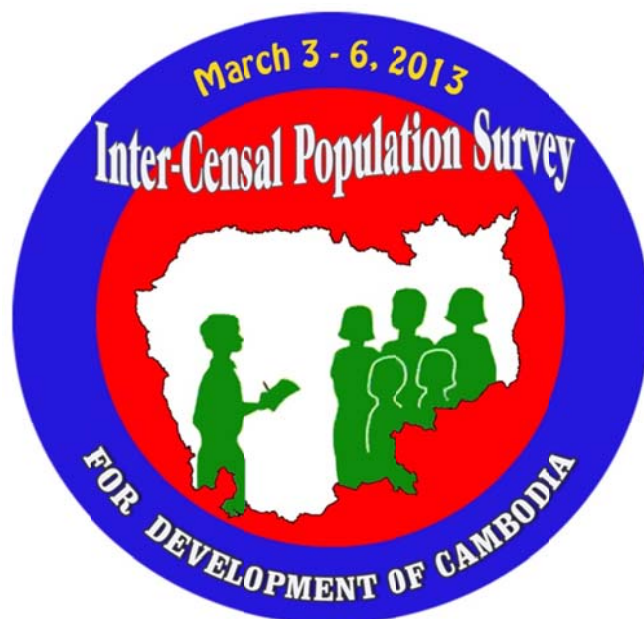




KINGDOM OF CAMBODIA

Nation Religion King

**CAMBODIA INTER-CENSAL POPULATION SURVEY 2013
FINAL REPORT**



National Institute of Statistics, Ministry of Planning

Phnom Penh, Cambodia

Sponsored by

United Nation Population Fund

Japan International Cooperation Agency

November 2013

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FOREWORD

This report presents the results of Cambodia Inter-censal Population Survey, 2013 (CIPS, 2013) that was carried out in March 2013 by the National Institute of Statistics. It is a nationally representative sample survey of 955 Primary Sampling Units and 28,650 households. This survey was taken between two censuses, the 2008 census and the proposed 2018 census, in order to update information on population size and growth, educational attainment, labour and employment, fertility, mortality, migration, disabled population, and other population characteristics as well as household facilities and amenities. The main objective of the CIPS, 2013 was to provide demographic and socio-economic data, necessary for policy making, planning, monitoring and evaluation at national and sub-national levels. It was also intended to provide statistical information that would be useful to measure progress towards achieving the national objectives and targets of the various plans and programmes. This survey has been designed to estimate most of the indicators disaggregated by sex, for Total, Urban and Rural areas at the national level and in the case of each province for total areas only. The tables, figures and text are related to the most important indicators consistent with the objectives of the survey.

More than a thousand staff members of the NIS and Provincial Planning Offices were trained for conducting the survey. Their services would be utilized to train in turn a large number of enumerators and supervisors who would be recruited for the next Census. The CIPS 2013 may therefore be called the harbinger of the next Population Census in Cambodia due in the year 2018. The National Institute of Statistics emphasizes the importance of close collaboration with international development partners and national counterparts to ensure transfer of knowledge to improve analytical methodologies, and plan and organize national reports. This emphasis will facilitate the long term sustainability of demographic analysis in the country.

On behalf of the Ministry of Planning, I wish to place on record our gratitude to the United Nations Population Fund (UNFPA) for supporting the whole process of CIPS, 2013 including resources and technical assistance program with emphasis on capacity development. Thanks are due to Japan International Cooperation Agency (JICA) for providing technical assistance for mapping villages and Enumeration Areas (EAs), and for participating in analysis and dissemination of the results.

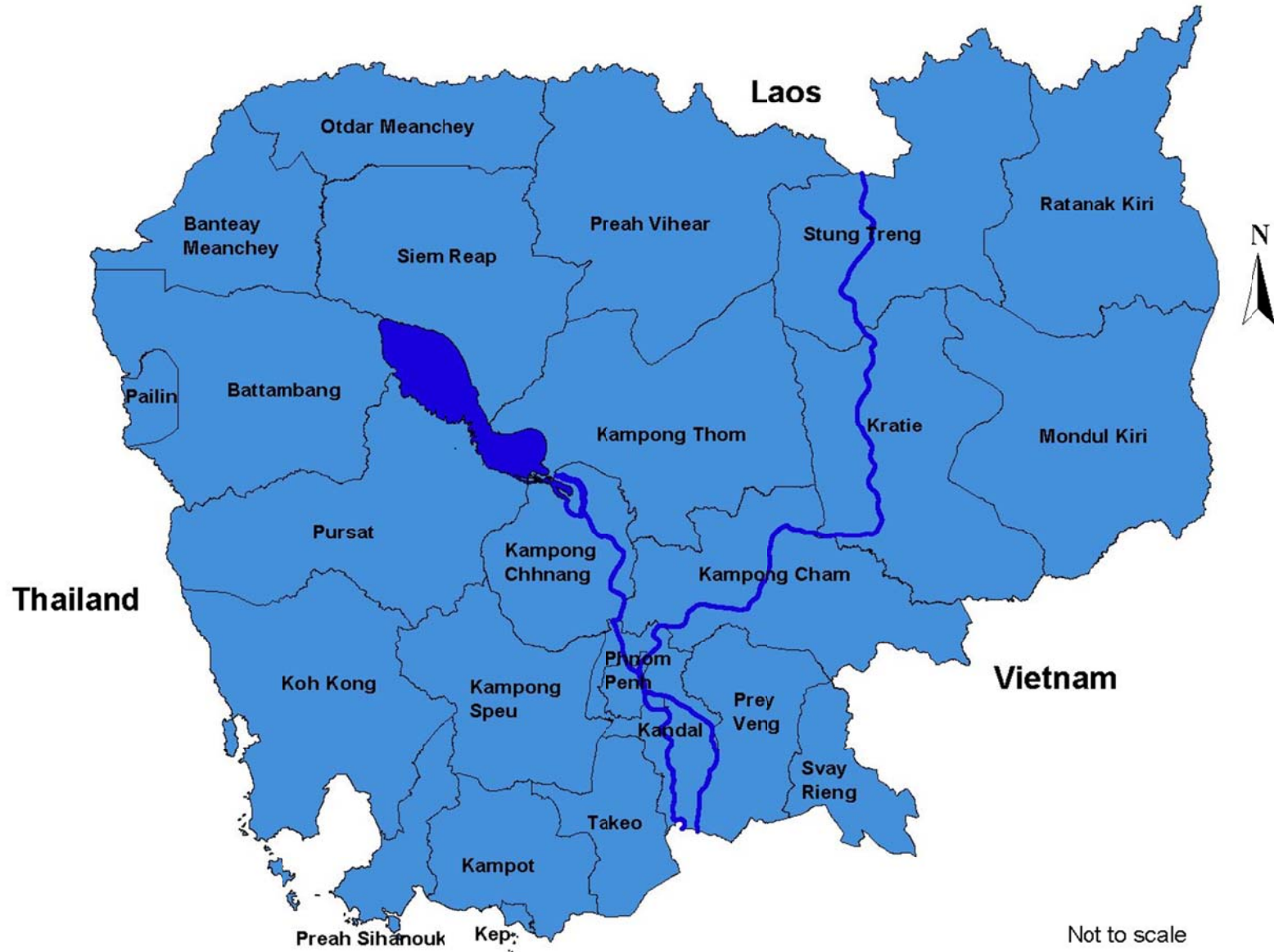
I appreciate the hard work put in by the staff of the NIS under the guidance and supervision of H.E Mrs. Hang Lina, Director General, NIS and the Provincial Planning Offices in making the survey a success as well as in the preparation of this report. I wish to take this opportunity to thank all staff in the National Institute of Statistics as well as all survey field staff who have taken part and contributed to the success of the Cambodia Inter-censal Population Survey, 2013. We are also thankful to technical advisers for the survey: Mr. Nott Rama Rao, Dr. Gouranga Das Varma, Mr. Gregory Martin, Mr. Fumihiko Nishi, Mr. Akihiko Ito, and Mr. Akihito Yamauchi.

We are pleased to present to line-ministries, international agencies, non-government organization, policy makers, programme implementers, development planners, and researchers a publication with a plethora of useful information. We hope to receive feedback and comments to improve our subsequent publications.

Ministry of Planning
Phnom Penh
November 2013

CHHAY THAN
Senior Minister,
Minister of Ministry of Planning

Map 1. Cambodia by province



Cambodia Inter-censal Population Survey 2013
Final Result
Figures at a Glance

Basic Characteristics of administrative			
Number of municipality	1		
Number of provinces	23		
Number of cities/Krongs	26		
Number of khans	9		
Number of districts	159		
Number of sangkats	204		
Number of communes	1,429		
Number of villages	14,119		
Characteristics	Total	Males	Females
Total population	14,676,591	7,121,508	7,555,083
Urban population	3,146,212	1,527,479	1,618,734
Percentage of urban population	21.4	21.5	21.4
Annual growth Rate	1.46 %		
Population density	82/sq.km		
Percentage of population under 15	29.4	31.2	27.8
Percentage of population 15-64	65.6	64.7	66.4
Percentage of population 65 +	5.0	4.1	5.8
Age dependency ratio			
Total	52.4	54.5	50.5
Urban	41.8	43.0	40.6
Rural	55.6	57.9	53.5
Sex ratio			
Total	94.3		
Urban	94.4		
Rural	94.2		
Median age			
Total	24.5	23.4	25.6
Urban	26.9	25.8	27.8
Rural	23.9	22.8	25.1
Number of Households			
Percent of female headed households	3,163,226		
	27.1		
Average household size			
Total	4.6		
Urban	4.8		
Rural	4.6		
Percentage of population aged 15 and over by marital status			
Never married	31.1	35.3	27.4
Married	61.9	62.5	61.3
Widowed	5.0	1.3	8.4
Divorced	1.8	0.8	2.7
Separated	0.2	0.1	0.3

Singulate Mean age at Marriage			
Total	25.0	26.2	23.7
Urban	27.5	29.1	25.8
Rural	24.2	25.4	23.0
Adult literacy rate (population aged 15 and more)			
Total	79.7	86.4	73.6
Urban	90.3	94.2	86.8
Rural	76.5	84.1	69.7
Educational attainment of Literate population aged 7+			
No educational level	3.1	2.8	3.4
Primary not completed	40.8	37.5	44.3
Primary completed	29.4	29.4	29.3
Lower secondary	21	23.4	18.5
Secondary/diploma	3.9	4.5	3.2
Beyond Secondary	1.8	2.4	1.3
Proportion currently attending school/educational institution			
Aged 5-11	74.2	73.2	75.2
Aged 12-14	88.2	88.2	88.2
Aged 15-17	61.4	64.1	58.7
Aged 18-24	21.5	25.4	17.6
Aged 25 +	0.7	1.0	0.4
Percentage of disabled population	2.1	2.2	1.9
Percentage of disabled population by type of disability			
Difficulty in seeing	34.8	31.4	38.6
Difficulty in speech	5.4	4.4	6.5
Difficulty in hearing	9.0	7.4	10.8
Difficulty in movement	33.4	41.4	24.7
Mental	12.2	9.8	14.7
Mental retardation	5.2	3.6	6.8
Mental illness	7.0	6.2	7.9
Any other	3.5	3.9	3.1
Multiple disabilities	1.6	1.7	1.6
Employment and Unemployment			
Labour force participation rate	62.3	63.8	60.9
Employment rate	60.8	62.4	59.3
Unemployment rate	1.5	1.4	1.7
Economically inactive rate	37.7	36.2	39.1
Labour force participation rate aged 15-64			
Total	82.2	84.5	80.0
Urban	73.2	79.5	67.4
Rural	84.8	86.0	83.7
Unemployment rate aged 15-64			
Total	2.3	2.1	2.5
Urban	4.4	3.5	5.4
Rural	1.8	1.7	1.9

