Act.

In June 2008, Cabinet agreed to the conduct of a Housing and Population census in year 2010. However, due to the possibility that the 2010 General Elections overlaps with the census enumeration exercise, the Cabinet approved on 16 July 2009 that the census be deferred by one year. The census dates and the topics to be investigated were approved in July 2009.

The regulations for the Housing Census, prescribing the particulars and information to be collected, were prepared and approved by the Minister of Finance and Economic Development in October 2010. The regulations were published as Government Notice No. 212 of 2010.

In April 2011, the President made an order to the effect that a census of the population be taken between 19 June and 01 August 2011 in respect of all persons alive at midnight on 3 July 2011. The Order was gazetted and published as Government Notice No. 61 of 2011.

1.9 Confidentiality of information collected

As stated earlier, the census was conducted under the provisions of the Statistics Act. The Act invests the Director of Statistics with the power to obtain particulars relating to a large number of topics, but at the same time it lays down strict rules to ensure that all information collected is kept strictly confidential. It forbids the publication of particulars in a way that enables identification of any individual person, undertaking or business. The Act also requires that every person employed in connection with the census to make an oath of secrecy to that effect before a magistrate or the Director of Statistics. Penalties are provided for any breach of confidentiality. Furthermore, census field officers were provided with an authorization card duly signed by the Director. To safeguard the public against unauthorized persons, field officers had to produce their authorization card during interviews in connection with the census. Also, any person who refuses or neglects to fill in the prescribed forms or to supply the particulars required, or knowingly make false statements, was liable to prosecution.

CHAPTER 2. CENSUS ORGANISATION

2.1 Office organisation

A full-fledged census unit, whose main task was the planning and execution of Census 2011, was constituted in 2010. The unit which included officers involved in cartographic work fell under the responsibility of a Deputy Director. The composition of the unit by grade was as follows:

- 1 Deputy Director
- 4 Statisticians
- 4 Senior Statistical Officers
- 35 Statistical Officers/Clerical Officers (mainly involved in editing/validation and coding of census data)
- 1 IT Project Manager
- 1 IMPS Consultant
- 2 Office Attendants

The census operation was divided into five phases. These are (i) the preparatory work, (ii) the enumeration, (iii) the data processing, (iv) the dissemination of results, and (v) the evaluation and analysis of results. Tasks within each phase were identified and the responsibility for each task was assigned to a statistician under the direct supervision of the Deputy Director. As regards field enumeration, the organization of the work followed a different set-up (see section 2.2).

The tasks within each phase were as follows:

(i) preparatory work
- project document including calendar of activities
- budget
- legal basis
- publicity materials and campaign
- cartographic work
- census questionnaire design
- tabulation plan
- instructions manuals for field staff
- editing and coding instructions manuals
- printing of census documents including questionnaires
- recruitment and training of staff

(ii) enumeration

(iii)data processing

- scanning and recognition of census forms
- editing and coding

- data validation and cleaning
- tabulation

(iv) dissemination of results
- Publication of main results
- Publication of tabulation reports

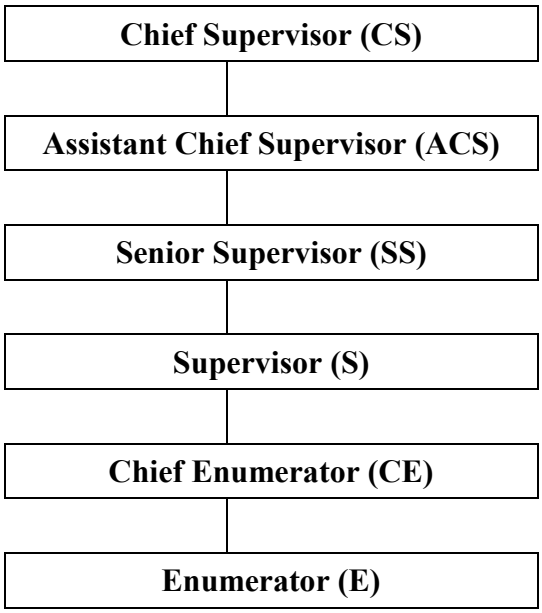
(v) evaluation and analysis of results

The tasks were not chronologically separate; in many instances, there was overlapping. For instance, data editing and coding, and data capture through scanning devices were carried out simultaneously.

Although specific jobs were assigned to each and every staff of the unit, the demarcation of job assignments was not rigid. Anyone in the team was expected to shift to tasks that needed more pressing attention.

2.2 Field organization

The field force consisted of about 7,200 officers operating in a structure involving five layers of hierarchy as follows:



The table below shows the estimated number of officers by grade for the islands of Mauritius and Rodrigues.

	Island of Mauritius	Island of Rodrigues	**Total**
Supervisory staff:			
Chief Supervisor	←	1 →	**1**
Assistant Chief Supervisor	←	3 →	**3**
Senior Supervisor	20	1	**21**
Supervisor	164	7	**171**
Chief Enumerator	1,110	41	**1,151**
Enumerator	5,639	220	**5,859**
TOTAL	**6,937**	**269**	**7,206**

The Chief Supervisor was responsible for the whole field operation in the country. She was supported by three Assistant Chief Supervisors for supervising the work of twenty one Senior Supervisors.

Each Senior Supervisor had the charge of about eight Supervisors and 60 Chief Enumerators for the Housing Census, and an additional 300 Enumerators for the Population Census.

A Supervisor had about seven Chief Enumerators and 35 Enumerators working under his supervision.

The Chief Enumerator carried out the Housing Census enumeration and controlled the work of about 5 Enumerators at the Population Census.

Supervisors, Chief Enumerators and Enumerators working on the Island of Rodrigues worked under the supervision of the Senior Supervisor who was posted on a full time basis on the Island of Rodrigues.

As regards the Island of Agalega, one officer attached to the Meteorological Services on the island was recruited to carry out the Housing and the Population Census enumerations.

Some 7,206 persons were needed for the field work but only 7,053 were recruited mainly because the available number of enumerators (5,706) did not meet the required number (5,859) in some regions. For timely completion of the Population Census enumeration, 47 Enumerators and 106 Chief Enumerators carried out the work of 153 missing enumerators in addition to their initial workload.

2.3 Calendar of activities

A timetable indicating the sequence of each census operation was prepared and served as a guide for monitoring the progress at each stage.

The calendar with the actual dates of implementation of activities is as follows:-.

Activities	Date of implementation
A. Preparatory work	
1. Cartographic work:	
(i) Cartographic field work	Jan 2009 – Dec 2010
(ii) Allocation of workload to fieldstaff	Jan 2009- Mar 2010
(iii) Preparation of census field maps	June – Dec 2010
(iv) Preparation of geographical codes	June –Dec 2010
2. Design of questionnaire	
(i) Discussions with government stakeholders	August 2008- June 2010
(ii) Final draft of questionnaires	
Housing Census	Sept. 2010-
Population Census	January 2011
3. Legal instruments	
(i) Cabinet agreed to the principle of carrying a census in year 2011	June 2008
(ii) Cabinet approved census dates and topics to be investigated	July 2009
(iii) Cabinet approved regulations for the Housing Census	October 2010

(iv) Minister approved regulations for the Housing Census and gazetting of regulations — October 2010

(v) Cabinet approved motion to the effect that a Population Census be taken — Dec. 2010

(vi) National assembly voted motion to the effect that a Population Census be taken — March 2011

(vii) Cabinet approved order and regulations for the Population Census 2011 — April 2011

(viii) President approved order and regulations for the Population Census and gazetting of order and regulations — April 2011

4. Preparation of census publicity leaflet — Jan-Feb 2011

5. Printing of census questionnaires and documents
   (i) Census documents (authorisation cards for field staff, listing sheets, etc.) — Dec 2010
   (ii) Housing Census questionnaires — January 2011
   (iii) Population Census questionnaires — April-June 2011

6. Preparation of Instruction manuals
   (i) Instruction manual for supervisory staff — Dec. 2010
   (ii) Instruction manual for Chief Enumerators — Dec. 2010
   (iii) Instruction manual for the Population Census field staff — April 2011

7. Preparation of editing and coding instructions
   (i) Housing Census — January 2011
   (ii) Population Census — June 2011

8. Preparation of publicity materials and publicity campaign — Aug 2010-July 2011

9. Recruitment of fieldstaff
   (i) Supervisory staff — Dec 2010

(ii)	Chief enumerators	January 2011
(iii)	Enumerators	June 2011

10. Training of fieldstaff

(i)	Housing Census	Dec 2010 – Jan 2011
(ii)	Population Census	June 2011

11. Training of editors and coders

(i)	Housing Census	March 2011
(ii)	Population Census	July 2011

B. Census enumeration

12. Housing Census

(i)	Distribution of documents and materials to fieldstaff	January 2011
(ii)	Field reconnaissance	January 2011
(iii)	Enumeration	Jan-Apr 2011
(iv)	Submission of completed census forms and other documents from field to office	March- April 2011

13. Population Census

(i)	Preparation of addressed population census forms	May- June 2011
(ii)	Preparation of workload of enumerators	May- June 2011
(iii)	Distribution of census materials to fieldstaff	June 2011
(iv)	Distribution of publicity leaflets to heads of households	June 2011 (last week)
(v)	Filling of questionnaires and submission from field to office	July 2011

C. Processing

14. Design and testing of computer systems for data entry

(i)	Housing Census	Feb. 2011
(ii)	Population Census	June 2011

15. Scanning and Recognition
    (i) Housing Census — Feb – May 2011
    (ii) Population Census — July - Dec 2011
16. Editing and coding
    (i) Housing Census — March- May 2011
    (ii) Population Census — Aug 2011-Feb 2012
17. Data validation and cleaning
    (i) Housing Census — April- May 2011
    (ii) Population Census — July 2011-Feb 2012
18. Tabulation
    (i) Housing Census — June – Oct 2011
    (ii) Population Census — June – Oct 2012

D. Dissemination

19. Publication of results
    (i) Housing Census
        Main results (Economic and Social Indicator issue) Aug 2011
        Table reports Nov 2011
    (ii) Population Census
        Main results (Economic and Social Indicator issue) June 2012
        Table reports Oct 2012

E. Evaluation and analysis

A report on Census data evaluation as well as a series of analytical papers covering topical issues will be released in year 2013.

2.4 Project budget and expenditure incurred

Estimates of the budget in the planning phase were based on expenditure incurred at the previous census brought up to the actual value by adjusting for price and population increases during the period 2000-2011. The project value of the Housing and Population Census was thus estimated at around Rs 200 Million. However, because of existing infrastructure and services, including personnel, the actual project budget was reduced to Rs 190 Million.

The breakdown of project budget and the expenditure incurred to date are given in the table below.

	Items	Project budget (Rs '000)	Expenditure incurred to date (Rs'000)
1	Salaries of staff	141,000	147,775
	of which field staff fee	*125,000*	*142,500*
2	Office accommodation	2,050	750
3	Electricity & telephone	1,000	250
4	Furniture	1,600	1,514
5	Stationery and printing	4,250	2,600
6	Census mapping (equipment and services)	2000	1,725
7	Travelling & transport	7,825	11,200
	of which field staff travelling allowance	*7,500*	*10,096*
8	Publicity	2,000	2,000
9	Pilot Census	1,100	1,063
10	Electronic data capture & processing (equipment & services)	19,375	18,628
10	Rodrigues missions	800	675
11	Contingencies	17,000	0
	TOTAL	**200,000**	**187,930**

It is to be noted that around Rs 153 Mn, i.e. 81% of the Rs 188 Mn spent to date, were used for payment of fees and travelling to field staff. Further, a bulk of Rs 155 Mn was incurred during the calendar year 2011.

2.5 Publicity

The success of the census operation depends to a large extent on the co-operation and understanding of the public. It was therefore necessary to have a publicity campaign to convince the population of the usefulness of the census and to appeal for their participation.

The publicity campaign started in January 2011 with the transmission of spots on radio and television during hours of wide audience. The spots were in three different languages, namely, Bhojpuri, Creole and French. These were transmitted more frequently during the first weeks of February 2011 when the housing census enumeration started and around the census night of 3 July 2011. The Director of Statistics and senior technical staff of the Census Unit also made brief interventions on radio and television and spoke on the objectives of the census and the confidential aspect of the information collected; at the same time an appeal was made for the co-operation of the public.

Further, wide coverage of the event by local newspapers contributed to public awareness.

More specifically, the publicity materials included:

(i) Census logo and motto
A Census logo, made up in the colours of the Mauritian flag, as well as a census motto became the brand for the census publicity campaign and was in all forms of communication and promotion.

(ii) Coverage in national and local media stations – both on TV and radio
- Spots indicating the importance of Census, the dates of the data collection and the co-operation expected from the public were aired prior and during the taking of the Housing and Population Census.
- A moving census message was scrolled during TV news and main programmes watched by viewers;
- Coverage in news on national TV and radio station prior to Census night including an interview of the Director of Statistics on the importance of census taking
- Live programme on national radio in the period when data collection was on. The Census Chief and Senior Supervisors answered questions on the 2011 Census.

(iii) Coverage in newspapers
- Press communiqué on the census
- Newspaper articles on the importance of the census, the types of questions to be asked, the method used for census enumeration and data capture, etc.

(iv) Distribution of information leaflets on the 2011 Population Census to each head of household.

(v) Sensitization in primary schools.
The CensusAtSchool project was carried out in a few primary schools in coordination with the Ministry of Education and Human Resources during the period February to July 2011. The students were, among others, explained on the importance of the census and were given stickers containing the census logo and motto. This helped to create more awareness on the census among school children and eventually among their parents who are those responsible for providing relevant information to census enumerators.

(vi) A census Web page was created on the office's website. It included commonly asked questions and answers about the census

(vii) A telephone inquiry service or hotline (800 11 20) was established from January to August 2011. This provided the public with a system whereby they could seek clarifications on particular census issues and make any complaints deemed necessary

(viii) Census messages were displayed on electricity and water bills to elicit the participation of the public in Census 2011;

(ix) Census posters were affixed in main public buildings to sensitize the public on census taking; and

(x) Commemorative stamps on Census 2011 were issued and sold by the Mauritius Post.

CHAPTER 3. CENSUS CARTOGRAPHY

3.1 Geographical, administrative and electoral constituency divisions

The Republic is made up of the main island of Mauritius, the island of Rodrigues and several islands located at distances greater than 350 Km from the main island.

Island of Mauritius is also divided into nine districts which date to the time of the French occupation. The Island of Mauritius is also divided into nine administrative regions - five Municipal Council Areas (MCA) and four District Council Areas (DCA). The MCAs and DCAs are further broken down into smaller areas, known as Municipal Wards (MW) and Village Council Areas (VCA) respectively. There are 20 Municipal Wards and 124 Village Council Areas. Municipal Wards constitute the urban regions and the Village Council Areas the rural regions.

The Island of Rodrigues and other islands are administered by the Ministry of Rodrigues and Outer Islands.

There exists a third division, the electoral constituency division which is used for the parliamentary elections. There are twenty electoral constituencies on the island of Mauritius and one on the island of Rodrigues.