Employment rate by industrial sector			
Primary	64.3	62.3	66.3
Secondary	11.5	11.6	11.5
Tertiary	23.8	25.6	21.9
Employed population aged 5 + with secondary activity	42.3	44.3	40.4
Percentage of migrant by place of last residence			
Total	28.9	30.0	27.9
Urban	49.4	48.6	50.1
Rural	23.3	24.9	21.8
Percentage of internal migrants by migration stream			
Rural to Rural	58.4	60.3	56.5
Rural to Urban	24.5	23.5	25.5
Urban to Rural	5.1	5.1	5.1
Urban to Urban	12.0	11.1	12.9
Percentage of buildings by nature of construction	Permanent	Semi-Permane	Temporary
Total	73.6	19.7	6.7
Urban	93.0	5.3	1.7
Rural	68.9	23.2	7.9
Percentages of households by source of drinking water			
Piped water	19.8		
Tube/wipe well	29.5		
Protected dug well	6.2		
Unprotected dug well	14.3		
Rain	1.4		
Spring, river, etc	18.7		
Bought	8.6		
Other	1.4		
Percentage of households using electricity as main source of light			
Total	48.0		
Urban	94.0		
Rural	36.0		
Percentage of households by main type of fuel used for cooking			
Firewood	77.9		
Charcoal	8.4		
Kerosene	0.1		
Liquefied Petroleum gas (LPG)	12.1		
Others	1.4		
Percentage of households having toilet facility within premises			
Total	48.7		
Urban	87.5		
Rural	38.5		

Percentage accessibility to internet facility			
No Access	94.5		
Accessed at home	2.6		
Accessed outside home	1.3		
Accessed at home and outside home	1.6		
Total fertility rate per 1,000 live birth			
Total	2.8		
Urban	2.1		
Rural	3.1		
Infant mortality rate per 1,000 live birth			
Total	33		
Urban	9		
Rural	38		
Under five mortality rate per 1,000 live birth			
Total	53		
Urban	15		
Rural	60		
Life expectancy at birth			
Total	68.9		
Urban	76.8		
Rural	67.6		

List of Abbreviations and Acronyms

ASFR	Age-Specific Fertility Rates
CDHS	Cambodia Demographic and Health Survey
CD-ROM	Compact Disc Read-only Memory
CEB	Children Ever Born
CIPS	Cambodia Inter-censal Population Survey
CMDGs	Cambodia Millennium Development Goals
CS	Children Surviving
CWR	Child Woman Ratio
CSPRO	Census and Survey Processing System
DDG	Deputy Director General
DG	Director General
DUSC	Data Users Service Center
EA	Enumeration Area
GIS	Geographic Information System
GRR	Gross Reproduction Rate
IMR	Infant Mortality Rate
JICA	Japan International Cooperation Agency
MOP	Ministry of Planning
NGO	Non-governmental organization
NIS	National Institute of Statistics
NSDP	National Strategic Development Plan
PES	Post Enumeration Survey
POPMap	Population Map
PSU	Primary Sample Units
QA	Quality Assurance
REDATAM	Retrieval of Data for Small Areas by Microcomputer
RGC	Royal Government of Cambodia
RS	Rectangular Strategy
SSU	Secondary Sampling Units
TFR	Total Fertility Rate
TV	Television
U5MR	Under-Five Mortality Rate
UN	United Nations
UN CensusInfo	United Nation Census Information
UNFPA	United Nations Population Fund
WHO	World Health Organization
WB	World Bank
WinR+	Redatam Plus for Windows

Chapter 1

Introduction

1.1 Background

The Cambodia Inter-censal Population Survey 2013 (CIPS) was conducted in March 2013. The reference time for the survey was the midnight of March 3 (00 hours). This is the second Inter-censal Population Survey to be conducted in Cambodia (CIPS 2013). The first one (CIPS 2004) was conducted in March 2004. The Inter-censal Population Survey in March 2013 was planned to take place exactly in the middle of the two censuses held in 2008 and 2018. For the first time, the 2013 Inter-censal Population Survey provides estimates up to the provincial level. The target population set for CIPS, 2013 was the normal household population (regular households) of Cambodia. People living in institutions, such as hospitals, hostels, police quarters and prisons as well as homeless populations were not covered in the survey. However, normal households residing within institutional settings were covered.

It is a nationally representative sample survey conducted for updating information on population size and growth, fertility, mortality, migration and other population characteristics as well as household facilities and amenities.

The process of formulating a National Population Policy has been greatly advanced through the availability of population and demographic data. At the same time data from specialized surveys such as the socio-economic survey and Demographic and Health Survey, labour force surveys and migration studies have complemented the census data and helped build a body of essential statistics to guide the development process. The conduct of the Cambodia Inter-censal Population Survey 2013 is an important step in the creation of a continuous flow of population data that will enable Cambodia prepare plans and programmes of development supported by a strong database.

1.2 Survey Objective

The Cambodia Inter-censal Population Survey 2013 was conducted with the objective of providing information on the following characteristics of the population: Population size and distribution; sex, age and marital status; fertility and mortality; migration status; disabled population; literacy and educational level; employment and unemployment; housing and household amenities; and other population and household information. These fresh data will enable calculation of reliable estimates and projections of: Population size and growth, fertility and mortality levels, volume of migration, housing and household amenities and related details. The survey was also intended to train the national staff in sampling, data collection, data processing, analysis and dissemination.

1.3 Survey Content

The draft questionnaires for the CIPS 2013 were more or less on the 2008 General Census pattern. Some modifications, however, were made by adding new questions and amending some of the old questions. Two types of questionnaires were used in the CIPS 2013: Form A House-list and Form B Household Questionnaire (see Appendix I and II).

The Form A was used to collect information on buildings containing one or more households during the preliminary round preceding the survey night (March 3, 2013). Form B which has five parts, was used for the survey enumeration in the period closely following the reference time.

1.4 Survey Organization

The sampling design and estimation procedure adopted in the survey are described in Chapter 2. The first preliminary field work for the survey was mapping that was carried out with technical assistance from Japan International Cooperation Agency (JICA). Trained NIS staffs were deputed to draw the sketch map of the villages and detailed EA maps.

The Director General of NIS served as the Director of CIPS 2013. The provincial planning directors of each of the 23 provinces and Phnom Penh Municipality served as coordinators in their respective areas. About a hundred NIS survey coordinators were drawn from different divisions of NIS and allotted to provinces at the rate of about eight to nine villages per person. They then acted as technical advisors to all survey staff and were responsible for technical aspects of the survey in the allotted province. Their foremost tasks were to train the supervisors and the enumerators, supervise the fieldwork and ensure proper distribution of CIPS materials and collection of completed records.

For every selected enumeration area, there was one enumerator and normally the work of three enumerators was monitored and supervised by one supervisor. Enumerators and supervisors were drawn from the cadre of teachers and other civil servants. Preferably those residing within or near the selected villages were appointed by the provincial directors. In all there were 955 enumerators and 318 supervisors busy in the field during early March 2013. The Senior Minister, Minister of planning, Secretaries and Under-Secretaries of State, and other Directors of Departments also assisted in supervising the field activities.

A technical consultant appointed by UNFPA undertook a few short-term missions at appropriate stages to provide training and overall guidance to the NIS and to ensure proper organization and implementation of the CIPS field undertaking as well as to assist in the preparation of the tabulation plan and reports. A sampling consultant provided guidance on sampling particularly on estimation procedure and computation of sampling errors. Data Processing consultant (DPC) in his short-term missions gave training to the staff in data processing and guided and supervised the processing of CIPS results.

1.5 Training for Field Staff

The 100 NIS Survey Coordinators (NIS SC) were first intensively trained at the NIS (November-December 2012) by senior officers on updating village/EA maps, sampling, house-listing, interviewing households and filling-in household questionnaires, concepts and definition. The Province Directors (with their Deputy Directors) were trained on CIPS at NIS for one week in January 2013, since they were expected to be deeply involved in organizing the survey and making field visits to ensure that the survey was proceeding smoothly. The training of appointed enumerators and supervisors on all aspects of the survey, especially questionnaires and concepts (including practice), was conducted at the Provincial Headquarters by NIS survey coordinators assisted by the Provincial Director/Deputy Director for six days (19 to 23 February, 2013).

1.6 Data Collection and Supervision

For every selected EA, a field listing was organized in order to make a current and complete listing of households located within it. At the first step the enumerator would have to update sketch maps of villages and EA maps. Residential and partly residential buildings were numbered using sticker and marked on map by covering a prescribed path of travel in order to make sure that all buildings in which households resided were accounted for.

During the primary operation of the survey (lasting five days from 26 February to 2 March, 2013) building/structures wholly or partly used for residential purpose in selected EAs (955 in all) were listed in the House List called Form A (Appendix 1). After the listing operation was completed in an EA, a fixed sample size of 30 households was selected from the house list by the respective supervisor. This selection was carried out systematically by computing interval in each EA and choosing the random start, by using linear sampling. It was closely supervised by NIS survey coordinators to ensure correctness in the selection process.

During the main phase of the survey, the Household Questionnaire called Form B (Appendix II) was completed by the enumerator in each of the 30 sample households selected in his/her EA. Overall, the supervisory teams found that respondents were willingly answering the survey questions.

1.7 Data Processing

The completed records (Form A , Form B, Form I, Form II, Map, and other prescribed Forms) were systematically collected from the provinces by NIS Survey Coordinators on the due dates and submitted to the team receptionist at NIS. Training on editing and coding of filled-in schedules was conducted for senior staff, who in turn trained other editors and coders. The purpose of the editing process was to remove matters of obvious inconsistency, incorrectness and incompleteness, and to improve the quality of data collected. In order to capture the data recorded on Form A (House List), Form B (Household Questionnaire) and Form 2 (Enumerator's Summary), three separate data entry applications using CSPro software package were made. CSPro package was used for tabulation as well. The data entry section consisted of 14 keyboard operators working under two supervisors. They were

thoroughly trained on data entry procedures and the CSPro data entry software in the third week of March 2013.

1.8 Tabulation and Analysis Plans

In consultation with data users, NIS decided to produce about 78 basic priority tables (see Appendix III) most of which are for both National and provincial levels. The Provincial level Tables are only for Total and not separately for rural and urban areas due to smallness of the sample size. These tables cover most of the topics included in the CIPS 2013 questionnaires and their cross classification should satisfy most of the requirements of all sections of data users. The production of priority tables may be followed by the preparation of additional tables called supplementary tables if proposed by the data users, and other tables produced in the course of in-depth analysis.