3.2 Census enumeration divisions

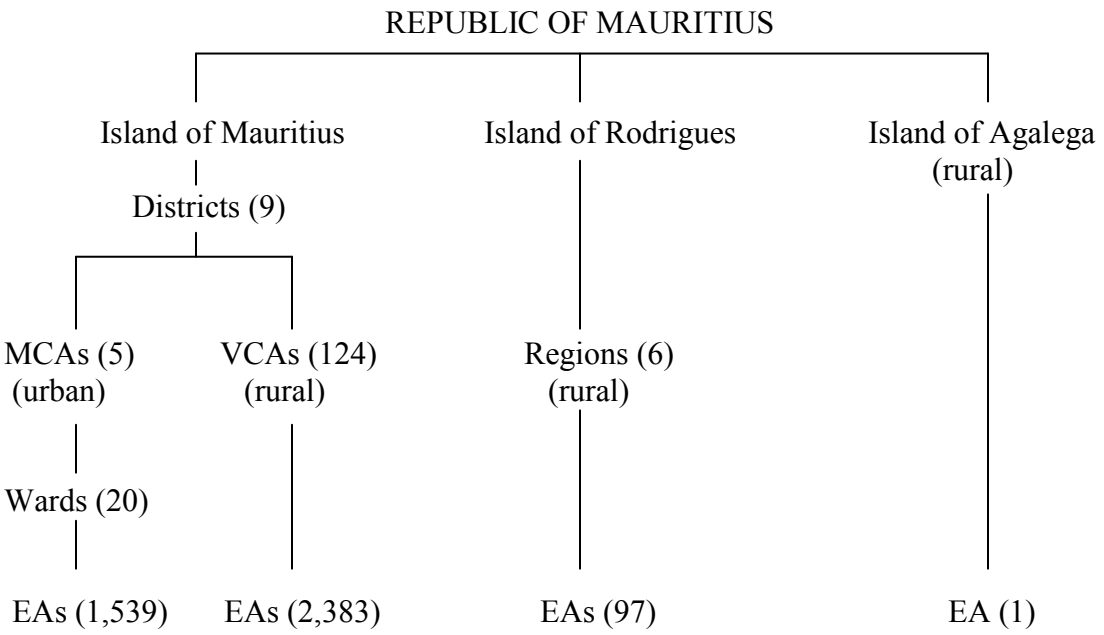
Because of the various types of boundaries that exist and the overlapping of one type on the other, a census mapping that takes into consideration all existing boundaries would be a complex and almost impossible task.

As at the 2000 Census, Municipal Wards and Village Council Areas, which constitute administrative regions for which data would be most relevant, were used as the starting point for the subdivision of the country into census enumeration areas (EAs). In splitting MW/VCAs into enumeration areas, care was taken to provide well-defined clusters with easily identifiable boundaries such as roads, lanes, rivers, etc. Enumeration areas were as far as possible made to contain equal number of households. On the average, enumeration areas contained about 75 households in rural regions and about 90 in urban regions, although the range of variation was between 0 in uninhabited areas to 260 in some EAs.

The Island of Rodrigues was split into enumeration areas having on average 85 households covering between 8 and 225. Six regions regrouping adjacent localities were also identified.

In all, there were 3,922 enumeration areas in the Island of Mauritius, 97 in Rodrigues and one in Agalega.

Below is a chart showing the census enumeration divisions used at Census 2011.



3.3 Mapping

The work of the Cartographic unit of the office consists of the continuous process of map updating after field visits. Maps that had been used for the 2000 Census and for other intercensal surveys were available; however, these needed further updating.

A Digital Mapping System was set up to support the use of digital maps in the operation of the 2011 Housing and Population Census. Digital maps helped improve data quality by providing enumerators with more accurate and up-to-date geographical data. The manual efforts spent in producing operation maps were also greatly reduced. ARCGIS was used to produce all field maps, including maps for supervisors and enumerators.

Various source documents were used in the preparation of census enumeration maps. These were on three different scales, namely the 1:2,500, the 1:10,000 and 1:25,000. Maps on the 1:10,000 and the 1:25,000 scales were used mostly for rural regions where there is little or no habitation. Base maps in digital format were mainly from the Ministry of Housing and Lands. Other sources include plan of morcellement plots from the Ministry of Public Infrastructure, and maps of housing estates from the National Housing Development Company Ltd.

At the beginning of 2008, an inventory of existing maps was made to have an assessment of the work already covered. For enumeration maps to be ready by the end of 2010, field visits were done almost every day and due attention was given to areas where there had been considerable development in terms of new settlements. Fieldstaff of the cartographic unit were also requested to provide estimates of the number of households in the different regions covered by them, these estimates being important in the allocation of

workloads to the field staff working for the census enumeration. Updating of maps was done as and when field visits to the various regions were completed. The main task, thereafter, was the production of the Supervision Area maps and the Enumeration Area maps. Relevant boundaries of Geographical Districts, Municipal Wards/Village Council Areas and Enumeration Areas were inserted on the updated maps which all carried the main ground features of the regions. Supervision Area maps which showed agglomeration of enumeration areas falling under the control of a Supervisor were less detailed than the enumeration area maps. Supervision Area maps were produced on a 1:25,000 scale for rural regions and on a 1:5,000 scale for urban regions. Enumeration Area maps, which were needed at a more detailed level, were produced on a 1:2,500 scale.

3.4 Geographical coding system

A hierarchical structure was used for coding geographical division so that tables at any defined geographical level; tables produced can be summed up to higher levels. The structure used at Census 2011 was the same as that for Census 2000 and was as follows:-

(i) a one-digit island code (1-3)
(ii) a one-digit district code (1-9)
(iii) a two-digit Municipal Ward/Village Council Area code and
(iv) a two-digit enumeration area code.

Thus the two-digit codes of Municipal Wards/Village Council Areas, when associated with the relevant district and island codes, gave a unique Municipal Ward/Village Council Area identifiers made up of four digits. Similarly, an EA was uniquely identified by a six-digit code comprising the island code (1 digit), the geographical district code (1 digit), the Municipal Ward/Village Council Area code (2 digits) and the Enumeration Area code (2 digits).

In rare cases, boundaries of a VCA extended over two or three geographical districts. The same hierarchical coding procedure was applied to each part of the VCA, each part bearing the code of the district in which it was located. A total of about 25 VCAs had their boundaries over two or three districts.

Other geographical subdivisions, such as electoral constituencies and localities were also used; but constitute geographical hierarchies different from the above.

CHAPTER 4. CENSUS QUESTIONNAIRES

4.1 Questionnaire design

The questionnaire type, format and contents were determined on the basis of the following factors:

Data to be collected

Data collected were in line with UN recommendations and, in addition, catered for local data needs.

Method of enumeration

For Census 2011, the questionnaires were completed by enumerators who carried out field interviews.

Data capture and processing techniques

The office used scanning and recognition technology for census data capture directly from the questionnaires.

4.2 Contents of questionnaire

The questionnaire contents were determined as follows:

(i) The data needs of main stakeholders from Government Ministries and Departments were considered. As from 2008, heads of Government Ministries and Departments were invited via a circular letter to submit their requirements for demographic, social and economic data considered essential for administration, planning and policy-making and which could be collected at the census. Topics were retained after considering:
- their usefulness to the country;
- the cost for data collection and processing - where it is possible by other means to obtain satisfactory information more cheaply, the topic was not selected; and
- their suitability for data collection at a Census - sensitive and controversial issues as well as questions that are too complicated or difficult for the average respondent to answer were avoided.

(ii) The concepts and questions used for the previous census were examined for relevance and only those found relevant were kept.

(iii) The latest "Principles and Recommendations for Population and Housing Censuses" were reviewed to determine whether to add questions or to modify existing questions.

(iv) The questions thus arrived at were tested during a pilot census conducted in September 2010. In the light of observations made on the field, some changes were made to the wording and sequence of the questions and a final set of questions adopted.

4.2.1 The Housing Census questionnaire

The Housing Census questionnaire covered all topics and items covered at Census 2000; some new items were added for the reasons given in the column "Remarks".

	Topics/Items	Remarks
1	*Characteristics of buildings*	
(i)	Location	
(ii)	Type (whether residential, commercial, hotels, etc.)	
(iii)	Number of housing units in buildings	
(iv)	Number of storeys	
(v)	Year of completion	
(vi)	Principal material of construction used	
2	*Characteristics of housing units and households*	
(i)	Ownership (private: mortgaged, non-mortgaged; public)	
(ii)	Occupancy (occupied: principal, secondary; vacant: for rent, etc.)	
(iii)	Water supply	
(iv)	Availability of electricity	
(v)	Toilet facilities	
(vi)	Bathing facilities	
(vii)	Availability of kitchen	
(viii)	Refuse disposal facilities	
(ix)	Availability of other amenities (solar water heater, water pump, air conditioner, residual current device)	*New; introduced following request from Ministries*
(x)	Number of households in housing unit	
(xi)	Type of household	
(xii)	Number of persons in household	
(xiii)	Tenure (owner-occupied, tenant, etc.)	
(xiv)	Number of rooms in housing unit	
(xv)	Average monthly household expenditure	*New; introduced to obtain a sampling frame for use in household surveys*
(xvi)	Monthly rent for tenant	
(xvii)	Principal fuel used for cooking	
(xviii)	Principal fuel used in bathroom	

(xix)	Availability of ICT facilities	*New; introduced at request of Ministry of ICT and to be in line with latest UN recommendations*
1.3.	*Commercial and industrial establishments, hotels, guest house and tourist residence*	
(i)	Name and address of establishment or working proprietor/manager	
(ii)	Main activity (retail shop, shoe repair, etc.)	
(iii)	Business Registration Number	
(iv)	Number of persons engaged	
1.4.	*Fruit trees on premises*	
(i)	Number of fruit trees of bearing age	
1.5.	*Agriculture*	
(i)	Availability of kitchen garden	
(ii)	For household members involved in land cultivation on own account for commercial purposes: (a) Name of household member (b) Address of household member (c) Location of field (d) Area of field (e) Crop(s) under cultivation	*New section; introduced to obtain a frame of agricultural holdings in the household sector for use in a subsequent agricultural census*

A copy of the 2011 Housing Census questionnaire is at Appendix 1.

The questionnaire was designed to cover 1 housing unit, up to two households, up to three planters and 1 commercial/industrial establishment, guest house or tourist residence. More than one questionnaire was used in other cases.

4.2.2 The Population Census questionnaire

The 2011 Population Census questionnaire included the topics covered at the 2000 Population Census except that on income. Questions were added on National Identity number of each person as well as on residence for the reasons mentioned in the column "Remarks".

	Topics/Items	Remarks
1	Demographic and social characteristics	
(i)	Surname and other names of members of household	
(ii)	National identity card number of household members	*New; introduced to set up an integrated population database that combines census data with survey and administrative data for broader and deeper analysis*
(iii)	Relationship to head of household	
(iv)	Sex	
(v)	Date of birth/Age	
(vi)	Marital status	
(vii)	Citizenship	
(viii)	Disability	
(ix)	Religion	
(x)	Linguistic group (language spoken by forefathers)	
(xi)	Language usually spoken at home	
2	*Geographical and migration characteristics*	
(i)	Address where present on census night	
(ii)	Usual address	
(iii)	Usual address 5 years ago	
(iv)	Whether living continuously in the country for most of the past and next 12 months	*New; introduced to obtain information on usual residents in line with UN recommendation*
(v)	For persons living mostly abroad Whether they are studying, working, etc.	*New; introduced to obtain an estimate of the number of Mauritians studying and working abroad*
3	*Education and training*	
(i)	Literacy (in which languages can the person, with understanding, both read and write a simple statement in his/her everyday life)	
(ii)	School attendance	
(iii)	Level of primary/secondary/tertiary education	

(iv) Highest qualification and field of study
(v) Vocational and technical training including field of study
(vi) Type of institutions and/or type of study

4 *Economic characteristics (current economic activity)*

(i) Number of hours worked for pay, profit or family gain
(ii) For persons who did not work:
Whether they had a job, business, family enterprise, agricultural holding or farm at which they did not work because of illness, injury, holiday, etc.

(iii) For the unemployed persons:
(a) Whether they had looked for work
(b) Whether they were available for work
(c) When they had worked for the last time

(iv) For the employed persons and the unemployed persons who had worked before:
(a) Type of establishment (e.g. Government, Parastatal bodies, Export Oriented Enterprises, Sugar, Household enterprises, etc.)
(b) Industry (e.g. agriculture, fishing, manufacturing, construction, trade, services, etc.)
(c) Place of work (locality)
(d) Occupation (e.g. fisherman, tailor, bus driver, accounts clerk, etc.)
(e) Employment status (e.g. self-employed, employee paid by the month, apprentice, etc.)
(f) Length of service with present or last employer

5 *Disability*

6 *Fertility*

(i) Age at first marriage
(ii) Whether married more than once
(iii) Number of children ever born

A copy of the Population Census questionnaire is at Appendix II.
The questionnaire was designed to cover one household with up to 8 members. In case there were more, additional questionnaires were used.

4.3 Questionnaire layout and size

The layout and design of response areas was done to ensure optimum conditions for data capture through scanning and recognition technology. The layout was also influenced by the cost (the number of pages had to be kept to a minimum to cut down on paper, printing and scanning costs) while at the same time ensuring ease of recording the answers on the field.

Response areas

Both Optical Mark Recognition (OMR) and Intelligent Character Recognition (ICR) were used. Where a simple answer is required, such as 'yes/no', checkboxes (appropriate for OMR) were used. For more complex responses such as names and addresses, rectangular alphanumeric boxes were used as ICR response areas.

All the check boxes and write-in boxes were positioned in such a way as to allow scanning and optical character recognition.

The barcode

A barcode that uniquely identifies each questionnaire was included on each questionnaire.

The Housing Census questionnaire consisted of an A3 sheet and necessitated the use of only 1 barcode.

The Population Census questionnaire consisted of three A3 sheets and necessitated the use of 3 barcodes. Each barcode consisted of a unique questionnaire identifier and a sheet number.

4.4 Paper and print quality

The mix of OMR and ICR technologies used for Census 2011necessitated the printing of approximately 885,000 census questionnaires of specific quality in terms of paper and colour specifications as well as design.

Drop-out ink was used to enhance recognition rates

The paper specifications were as follows:

- Weight: 90 gsm
- Moisture: 5.5%
- Ash content: 13.5%
- Caliper: 111 µm
- Tensile strength: MD 7.5+ kg/15mm; CD 3.4+ kg/15mm
- Breaking length: MD 5500+ m; CD 2500+ m
- Bursting strength (Mullen): 2.5+ kg/cm2
- Tear resistance (Elmendorf): MD 590+ mN
- Air permeability (Bendtsen): 600 ml/min
- Roughness (Bendtsen): TS 250 ml/min

- Smoothness (Bekk): TS 25+ s/10ml
- Cobb-value (60 sec, water): TS 35- g/m2
- Opacity printing: 86+ %

4.5 Census leaflet

A census leaflet was prepared and distributed to all heads of households. It contained a message from the Director of Statistics requesting heads of households to participate in the 2011 Census. It also included some frequently asked questions pertaining to the census together with their answers. More specifically, the objectives of the census, the confidential aspect of the collected information as well as the usefulness of each item were explained.