Analysis of the survey data will include preliminary analysis of provisional population totals, general analysis at the National and Provincial levels of the final survey data as well as in-depth analysis in respect of the following topics by the NIS analysis team with technical assistance by UNFPA and JICA: (i) Fertility and mortality (ii) Population growth and change in spatial distribution (iii) Nuptiality (iv) Gender and age composition (v) Disability (vi) Migration (vii) Literacy and educational attainment (viii) Economic activity and employment (ix) Housing and household amenities (x) Families and Households (xi) Population Projections (xii) Women in Cambodia and (xiii) Urbanization and development in Cambodia. Some more topics may also be taken up for study if needed. A separate report on each topic is expected to be prepared. For this purpose a workshop may be held for each subject involving the national staff not only within the NIS but also from other line Ministries concerned. This will afford an opportunity to the staff concerned to interact with each other and study deeply the survey results and draw conclusions which could be incorporated in the analytical report. Such a system worked very well in the past census analysis programmes.

1.9 Dissemination Plan

The reports mentioned under the analysis plan will be printed and published. The preliminary report based on provisional population totals was released in August 2013. The present report contains general analysis mostly at the national level, of the data contained in the priority tables. This will be followed by the publication of analytical reports mentioned above in stages.

Off-line electronic dissemination products will be mainly in the form of CD-ROM. The project plans to produce a variety of electronic dissemination products based on CD ROMs. These include: a Table Retrieval System, a Community Profile System and a thematic mapping application. Census Info will also be used as dissemination tool. The NIS maintains a web site (www.nis.gov.kh) for providing information from population censuses, the results of various types of surveys, periodical publication, etc. The salient results of CIPS 2013 will be put on the web site. Seminars for the presentation of the survey results and workshops to train planners in the line Ministries and other data users may be conducted in the course of 2013-14 in Phnom Penh and every province/district so as to benefit participants down to the district level.

1.10 Quality Assurance

Adequate steps were taken to ensure quality of data at every stage of the Survey. For quality assurance in field work, the importance of collecting quality information was stressed in the training classes for enumerators and supervisors. The need to collect accurate data by gender was also emphasized. For every four enumerators, there was a field supervisor who closely checked the work of every enumerator under him/her. The data processing division initially carried out manual coding and editing of filled-in schedules. Computer editing was also carried out to produce clean data sets freed of errors and ready for tabulation. QA was maintained in production of tables also so as to maintain timeliness and security of the tables. In the dissemination of census results accessibility, relevance and user satisfaction is proposed to be ensured.

1.11 Limitations of the Survey

The various estimates presented in this report are derived from a sample of the surveyed population. As in any such survey, these estimates are subject to both sampling and non-sampling errors. Although the CIPS 2013 sample was chosen at random, the people who took part in the survey might not necessarily be a representative cross-section of the total population. Like all sample surveys the results of the present survey are estimates of the corresponding figures for the whole population and these results might vary from the true value in the population. Nevertheless the demographic, social and economic indicators produced are broadly comparable with earlier census and survey results deleted so as to serve as a measure of change over time, useful for planning and monitoring.

Chapter 2

Sampling Design, Estimation and Evaluation

2.1 Introduction

This is the second Inter-censal Population Survey to be conducted in Cambodia (CIPS 2013). The total sample size determined in order to make reliable estimates at provincial level was 955 out of 28,000 Enumeration Areas (EAs) of the 2008 Census as Primary Sampling Units (PSUs) and 28,650 households as the Secondary Sampling Units (SSUs).

The survey was designed to provide reliable estimates for urban and rural areas at the national level but at provincial level, it was expected to provide reliable estimates only for total population disaggregated by sixth sample fraction varied by stratum and data were weighted to correctly represent the population. Usually data would be weighted if the sample design gave each individual an equal chance of being selected. This can be achieved by using survey weights. Weights can also serve other purposes, such as helping to correct for non-response.

2.2 Sampling Frame

The sampling frame used for the 2013 CIPS was the complete list of all EAs of the 2008 General Population Census of Cambodia. The list was updated to reflect administrative changes since the last census up to September 2011. The main administrative change was the relocation of the boundary between Kandal and Phnom Penh provinces with the result that 20 communes were shifted from Kandal province to Phnom Penh. Twelve new communes were established, six of them in Battambang province. In addition there were less significant changes like shifting of communes from one district to another within a province, splitting and merging of villages etc. and creation of another Khan in Phnom Penh (called Khan Pur Senchey) by annexing some part of Khan Dangkor and Kandal province. Taking into account all aspects, some geographic areas have been re-coded for construction of a revised and updated sampling frame for utilization in the multistage sample design.

2.3 Stratification

The main domains of study for the survey are the provinces. Reliable estimates were required for each province. Consequently, the sampling frame was stratified by province. Within province a further stratification by urban and rural was done. There was no explicit stratification of province as urban and rural in the Demographic Survey of 1996 and CIPS 2004. The list of EAs was geographically ordered in a serpentine fashion within each stratum. This ordering provided a further implicit stratification on geographical location within the explicit strata as systematic sampling was employed.

2.4 Sample Size and Sample Allocation

An approximately almost equal allocation number of households over the provinces were employed, giving a sample of approximately 1,200 households in each province. The size of the provinces (population-wise) varies substantially; the largest province represents 13.1 percent of the total households in the country; the smallest one represents just 0.3 percent of the total households in the country. Within each province the sample was allocated approximately proportionally between urban and rural areas.

Table 2.1 Distribution of Sample Enumeration Areas (EA) and Households by provinces

Province	Sample Size	
	Enumeration Areas (EAs)	Households
(1)	(2)	(3)
Cambodia	955	28,650
BanteayMeanchey	41	1,230
Battambang	41	1,230
Kampong Cham	41	1,230
Kampong Chhnang	40	1,200
Kampong Speu	41	1,230
Kampong Thom	40	1,200
Kampot	40	1,200
Kandal	41	1,230
Koh Kong	39	1,170
Kratie	40	1,200
MondulKiri	37	1,110
Phnom Penh	41	1,230
PreahVihear	39	1,170
Prey Veng	41	1,230
Pursat	40	1,200
Ratanak Kiri	39	1,170
Siem Reap	41	1,230
Preah Sihanouk	40	1,200
Stung Treng	39	1,170
Svay Rieng	40	1,200
Takeo	41	1,230
OtdarMeanchey	40	1,200
Kep	35	1,050
Pailin	38	1,140

2.5 Survey design

The sample design for the survey was a stratified two-stage sampling design, where the Enumeration Areas (EAs) were considered as the Primary Sampling Units (PSUs) and the households as Secondary Sampling Units (SSUs).

2.5.1 Primary Sampling Units (PSUs)

The EAs or the primary sampling units (PSUs) were well-defined geographic units for which reliable population data are available. The EAs were arranged by geographical codes like province code, district code, commune code, and village code village code and enumeration area code. The sample EAs were then selected using the Linear Systematic Sampling without Replacement (LSSWR).

Selected EAs with less than 40 regular households were discarded and replaced by a neighboring EA of sufficient size. Altogether 12 EAs were replaced in this manner. This procedure was not strictly correct. It meant that the households in the small EAs had no chance of being included in the sample—a violation of the basic principle in sampling. The proper procedure would be to combine the selected EA with a neighboring EA in a random way. However, the number of replacements being so small, it does not significantly affect the quality of the estimates.

Large EAs—the number of households exceeding 150—were divided into roughly equal sized segments containing approximately 60-80 households and one segment was selected randomly. In the case of segmenting, the field team recorded the number of segments that were created and the segment that was selected out of them. The EA map prepared clearly indicated the EA and the segments created within the EA.

An important principle followed was that as far as possible the selected sample of EAs should not be tampered with. If a selected EA turned out to have very few households, still this EA was kept in the sample. Still, in a few cases practical considerations might have overruled this principle. There were two cases where whole villages were relocated from one place to another because the old place had to be cleared for development projects (villages 09020103 and 09020302). In these cases it was decided to keep the villages in the sample.

2.5.2 Secondary Sampling Units (SSUs)

For the purpose of selection of the secondary sampling unit, a household was defined as follows to guide the field staff: "It is a group of people who presently live together and take food from a common kitchen. By this definition, a household does not include persons who are currently living elsewhere for purposes of study or work. The household includes domestic workers or temporary visitors. And, in practice, we want to select our respondent from among persons in the household who will be available for interview on that same day".

In multi-household dwelling structures (like blocks of flats, compounds with multiple houses, or backyard dwellings for rent, relatives, or household workers), each household was treated as a separate sampling unit.

At this stage, sample households in the sample EA were selected, by Linear Systematic Sampling (LSS) with Random start method as described below:

$R_1 = 1$ to I : Random start in range between 01 to Interval ($R = 1$ to I)

I = Interval between household to another households in the listing sheet

Where:

$$I = M_{hi} / m_{hi}$$

M_{hi} : Actual number households in the listed in EA at the time of survey

m_{hi} : (30hhs) the sample of households selected from the selected EA

Assume $R = R_1$ Random start or the 1 sample household ($R = 01$ to I)

The 30 sample households are calculated as below

$$R = R_1, R_2 = R_1 + I, R_3 = R_1 + 2I, \dots, R_{30} = R_1 + 29I$$

2.6 Probability Selection

There was no proportional allocation of the sample at the national level. The spreadsheet containing all sampling parameters and selection probabilities were prepared to facilitate the calculation. Sampling was carried out based on separate sampling probabilities for each sampling stage.

2.6.1 Probability 1

The first-stage sampling probability involved in selection of each i^{th} EA in h^{th} Stratum is:

$$P_{1hi} = \frac{n_{hi}}{N_{hi}}$$

Where:

n_{hi} is the number of EAs selected in h^{th} stratum. N_{hi} is the total number of EAs in the h^{th} stratum

2.6.2 Probability 2

The second-stage sampling probability involved in selection of certain households within the selected EA in stratum h is:

$$P_{2hi} = \frac{m_{hi}}{M_{hi} \cdot S_{hi}}$$

Where:

m_{hi} is the number of households selected in EA i in stratum h (m_{hi} is usually =30; will be less than 30 if the EA is very small, having less than 30 households in total).

M_{hi} is the number households listed in EA (or segment) i in stratum h .

S_{hi} is the number of segments created in the EA (in most cases=1, i.e. when no segmentation has been done. If 3 segments have been created then S_{hi} is equal to 3).

2.7 Extrapolation

A spreadsheet containing all sampling parameters and selection probabilities were prepared to facilitate the calculation of sampling weights. Sampling weights were adjusted for household and individual records. The overall selection probability of each household in cluster i of stratum h is the product of the two stages of selection probabilities.

$$P_{hi} = P_{1hi} \cdot P_{2hi}$$

2.7.1 Basic weight

The sampling weight (design weight) for each household in cluster i of stratum h is the inverse of its overall selection probability:

$$w_{hi} = \frac{1}{P_{hi}} = \frac{1}{P_{1hi}} \cdot \frac{1}{P_{2hi}} = w_{1hi} \cdot w_{2hi} = \frac{N_h}{n_h} \cdot \frac{M_{hi} \cdot S_{hi}}{m_{hi}}$$

2.7.2 Adjustment weight

A study of the sizes of the sampled EAs in terms of number of households showed that the EA sizes (M_{hi}) were on the low side. There was probably some confusion in some areas regarding the exact location of the EA boundaries resulting in under listing of households. Furthermore, there could be cases where the EA was segmented but the segmentation was not properly recorded in the sampling sheets. It was therefore decided to introduce an adjustment to the design weights with the effect that the sample households in the EA would not be raised to the EA-total (M_{hi}) but rather to the number of households per EA in the village where the EA is located. The weights became:

$$w_{hi} = \frac{N_h}{n_h} \cdot \frac{\bar{M}_{hi}}{m_{hi}}$$

where \bar{M}_{hi} is the number of households per EA in the village where the EA is located.