4.6 Printing of census questionnaires and leaflets

The census leaflets were printed by the Government Printer, while printing of census questionnaires was outsourced to the private firm which also undertook census data capture through scanning and recognition technology. The number of printed copies was as follows:

(i)	Housing Census questionnaires	450,000
(ii)	Population Census questionnaires	435,000
(iii)	Census leaflet	400,000

Other census documents printed by the Government Printer included instruction manuals and authorization cards for field staff for Chief Enumerators.

CHAPTER 5. CONCEPTS AND DEFINITIONS, AND CLASSIFICATIONS

5.1 Concepts and definitions

Concepts and definitions used at Census 2011 are according to the handbook "Principles and Recommendations for Population and Housing Censuses – Statistical Papers Series Rev.2" of the United Nations Statistics Division.

5.1.1 Housing Census

(1) A building is defined as any independent free-standing structure comprising one or more rooms or other spaces, covered by a roof and usually enclosed within external walls or dividing walls which extended from the foundations to the roof.

Dividing walls, rather than external walls were quite common in densely built-up commercial areas of mainly urban regions. A building could be used or intended for residential, commercial, industrial or agricultural purposes or for the provision of services. It could be a detached housing unit, an apartment building, a shop, a warehouse, a factory, a workshop, a school, a church, etc.

For the purpose of the Housing Census, detached structures such as toilets, bathrooms, kitchens, stores and garages were not counted as separate buildings; they were accounted for as facilities available to the housing units to which they belong. On the other hand, detached rooms used for living purposes, were counted as separate buildings. Similarly, a garage, storeroom or any temporary or improvised structure being used for living purposes at the time of enumeration, was counted as a building.

The following were enumerated at the Housing Census:

(i) buildings used at the time of enumeration for residential, commercial, industrial purposes or for the provision of services, including hotels, institutions and public buildings;

(ii) buildings intended for purposes mentioned at (i), but which were vacant at the time of enumeration;

(iii) any shelter which, although not in conformity with the definition of a building, was used for habitation purposes at the time of enumeration;

(iv) buildings under construction.

The following were not enumerated:

(i) buildings used for agricultural purposes, such as stables for livestock, pens for poultry, greenhouses, tea or tobacco weighing offices on estates, stores on agricultural establishments, etc.;

(ii) garages not used for habitation, commercial or industrial purposes;

(iii) temporary shelters and improvised housing units that were not occupied at the time of enumeration;

(iv) buildings being demolished or awaiting demolition;

(v) dilapidated buildings which were uninhabited at the time of enumeration;

(vi) embassy buildings except those where Mauritians re residing.

(2) A housing unit was defined as a separate and independent place of abode intended for habitation by one household, or one not intended for habitation but occupied for living purposes by a household at the time of enumeration. Although intended for one household, a housing unit could however be occupied by more than one household or part of a household. It could also be vacant at the time of the census.

A place of abode was considered separate if surrounded by walls and fences, and covered by a roof, so that a person or a group of persons could isolate himself or themselves from other persons in the community for the purposes of sleeping, preparing and taking their meals, and protecting themselves from the hazards of climate and environment. Such structure was considered independent when it had direct access from the street or from a public or communal staircase, passage, gallery or grounds, i.e. when the occupants were able to come in or go out of their living quarters without passing through anybody else's premises.

(3) A household was either (i) a one-person household, i.e. a person who made provision for his own food or other essentials for living, or (ii) a multi-person household, i.e. a group of two or more persons, whether related or not, living together and making common provision for food or other essentials for living. Cases of persons with varying degree of common housekeeping were considered as one household, if there was any arrangement to share at least one meal a day.

A distinction was made between the various types of households:

(i) private households, which consisted of single and combined households. A single household was defined as a household in which all its members occupied a single housing unit while a combined household was defined as a household in which its members were lodged in rooms located in two or more buildings;

(ii) households in communal establishments such as hotels, infirmaries, hospitals and other institutions;

(iii) households in collective quarters; the members of such households were groups of foreign workers sharing accommodation; and

(iv) homeless households.

(4) A room was defined as a space in a housing unit enclosed by walls reaching from the floor to the ceiling or roof covering, or to a height of at least of two metres, and of a size large enough to hold a bed for an adult, that is, at least four square metres. A room partitioned by curtains or pieces of furniture was counted as a single room.

Rooms for living purposes were distinguished from rooms used for business or professional purposes. Rooms for living purposes include bedrooms, dining rooms, living rooms, studies, habitable attics and closed verandahs. Kitchens were also considered as rooms for living purposes if they satisfied the room definition; open verandahs, corridors, lobbies, bathrooms, toilets, stores and garages were not counted as rooms used for living purposes.

Rooms were considered as being used for business or profession if they were exclusively used for that purpose; otherwise, they were counted as rooms for living purposes.

(5) An establishment was defined as a place of work situated in a permanent or semi-permanent structure where an activity was carried out to produce or distribute goods or services. Mobile street vendors or street vendors selling goods on pavements or alongside streets were not considered as establishments.

5.1.2 Population Census

(1) Population base

The census enumerated all persons present on census night in all households, as well as usual residents who were absent on census night.

In general, "usual residence" is defined for census purposes as the place at which the person lives at the time of the census, and has been there for some time or intends to stay there for some time. To be consistent with the UN recommendations, **" usual residence"** was defined as **"the place at which the person has lived continuously for at least the last 12 months, not including temporary absences for holidays or work assignments, or intends to live for at least 12 months"**.

From the answers to questions on "whereabouts on census night", "usual address" and "place of residence", it was possible to make a distinction between the following with reference to the census night:

(i) usual residents of the household who were present on census night,
(ii) usual residents of the household who were temporarily absent on census night and
(iii) persons not residing in the household, but who spent the census night in the household.

This enables tabulation on the basis of place of usual residence as well as place where present on census night. Most published tables however, refer to the resident population, i.e. population on the basis of place of usual residence, since they give a more accurate picture especially where household characteristics and migration are concerned.

The method used to obtain the resident population count consists of identifying all persons returning "yes" to the question on "place of residence".

(2) The enumerated population consisted of all persons who spent the Census night in the household as well as persons who usually lived in the household, but who were absent on census night.

(3) The present population consisted of all persons who spent the Census night in the household. Persons who answered "Here" to the question on "Whereabouts on Census night" constituted the present population.

(4) The resident population was defined as persons who usually lived in the household, whether they were present or absent on Census night. For census purposes, "usual residence" is defined as the place at which the person lives at the time of the census, and has been there continuously for the past 12 months or intends to live there continuously for at least 12 months. Persons who answered "yes" to the question on "Place of residence" were considered as residents. The resident population also included non-Mauritians working in the country, who reported their usual address as being in Mauritius, as well as their families living with them.

(5) Private households with usual residents were private households with at least one resident member at the time of the census.

(6) The head of household was any adult member, whether male or female, who was acknowledged as such by the other members of the private household. For an institution, a hotel or a collective quarter, the person-in-charge was considered as the head.

(7) A family nucleus consisted of either a couple with or without children, or a lone parent with unmarried children. The number of family nuclei was identified from answers to question on relationship to head. Only resident members of the household were considered when identifying the number of family nuclei.

(8) A person with a disability was defined as a person who, at the time of the Census, was limited to perform a daily-life activity in a manner considered normal for a person of his/her age because of a long-term physical or mental condition, or health problem.

(9) A person was considered literate, if he or she was able, with understanding, to both read and write a simple statement in his/her everyday life.

(10) Educational attainment referred to the highest level of education completed for persons not attending school or the level being attended for persons still attending school.

Only persons having a post-secondary degree were considered as having attained the tertiary level. Persons currently attending a post-secondary institution and who had not

yet acquired any post-secondary degree were not considered as having attained the tertiary level of education.

(11) The currently active population consisted of the currently employed and the currently unemployed population as defined below.

(12) The currently employed population included all persons aged 16 years and over, who during the reference week of 27 June 2011 to 3 July 2011,

(13)

(i) worked for pay, profit or family gain for at least one hour, **or**

(ii) held a job during the reference week, but did not do any work because of illness, injury, holiday, industrial dispute, off-season inactivity, temporary disorganisation, etc.

(14) The currently unemployed population included all persons aged 16 years and over, who

(i) did not do any work for pay, profit or family gain during the reference week of 27 June 2011 to 3 July 2011, **and**

(ii) did not hold a job during the reference week, **and**

(iii) took active steps to look for work or set up a business anytime during the four weeks preceding the census night, **and**

(iv) were available for work during the week ending 3 July 2011.

5.2 Classifications used

The main classifications used for coding were:

(i) Locality codes – in-house developed
(ii) Country codes – as per UN classification
(iii) National Standard Classification of Education, an adapted version of International Standard Classification of Education, ISCED 97
(iv) National Standard Industrial Classification of Economic Activities, an adapted version of the International Standard Industrial Classification of all Economic Activities – Revision 4, 2007
(v) National Classification of Occupations, an adapted version of the International Standard Classification of Occupations - 2008

CHAPTER 6. FIELD OPERATION

6.1 Fieldstaff

6.1.1 Determining the number of field staff

The number of staff required for the field operation was worked out by the Cartographic Unit, on the basis of the expected number of households by region and on the workload statistics at the previous census.

An estimate of the number of households by region for year 2011 was derived by using as benchmark, data obtained at the 2000 Census. Various sources of information were used to update the figures. These were: the population growth rate from the Demographic Unit, information collected at intercensal surveys as well as information gathered on the field by officers of the Cartographic Unit.

The number of Chief Enumerators for the housing census enumeration and the number of enumerators for the population census enumeration were then worked out using workloads at the previous census as guidelines. However, factors such as the spread of the households, the type of terrain, the number of special enumeration units such as hotels and institutions, the number of bungalows, vacant housing units, buildings under construction, establishments and agricultural holdings were considered to ensure an equitable distribution of workloads.

The number of field officers at higher levels in the hierarchy was derived using staffing ratios of the previous census and taking into consideration working conditions on the field.

It is to be noted that the number of enumerators was reviewed on completion of the housing census enumeration since the exact number of households to be visited was then available.

6.1.2 Procedure for recruitment

Field staff was recruited from government employees, parastatals, local authorities and other statutory bodies. This time-consuming exercise started as early as 2008. A circular letter inviting applications from officers interested to work as field staff at the census, was sent to all Government Ministries and Departments, parastatals, local authorities and other statutory bodies.

The Public Service Commission on the recommendation of the Director of Statistics appointed the Chief Supervisor, Assistant Chief Supervisors and Senior Supervisors. As regards the other grades of field staff, the Commission gave authorization to the Director of Statistics for their recruitment. This was done on the advice of a selection board and according to pre-defined selection criteria. The composition of the selection board and the selection criteria were as approved by the Commission.

The criteria for selection were as follows:

(i) performance in previous censuses and surveys necessitating direct contact with households; selection of new recruits if engaged in census activities such as editing and coding of census questionnaires,
(ii) nearness of applicants' residence to regions to be enumerated,
(iii) availability for work outside office hours and for the number of daylight hours to be devoted to the census;
(iv) other things being equal, priority given to staff of the Office and of the Central Information Systems Division (CISD).

6.1.3 The field force

A total of about 7,206 field officers were recruited on a part-time basis for the census field operation. The number of officers recruited by grade was:

(i) one Chief Supervisor,
(ii) three Assistant Chief Supervisors,
(iii) 21 Senior Supervisors,
(iv) 171 Supervisors,
(v) 1,151 Chief Enumerators,
(vi) An additional of 5,859 Enumerators were needed for the Population Census enumeration; however, only 5,706 Enumerators were recruited given that, in some regions, the number of applicants did not meet the number of officers needed. To ensure timely completion of the Population Census enumeration 47 Enumerators were called to carry out an additional workload and 106 Chief Enumerators to work as Enumerator as well.

Fieldwork was performed outside office hours, and on Saturdays and Sundays. Besides, all staff took an oath of office to perform their duties according to the requirements of the Statistics Act.

6.1.4 Terms of appointment

6.1.4.1 Chief Supervisor/Assistant Chief Supervisor

Chief Supervisor:

The Chief Supervisor was responsible for the whole field operation and was assisted by three Assistant Chief Supervisors. These officers were appointed for a period of nine months as from January 2011.

The main responsibilities of the Chief Supervisor were as follows:

(i) Overall responsibility for administrative control and fieldwork in Mauritius, Rodrigues and the Outer Islands; co-ordination of field and office activities.

(ii) Recruitment and replacement of field staff.

(iii) Conducting briefing and training sessions for Assistant Chief Supervisors, Senior Supervisors and Supervisors.

(iv) Control of quality of work of Assistant Chief Supervisors and Senior Supervisors.

(v) Ensure that Senior Supervisors are performing their duties satisfactorily and deal with all problems not specifically covered in instruction manuals.

(vi) To carry out and document random checks on the field.

The work of a Chief Supervisor required a total of about 525 hours, spread over a period of nine months from January 2011 to September of the same year. The Chief Supervisor received a fee of Rs 16,500 and travelling allowance of Rs 6,500 per month for the nine-month period of appointment.

Assistant Chief Supervisor:

The Assistant Chief Supervisors were required to assist the Chief Supervisor in the performance of her duties and to keep records of field checks carried out.

The work of an Assistant Chief Supervisors required a total of about 475 hours, spread over a period of nine months from January September 2011. The Assistant Chief Supervisor received a fee of Rs 15,000 and travelling allowance of Rs 6,000 for the nine-month period.

6.1.4.2 Senior Supervisor

Twenty one Senior Supervisors were appointed for a period of nine months as from January 2011. The Senior Supervisors worked under the supervision of the Chief and Assistant Chief Supervisors and each Senior Supervisor had the charge of about eight Supervisors and 60 Chief Enumerators for the Housing Census and an additional 300 Enumerators for the Population Census.

The main duties of the Senior Supervisor were as follows:

(i) To attend training and briefing sessions.

(ii) To reconnoiter the census area allocated to him/her with a view to identifying the boundaries of geographical districts, census districts, District Councils, Municipal Council Wards, Village Council Areas, and census enumeration areas.

(iii) To equitably allocate census enumeration areas amongst his/her Supervisors and Chief Enumerators.

(iv) To show to each of his/her Supervisors the boundaries of the enumeration areas allocated to him/her and to ensure that there is no overlapping or omission.

(v) To train his/her Supervisors, Chief Enumerators and Enumerators.

(vi) To ensure that all staff under his/her responsibility are performing their duties satisfactorily and within the established time limits.

(vii) To control the work of his/her Supervisors and Chief Enumerators and keep the necessary control documents and quality assurance records up to date.

(viii) To be responsible for the transmission and control of census documents from the central office to the field and back.

(ix) To act as liaison officer between the Chief Supervisor and the field staff.

(x) To carry out and document random field checks.

The duties of a Senior Supervisor required some 505 hours of work, spread over a period of nine months from January to September 2011. The Senior Supervisor was remunerated at the rate varying from Rs13,500 to Rs14,500 per month and a monthly travelling allowance varying from Rs5,500 to Rs5,000, depending on the spread of allocated regions.