These weights were used for estimates of household characteristics based on Form B data. The weights can be expressed in terms of first and second stage weights as:

$$w_{hi} = w_{1hi} \cdot w_{2ji} = \frac{N_h \cdot \bar{M}_{hi}}{n_h \cdot M_{hi}} \cdot \frac{M_{hi}}{m_{hi}}$$

The first stage weight (w_{1hi}) was used for estimates of household characteristics based on the Form A questionnaire. (Form A covered all households in the selected EA so there was no need for the second stage weight).

The sum of the first stage weights over the sample constituted an estimate of the total number of regular households in the country. The estimate of total number of households was short of the number of households reported in the Commune Data Base (CDB). It was therefore decided to adjust the first stage household weights slightly upwards so that the estimates would agree with CDB totals. This “calibration” of the weights was done at the province level by urban/rural. A further adjustment was done in Phnom Penh and Kandal provinces due to the changes in boundaries between the two provinces (20 Kandal communes were transferred to Phnom Penh province in 2011).

2.8 Standard Errors and Confidence Intervals

The sample survey is always affected by two types of errors: non-sampling errors and sampling errors. Non-sampling errors are the results of mistakes made in implementing data collection and data processing, such as failure to locate and interview the correct household, misunderstanding of the questions on the part of either the interviewer or the respondent, and data entry errors. To minimize this type of error, non-sampling errors are impossible to avoid and difficult to evaluate statistically. Sampling errors, on the other hand, can be evaluated statistically. It is usually measured in terms of the standard error for a particular statistic (mean, proportion), which is the square root of the variance. The standard error can be used to calculate confidence intervals within which the true value for the population can reasonably be assumed to fall. The standard errors are calculated in the SPSS Complex Samples module. The variance of an estimate of a total is:

$$V(\hat{Y}) = \sum_{h=1}^L \left[\frac{n_h}{n_h - 1} \sum_{i=1}^{n_h} \left(\hat{Y}_{hi} - \frac{\hat{Y}_h}{n_h} \right)^2 \right],$$

where:

$$\hat{Y}_{hi} = \sum_{j=1}^{m_h} W'_{hi} y_{hij}$$

$$\hat{Y}_h = \sum_{i=1}^{n_h} \hat{Y}_{hi}$$

Some of the estimates from the CIPS will be in the form of proportions or percentages. The variance estimator of a ratio can be expressed as follows:

$$V(\hat{R}) = \frac{1}{\hat{X}^2} \left[V(\hat{Y}) + \hat{R}^2 V(\hat{X}) - 2 \hat{R} COV(\hat{X}, \hat{Y}) \right],$$

where:

$$COV(\hat{X}, \hat{Y}) = \sum_{h=1}^L \left[\frac{n_h}{n_h - 1} \sum_{i=1}^{n_h} \left(\hat{X}_{hi} - \frac{\hat{X}_h}{n_h} \right) \left(\hat{Y}_{hi} - \frac{\hat{Y}_h}{n_h} \right) \right]$$

$V(\hat{Y})$ and $V(\hat{X})$ are calculated according to the formula for the variance of a total.

2.8.1 Confidence Intervals

Table 1 provides standard errors, confidence intervals and coefficients of variation for estimated number of people by province. The overall reliable estimate at 95 percent of confidence interval of population figures at national level of the CIPS, 2013 falls between 14,356,392 and 14,996,882. These confidence intervals vary from province to province of Cambodia as may be seen in Table 2.2.

Table 2.2 Standard Errors, Confidence Intervals and Coefficient of Variation for estimated number of people by Province

Province	Estimate	Standard Error	95% Confidence Interval		Coefficient of Variation
			Lower	Upper	
(1)	(2)	(3)	(4)	(5)	(6)
Country	14,676,607	163,166	14,356,392	14,996,822	.011
Banteay Meanchey	729,624	38,444	654,177	805,071	.053
Battambang	1,121,001	42,729	1,037,145	1,204,857	.038
Kampong Cham	1,757,190	66,630	1,626,427	1,887,953	.038
Kampong Chhnang	523,202	28,006	468,240	578,164	.054
Kampong Speu	755,465	35,831	685,145	825,785	.047
Kampong Thom	690,386	39,344	613,172	767,599	.057
Kampot	611,583	30,548	551,632	671,534	.050
Kandal	1,115,959	37,863	1,041,652	1,190,267	.034
Koh Kong	122,258	6,417	109,664	134,853	.052
Kratie	344,195	14,053	316,615	371,775	.041
Mondul Kiri	72,680	4,338	64,166	81,194	.060
Phnom Penh	1,688,040	66,892	1,556,763	1,819,318	.040
Preah Vihear	235,355	10,925	213,914	256,796	.046
Prey Veng	1,156,821	34,578	1,088,962	1,224,680	.030
Pursat	435,562	18,288	399,672	471,453	.042
Ratanak Kiri	183,699	15,812	152,667	214,730	.086
Siem Reap	922,975	65,890	793,665	1,052,285	.071
Preah Sihanouk	250,180	19,315	212,274	288,086	.077
Stung Treng	122,791	7,168	108,724	136,857	.058
Svay Rieng	578,461	21,575	536,121	620,802	.037
Takeo	923,297	29,982	864,457	982,137	.032
Otdar Meanchey	231,387	11,328	209,156	253,618	.049
Kep	38,700	842	37,047	40,353	.022
Pailin	65,795	2,407	61,071	70,520	.037

Chapter 3

Population Size, Growth and Distribution

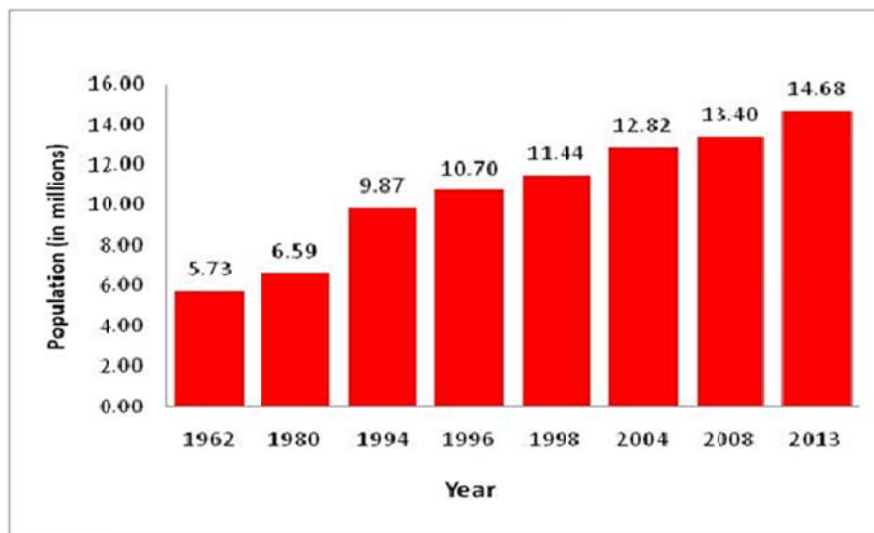
3.1 Population size

According to Cambodia Inter-censal Population Survey 2013 (CIPS 2013), the total population of Cambodia at 00 hour of March 2013 was 14.68 million as against the census count of 13.40 million in 2008. In absolute terms, Cambodia's population has increased by 1.28 million during the half-decade 2008-2013. Population of Cambodia was 5.7 million according to the 1962 Census which was the first official census conducted after the country attained independence from the French rule. Cambodia's demographic scenario had changed completely after that census due to war and unrest.

No census could be organized until 1998, and there were no systematic national surveys until 1993-94. However, the population changes during the 1970s were examined in detail by several demographers and scholars who made different population estimates, and the Government of the People's Republic of Kampuchea carried out population counts in 1979 and 1980.

There was no further confirmed information about Cambodia's population until 1992. The United Nations Transitional Authority in Cambodia (UNTAC) registered 4.28 million voters aged 20 and over. The Socio-Economic Survey of Cambodia conducted by the NIS in April 1994 estimated the country's population as 9.87 million. The NIS carried out the Demographic Survey in March 1996 covering 20,000 households and estimated the population as 10.7 million. This remained as the only source of population until the 1998 Census conducted in March 1998. Cambodia's population according to the census was 11.4 million in 1998. This had increased by about 1.96 million during the decade 1998-2008 reaching the figure of 13.40 million. During 2008-2013 the country's population had further increased to 14.68 million (Figure 3.1).

Figure 3.1 Population Trends in Cambodia



Source: See text (Paragraph 3.1)

3.2 Regional Population

Table 3.1 shows the population size and population growth by Residence (i.e. urban-rural) and Natural Region of Cambodia during 1998-2013. Table 3.1 indicates that there are large regional variations in population distribution. The Plains region has always accounted for the largest population concentration (48.9 percent of the country's total population in 2008 and correspondingly 49.19 per cent in 2013) (Table 3.5). Tonle Sap region has the second largest population (32.52 percent and 32.16 percent in 2008 and 2013 respectively). The coastal region which comes third in terms of population concentration accounts for 6.97 per cent of the country's population in 2013 as against 11.43 percent in 2008. The Plateau and Mountain region with difficult transportation conditions and large concentration of ethnic minority people accounts only for 11.68 percent of total population in 2013 as against to 11.43 percent in 2008. It may also be noted that during the last five years there was no major change in the share of the population of each region in the country's population.

According to CIPS 2013, the estimated population of Cambodia is 14.68 million. The official population projections for Cambodia as of 1 July 2013, is 14.96 million. By interpolation, as of 3 March 2013, the projected population would be in the order of 14.89 million. Hence in terms of absolute figures the CIPS 2013 estimated population (14.68 million) is less than the projected population (14.89 million) by about 0.21 million or about 1.4 per cent.

The population of Cambodia as on 3 March 2008 was 13.40 million as per the 2008 General Population Census of Cambodia. Comparing the CIPS 2013 estimate of population of 14.68 million with this, the annual growth rate of population during 2008-2013 works out to 1.83 per cent. However, as was done during the projection exercise, this has to be viewed in the light of under enumeration in the 2008 Census which is officially estimated as 2.77 per cent from the Post Enumeration Survey (PES). Adjusting for this under enumeration in the 2008 Census, the base population in 2008 is given by 13.77 million. Based on this population the growth rate of population as per CIPS 2013 during 2008-2013 is calculated as 1.28 per cent.

Another way of looking at the population growth rate is by comparing with the estimated population from CIPS 2004 (13.09 million). If this is done the annual growth rate during the nine years 2004-2013 works out to 1.27 percent. Considering all the aspects, the growth rate of population in Cambodia during 2008-2013 may be the average of the three estimates (1.83 per cent, 1.28 percent and 1.27 percent), namely 1.46 per cent.