6.1.4.3 Supervisor

One hundred and seventy one Supervisors were appointed for a period of eight months as from January 2011. On the average, a Supervisor had to supervise the work of seven Chief Enumerators and 40-50 Enumerators.

The main duties of the Supervisor were as follows:

(i) To attend training and briefing sessions.

(ii) To make a reconnaissance of his/her census area with his/her Senior Supervisor and become acquainted with the boundaries of the enumeration areas of each of his/her Chief Enumerators; subsequently show to each Chief Enumerator the boundaries of his/her areas to avoid omissions and double counts.

(iii) To assist the Senior Supervisor in allocating enumeration areas to Chief Enumerators so that the workload is equitably distributed.

(iv) To be present when his/her Chief Enumerators and Enumerators are being trained so that they may be able to deal with any problems that may crop up during the fieldwork.

(v) To control the flow of census documents from the Senior Supervisor to the Chief Enumerator and back.

(vi) To accompany each of his/her Chief Enumerators in their first few interviews to ensure that all concepts have been clearly understood.

(vii) To give appropriate instructions to his/her Chief Enumerators at the Housing Census and his/her Enumerators at the Population Census, and control the quality of their work.

(viii) To prepare a count of housing units, households, and persons by sex, for each Enumeration Area from completed Housing Census questionnaires before submitting the latter to the Senior Supervisor.

(ix) To ensure that the Housing Census fieldwork progresses satisfactorily right from the beginning and is completed by mid-April 2011 at latest.

(x) To keep records as directed for control of progress and quality of fieldwork.

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(xi) To carry out and document random field checks.

These duties required some 400 hours of work, spread over a period of eight months from January to August 2011. The Supervisor was remunerated at the rate varying from Rs 9,500 to Rs 12,000 per month and a monthly travelling allowance varying from Rs3,600 to Rs4,500, depending on the spread of regions allocated to him/her.

6.1.4.4 Chief Enumerator

The number of Chief Enumerators recruited for Census 2011 was 1,151. Chief Enumerators were recruited for the Housing Census enumeration from January to April

2010 and for leading a team of about 5 Enumerators at the Population Census in June/July 2011.

The main duties of the Chief Enumerator were as follows:

(i) Attend briefing sessions for the Housing Census.

(ii) Make a reconnaissance of his/her area allocated under the guidance of his/her Supervisor and update census maps if necessary.

(iii) Carry out the enumeration of all buildings, housing units and households in his/her area (Housing Census).

(iv) Collect information on commercial and industrial establishments as well as agricultural holdings in his/her area.

(v) Prepare a list of heads of households and their addresses for each of his/her Enumerators.

(vi) Attend briefing sessions for the Population Census

(vii) Be in charge of a team of about 7 Enumerators at the Population Census and ensure that they perform their duties in accordance with the instructions given.

(viii) Control the work of his/her Enumerators and check for errors and omissions.

(ix) Prepare a count of persons by gender for each Enumeration Area from the completed Population Census questionnaires.

(x) Keep any records as directed for control purposes.

(xi) Make call-backs if necessary to obtain missing information and correct errors.

Chief Enumerators had to furnish about 150 hours of work for the Housing Census and an additional 70 hours for the Population Census. The fee for the whole work was Rs 40,000 inclusive of travelling expenses and was paid in two installments. The first payment was made around May 2011 on completion of duties regarding the Housing Census, and the second around August 2011 on completion of duties regarding the Population Census.

6.1.4.5 Enumerator

The total number of Enumerators initially intended for the Population Census enumeration was 6,057. However, only 5,706 were recruited due to unavailability of appropriate staff in certain regions.

The main duties of the Enumerator were as follows:

(i) Attend briefing sessions.

(ii) Deliver the Census brochures to around 60 households 3 to 4 days before census night.

(iii) After Census night, call on each of the households, interview all persons therein and fill in the census questionnaire.

(iv) Scrutinise all completed questionnaires, preferably at the conclusion of each interview to ascertain their completeness and correctness, making further enquiries if necessary.

(v) Complete editing of all questionnaires.

(vi) Return the questionnaires to his/her Chief Enumerator for scrutiny and make callbacks to households to correct errors or obtain missing information, if necessary.

The Enumerator had to furnish about 115 hours of work between mid-June and end-July 2010. The fee offered to the Enumerator was Rs 13,000 and was inclusive of travelling expenses.

6.1.5 Training of field staff

A train-the-trainer approach was adopted to train the large number of field staff recruited. Training was first dispensed to Senior Supervisors and Supervisors by the Chief Supervisor and Assistant Chief Supervisors as well as resource persons from the company hired for undertaking census data capture through scanning and recognition. The trained Senior Supervisors and Supervisors in turn conducted training sessions with the Chief Enumerators and Enumerators at a later stage.

6.1.5.1 Housing Census

Training of field staff for the Housing Census started in December 2010 with the training of Senior Supervisors and Supervisors. The training consisted of four days formal sessions of five hours each held on two different weekends. The first two days were dedicated to train Senior Supervisors only while day 3 and 4 were devoted to train the Supervisors in the presence of their respective Senior Supervisors. During the sessions, stress was laid on the responsibilities of the supervisory staff and on study of the instruction manuals (Instructions to Supervisory Staff and Instructions for Chief Enumerators). Senior Supervisors were given instructions on how to carry out their duties, specially with regard to supervision and quality control of fieldwork, proper filling

of specially designed scannable questionnaires and timely transmission and control of census documents between the field and the office. They were also given guidelines on how to train their field staff.

Training of Chief Enumerators was later carried out by the Senior Supervisors. During two five-hour sessions, Senior Supervisors elaborated on the duties of the field staff and on the procedures for the housing census enumeration as set out in the instructions manuals. Other information relevant to census taking such as the objectives of the census, the uses of census data, the coverage, the field organization, the methodology adopted, the legal and confidential aspects of the census was given. The information, though not directly relevant to fieldwork, was given to equip interviewers so that they could perform in an efficient way. Emphasis was laid on creating and maintaining a good rapport with respondents. Moreover, special training was dispensed to all field staff on how to record the answers in the questionnaire for optimal scanning and recognition.

Formal training sessions were supplemented by informal meetings where Senior Supervisors and Supervisors ensured that instructions were understood and that doubts that could in one way or another affect the smooth running of the field work were cleared.

Furthermore, a review of the situation on the field was made during the weekly meetings by the Chief Supervisor and Assistant Chief Supervisors with Senior Supervisors. Problems encountered on the field which were not addressed in instructions manuals or during training sessions were discussed and appropriate instructions were then promptly given to the different grades of field staff.

6.1.5.2 Population Census

Training of field staff for the Population Census started in June 2011 with a session for Senior Supervisors and Supervisors, conducted by the Chief Supervisor and Assistant Chief Supervisors. The training session, which lasted five hours, included a detailed study of the "Instructions for field staff" manual. The supervisory aspect of the fieldwork was also stressed upon.

Training of Chief Enumerators was later conducted by the Senior Supervisors and that of Enumerators by Supervisors. The training of each of these two grades consisted of two sessions of five hours. During the sessions, the instructions manual was studied; special attention was given to the use of listing sheets and to the filling in the census forms. As part of their training, Chief Enumerators and Enumerators were asked to fill in the population census questionnaire in respect of different scenarios they could encounter on field; problems that arose during the exercise were sorted out thereafter.

After the formal training sessions, regular meetings between the various grades of field staff were held to (i) monitor progress of fieldwork; (ii) to ensure that instructions were clearly understood and were being appropriately followed and (iii) to solve problems that

arose during fieldwork. Weekly meetings of the Chief Supervisor and Assistant Chief Supervisors with Senior Supervisors were again held for Population Census.

6.2 Census enumeration

6.2.1 Housing Census

The enumeration work was organized by EA. Enumeration within each EA was done in a systematic way to ensure that all buildings, housing units and households within the limits of the area were canvassed. This necessitated a good planning of the enumeration work involving the sub-division of each EA into well-demarcated blocks and the canvassing of one block after the other until the whole EA was covered.

One or two weeks before the housing census, Chief Enumerators made field reconnaissance and ensured that they were well-acquainted with the boundaries and ground features of the enumeration areas allocated to them. With the assistance of the Supervisors, Chief Enumerators identified blocks with well-defined boundaries such as roads, lanes, rivers, mountain sides or cane fields within each EA. EAs were then sub-divided accordingly and blocks within each EA were assigned a two-digit code starting with 01. Chief Enumerators then proceeded with the enumeration of buildings within each block in an orderly and systematic manner starting with block number 01 until the whole EA was covered. Each enumerated building was assigned a unique identification number consisting of the two-digit block number and a three-digit building number. Thus the first building in block 01 was given the identification number 01/001, the second 01/002 etc. These identifiers, besides being recorded on the census forms were written on the enumerated buildings on a conspicuous place so that they could be easily spotted by the supervisors during control and later by the enumerators during the population census enumeration.

Chief Enumerators also had to indicate on their EA census maps their starting point as well as their route of travel for each block. This was to facilitate the control work of the Supervisors and later to help enumerators to easily locate the households they had to visit at the Population Census.

Information was collected in housing census forms designed to be scanned at processing stage. Since the movement of census forms was organized by EA, forms used for a given EA were kept together in labeled boxes so that one box would contain forms of one EA only. Furthermore, to avoid bottlenecks at the processing stage, completed EAs were verified and returned to the office as soon as the canvassing of an EA was completed.

For each EA covered, the Chief Enumerator had to prepare a list of heads of households, vacant housing units and housing units under construction together with the addresses. The number of persons in occupied households was also recorded on the list. The list was later used for the preparation of workloads of Enumerators.

6.2.2 Population Census

A population census form, with the name and address of the head of household as well as other geographical information, was prepared for each private household enumerated at the Housing Census. Addressed population census forms were also prepared for hotels, institutions and collective quarters.

Each Enumerator was given a list of addresses to be visited and an addressed population census form for each of these addresses. He/she was also provided with some unaddressed forms for newly-formed households and for households that could have been missed at the Housing Census as well as a specially designed sheet to record the names and addresses of any newly formed or missed households.

Distribution of census brochures describing the objectives of the 2011 Census was done during the week preceding the Census night of 3rd July 2011. The Enumerator was given specific instructions on how to proceed with the list of households provided to him/her. By inserting appropriate remarks for each entry on the list at the distribution and later at the collection stage, he/she was able to keep control of his work on the field. He/she was able to tell whether all the forms had been delivered and subsequently collected, whether a household had moved to a new address or whether a housing unit reported as vacant at the Housing Census, is now occupied.

Special arrangements were made with managers or responsible officers of hotels, institutions and collective quarters for the enumeration of guests or inmates. Since it was difficult to obtain information from persons staying in hospitals, infirmaries, asylums and prisons, information from administration records was used to answer as many questions as possible. Enumeration of foreign workers living in collective quarters was done with the assistance of responsible officers of companies where the foreigners are working.

Filling of census forms started on the day following the census night and lasted till the end of the same month. Census enumerators were requested to fill in the census forms according to instructions given in the "Instructions for field staff" manual and based on statements provided by the head of households. Meetings at various levels of field staff were held to assess the situation on the field and to solve unexpected problems. Enumerators were also asked to compare the resulting person count for each household with that obtained at the Housing Census and provided to them. Any difference had to be explained.

6.3 Quality assurance of field operation

The quality of information collected depends not only on the training of field workers, but also on the day-to-day control and supervision of the fieldwork.

Supervisors had to accompany each of their Enumerators in the first visits to ensure that interviews were done according to instructions given and that all concepts were clearly understood. Surprise and pre-arranged field checks as well as re-interviews also helped

to increase the reliability of the information collected. Furthermore, Supervisors had to check all completed questionnaires at the early stage of enumeration and later a sample of the completed questionnaires to ensure that the quality of work was satisfactory. Meetings were held regularly to take stock of the field situation and to solve problems met on the field.

All supervisory staff had to record their field activities in provided diaries. The day-to-day record outlined the activities carried out, the dates and the places at which the activities were carried out, problems encountered and remedial actions taken. The day-to-day recording of activities allowed supervisory staff to follow the progress of work and to assess the performance of each and every staff working under their supervision. Furthermore, it ensured that supervisory control prevailed all along the fieldwork.

6.4 Movement of census forms

Movements of census forms were organized by EA. Forms used for given EAs were kept together in boxes and returned to the census storeroom at the Office after verification.
An IT tracking system was used to monitor movement of completed census questionnaires (i) upon reception from the field to the store room of the office; (ii) from the store room to the private company carrying out data capture through scanning and recognition; (iii) after data capture back to the store room.

The tracking system helped to assess the progress of work and ensure that batches of all EAs have been through the various processing stages.

CHAPTER 7. PROCESSING OF CENSUS DATA

7.1 What is data processing?

Data processing is the process of converting raw data into usable information. The process consists of various successive phases such as capture, coding, editing and tabulation.

7.2 Preparatory tasks

For optimum data capture through the use of scanning and recognition technology, some preparatory tasks had to be done as follows:

- Reception and registration of questionnaires
- Storage and documents tracking
- Preparation for scanning or capturing

7.2.1 Reception and registration

Completed Census questionnaires from the field reached the office as from February 2011 for the Housing Census and in September 2011 for the Population Census.

It was necessary to have a good handover from the field data collection teams to the data processing team to be able to account for all collected questionnaires and make sure that they were captured. For this purpose an IT tracking system was designed to track the movement of the completed questionnaires upon reception from the field.

In order to keep all questionnaires in a good condition for optimal scanning and recognition, specially designed carton boxes akin to pizza boxes were used to keep them to prevent them from being wrinkled. Each box was affixed with a sticker bearing a unique barcode number and was registered in the IT-tracking system together with its questionnaires as follows:

(i) First, the box barcode was hand scanned and automatically entered in the system. Information recorded on the box such as *Enumeration Number, Block number, Building Number, Housing Unit Number, Household Number, Chief Enumerator Number, number of questionnaires filled in, number of blank questionnaire and number of spoilt questionnaires* were keyed in.

(ii) Next, the barcode of each questionnaire in the box was hand-scanned and was automatically fed in the tracking system.

By so doing, each questionnaire was linked to its box through a unique barcode number and it was possible to associate all questionnaire barcodes with their respective geographic area of reference (Enumeration Area).

During this process, bad or damaged questionnaires were identified and the information thereon was transcribed in fresh questionnaires. It is to be noted that there were very few bad questionnaires (less than 100).

7.2.2 Storage and document tracking

A temporary store room was arranged at Statistics Mauritius head office for storing the census materials and was, for security and confidentiality purposes, declared off limits for unauthorized persons.

Movements of census questionnaires were systematically monitored by the tracking system which was linked to a complete and exhaustive reference database. This allowed synchronizing the information about the boxes and their respective questionnaires by making sure that the database is updated regularly by both the reception and scanning teams. Thus, it was possible to locate the whereabouts and status of a given questionnaire at any given time.

It should be noted that the document management system of the tracking system managed all questionnaires leaving and entering the storage area. All scanned questionnaires were recorded as 'questionnaires already scanned' by the tracking system. Any box with missing questionnaires or questionnaires not yet scanned was not.

7.2.3 Preparation and guillotining

The preparation for scanning operation entailed the separation of individual sheets of each questionnaire by guillotining the spine. This procedure was applicable only to Population Census questionnaires which consisted of three A3 sheets. No guillotining was required for Housing Census questionnaires, since each questionnaire of this type was printed on an A3 size paper.

7.3 Scanning and capture

Census questionnaires were stacked correctly into small production units called "batch" and were fed into the scanner.

When census questionnaires were scanned, the images were stored in an indexed directory using Batch numbers. Each scanned batch was recorded as a scanning transaction into the reference database mentioned earlier, taking advantage of the questionnaire barcode. This approach allowed tracking of questionnaires that were already scanned versus those that were not yet scanned.

Moreover, the custom built scanning software application had the features of

(i) checking for quality of the image;
(ii) identifying duplicate questionnaires (by checking the barcodes)
(iii) checking for missing pages, if any; and
(iv) automatically merging all pages of the documents into a single image file.

For the Housing Census, the exercise lasted from the last week of February 2011 to the third week of April 2011, whilst for the Population Census, it lasted from the first week of August 2011 till end November 2011.

7.4 Recognition and key correction using Key From Image (KFI)

The scanning solution adopted for Census 2011 enabled the recognition of the scanned images to be done at the time of scanning. The software EDMS.Imaging ® was used to check for scanning errors.

Since the Census questionnaires were designed with mixed type of fields (i.e. both OMR and ICR types), the EDMS.Imaging ® software allowed for the creation of voting rules between different recognition engines. The software was used to leverage the strengths of multiple recognition engines to produce accuracy for recognized data through OMR and ICR. Its recognition engines examined all the characters; then analyzed the results, balanced the strengths of the individual engines and determined the correct interpretation of data. Those cases not recognized were prompted for correction.

All unrecognised characters (known as false-positive reading cases) were automatically sent for key correction or verification by using Key from Image (KFI) to the team of the company entrusted with the scanning tasks. Cases such as wrong markings of OMR fields, wrong entries of ICR fields, marking of more than one box for a particular OMR field were handled by the census team of the office.

7.5 Data Quality Assurance

This process aimed at checking the quality of data from electronic images. To minimize recognition errors, that is errors caused when the value of the ICR or OMR box were misread by the ICR and OMR technologies, quality control was instituted during the data capturing process. A 2% sample of all data fields was randomly selected for quality checking by census staff of the office. Results of quality check showed that the recognition error was extremely small.

At this stage, the paper questionnaires were sent back to the store room.

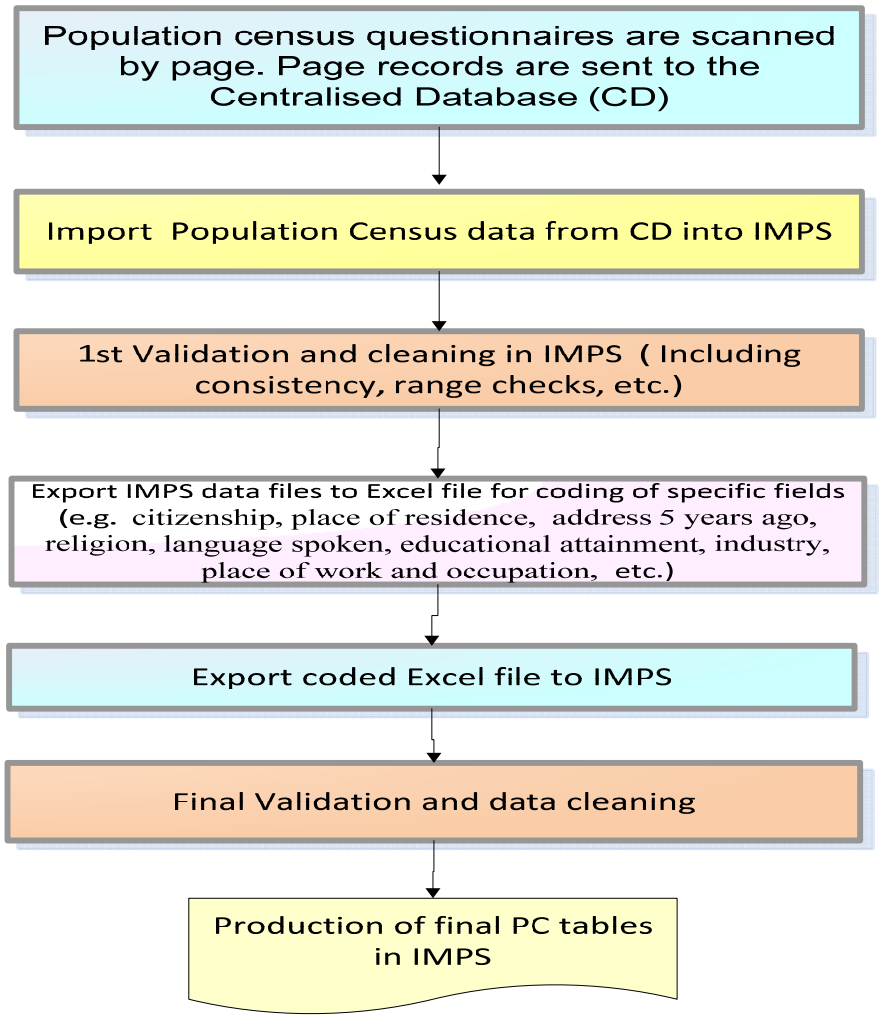
7.6 Export of the captured data, editing, coding and tabulation

All scanned images together with the recognized data set were exported to the centralised database under the supervision of the IT Project Manager of the office. The structure of data transferred was defined by census staff.

It is to be noted that due to confidentiality issues, access to the 2011 Census dataset was restricted to a selective group of the Census and IT staff.

The data was then exported to IMPS where the first validation was done then split into smaller files and exported to Excel for coding. Eventually the Excel files were consolidated back to IMPS for final data cleaning involving intra-record and intra-

household consistency checks among others. Tabulation was then done in IMPS. These stages are illustrated in the chart below:



7.6.1 Statistical data validation, editing and coding

About 15 clerical officers previously engaged in the various units of the Office and 25 newly recruited statistical officers were called upon to carry out the editing, coding and validation of the census data.

The officers were trained by the statisticians in charge of the exercise, in small groups and as and when they joined the team. Training was essentially an on-going process and supervisory staff had to ensure that instructions were understood and followed. To achieve uniformity and consistency, problems that arose and which were not covered in the manuals or during training sessions were discussed with the Deputy Director responsible for census taking. Instructions were then transmitted to the team of editors and coders during short briefing sessions that were conducted as and when needed. Their

main duties consisted in the editing, coding and validation of the census data but they were also involved in various administrative works such as the preparation of appointment letters to field staff, preparation of census materials for field staff, preparation of lists of field staff for payment, reception and tracking of completed census questionnaires, etc.

7.6.2 Editing and coding of Housing Census questionnaires

A team of 10 editors and coders and three supervisors was involved in the editing and coding of Housing Census data. This was carried in two phases.

During the first phase carried out from March to April 2011, the team did verification and consistency checks of geographical identifiers, block numbers, building numbers within blocks as well as the housing units within buildings. The team then proceeded with the consistency checking, and editing of the information in Sections 1 to VI of the questionnaire covering *Location, Type of building, Characteristics of buildings, Address, Characteristics of housing Units, and Characteristics of households*. These Sections were given priority over remaining sections of the questionnaire since the information therein was needed for the timely production of addressed Population Census questionnaires.

This involved the extraction of the data items pertaining to *Name of head of household, Address and geographical identification codes* from the Housing Census data file which were submitted to the printing company for printing of the Population Census questionnaires

During the second phase from May to June 2011, the team did the consistency checking, editing and coding of all information in Section VII - *Agriculture* and Section VIII - *Commercial, industrial establishments, hotels, guest house and tourist residence.* Coding of locality (Section IV) was also done in this phase.

7.6.3 Editing and coding of Population Census questionnaires

Editing and coding of data for the Population Census started in August 2011 and ended in February 2012.

First each batch of questionnaires in a given EA was checked to have the same EA codes. Officers then proceeded with consistency checking and editing of the data set according to instructions given. Some of the checks performed included, among others, the verification of the presence of only one "head" per household and the sequential numbering of entries on the forms, consistency between age and date of birth, consistency between age and marital status, and consistency between age and educational attainment.

The coding of the Population Census forms was more complex and time-consuming than that of the Housing Census forms. All open-ended questions such as citizenship, place

of residence, address 5 years ago, religion, language spoken, educational attainment, industry, place of work and occupation had to be coded.

7.6.4 Data validation

The statistical data validation process took advantage of the available personnel skills in data analysis.

A validation programme was run to identify records with errors. Scanned images of relevant census forms were retrieved, corrections made accordingly and data files updated. The validation of Housing Census files was done, in parallel with the editing and coding exercise, by a team of five officers during the months of April and May 2011 while the validation of the Population Census data files was carried out on completion of the editing and coding exercise, i.e. during the months of January and February 2012.

Once validation was completed, a preliminary set of publication tables was produced using the country data file. Analysis of these tables showed that no additional editing was needed for the Housing Census data. As regards the Population Census data, while the tabulated counts of households and population were found to be consistent with the Housing Census tabulated figures, there were inconsistencies in some tables. A list of relevant edit specifications was drawn and incorporated in a CONCOR programme to remove the inconsistencies from the tabulated data. It should be mentioned that the edits included in the CONCOR correction programmes were not exhaustive so that tables still contained slight inaccuracies that would be too costly and time-consuming to identify and correct.

7.6.5 Tabulation

Tabulation was done using the CENTS module of IMPS.

A set of 23 tables was produced for the Housing Census. Since all the tables were at the same geographical level, namely at the Municipal Ward/Village Council Area level, only one run was required.

As regards the Population Census, 112 tables at various area levels were produced. A different strategy was therefore adopted. Tabulation programmes were written according to topics irrespective of the geographical level at which tables were to be published. Eight sets of tabulation programmes involving the following topics were written: demographic characteristics and fertility characteristics, educational characteristics, disability, economic activity and characteristics of the employed, characteristics of the unemployed, migration characteristics and household characteristics were written.
Even though all tables in a set were not published at the same level, all intermediate table files for a given set were produced at the lowest level required. Appropriate level for each table was introduced in the table format files so that all tables were eventually produced at the level needed.

The tables produced by CENTS were publication-quality tables so that little text editing was needed. Only removal of duplicate tables at some area levels and some formatting as regards the page settings of large tables were performed before publication.

The publication table files were exported to the spreadsheet software EXCEL and were subsequently posted on the office website.

Main results of the Housing Census were published in August 2011followed by the tabulation report in November 2011. For the Population Census, main results were released in June 2012 followed by six tabulation reports in October 2012.

7.7 Software and equipment

The data processing system for Census 2011 was an integration of different systems/modules and processes in a given sequential order.

Census capture was centralised around a relational database allowing various capture-related processes to be monitored through a web-based document tracking system purposely built in-house for Census 2011.

The software used for the editing, validation and tabulation of the census data was IMPS 4.1 (Integrated Microcomputer Processing System) of the International Programs Center of the US Bureau of the Census, which is specifically designed for census and survey data processing.

7.8 Hardware requirements

The following equipment was available for data capture and processing:

(i) 3 A3 scanners

(ii) 1 guillotine

(iii) 35 PCs for KFI, validation and tabulation

(iv) 3 laser printers for printing of publication tables.

(v) 2 ICR recognition servers

(vi) 1 web application server

(vii) 1 relational database server

CHAPTER 8. DISSEMINATION OF CENSUS RESULTS, EVALUATION AND ANALYSIS

8.1 Dissemination of census results

The processing and tabulation of the Housing Census data were completed in November 2011 while those of the Population Census data were completed in November 2012. Main results of the two census rounds were published in two issues of Economic and Social Indicators, namely,

2011 Housing Census – main results,
2011 Population Census – main results.

Detailed results were published in seven volumes of table reports. These are:

Volume 1	-	Housing and living conditions
Volume II	-	Demographic and Fertility Characteristics
Volume III	-	Educational Characteristics
Volume IV	-	Disability
Volume V	-	Economic Characteristics
Volume VI	-	Geographical and Migration Characteristics
Volume VII	-	Household Characteristics

All the above publications are on sale at the office. Furthermore, the tabulation files have been converted to PDF and Excel formats and are posted on the website of the office (**http://statsmauritius.gov.mu)**.

A list of tables included in the table reports is shown at Appendix III.

8.2 Ad-hoc requests for census tables

The census has collected a vast amount of valuable information from which numerous and various types of analytical studies can be made. Tables that have been published so far are of general interest. The Office is aware that these will not fully satisfy the needs of specialized users. In this connection, specific tables for such purposes can be produced on request and within reasonable time limits.

8.3 Mapping products

It is envisaged to produce and disseminate statistical or thematic maps using census data. The aim is to make census results more meaningful to a wider community and easier to

use. Maps will allow the general user to visualize the geographical distributions and patterns inherent to the census data; interest may reside in the current patterns and also in changes in the patterns that have occurred over time, particularly since the last census.

8.4 Evaluation and analysis

The Office usually publishes unadjusted census data as soon as they are available and then carries out an analysis and evaluation exercise.

This report is the first of the series. Other analysis reports will be published during the coming months.

CHAPTER 9. PROBLEMS ENCOUNTERED AND RECOMMENDATIONS

9.1 Shortage of staff

Problems of shortage of staff were met at various stages of the census operation, causing delays on the time schedule.

9.1.1 Fieldstaff

The office faced serious problems with the recruitment of fieldstaff in some regions. At the start, fieldstaff was to be recruited from public officers and circulars were sent to all public departments inviting applications from interested officers. However, the pool was insufficient and the recruitment had to be extended to non-public officers such as teachers of private schools and postal officers.

In spite of this measure, there was still a shortfall of about 150 field officers in the grade of enumerators. In many regions, the number of applicants did not meet the number of enumerators required and it was not feasible to deploy enumerators far from their residence. To ensure timely completion of the population census enumeration, it was necessary to allocate additional workloads to some 50 Enumerators and to call upon some 100-Chief Enumerators to carry out the workload of an Enumerator as well.

9.1.2 Office staff

The necessary number of officers needed to carry out census office work was not made available to the office in time. As a result, the office had to put on hold non-priority statistical tasks and redeploy some of its officers from other units to the census unit.

Reception of completed census questionnaires from the field started in the period around end February 2011. At that point in time, there were not enough officers to register all the completed questionnaires in the IT tracking system and to deliver the required amounts of questionnaires to the scanning company. So officers from outside the census unit were called upon to support in these tasks.

Editing and coding of the population census forms started in August 2011 with 10 officers. The number of coders was increased to a maximum of around 25 during the month of December 2011 when the exercise was nearing completion. The exercise, initially planned to be completed in November 2011 with 35 officers, was finally completed in February 2012, after extensive after office work.