The population growth rate at national level was projected as 1.54 per cent in 2013 which is slightly higher than 1.46 per cent arrived at as population growth rate during 2008-2013 by the CIPS 2013 estimate. The relatively small difference between the projections and CIPS 2013 estimate may be accounted for by the fact that two different methodologies were adopted in projections and sample survey estimations. Projections are based on several assumptions pertaining to fertility, mortality and migration. Any sample survey is subject to sampling and non-sampling errors. The marginal difference may not, therefore, be considered significant.

The annual exponential growth rate of the population of Cambodia is higher than that of Southeast Asia as a whole (1.1 per cent) as per ESCAP Population Data Sheet of 2012. Cambodia's population has increased at a rate very much higher than that of Thailand (0.5 per cent) and marginally higher than the growth rate of Viet Nam (1.0 per cent) and marginally lower than the growth rate of Lao PDR (1.7 per cent).

Table 3.1 Population size and growth by Residence and Natural Region, Cambodia 1998-2013 and 2008-2013

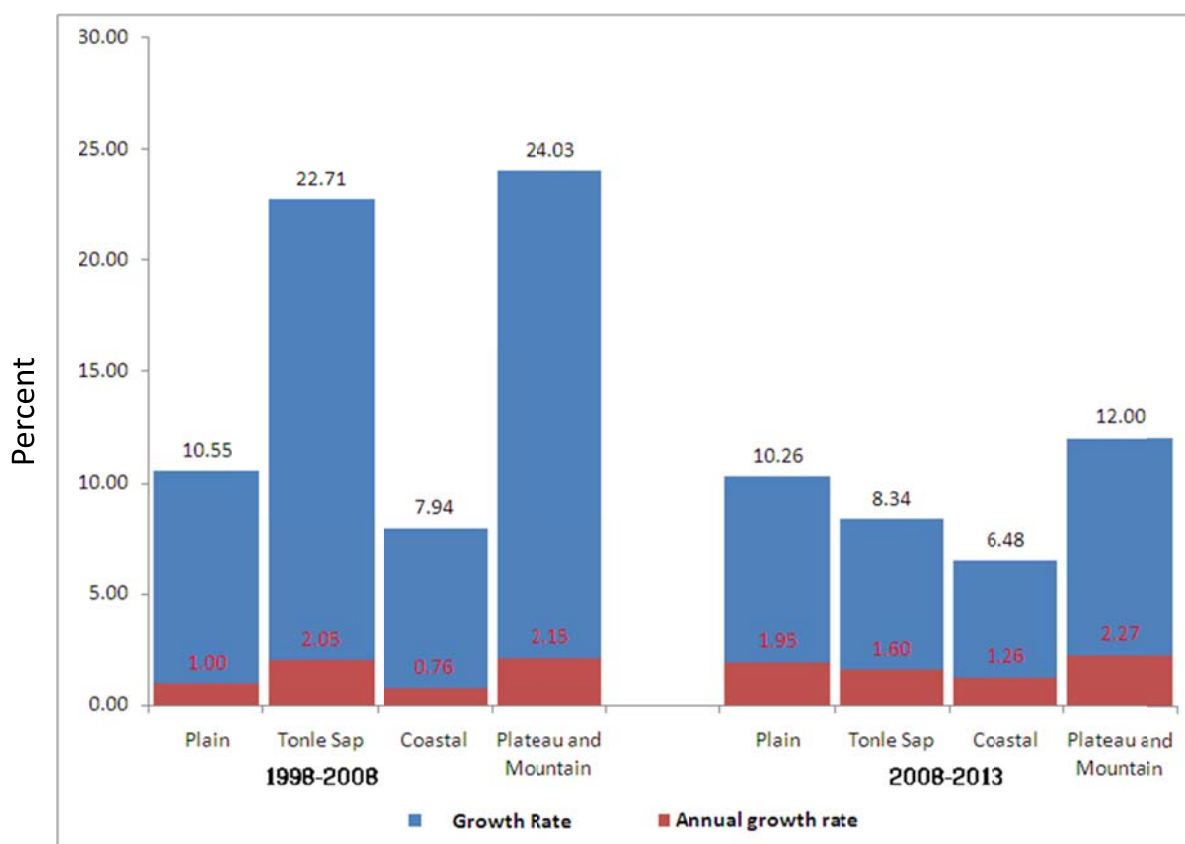
Residence/ Natural Region	Population		CIPS 2013	Growth Rate (Per cent)		Annual growth rate	
	1998	2008		1998-2008	2008-2013	1998-2008	2008-2013
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total	11,437,656	13,395,682	14,676,591	16.66	9.56	1.54	1.83*
Urban	2,095,074	2,614,027	3,146,213	24.77	20.36	2.21	3.71
Rural	9,342,582	10,781,655	11,530,378	14.85	6.94	1.38	1.34
Plains Region	5,878,305	6,547,953	7,219,724	10.55	10.26	1.00	1.95
Tonle Sap region	3,505,448	4,356,705	4,719,967	22.71	8.34	2.05	1.60
Coastal Region	844,861	960,480	1,022,701	7.94	6.48	0.76	1.26
Plateau & Mountain Region	1,189,042	1,530,544	1,714,200	24.03	12.00	2.15	2.27

Note: * Please see explanation in Paragraph 3.2 on population growth rate.

Having explained the intrinsic annual growth rate of population at the national level as 1.46 per cent the discussion below will confine itself to annual growth rate based on actual count in the 1998 and 2008 Censuses and estimated CIPS 2013 populations. In CIPS 2013 no adjustment of population for under count is possible at Regional and Provincial levels as Post enumeration Survey estimates of under count is not available at Province and regional levels. Moreover for comparison purposes the actual count of population could be used assuming that coverage error could be present in any such large scale count.

Among the Natural regions, the Plateau and Mountain had registered the highest average annual population growth rate mainly due to in-migration of people from other provinces. It is followed by the Plains region which has registered the second highest growth rate, the Tonle Sap region which comes third in respect of growth rate and the coastal region which has the least growth rate during the half decade 2008-2013. Compared to the decade 1998-2008, the average annual population growth rate has increased in all regions except in Tonle Sap region.

Figure 3.2 Population growth rate by Natural Region, Cambodia, 1998-2013 and 2008-2013



It is observed from Table 3.2 that over the years, the comparatively less developed provinces of Preah Vihear, Otdar Meanchey, Ratanak Kiri and Mondul Kiri, have been registering high annual population growth rates. This may be due to absorption of migrant population from other provinces as a result of availability of land for cultivation, better economic opportunities and fresh developments in these areas. The annual population growth rate during 2008-2013 among provinces ranges from negative growth rate of -1.38 percent (Pailin) to as high a growth rate as 6.37 per cent (Preah Vihear). In 2013, the following 11 provinces have recorded an annual population growth rate higher than the national growth rate: Preah Vihear, Otdar Meanchey, Ratanak Kiri, Mondul Kiri, Prey Veng, Svay Rieng, Preah Sihanouk, Phnom Penh, Kampong Chhnang, Stung Treng and Pursat. The remaining 13 provinces have registered each an annual population growth rate lower than that of Cambodia as a whole. However, in respect of the following three provinces, the growth rate differs only slightly from the national average growth rate: Battambang, Kampong Thom, and Pursat. At the extremes, the growth rate of Preah Vihear is 4.5 percentage points higher and that of Pailin 3.2 percentage points lower than the overall growth rate.

When compared to 1998-2008, the annual population growth rate in respect of each of the following fifteen provinces has declined in the half decade 2008-2013: Banteay Meanchey, Battambang, Kampong Speu, Kampot, Kandal, Kratie, Mondul Kiri, Phnom Penh, Ratanak Kiri, Siem Reap, Preah Sihanouk, Stung Treng, Otdar Meanchey, Kep and Pailin. In the remaining nine provinces, the annual population growth rate has increased during the same period, though in varying degrees.

**Table 3.2 Population Growth (Percent) in Cambodia and Provinces,
1998-2008 and 2008-2013**

Cambodia/Province	Population			Annual Growth Rate	
	1998	2008	2013	1998-2008	2008-2013
(1)	(2)	(3)	(4)	(5)	(6)
Cambodia	11,437,656	13,395,682	14,676,591	1.54	1.83*
Banteay Meanchey	577,772	677,872	729,569	1.56	1.47
Battambang	793,129	1,025,174	1,121,019	2.28	1.79
Kampong Cham	1,608,914	1,679,992	1,757,223	0.43	0.90
Kampong Chhnang	417,693	472,341	523,202	1.22	2.05
Kampong Speu	598,882	716,944	755,465	1.79	1.05
Kampong Thom	569,060	631,409	690,414	1.03	1.79
Kampot	528,405	585,850	611,557	1.03	0.86
Kandal	1,075,125	1,091,170	1,115,965	1.62	0.45
Koh Kong	116,061	117,481	122,263	0.12	0.80
Kratie	263,175	319,217	344,195	1.93	1.51
Mondul Kiri	32,407	61,107	72,680	6.34	3.47
Phnom Penh	999,804	1,501,725	1,688,044	2.83	2.34
Preah Vihear	119,261	171,139	235,370	3.61	6.37
Prey Veng	926,042	947,372	1,156,739	0.01	3.99
Pursat	360,445	397,161	435,596	0.69	1.85
Ratanak Kiri	94,243	150,466	183,699	4.67	3.99
Siem Reap	696,164	896,443	922,982	2.52	0.58
Preah Sihanouk	171,735	221,396	250,180	2.54	2.44
Stung Treng	81,074	111,671	122,791	3.20	1.90
Svay Rieng	478,252	482,788	578,380	0.09	3.61
Takeo	790,168	844,906	923,373	0.66	1.78
Otdar Meanchey	68,279	185,819	231,390	8.64	4.39
Kep	28,660	35,753	38,701	2.21	1.58
Pailin	22,906	70,486	65,795	11.24	-1.38

- (1)* Please see explanation in Paragraph 3.2 on population growth rate.
- (2) The annual exponential growth rate for 1998-2008 is worked out after adding to 1998 rural population, the estimated population in areas (wholly rural) where the 1998 Census could not be conducted due to conflict
- (3) Figures in Columns 2,3 and 5 in respect of Koh Kong and Preah Sihanouk provinces are based on the New Frame that emerged after the 2008 Sub-Decree changes of administrative areas.
- (4) After the 2008 Census, 20 communes with a population of 410,555 were transferred from Kandal Province to Phnom Municipality. The growth rates in column 6 above for these two areas have been worked out taking this fact into account.

3.3 Proportion of Population and Ranking by Province

Table 3.3 provides the population proportion and ranking of the provinces of Cambodia according to CIPS 2013. Kampong Cham and Phnom Penh have maintained the first and second rank respectively in 2008 and 2013. Kep continues to be the last province in terms of population size. Prey Veng has shifted from rank number 5 in 2008 to rank number 3, Preah Vihear from rank number 18 to 17, Stung Treng from 21 to 20 and Mondul Kiri from 23 to 22, while Kandal and Battambang have fallen from ranks 3 and 4 to ranks 4 and 5 respectively.