9.2 Publicity campaign

At the start of census operations, it was realized that it would be better to hire the services of professional communications personnel for the census publicity campaign. However, it was not feasible to do so as the cost is too high and was not factored in the budget. As

a result, staff of the statistical cadre in the office had to devote much time and effort to census publicity and the results were quite mitigated.

9.3 Enumeration procedure

Unlike the previous censuses, the Population Census questionnaires were filled in by enumerators instead of the respondents to ensure good handwriting for optimum scanning and recognition. As a result, the signature of heads of households was not included in the form. It was later realized that it would have been preferable to have them sign their completed questionnaires – this would have led to fewer call-backs to cross-check the collected information.

9.4 Difficulty to access some households

The Housing Census was conducted from 31 January 2011 to 19 June 2011 and overlapped with the Electoral Census which was carried out from 28 January to 11 February 2011. As a result, some members of the public were confused and to get their collaboration they had to be explained that these are two separate exercises with different purposes.

Also in some regions, especially posh areas, the households were gated and it was difficult to access the respondents. Special letters were then sent by post to these respondents to ask for an appointment to carry out the census interview.

9.5 Wholly absent households

Wholly absent households who were not in Mauritius during both the Housing and Population Census enumeration were not enumerated and are hence excluded from all tabulations. However, households present during the Housing Census enumeration but absent during Population Census enumeration were included in the Population Census count.

9.6 Data processing

It was initially planned that automatic coding would be used for coding of data items such as citizenship, place of residence, address 5 years ago, religion, language spoken, educational attainment, industry, place of work and occupation. As several wrong codes were observed, the file was split into smaller ones and exported to Excel where the coding was done fast after sorting the respective data items.

However, transformation and consolidation of the partial Excel files into a single IMPS (the software used for data cleaning and tabulation) file proved to be very time consuming.

9.7 Pilot Census

The pilot census or the “census dress rehearsal” is a process in which all census operations are being tested in a detailed comprehensive manner. This takes place, ideally

and as a matter of best practice, one year ahead of the actual census date, when major external circumstances, such as weather, holiday periods, school year schedule etc. can be expected to be similar to when the census proper will be conducted. The pilot census tests all phases of the main census, from planning to the execution of the planning, logistics arrangement and management, questionnaire design and format, training procedures, fieldwork operations, publicity, payment system, data processing, data tabulations and analysis.

This exercise was undertaken in September 2010, some four months only preceding the 2011 Housing Census, and with a very small sample of 100 households. Although most of the procedures were tested successfully during this time frame and with this small sample, it was found to be insufficient to test some of the phases of the census process, namely actual overall field conditions (response rates in some remote and posh regions in particular) editing, automatic coding, validation, tabulation and analysis.

9.8 Recommendations

It would be desirable and very beneficial for the planning of the next census if all the challenges and problems encountered could be considered as lessons learnt. Specific recommendations are as follows:

Fieldstaff
Fieldstaff should be selected well in advance so as to get an idea of scarcity regions. With regard to these regions, public advertisements should be issued for recruiting fieldstaff and if need be, provisions should be made for recruiting non-public officers.

Office staff
Provisions should be made for recruiting office staff on contract so as to obtain the needed number of office staff on time.

Hire professional communications personnel for the Census publicity campaign
It is highly recommended that costs for hiring professional communications personnel be included in the census budget so that the census publicity campaign could be entrusted to communications professionals. The benefits would be that the campaign would better contribute to the smooth conduct of collection operations while leaving time to staff of statistical cadre to focus on their core business of conducting the census.

Enumeration procedure
Whatever the method of enumeration, provisions should be made for the respondent to certify the contents of the completed questionnaire pertaining to his/her household before submission to office.

Also, to cut down on response burden, it would be advisable to consider the setting up a population register populated with administrative data. Should this not be feasible for the next census, newest technologies should be considered for instance, on-line census (with proper safeguards for data confidentiality) and/or use of tablet PCs for carrying out

computer-assisted interviews. These methods will help to cut down on paper costs as well data capture and processing time.

Avoid overlap with other major data collections

Should a census be warranted for the next round (if a population register is not yet in place), prior consultations should be held with the Electoral Department and other departments to ensure no overlap with Housing and Population census taking.

Conduct of more extensive pilot census

Again should a census be warranted for the next round, a more extensive pilot census should be conducted a year ahead of the census and the data collection should be done in the same months as the actual census. Also, a representative (instead of a purposive) sample covering all types of regions and households (both private and communal) should be covered to be better able to test some of the phases of the census process, namely actual overall field conditions, editing, automatic coding, validation, tabulation and analysis.

VII. AGRICULTURE

To be filled if any member of the household cultivates any land >= 5 perches on own account mainly for commercial purposes (excluding kitchen garden, sugar cane, tea and tobacco)

Household Number / **Household Member**

Surname of planter
Other names
Location of field
Area (perches)
Crop 1 : Description — Type 1 2 3
Crop 2 : Description — Type 1 2 3
Crop 3 : Description — Type 1 2 3

Household Number / **Household Member**

Surname of planter
Other names
Location of field
Area (perches)
Crop 1 : Description — Type 1 2 3
Crop 2 : Description — Type 1 2 3
Crop 3 : Description — Type 1 2 3

Household Number / **Household Member**

Surname of planter
Other names
Location of field
Area (perches)
Crop 1 : Description — Type 1 2 3
Crop 2 : Description — Type 1 2 3
Crop 3 : Description — Type 1 2 3

Crop: Please specify e.g Vegetables (Tomato, Potato, etc), Flowers (Anthurium, Gerbera, Rose, etc), Fruits (Litchi, Mango, Strawberry, etc)
Type: 1:Open fields; 2:Greenhouse - hydroponic; 3:Greenhouse - non hydroponic

VIII. COMMERCIAL AND INDUSTRIAL ESTABLISHMENTS, HOTEL, GUEST HOUSE AND TOURIST RESIDENCE

(To be filled in for every non-agricultural private establishment, including those relating to small crafts)

E00 Serial no. of establishment ___ **of** ___

E01 Name of establishment or working proprietor/manager

E02 Main activity in which the establishment is engaged

E03 Business Registration Number

E04 No. of persons engaged at the time of enumeration

COMMENTS AND FULL DETAILS OF UNUSUAL CIRCUMSTANCES

.....

.....

IN STRICT CONFIDENCE

REPUBLIC OF MAURITIUS
MINISTRY OF FINANCE & ECONOMIC DEVELOPMENT
CENTRAL STATISTICS OFFICE
2011 HOUSING CENSUS

2011 Housing and Population Census

C.E. ID

I. LOCATION

C00 Questionnaire Number ___ of ___
C01 Geographical District
C02 Municipal Ward/Village Council Area
C03 Enumeration Area
C04 Block No.
C05 Building Enumeration No.
C06 No. of Housing Units in Building
C07 No. of Establishments in Building

II. TYPE OF BUILDING

C08 TYPE OF BUILDING

(A) Under Construction and not Inhabited — 01 — Skip to SEC.IV

(B) Wholly Residential

(i) Building used wholly as one housing unit — 02
(ii) Building containing more than one housing unit
(a) Semi - detached houses — 03
(b) Block of flats — 04
(c) Building intended to be used as one housing unit but crudely subdivided into smaller housing units — 05
(d) Other wholly residential - specify — 06
.....
(iii) Detached room intended for use by part of a household — 07
(iv) Building or structure occupied as improvised housing unit (e.g longère, garage, tent) — 08
(v) Homeless — 09 — Skip to SEC.IV

(C) Partly Residential

(vi) Building used partly for residential and partly for other purposes (e.g. shop dwelling) — 10

(D) Hotels and Institutions

(vii) Tourist residence — 11
(viii) Guest house — 12
(ix) Hotel — 13
(x) Institution (e.g. convent, infirmary, hospital, barracks) — 14 — Skip to SEC.IV

(E) Non-Residential

(xi) Public building — 15 — STOP HERE
(xii) Commercial — 16
(xiii) Industrial — 17
(xiv) Commercial and Industrial — 18
(xv) Warehouse — 19
(xvi) Other non residential - specify — 20 — Skip to SEC.IV
.....

III. CHARACTERISTICS OF BUILDINGS
CODED 02 - 08, 10 IN SECTION II

C09 STOREYS ABOVE GROUND FLOOR

Number of storeys above ground floor
(If none, write 00)

C10 YEAR OF COMPLETION

(i) Before 1970 — 1
(ii) 1970-1984 — 2
(iii) 1985-1989 — 3
(iv) 1990-1994 — 4
(v) 1995-1999 — 5
(vi) 2000-2004 — 6
(vii) 2005-2009 — 7
(viii) 2010-2011 — 8
(ix) Not known — 9
(x) Not completed but inhabited — 0

PRINCIPAL MATERIAL OF CONSTRUCTION USED

C11 ROOF

(i) Concrete slab — 1
(ii) Iron or tin sheets — 2
(iii) Shingles — 3
(iv) Other - specify — 4
.....

C12 WALLS

(i) Stone, concrete, concrete blocks, bricks — 1
(ii) Iron or tin sheets — 2
(iii) Wood — 3
(iv) Other - specify — 4
.....

IV. ADDRESS (CODED 01 - 14 and 16 - 20 of SECTION II)

C13 Apartment/Flat
No. and Street/Road/Lane
Locality/Town/Village

V. FOR ALL HOUSING UNITS (CODED 02 - 06, 08,10 of SECTION II)

CHU1 SERIAL NO. OF HOUSING UNIT

CHU2 NO. OF HOUSEHOLDS IN HOUSING UNIT

HU1 OWNERSHIP

	Mortgaged	Non mortgaged	Not known
(i) Private, Owner-occupied	1	3	5
(ii) Private, Non owner-occupied	2	4	6
(iii) Public			7

HU2 OCCUPANCY

(i) Occupied, Principal residence	1
(ii) Occupied, Secondary residence	2
(iii) Vacant, for rent	3
(iv) Vacant, for sale	4
(v) Vacant, provided by employer	5
(vi) Vacant, under repairs	6
(vii) Vacant, other :	7

HU3 WATER SUPPLY (Main only)

(i) Piped water, inside housing unit	1
(ii) Piped water, outside, on premises	2
(iii) Piped water, outside, public fountain	3
(iv) Tank-wagon (camion-citerne)	4
(v) Well/River	5
(vi) Other :	6

HU4 DOMESTIC WATER TANK/RESERVOIR (Main only)

(i) Available, roof	1
(ii) Available, ground/underground	2
(iii) Available, other :	3
(iv) Not Available	4

HU5 AVAILABILITY OF ELECTRICITY

	Yes	No
(i) From CEB	1	5
(ii) Photovoltaic	2	6
(iii) Wind turbine/Eolienne	3	7
(iv) Other :	4	8

HU6 TOILET FACILITIES (Main only)

	Not shared	Shared
(i) Flush toilet connected to sewerage system	1	2
(ii) Flush toilet connected to absorption pit	3	4
(iii) Flush toilet connected to septic tank	5	6
(iv) Pit latrine - water seal	7	8
(v) Pit latrine - other	9	10
(vi) Other		11
(vii) None		12

HU7 BATHING FACILITIES (Main only)

	Not shared	Shared
(i) Bathroom inside with running water	1	2
(ii) Bathroom inside without running water	3	4
(iii) Bathroom outside with running water	5	6
(iv) Bathroom outside without running water	7	8
(v) None	0	

HU8 AVAILABILITY OF KITCHEN (Main only)

	Not shared	Shared
(i) Kitchen inside housing unit	1	2
(ii) Kitchen outside housing unit	3	4
(iii) None	0	

HU9 REFUSE DISPOSAL (Main only)

(i) Regular collection by authorized collector	1
(ii) Irregular collection by authorized collector	2
(iii) Ash pit on premises	3
(iv) Dumped on premises	4
(v) Dumped on the roadside	5
(vi) Refuse used for compost	6
(vii) Other :	7

HU10 AVAILABILITY OF OTHER AMENITIES

	Yes	No
(i) Solar Water Heater	1	5
(ii) Water pump	2	6
(iii) Air conditioner	3	7
(iv) Residual Current Device (RCD or disjoncteur)	4	8

HU11 IS THERE A KITCHEN GARDEN? Yes ☐ No ☐

If «Yes» state area

(i) Less than 1 perche	1
(ii) 1 perche and less than 2 perches	2
(iii) 2 perches and less than 3 perches	3
(iv) 3 perches and less than 4 perches	4
(v) 4 perches and less than 5 perches	5
(vi) 5 perches or more	6

HU12 FRUIT TREES

Is there a fruit tree of bearing age on your premises? Yes ☐ No ☐

If «Yes», state No. of fruit trees of bearing age on premises

(i) Lemon	(ii) Mandarin	(iii) Orange	(iv) Other citrus
(v) Guava	(vi) Mango	(vii) Pawpaw	(viii) Coconut
(ix) Longane	(x) Avocado	(xi) Litchi	(xii) Bilimbi
(xiii) Atte	(xiv) Coeur de Boeuf	(xv) Grenadine	(xvi) Grapes
(xvii) Banana	(xviii) Jackfruit	(xix) Fruit de Citère	(xx) Corrosol
(xxi) Fruit à pain	(xxii) Olive	(xxiii) Tamarind	(xxiv) Others

VI. HOUSEHOLDS (CODED 02-14 of SECTION II)

HH01 Household No.

HH02 Household Type 1 2 3 4 5 6 7 | 1 2 3 4 5 6 7

1. Single 2. Combined 3. Part of household 4. Institutional 5. Hotel population 6. Collective quarters 7. Homeless

HH03 Name of head of household

Title *(e.g. MR, MS, DR, HON, etc.)*

Surname of Head of Household

Other Names

HH04 No. of persons

Total

Male

Female

HH05 No. of rooms

For living purposes

For business or professional purposes

HH06 Tenure 1 2 3 4 5 | 1 2 3 4 5

1. Owner 2. Tenant 3. Sub-tenant 4. Free 5. Other

HH07 Monthly expenditure (Rs)

Rent

Average Household expenditure

HH08 Principal fuel used

For Cooking* 1 2 3 4 5 6 | 1 2 3 4 5 6

In Bathroom** 1 2 3 4 5 | 1 2 3 4 5

Principal fuel used

***For Cooking:**
1. LPG 2. Electricity 3. Kerosene 4. Charcoal 5. Wood 6.Other

****In Bathroom:**
1. LPG 2. Electricity 3. Solar 4. None 5. Other

HH09 Availability of :

	Yes	No	Yes	No
(i) Refrigerator				
(ii) Washing machine				
(iii) Radio				
(iv) TV				
(v) Fixed telephone line				
(vi) Mobile phone				
(vii) Computer				
(viii) Internet via Computer				
(ix) Internet via other devices				

HH10 Land cultivation >= 5 perches (Mainly for commercial purposes) Yes ☐ No ☐ Skip SEC.VII | Yes ☐ No ☐ Skip SEC.VII

IN STRICT CONFIDENCE

2011 Housing and Population Census

REPUBLIC OF MAURITIUS
MINISTRY OF FINANCE & ECONOMIC DEVELOPMENT
CENTRAL STATISTICS OFFICE
POPULATION CENSUS (Night 3 - 4 July 2011)

Completion of the Questionnaire

Confidentiality
The census is being carried out under the Statistics Act 2000 which guarantees the confidentiality of personal information.