Table 3.3 Provinces Ranked by Percentage of Population in 1998, 2008 and 2013

Province	Percentage of Population			Rank in		
	1998	2008	2013	1998	2008	2013
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Kampong Cham	14.07	12.54	11.90	1	1	1
Phnom Penh	8.74	11.21	11.82	3	2	2
Prey Veng	8.10	7.07	7.81	4	5	3
Kandal	9.40	8.15	7.67	2	3	4
Battambang	6.93	7.65	7.62	5	4	5
Siem Reap	6.09	6.69	6.28	7	6	6
Takeo	6.91	6.31	6.24	6	7	7
Kampong Speu	5.24	5.35	5.12	8	8	8
Banteay Meanchey	5.05	5.06	4.97	9	9	9
Kampong Thom	4.98	4.71	4.68	10	10	10
Kampot	4.62	4.37	4.13	11	11	11
Svay Rieng	4.18	3.60	3.91	12	12	12
Kampong Chhnang	3.65	3.53	3.55	13	13	13
Pursat	3.15	2.96	2.95	14	14	14
Kratie	2.30	2.38	2.34	15	15	15
Preah Sihanouk	1.50	1.65	1.72	16	16	16
Preah Vihear	1.04	1.28	1.59	17	18	17
Otdar Meanchey	0.60	1.39	1.58	21	17	18
Ratanak Kiri	0.82	1.12	1.24	19	19	19
Stung Treng	0.71	0.83	0.84	20	21	20
Koh Kong	1.01	0.88	0.83	18	20	21
Mondul Kiri	0.28	0.46	0.50	22	23	22
Pailin	0.20	0.53	0.46	24	22	23
Kep	0.25	0.27	0.26	23	24	24

3.4 Population Density

Population density, defined as the number of persons per square kilometer, is one of the important indices of population. It is a measure of the concentration of population. According to CIPS 2013, Cambodia's population density is 82, having increased by 7 points from the level of 75 as per the 2008 Census. However it is much less than 132 for South East Asia, 268 for Viet Nam and 136 for Thailand. It is higher than 27 of Lao PDR. As is to be expected, population density in urban areas is very much higher than that in rural areas. Table 3.4 presents population density by province in 2008 and 2013.

Table 3.4 Population density by Province 2008 and 2013

Code	Cambodia/Province	Population Density in	
		2008	2013
(1)	(2)	(3)	(4)
Cambodia		75	82
01	Banteay Meanchey	101	109
02	Battambang	88	96
03	Kampong Cham	171	179
04	Kampong Chhnang	86	95
05	Kampong Speu	102	108
06	Kampong Thom	46	50
07	Kampot	120	125
08	Kandal	335	343
09	Koh Kong	12	12
10	Kratie	29	31
11	Mondul Kiri	4	5
12	Phnom Penh	2,196	2,468
13	Preah Vihear	12	17
14	Prey Veng	194	237
15	Pursat	31	34
16	Ratanak Kiri	14	17
17	Siem Reap	87	90
18	Preah Sihanouk	114	129
19	Stung Treng	10	11
20	Svay Rieng	163	195
21	Takeo	237	259
22	Otdar Meanchey	30	38
23	Kep	106	115
24	Pailin	88	82

Note 1: Includes area of Tonle Sap (3,000Km²)

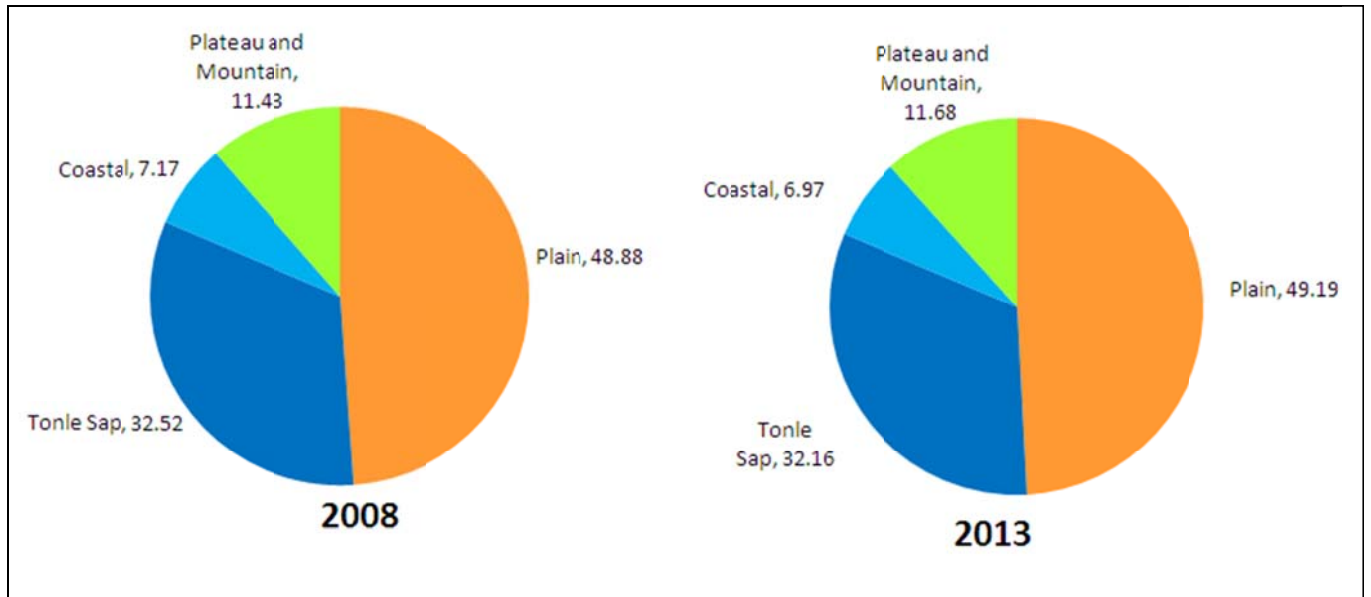
Map 3.1 depicts the variations in population density by province as in 2013. Across the natural regions, population density varies substantially (Table 3.5). The population density in the Plains has been the highest followed by Tonle Sap, Coastal, and Plateau and Mountain regions in that order.

Table 3.5 Distribution of land area, population and population density by region, 2008-2013

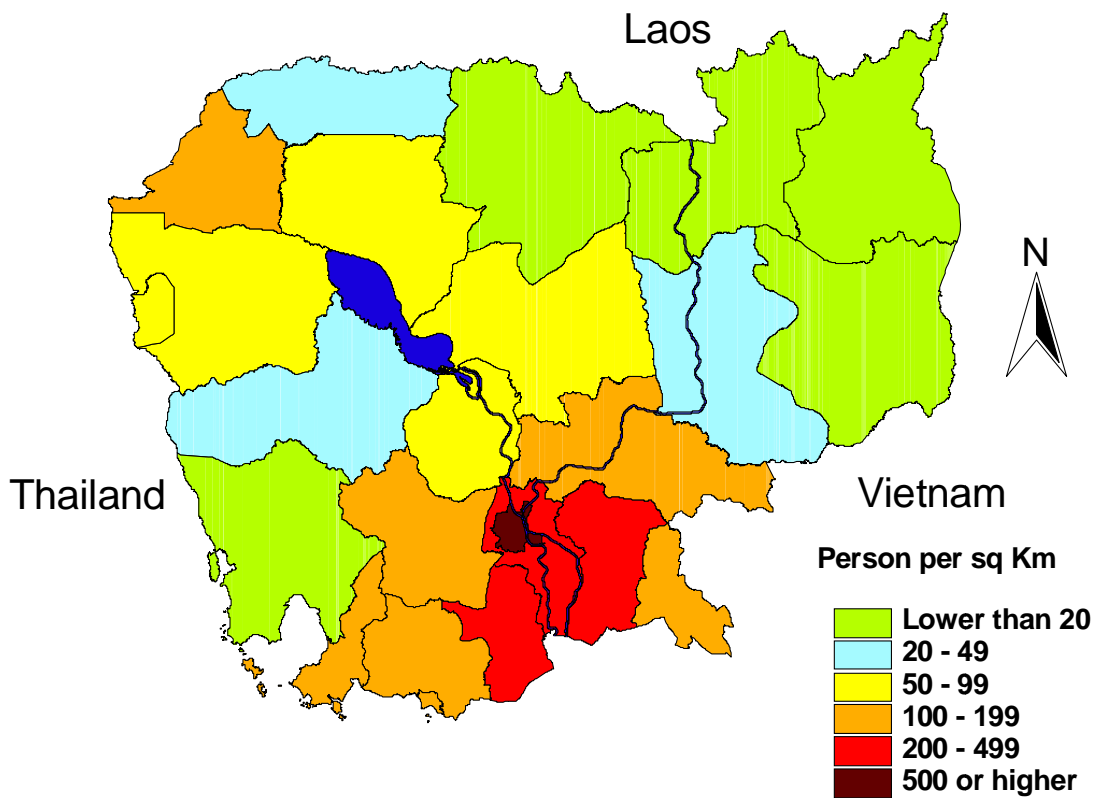
Natural Regions	Area (%)	Population (%)		Population density (Persons/Sq. Km.)	
		2008	2013	2008	2013
(1)	(2)	(3)	(4)	(5)	(6)
Cambodia	181,035*	100.00	100.00	75	82
Plain	25,069	48.9	49.2	261	288
Tonle Sap	67,668	32.5	32.2	64	70
Coastal	17,237	7.2	7.0	56	59
Plateau and Mountain	68,061	11.4	11.7	22	25

Note: *Including the Tonle Sap lake (3,000 Km²)

Figure 3.3 Distribution of Population (Percent) by Natural Region, Cambodia, 2008 and 2013



Map 3.1 Density of Population by Province, Cambodia 2013



3.5 Distribution of population by Urban and Rural

Table 3.6 Population by Urban-Rural Residence and Sex, Cambodia 2008 and 2013

Total/ Urban/ Rural	Population in					
	2008			2013		
	Both Sexes	Males	Females	Both Sexes	Males	Females
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Total	13,395,682	6,516,054	6,879,628	14,676,591	7,121,508	7,555,083
Urban	2,614,027	1,255,570	1,358,457	3,146,213	1,527,479	1,618,734
Rural	10,781,655	5,260,484	5,521,171	11,530,378	5,594,029	5,936,349

Between 2008 and 2013, the national population increased by 1.3 million persons, of which urban areas witnessed an increase of 0.5 million persons (accounting for 41.4 percent) while rural areas saw an increase of 0.8 million persons (accounting for 58.6 percent) (Table 3.6). The percentages of urban population to total population of Cambodia in 2008 and 2013 are 19.5 and 21.4 respectively (Table 3.7). As per the 1998 Census the urban proportion was 18.3 percent. There is, therefore, an increasing trend in urbanization in Cambodia over the years.

During the period 2008-2013, the average annual population growth in urban areas was 3.7 percent, while in rural areas it was only 1.3 percent (Table 3.1). Migration plays an important role in the relatively higher rate of growth of population in urban areas.

The Plains region has a relatively high share of its population in urban areas (26.3 percent), compared to 2008 when the figure was less by about 1.5 percentage points (24.8 percent) (Table 3.7). This high proportion of urbanites in this region can be explained by the fact that it contains large urban centres like Kampong Cham, Kandal, Takeo, Prey Veng, Svay Rieng and the capital city of Phnom Penh. The coastal region comes second in respect of share of urban population as it contains the port town of Preah Sihanouk. Tonle Sap and Plateau and Mountain regions come third and fourth in this regard.