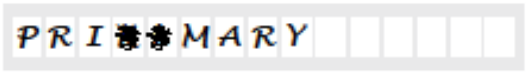
Who should be counted in this questionnaire?
- All persons present in the household on the Census night 3 - 4 July 2011 whether they are members of the household, visitors, guests, boarders or servants.
- All persons who usually live in the household but were away on census night.
- All persons who arrive on the premises and join the household on Monday 4 July 2011 without having been enumerated elsewhere.

How to complete the questionnaire?
1. Use a **BLACK** ballpoint pen of 0.7 mm diameter.
2. Shade check boxes like this

3. If you make a mistake, cross out the wrongly shaded check box, shade the appropriate box and circle it.

4. Write legibly in **CAPITAL** letters and keep each letter within 1 box; only leave a box to keep a space between words

5. If you make a mistake, darken totally the wrong entries and continue the entries like this:



Name, Address and Particulars of Household

G/DIST	M/VCA	EA	BLOCK NO.	BUILDING NO.	HU NO.	HH NO.	HH TP

SURNAME

OTHER NAMES

NAME OF APARTMENT/FLAT

NO. & STREET/ROAD/LANE

LOCALITY

TOWN/VILLAGE

I. No. of Persons - Housing Census:

Total	Male	Female

II. No. of Persons - Population Census:

Total	Male	Female

III. Discrepancies: Yes ☐ No ☐

If «Yes», state reason(s):

1. Deceased ..... ☐
2. Marriage..... ☐
3. Split Households..... ☐
4. Birth..... ☐
5. Other ..... ☐

Iv. Number of questionnaires completed for this household:

v. Barcode of the first questionnaire for this household:

☐ Remarks: .....

Enumerator ID:

Name of Enumerator: ..... Signature of the Enumerator: .....

COMPLETE A LINE FOR EVERY PERSON PRESENT ON CENSUS NIGHT (3 - 4 JULY 2011) AND ALSO FOR EVERY PERSON WHO USUALLY LIVES IN THE HOUSEHOLD BUT WAS ABSENT ON CENSUS NIGHT

P01	P02A	P02B	P03	P04	P05	P06
Person Number	**i Surname ii Other names**	**National ID Card Number**	**Relationship to head**	**Sex**	**Age**	**Date of birth**
	Write the (i) surname and (ii) other names in the following order: Head of household Spouse of head Unmarried children of head Married children of head and their families Other relatives of head Other persons BABIES MUST BE INCLUDED	**Write the ID number.** (applicable for Mauritian citizens)	**State if:** **1** Head **2** Spouse **3** Son/Daughter **4** Son-in-law/ Daughter-in-law **5** Grand child **6** Father/Mother of head **7** Other relative of head **8** Non relative of head	**State if:** **M:** Male **F :** Female	**Write the age in completed years.**	**Write the day, month and year of birth.**
	i ii		1 2 3 4 5 6 7 8	M F		DD MM YYYY
	i ii		1 2 3 4 5 6 7 8	M F		DD MM YYYY
	i ii		1 2 3 4 5 6 7 8	M F		DD MM YYYY
	i ii		1 2 3 4 5 6 7 8	M F		DD MM YYYY
	i ii		1 2 3 4 5 6 7 8	M F		DD MM YYYY
	i ii		1 2 3 4 5 6 7 8	M F		DD MM YYYY
	i ii		1 2 3 4 5 6 7 8	M F		DD MM YYYY
	i ii		1 2 3 4 5 6 7 8	M F		DD MM YYYY

P01	P07A	P07B	P08	P09A	P09B
Person Number	Citizenship		Whereabouts on Census night	Usual address	
	State if the person's citizenship is: 1 Mauritian, born in Island of Mauritius 2 Mauritian, born in Rodrigues 3 Mauritian, born in Diego Garcia/Chagos 4 Mauritian, born in Agalega/St. Brandon 5 Mauritian by descent 6 Mauritian by registration 7 Mauritian by naturalisation 8 Non-Mauritian	If non-Mauritian, specify the country of citizenship.	State if: 1 Here 2 Elsewhere in the Republic of Mauritius 3 Outside the Republic of Mauritius	State if usual address is: 1 Here 2 Elsewhere in the Republic of Mauritius 3 Outside the Republic of Mauritius If usual address is «Here», go to P10A	For persons whose usual address is not «Here». Write the person's usual address. For persons on visit to Mauritius, write the country of residence.
	1 2 3 4 5 6 7 8		1 2 3	1 2 3	
	1 2 3 4 5 6 7 8		1 2 3	1 2 3	
	1 2 3 4 5 6 7 8		1 2 3	1 2 3	
	1 2 3 4 5 6 7 8		1 2 3	1 2 3	
	1 2 3 4 5 6 7 8		1 2 3	1 2 3	
	1 2 3 4 5 6 7 8		1 2 3	1 2 3	
	1 2 3 4 5 6 7 8		1 2 3	1 2 3	
	1 2 3 4 5 6 7 8		1 2 3	1 2 3	

P01	P10A	P10B	P10C	P10D	P11A	P11B
Person Number	**Place of residence**		**Reason for living abroad**	**Reason for staying in the Republic of Mauritius**	**Usual address 5 years ago (on 03.07.2006)**	
	State if the person lived in the Republic of Mauritius continuously for the <u>past</u> 12 months. Y: Yes N: No If «Yes» go to P11A	State if the person intends to live in the Republic of Mauritius continuously for <u>at least</u> 12 months. Y: Yes N: No If «Yes» go to P11A	For Mauritian citizens who replied «No» at both P10A and P10B, state if: 1. Working abroad 2. Studying abroad 3. On medical treatment 4. Other	For non-Mauritian citizens who replied «No» at both P10A and P10B, state if : 1. Working 2. Studying 3. On medical treatment 4. Other STOP HERE if «On medical treatment» or «Other»	State if : 1. Here 2. Elsewhere in the Republic of Mauritius 3. Outside the Republic of Mauritius 4. Not born	If usual address 5 years ago is elsewhere in the Republic of Mauritius, write the person's address. If usual address 5 years ago is outside the Republic of Mauritius, write the country. If usual address 5 years ago is «Here» or «Not born», leave blank.
	Y N	Y N	1 2 3 4	1 2 3 4	1 2 3 4	
	Y N	Y N	1 2 3 4	1 2 3 4	1 2 3 4	
	Y N	Y N	1 2 3 4	1 2 3 4	1 2 3 4	
	Y N	Y N	1 2 3 4	1 2 3 4	1 2 3 4	
	Y N	Y N	1 2 3 4	1 2 3 4	1 2 3 4	
	Y N	Y N	1 2 3 4	1 2 3 4	1 2 3 4	
	Y N	Y N	1 2 3 4	1 2 3 4	1 2 3 4	
	Y N	Y N	1 2 3 4	1 2 3 4	1 2 3 4	

P01 Person Number	P12 A	P12B Disability									
	State if the person has any difficulty to perform a daily-life activity considered normal for his/her age. Y: Yes N: No If «No» go to P13	If «Yes» at P12A, state the severity of all applicable difficulties as follows: 1. Some difficulty 2. A lot of difficulty 3. Cannot do at all									
		A Seeing even if wearing glasses	B Hearing even if using a hearing aid	C Walking or climbing stairs	D Remembering, concentrating or acquiring education and learning	E Looking after oneself with regard to feeding, personal care and hygiene	F Speaking and talking	G Manual activities such as gripping and holding	H Disturbances of behaviour, including antisocial behaviour, maladjustment and liability to self injury	I Other difficulties, specify	
	Y N	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	
	Y N	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	
	Y N	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	
	Y N	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	
	Y N	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	
	Y N	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	
	Y N	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	
	Y N	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	

		FOR PERSONS NOT SINGLE AT P13			
P01	P13	P14	P15	P16	P17
Person Number	Marital status	Age at first marriage	Whether married more than once	Number of children ever born	Religion
	State if: 0 Widowed (not remarried) 1 Divorced (not remarried) 2 Separated 3 Married religiously and civilly 4 Married religiously only 5 Married civilly only 6 In a union but not married religiously or civilly 7 Single (never married) 8 Unmarried parent 9 Other - specify	Write the age in completed years.	State if: Y : Yes N : No	For women not «Single» at P13, write the number of children ever born (excluding still births).	Write the religion as reported by the person. If the person has no religion, write «NO RELIGION».
	0 1 2 3 4 5 6 7 8 9		Y N		
	0 1 2 3 4 5 6 7 8 9		Y N		
	0 1 2 3 4 5 6 7 8 9		Y N		
	0 1 2 3 4 5 6 7 8 9		Y N		
	0 1 2 3 4 5 6 7 8 9		Y N		
	0 1 2 3 4 5 6 7 8 9		Y N		
	0 1 2 3 4 5 6 7 8 9		Y N		
	0 1 2 3 4 5 6 7 8 9		Y N		

FOR PERSONS AGED 2 YEARS AND OVER

P01	P18	P19	P20
Person Number	**Languages of forefathers**	**Language usually spoken**	**Languages read and written**
	Write the language(s) spoken by the person's ancestors. Up to two answers are possible. For census purposes, consider creole and bhojpuri as languages.	**Write the language usually or most often spoken by the person at home.** For children not yet able to speak, write the language spoken by the mother. **STOP HERE FOR CHILDREN UNDER 2 YEARS**	**State the language(s) in which the person can, with understanding, both read and write a simple statement in his/her everyday life.** **0** None **1** Creole Oriental languages: **2** Bhojpuri **3** Indian languages **4** Chinese languages **5** Other Oriental languages European languages: **6** English **7** French **8** Other European languages **9** Other languages - specify
	(I) (II)		0 1 2 3 4 5 6 7 8 9
			0 1 2 3 4 5 6 7 8 9
			0 1 2 3 4 5 6 7 8 9
			0 1 2 3 4 5 6 7 8 9
			0 1 2 3 4 5 6 7 8 9
			0 1 2 3 4 5 6 7 8 9
			0 1 2 3 4 5 6 7 8 9
			0 1 2 3 4 5 6 7 8 9

FOR PERSONS AGED 2 YEARS AND OVER

P01

Person Number

P21

School attendance

State if the person is now attending/ has attended/ has never attended an educational institution:

1 Now-Full Time
2 Now-Part Time
3 Past
4 Never
5 Child not yet at school (CNYS)

P22

Primary and Secondary education

If «Now» attending school, write the Standard or Form being attended as listed below:
If attended school in the «Past», write the highest level completed as listed below:
If «Never» or «CNYS», write «0» for Nil.

0 Nil
1 Pre-primary
11 Standard I
12 Standard II
13 Standard III
14 Standard IV
15 Standard V
16 Std VI or equiv. - not passed
17 Std VI or equiv. - passed
19 Primary, not known
21 Form I
22 Form II
23 Form III
24 Form IV
25 Form V or equiv. - not passed
26 Form V or equiv. - passed
27 Form VI or equiv. - not passed
28 Form VI or equiv. - passed
29 Secondary, not known
31 Form I Pravoc
32 Form II Pravoc
33 Form III Pravoc
98 Specialised schools for the handicapped
99 Unknown

STOP HERE FOR PERSONS UNDER 12 YEARS

FOR PERSONS AGED 12 YEARS AND OVER

P23A

Education other than those of the Primary and Secondary levels - Now

Write the (I) course and (II) field of study if the person is «Now» following a course (other than those of the Primary and Secondary levels) from a university, vocational/technical school, professional body, etc.

e.g

(I) CERTIFICATE — (II) MARKETING
(I) DIPLOMA — (II) LAND SURVEYING
(I) BSC — (II) BIOLOGY

		(I)	(II)
	1 2 3 4 5		
	1 2 3 4 5		
	1 2 3 4 5		
	1 2 3 4 5		
	1 2 3 4 5		
	1 2 3 4 5		
	1 2 3 4 5		
	1 2 3 4 5		

P01 | FOR PERSONS AGED 12 YEARS AND OVER | P23B

Education other than those of the Primary and Secondary levels - Past

Person Number	Highest qualification		Second highest qualification		Third highest qualification	
	Write the duration of course in months.	Write the (I) qualification received, (II) the major field of study. E.g. (I) MSC (II) STATISTICS, (I) DIPLOMA (II) HOSPITALITY MANAGEMENT, etc.	Write the duration of course in months.	Write the (I) qualification received, (II) the major field of study. E.g. (I) BSC (II) ECONOMICS, (I) CERTIFICATE (II) COMMUNICATION, etc.	Write the duration of course in months.	Write the (I) qualification received, (II) the major field of study.E.g. (I) DIPLOMA (II) HUMANITIES, (I) CERTIFICATE (II) TOWN AND COUNTRY PLANNING, etc.
		(I)		(I)		(I)
		(II)		(II)		(II)
		(I)		(I)		(I)
		(II)		(II)		(II)
		(I)		(I)		(I)
		(II)		(II)		(II)
		(I)		(I)		(I)
		(II)		(II)		(II)
		(I)		(I)		(I)
		(II)		(II)		(II)
		(I)		(I)		(I)
		(II)		(II)		(II)
		(I)		(I)		(I)
		(II)		(II)		(II)
		(I)		(I)		(I)
		(II)		(II)		(II)

FOR PERSONS AGED 12 YEARS AND OVER

FOR PERSONS AGED 12 YEARS AND OVER

P01	P24	P25	P26	P27		P28
Person Number	**Number of hours worked during reference week**	**Whether temporarily away from work**	**Job Search**	**Availability for work**		**When last worked**
	Write the total number of HOURS, the person worked for pay, profit or family gain during the WEEK from Monday 27 June to Sunday 3 July 2011. (If worked for 1 hour or more, go to P29)	State whether there was a job, business, family enterprise or agricultural holding or farm, at which the person did not work because of illness, injury, holiday, industrial dispute, off-season inactivity, temporary disorganisation, etc. Y: Yes N: No If «Yes» go to P29	State if, during the past 4 weeks, the person took any active steps to look for work or set up a business of his/her own. Y: Yes N: No	State if, during the past 4 weeks, the person was available for work. Y: Yes N: No	If «NO», give reason as follows: 1 Household duties 2 Studies 3 Disability, illness, injury 4 Wholly retired 5 Other - specify	How many months ago did the person work for the last time, even for a few days? Write the number of completed months. If person NEVER WORKED, write «998» and STOP HERE. Else continue with P29.
		Y N	Y N	Y N	1 2 3 4 5	
		Y N	Y N	Y N	1 2 3 4 5	
		Y N	Y N	Y N	1 2 3 4 5	
		Y N	Y N	Y N	1 2 3 4 5	
		Y N	Y N	Y N	1 2 3 4 5	
		Y N	Y N	Y N	1 2 3 4 5	
		Y N	Y N	Y N	1 2 3 4 5	
		Y N	Y N	Y N	1 2 3 4 5	

FOR PERSONS AGED 12 YEARS AND OVER

The following questions refer to the person's work during the reference week Monday 27 June to Sunday 3 July 2011. If the person is retired or had no job during that week, answer for his/her last job. If the person has more than one job, answer for the job at which he/she worked the most hours.