Table 3.7 Percentage of Urban Population by Sex, Cambodia, and Natural Regions 2008 and 2013

Natural Regions	Population 2008			Population 2013		
	Total	Male	Female	Total	Male	Female
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Cambodia	19.5	19.3	19.7	21.4	21.5	21.4
Plain	24.8	24.3	25.2	26.3	26.3	26.3
Tonle Sap	15.4	15.4	15.4	17.5	17.7	17.4
Coastal	18.6	18.7	18.5	24.0	23.4	24.5
Plateau and Mountain	9.3	9.4	9.2	10.3	10.4	10.1

3.6 Distribution of Population by Religion

In Cambodia, about 97.9 per cent or 14.4 million people are affiliated to Buddhism (Table 3.8). The next largest group is Muslims with 1.1 per cent. Highland tribal groups and a few minority religious groups account for 0.6 per cent. Christians form only 0.5 percent of the population. The pattern of distribution of population by religion is more or less the same in 2008 and 2013.

**Table 3.8 Per Cent Distribution of Population by Religion, Residence,
Natural Region and Sex, Cambodia 2008 and 2013**

Sex/ Residence Natural Regions	Population 2008 (Per cent)				Population 2013(Per cent)			
	Buddhist	Muslim	Christian	Others	Buddhist	Muslim	Christian	Others
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Cambodia	96.9	1.9	0.4	0.8	97.9	1.1	0.5	0.6
Male	96.9	1.9	0.4	0.8	97.9	1.1	0.5	0.6
Female	97.0	1.9	0.4	0.8	97.9	1.1	0.5	0.6
Urban	97.4	1.6	0.8	0.2	98.0	0.8	1.1	0.0
Rural	96.8	2.0	0.3	0.9	97.9	1.2	0.3	0.7
Plains Region	97.3	2.3	0.4	0.1	98.6	0.8	0.5	0.0
Tonle Sap Region	98.4	1.2	0.3	0.1	98.7	1.0	0.3	0.0
Coastal Region	96.3	3.3	0.3	0.0	96.0	3.1	0.8	0.1
Plateau& Mountain Region	91.4	1.7	0.6	6.2	93.7	1.1	0.6	4.7

**Table 3.9 Sex Ratio and Percentage of Population by Broad Age Group
for each Religion, Cambodia 2013**

Religious Group	Sex Ratio	Percent Distribution by Age Group		
		0 - 14	15 - 59	60+
(1)	(2)	(3)	(4)	(5)
Total	94.3	29.4	62.9	7.6
Buddhists	94.3	29.4	63.0	7.6
Muslims	91.7	29.9	62.1	8.0
Christians	100.4	26.3	67.9	5.8
Others	96.7	43.1	52.2	4.8

In 2013 the highest sex ratio is observed among Christians and the lowest among Muslims. The sex ratio of Christians is higher than the national average. The age distributions of Buddhists and Muslims are not very different (Table 3.9).

Table 3.10 Distribution of Population by Place of Birth and Sex, Cambodia 2008-2013

Place of Birth	2008			2013		
	Both Sexes	Males	Females	Both Sexes	Males	Females
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Number	13,395,682	6,516,054	6,879,628	14,676,591	7,121,508	7,555,083
Total	100	100	100	100	100	100
A. Born in Cambodia	99.4	99.4	99.5	99.5	99.5	99.6
I. Within the province of Enumeration	85.8	85.4	86.1	88.3	87.7	88.8
(a) born in a place of Enumeration	75.2	74.0	76.4	74.3	72.6	75.9
(b) born Elsewhere in the District of Enumeration	4.7	5.2	4.2	7.6	8.2	7.0
(c) born in other District of the Province of enumeration	5.9	6.2	5.6	6.4	6.9	6.0
2. Provinces in Cambodia beyond the Province of Enumeration	13.7	14.0	13.3	11.3	11.8	10.8
B. Born Abroad	0.6	0.7	0.6	0.5	0.5	0.4
1. In Countries of Asia	0.6	0.6	0.5	0.5	0.5	0.4
2. Other Countries	0.0	0.0	0.0	0.0	0.0	0.0

A common trend noticed both in 2008 and 2013 is that a large majority (about 75 per cent) of those enumerated at the Census are born at the place of enumeration (Table 3.10). Life time migrants therefore constitute only 25 percent of the population at the national level.

Table 3.11 Distribution of Enumerated Population (other than those born in place of enumeration and abroad) by Place of Birth and Residence, 2013

Enumerated in	Number	Percent born in	
		Urban	Rural
(1)	(2)	(3)	(4)
Total	3,705,253	13.9	86.1
Urban	1,456,435	15.3	84.7
Rural	2,248,818	44.3	55.7

Out of about 25 per cent of the population enumerated in places other than their places of birth whose absolute number is about 3.7 million a majority were born in rural areas (Table 3.11). Among those enumerated in urban areas about 85 per cent are rural-born.

3.7 Distribution of population by Mother Tongue

In the survey all persons in the selected households were asked to state their mother tongue. This information presented in Table 3.12 shows that Khmer is the predominant mother tongue in the country. Speakers of ethnic minority languages constitute 2.26 percent. Persons with a foreign language as mother tongue (mainly predominant languages of the neighbouring countries) form less than one per cent.

Table 3.12 Percent Distribution of Population by Mother Tongue and Sex, Cambodia 2013

Sex	Population	Mother Tongue							
		Total	Khmer	Viet-names	Chinese	Lao	Thai	Minority Languages	Other
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Both Sexes	14,676,591	100	97.05	0.42	0.05	0.17	0.01	2.26	0.05
Males	7,121,508	100	97.08	0.41	0.05	0.17	0.01	2.21	0.06
Females	7,555,083	100	97.03	0.42	0.05	0.16	0.00	2.30	0.04

The speakers of minority languages, with the exception of Chaams are mostly concentrated in forest and hill areas. The development of these minority ethnic groups forms an important component of National Strategic Development plan of Cambodia.

Chapter 4

Age Structure, Sex Composition and Marital Status

4.1 Introduction

On-going changes in the size and age structure of populations, at various levels of geographic aggregation, are occurring across most countries of the world. These changes are mostly a function of decline in mortality, in the first instance, and, later, of decline in fertility. The age and sex structure of a population which is determined by the past and current trends in fertility, mortality and migration affect the level of social, economic and political structure of any population. The shifts in the population age structure have had far reaching consequences on a country's work force, economic prospects, public and personal budgets, security risks, cultural organizations and family structures.

Age is such an important characteristic of population that almost all planning for development must take into account this variable. The linkages between sex-age structure and Government policies may be illustrated by an example. In modern times many countries in the developing world like Cambodia have policies to develop human resources and economy by promoting school enrolment and improving the educational attainment of those who enrol.

In order to successfully implement these policies, projections of school-age population at all administrative levels are made from the information on sex-age distribution of the population obtained from the census. On that basis the required numbers of educational institutions in the various parts of the country, buildings, teachers and other infrastructure facilities are planned.

According to the definition laid down by the United Nations, age of a person recorded in a census is "the interval of time between the date of birth and date of the census, expressed in completed solar years". It is also recommended that age information may be obtained by obtaining the date (year, month and day) of birth or by asking directly for age at the respondent's last birth day.

These recommendations were followed in respect of collection of age data in the past censuses and the present survey in Cambodia. Information on age in completed years as on last birthday was obtained from the respondents. Though it is easy enough to ask questions on age, it is somewhat difficult to obtain correct information about age when people are not literate or when they are very old. Suitable steps were taken to collect information on age as accurately as possible from every respondent. Khmer calendar was used by the enumerators in a number of cases to elicit completed age from the respondents who were not able to tell their age. The enumerators were also given a list of events of national and local importance to be used in assisting the respondents to recall their age.

4.2 Evaluation of age data of CIPS 2013

As the age data collected may not be hundred per cent correct due to several reasons in spite of all care taken in the field, it is necessary to evaluate them before use. The following standard demographic indices were calculated for this purpose in respect of age data of CIPS 2013.

Table 4.1 Age and Sex data evaluation by residence and sex Cambodia, CIPS 2013

Sex	Myer's Index	Whipple's Index	
		0	5
(1)	(2)	(3)	(4)
Both Sexes	10.9	105	109
Male	9.6	102	107
Female	12.1	108	112
United Nations Age-Sex Accuracy Index	31.6		

Myer's index

It is a measure of heaping on individual ages or terminal digits. The tendency to record or report certain ages in lieu of others is referred to as age heaping, age preference or digit preference. The theoretical range of Myer's index (on a 0 to 180 scale) extends from the minimum of "0" when there is neither preference nor avoidance of any particular digit at all to a maximum of 180 when all ages are reported in a single terminal digit. Myer's index of Cambodia is calculated as 10.9 for CIPS 2013. Hence incidence of age heaping is well within the limit.

Whipple's index

The age returns were also tested for digit preference and age heaping in terminal digits. The Whipple's indices were calculated for this purpose. Whipple's index is a measure of preference for ages ending in 0 and 5. Its range is from 100, indicating no preference for 0 and 5 up to 500 indicating that only 0 and 5 were reported. Whipple's index for Cambodia worked out to 105 for preference for the digit zero, indicating that there was almost no preference for "0". The index is 109 for preference for the digit five, indicating almost no preference for the digit "5" in the survey. It is therefore clear that the collected information on age is free from digit preference.

United Nations Age-Sex Accuracy Index

The United Nations has proposed an age-sex accuracy index in which the mean of the differences from age to age in reported sex ratios, without regard to sign, is taken as a measure of the accuracy of the observed sex ratios, on the assumption that these age to age changes should approximate to zero. The UN age-sex accuracy index combines the sum of (i) the mean deviation of the age ratio for males from 100 (ii) the mean deviation of the age ratios for females from 100 and (iii) three times the mean of the age to age differences in reported sex ratios. For this purpose age ratio is defined as the ratio of the population in a given age group to one half of the sum of the populations in the preceding and the following age groups.

Adopting this procedure the UN age-sex accuracy index for Cambodia was arrived at as 31.6. An index of 20 or less is considered as indicative of accurate age-sex data. It is to be pointed out that this method does not take into account decline in the sex ratio with increasing age and real irregularities in age distribution due to migration, war etc as well as normal fluctuations in births. Since all these factors affect the age-sex data of Cambodia the index seems to exceed 20. On the basis of the above tests it may be concluded that on the whole the age returns of the CIPS 2013 may be considered fairly reliable despite some irregularities.

4.3 Age structure

The age structure of a population is determined by the same three factors which affect the growth rate of any population, namely fertility, mortality and migration. To study the age structure of the population we make use of the percent distribution of the population in different age groups and the graphical presentation called age pyramid which roughly summarizes the demographic history of population.