P01	P29	P30	P31A	P31B
Person Number	**Name of establishment** **Write the name of the establishment, firm, government institution, etc., for which the person worked.** If establishment has no name, give name of employer. If self-employed, write the name of business shop, agency, etc., or write the person's own name. If working for a private household(e.g. cook, gardener, etc.), write «PRIVATE HOUSEHOLD».	**Kind of business, industry or service** **Write FULLY the kind of business, industry or service activities carried out at the person's place of work.** Use **precise terms** such as SUGAR CANE CULTIVATION, SUGAR MANUFACTURING, CAR REPAIRS, PRIMARY EDUCATION, etc.	**Place of work** **State if :** **1** Fixed place of work outside home **2** No fixed place of work **3** Worked at home **4** Worked outside Mauritius	If P31A=1, write full address including municipal ward/village council area/locality. If P31A=2, write address where the person reported for work or the place where he/she worked the most. If P31A=3, write «HOME». If P31A=4, write the country.
			1 2 3 4	
			1 2 3 4	
			1 2 3 4	
			1 2 3 4	
			1 2 3 4	
			1 2 3 4	
			1 2 3 4	
			1 2 3 4	

FOR PERSONS AGED 12 YEARS AND OVER

The following questions refer to the person's work during the reference week Monday 27 June to Sunday 3 July 2011. If the person is retired or had no job during that week, answer for his/her last job. If the person has more than one job, answer for the job at which he/she worked the most hours.

P01	P32	P33	P34
Person Number	**Occupation**	**Employment Status**	**Length of Service with employer**
	Write the kind of work/business the person did most of the time. Use **precise terms** such as ACCOUNTS CLERK, SCHOOL CLERK, TAXI CAR DRIVER , LORRY DRIVER, STATISTICIAN, PRE-PRIMARY TEACHER, etc.	**State if the person's employment status is:** **1** Self-employed with employees **2** Self-employed without employees **3** Working without pay for spouse or other relative in his/her farm or business **4** Apprentice/Trainee with or without pay **5** Employee paid by the month **6** Employee paid by day, week, fortnight, job **7** Member of producers' cooperative **8** Other - specify	**Write the number of <u>years</u> the person worked/has worked for his/her present or most recent <u>employer</u>.** For <u>self-employed</u> persons, write the number of years the person has been in the present business. If worked for less than 1 year, write «0».
		1 2 3 4 5 6 7 8	
		1 2 3 4 5 6 7 8	
		1 2 3 4 5 6 7 8	
		1 2 3 4 5 6 7 8	
		1 2 3 4 5 6 7 8	
		1 2 3 4 5 6 7 8	
		1 2 3 4 5 6 7 8	
		1 2 3 4 5 6 7 8	

Volume I: Housing and Living Conditions

HBD01 - Buildings by geographical location and type

HBD02 - Residential and partly residential buildings by geographical location and type

HBD03 - Residential and partly-residential buildings by geographical location and number of storeys

HBD04 - Residential and partly-residential buildings by geographical location, type of wall and roof materials and year of completion

HDU01 - Residential and partly-residential buildings by geographical location and number of housing units in building

HDU02 - Housing units by geographical location, type of building in which located, ownership and mortgage status

HDU03 - Housing units by geographical location and occupancy status or type of vacancy

HDU04 - Total housing units, housing units occupied by private households, households and population by geographical location and type of water supply

HDU05 - Total housing units, housing units occupied by private households, households and population by geographical location and availability of domestic water tank/reservoir

HDU06 - Total housing units, housing units occupied by private households, households and population by geographical location and availability of electricity

HDU07 - Total housing units, housing units occupied by private households, households and population by geographical location and type of toilet facilities

HDU08 - Total housing units, housing units occupied by private households, households and population by geographical location and availability of bathing facilities

HDU09 - Total housing units, housing units occupied by private households, households and population by geographical location and availability of kitchen

HDU10 - Total housing units, housing units occupied by private households, households and population by geographical location and method of refuse disposal

HDU11 - Housing units occupied by private households, households and population by geographical location and number of rooms used for living purposes per housing unit

HHH01 - Private households, households in communal establishments, homeless households and population by geographical location and type of household

HHH02 - Housing units occupied by private households, households and population by geographical location and number of households per housing unit

HHH03 - Private households by geographical location, tenure and median monthly rent paid by renting households

HHH04 - Private households by geographical location, tenure and type of building in which housing unit is located

HHH05 - Private households by geographical location, tenure and number of persons per room used for living purposes

HHH06 - Private households by geographical location and principal fuel used for cooking

HHH07 - Private households by geographical location and principal fuel used for heating water for bathing

HHH08 - Private households by geographical location and availability of radio, TV, Fixed telephone line, Mobile Phone, Computer and Internet access

Volume II: Demographic and Fertility Characteristics

D D1 - Resident population and resident population in private households by geographical district, single year of age and sex

R D2 - Resident population by geographical location, age and sex

D D3 - Resident population by geographical district, marital status, age and sex

I D4 - Population present on Census night and resident population by nationality and sex

I D5 - Resident population by religion and sex

R D6 - Resident population by geographical location and religious group

I D7 - Resident population by language of forefathers and sex

I D8 - Resident population by language usually spoken at home and sex

R D9 - Resident population by geographical location and language usually spoken at home

I D10 - Resident population by language of forefathers and language usually spoken at home

D F1 - Ever-married resident female population 10 years of age and over by geographical district, age and number of children ever born alive

I F2 - Ever-married resident female population 10 years of age and over by age, number of children ever born alive and educational attainment

I F3 - Ever-married resident female population 10 years of age and over by age, number of children ever born alive and type of economic activity

I F4 - Employed ever-married resident female population 10 years of age and over by age, number of children ever born alive and major occupational group

I F5 - Female resident population 10 years of age and over, currently married only once, by age at marriage, duration of marriage and number of children ever born alive

VOL III: Educational Characteristics

R E1 - Resident population 10 years of age and over by geographical location, sex and languages read and written

R E1a - Resident population 10 years of age and over by geographical location, literacy and sex

I E2 - Resident population 10 years of age and over by sex, age and languages read and written

I E2a - Resident population 10 years of age and over, by literacy, age and sex

I E3 - Resident population 2 years of age and over by school attendance, sex and age

R E4 - Resident population 2 years of age and over not attending school by geographical location, age and sex

I E5 - Resident population 2 years of age and over by educational attainment, age and sex

I E6 - Resident population 15 years of age and over with a post-secondary degree, by major field of study of highest qualification, age and sex

I E7 - Resident population 15 years of age and over with a post-secondary degree, by sex, broad field and duration of study of highest post-secondary qualification

I E8 - Resident population 15 years of age and over with a post-secondary degree, by sex, broad field of study of highest post-secondary qualification and highest level of secondary education

I E9 - Resident population 12 years of age and over holding a certificate/diploma, by field of study, age and sex

I E10 - Resident population 12 years of age and over holding a certificate/diploma, by sex, major field and duration of study

I E11 - Resident population 12 years of age and over holding a certificate/diploma, by sex, broad field of study and educational attainment

I E12 - Resident population 12 years of age and over not attending school, holding a certificate/diploma, by sex, broad field of study and educational attainment

VOL IV: Disability Characteristics

R DY1 - Resident population by geographical location, sex and type of disability, if any

D DY2 - Resident population by geographical district, type of disability, age and sex

I DY3 - Disabled resident population by sex, age, marital status and type of disability

I DY4 - Disabled resident population 2 years of age and over by age, sex and school attendance

I DY5 - Disabled resident population 5 years of age and over by educational attainment, age and sex

I DY6 - Disabled resident population 16 years of age and over by sex, age and current activity status

I DY7 - Employed disabled resident population 16 years of age and over by sex, age and major occupational group

I DY8 - Employed disabled resident population 16 years of age and over by sex, age and industry (section)

I DY9 - Private households, disabled resident population in private households by size of household

I DY10 - Disabled resident population in private households by relationship to head, age and sex

I DY11 - Private households with usual residents, with a disabled head of household by sex and age of head and number of resident members under 20 years of age

I DY12 - Private households with usual residents, with a disabled head of household by size of household and number of economically active (employed and unemployed) persons per household

I DY13 - Private households with usual residents, with a disabled head of household by size of household and number of unemployed persons per household

Vol V: Economic Characteristics

R CA1 - Resident population 16 years of age and over by geographical location, sex and current activity status

I CA2 - Resident population 16 years of age and over by current activity status, marital status, age and sex

D CA3 - Currently employed population 16 years of age and over by geographical district, industry (section) and sex

D CA4 - Currently employed population 16 years of age and over by geographical district, major occupational group and sex

I CA5 - Currently employed population 16 years of age and over by industry (section and division), age and sex

I CA6 - Currently employed population 16 years of age and over by occupation (major and sub-major group), age and sex

I CA7 - Currently employed population 16 years of age and over by sector of employment, age and sex

I CA8 - Currently employed population 16 years of age and over by sector of employment, industry (section) and sex

I CA9 - Currently employed population 16 years of age and over by sector of employment, major occupational group and sex

I CA10 - Currently employed population 16 years of age and over by employment status, age and sex

I CA11 - Currently employed population 16 years of age and over by employment status, industry (section and division) and sex

I CA12 - Currently employed population 16 years of age and over by employment status, occupation (major and sub-major group) and sex

I CA13 - Currently employed population 16 years of age and over by industry (section), occupation (major and sub-major group) and sex

I CA14 - Currently employed population 16 years of age and over by industry (section and division), educational attainment and sex

I CA15 - Currently employed population 16 years of age and over by industry (section), age and educational attainment

I CA16 - Currently employed population 16 years of age and over by major occupational group, educational attainment and sex

I CA17 - Currently employed population 16 years of age and over by major occupational group, age and educational attainment

I CA18 - Currently employed population 16 years of age and over by sex, broad field of highest vocational or technical qualification and educational attainment

I CA19a - Currently employed population 16 years of age and over by sex, broad field of highest vocational or technical qualification and major occupational group

I CA19b - Currently employed population 16 years of age and over by sex, broad field of highest post-secondary degree and major occupational group

I CA20 - Currently employed population 16 years of age and over by number of hours worked during the last week of June 2011, age and sex

I CA21 - Currently employed population 16 years of age and over by number of hours worked during the last week of June 2011, industry (section) and sex

I CA22 - Currently employed population 16 years of age and over by number of hours worked during the last week of June 2011, major occupational group and sex

I CA23 - Currently employed population 16 years of age and over by number of hours worked during the last week of June 2011, sector of employment and sex

I CA24 - Average number of hours worked during the last week of June 2011 by major occupational group, industry (section) and sex

I CA25 - Average number of hours worked during the last week of June 2011 by major occupational group, sector of employment and sex

I CA26 - Currently employed population 16 years of age and over by sex, length of service with present employer and sector of employment

D CA27 - Currently employed population 16 years of age and over by sex, age, place of usual residence (geographical district) and place of work (geographical district)

I CA28 - Currently employed female population 16 years of age and over by major occupational group, marital status and age

I CA29 - Currently employed female population 16 years of age and over by status in employment, marital status and age

I CU1a - Currently unemployed population aged 16 years and over by educational attainment, age and sex

I CU1b - Currently unemployed population (excluding first job seekers) aged 16 years and over by educational attainment, age and sex

I CU1c - Currently unemployed first job seekers aged 16 years and over by educational attainment, age and sex

I CU2a - Currently unemployed population aged 16 years and over by sex, broad field of study of highest vocational or technical qualification and educational attainment

I CU2b - Currently unemployed population (excluding first job seekers) aged 16 years and over by sex, broad field of study of highest vocational or technical qualification and educational attainment

I CU2c - Currently unemployed first job seekers aged 16 years and over by sex, broad field of study of highest vocational or technical qualification and educational attainment

I CU3 - Currently unemployed population (excluding first job seekers) aged 16 years and over by age, sex and employment status in last job

I CU4 - Currently unemployed population (excluding first job seekers) aged 16 years and over by sex, educational attainment and industry of last job (section)

I CU5 - Currently unemployed population (excluding first job seekers) aged 16 years and over by sex, educational attainment and major occupational group of last job

I CU6 - Currently unemployed population (excluding first job seekers) aged 16 years and over by duration of current unemployment, sector of previous employment, age and sex

I CU7 - Currently unemployed population (excluding first job seekers) aged 16 years and over by duration of current unemployment, educational attainment and sex

I CU8 - Currently unemployed population (excluding first job seekers) aged 16 years and over by duration of current unemployment, industry of last job (section) and sex

I CU9 - Currently unemployed population (excluding first job seekers) aged 16 years and over by duration of current unemployment, occupation (major group of last job) and sex

I CU10 - Currently unemployed population (excluding first job seekers) aged 16 years and over by length of service with last employer age and sex

VOL VI: Geographical and Migration Characteristics

R G1 - Resident population by geographical location, whereabouts on Census night and sex

- G2 - Resident population by size-class of Municipal or Village Council Area and sex

D G3 - Population present on Census night by geographical district and district of usual residence, age and sex

I G4 - Resident population, Mauritian resident population and foreign visitors by single year of age and sex

R G5 - Concentration of resident population by Municipal and Village Council Areas

R G6 - Enumerated population by geographical location, whereabouts on Census night, usual place of residence and sex

R G7 - Households by type and resident population by geographical location

D G8 - Resident population aged 5 years and over by district of usual residence, district of residence 5 years ago, age and sex

R G9 - Resident population aged 5 years and over by place of usual residence, district of residence 5 years ago, age and sex

D G10a - Five-year migration streams to and from each geographical district

D G10b - Net migration between districts of migrants 5 years of age and over

R G11 - Households, resident population and resident population aged 18 years and over by Electoral Constituency, Municipal Ward or Village Council Area and sex

VOL VII: Household Characteristics

D H1 - Resident population in private households, by geographical district, relationship to head, marital status and sex

I H2 - Private households with usual residents and resident population by type of household

I H3 - Private households by sex and age of head and size of household

D H4 - Resident population in private households by geographical district, relationship to head, age and sex

D H5 - Heads of private households with usual residents by geographical district, marital status, age and sex

I H6 - Private households by size of household and number of economically active (employed and unemployed) persons per household

D H7 - Private households with usual residents and resident population by geographical district, size of household and number of persons employed per household

I H8 - Private households by size of household and number of unemployed persons per household

I H9 - Private households with usual residents and resident population by size and type of household and number of persons aged 60 years and over in household

I H10 - Private households by sex and age of head and number of resident members under 20 years of age

D H11 - Heads of one-parent households with unmarried children only by geographical district, marital status, age and sex

I H12 - Heads of private households aged 16 years and over by activity status and sex, and other resident household members aged 16 years and over by relationship to head and activity status

R H13 - Households, family nuclei and population present on Census night in private households, and households and population present in communal establishments, collective quarters and homeless households by geographical location

D H14 - Private households with usual residents, resident population and number of family nuclei by size of household and geographical district