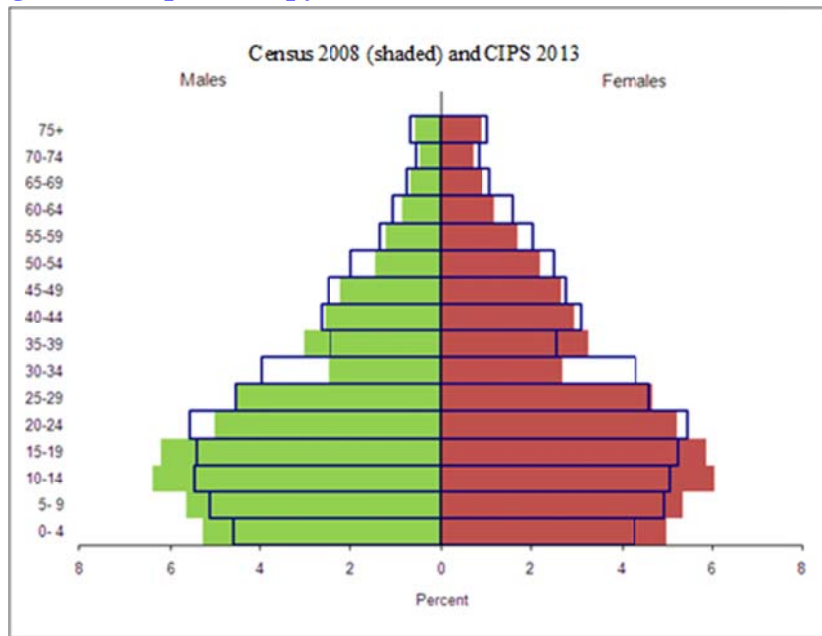
Figures 4.1, 4.2 and 4.3 depict the population pyramids (for Total, Urban and Rural, Cambodia 2008 and 2013) with the percentage of males and females in five-year age groups, starting with the youngest age group at the bottom, and increasing with age towards the top of the pyramid. The percentage of males is depicted on the left and that of females on the right side of the center of the pyramid. The shaded area shows the population count of the 2008 Census, while the thickly outlined area shows the population count of the CIPS 2013.

A comparison of the age pyramids for 2008 and 2013 shows a fairly consistent pattern in the age distribution. A lower proportion of children in the age group 0-4 than that in the age group 5-9 is a characteristic feature of the age distribution as a result of improving health status of the country with declining fertility and mortality during the period. The proportion of children (less than 15 years of age) has also declined from 33.7 in 2008 to 29.4 in 2013 indicating fertility decline as the main cause. It is interesting to note that the proportion of children in Cambodia which stood at 42.8 in 1998 declined to 33.7 during the decade 1998-2008 at an average annual rate of 0.91 points and almost continued to do so during the half decade 2008 -2013 reaching the proportion of 29.4 in 2013. The age group 10-14 in 2008 and the age group 20-24 in 2013 are the largest cohorts.

Above the age of 10, the 2008 pyramid shows the usual pattern of gradually decreasing numbers with increasing age with the exception of age group 30-34. In 2013 this pattern is revealed above the age of 20 with the exception of the age group 35-39. The conspicuous decline in the proportion of population in the age group 30-34 in 2008 and five years later in the age group 35-39 may be attributed to the combined effect of low fertility, and high mortality of those born during the Khmer Rouge period (1976-79). The early 1970s saw escalating civil war and in the late 70s during the Khmer Rouge period a large number of killings took place. The sex and age structure beyond age 40 in 2013 as revealed by the age pyramid reflects the high levels of mortality especially among men during the years of turmoil and internal strife in the country.

In general, the pyramids show increase in the working age and aged populations barring age groups 30-34 in 2008 and 35-39 in 2013. In developed countries the phenomenal rise in the working age population due to demographic transition had proved to be a “demographic dividend” for some time. But in the case of Cambodia, it poses a great challenge to absorb the growing labour force in productive work.

Figure 4.1 Population pyramid, Cambodia-Total: 2008 and 2013



Significant differences in the age structure between urban and rural areas are observed in the pyramids of Figures 4.2 and 4.3 respectively. The rural areas have relatively more young people as well as senior citizens. On the other hand, the urban areas have relatively more people in the economically active working age groups 15-59 years. This is an indication that young population leaves rural areas in search of economic opportunities in urban areas. The pyramid for the urban areas is rather bulky in the middle and has a relatively narrow apex, implying a large proportion of the working population and a small proportion of the senior citizens. On the contrary, the pyramid for the rural areas has a relatively broader base and an apex which is not as narrow as that of the urban pyramid. This is a demonstration of the relatively higher proportions of both the young and the old populations in the rural areas. These patterns are noted in both the years.

In 2013, both in urban and rural areas, there is narrowing of the population bar of the 0-4 year olds compared to the 5-9 year olds showing a smaller number of people aged 0-4 relative to the 5-9 year olds. This phenomenon is more pronounced in rural areas compared to urban areas which may be due to more rapid decline in fertility in urban areas. The urban age pyramid of 2013 shows a rapid decline of youth population, particularly women of age 15-29. One of the main reasons for this phenomenon could be the return to their permanent homes in rural areas of thousands of garment factory workers, mostly young girls, due to closure of these factories during the period following the last census. This may perhaps could be got confirmed from the authorities concerned.

Figure 4.2 Population pyramid, Cambodia-Urban: 2008 and 2013

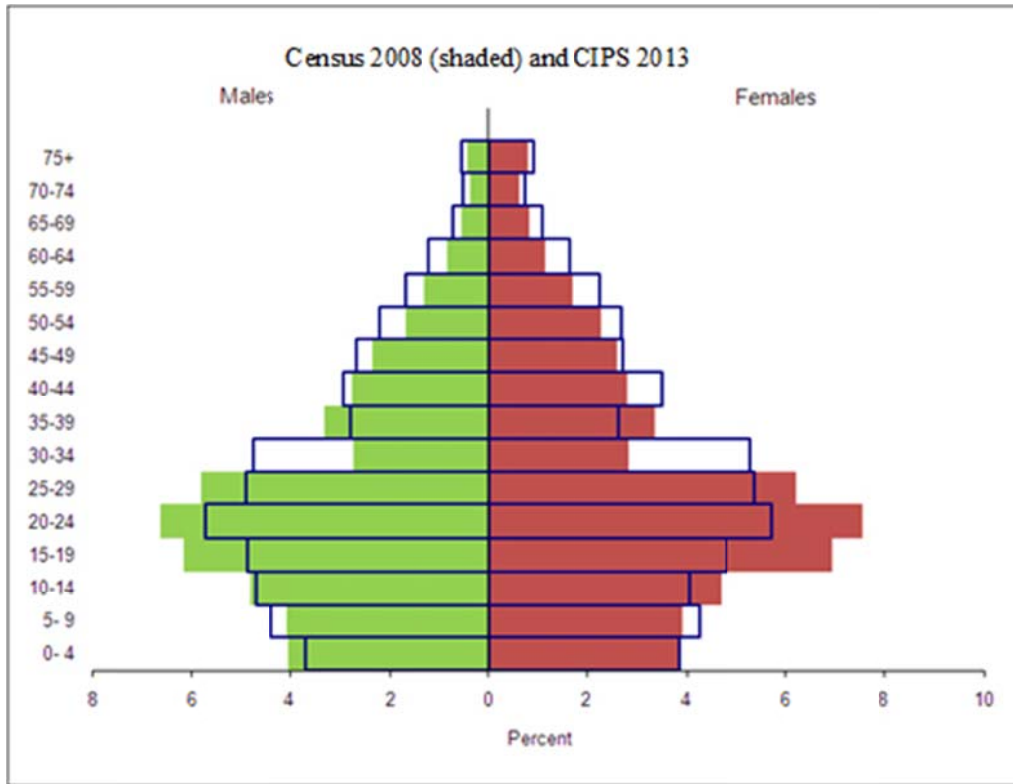
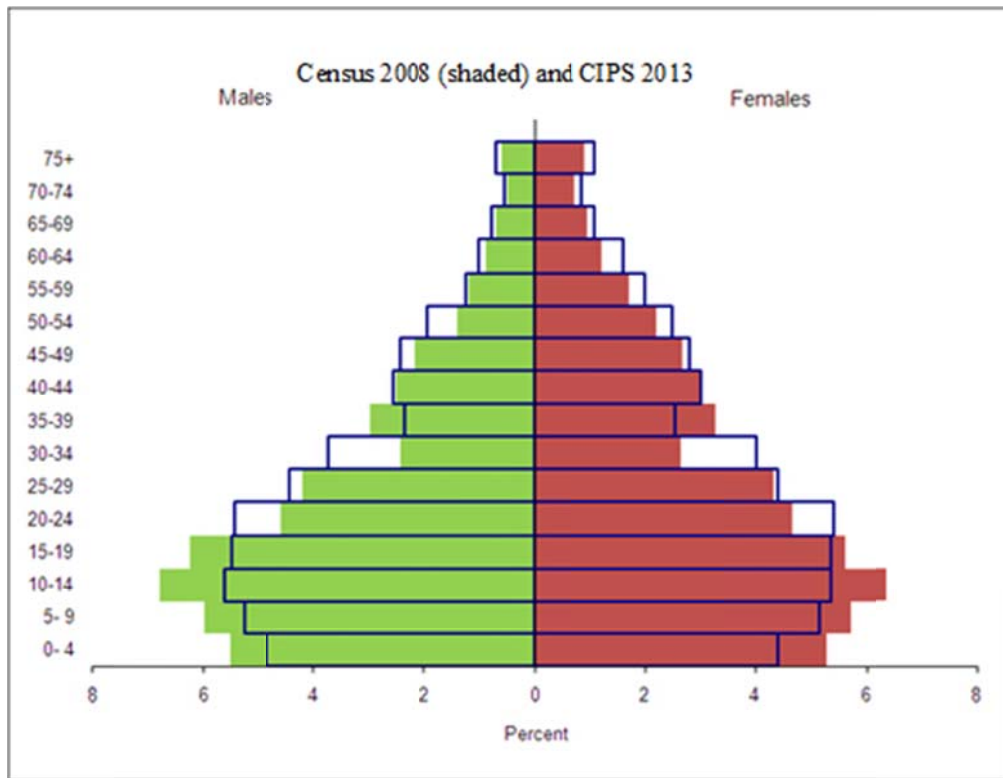


Figure 4.3 Population pyramid, Cambodia-Rural: 2008 and 2013



The obvious difference in shape between the urban and rural population pyramids, is the distinctly smaller proportion of people in the age group 30-34 years in the rural areas in 2013 and in the age groups 20- 24 and 25- 29 in 2008. It may be noted that these people were born following the end of Khmer Rouge regime when probably their parents returned to towns which they had previously abandoned.

4.4 Population by Broad Age Group, Age Dependency Ratio and Median Age

Cambodia's population has an old age structure with 29.4 per cent of Cambodia's population under 15 years of age and about 8.0 per cent aged 60 years and more. This is also illustrated by the median age, which is 24.5 years in 2013 (Table 4.2). As the median age was only 22.1 years as per the 2008 Census, the population has aged in the five-year period. This was the result of a decreasing proportion of people aged 0-14 years between 2008 and 2013 (due to a reduction in the average number of births per woman), and at the same time an increase of the proportion of people 15-64 years of age.

The proportions of population in the three broad age groups shown in Table 4.2 indicate the general declining trend of percentage of children (0-14) in the population with the rising trend of the working age population (15-64) and marginal increase in the proportion of the elderly population (65+) during the half decade 2008-2013. This is true of both males and females.

Breaking down by residence, urban and rural, the working age group is more concentrated in urban areas whereas children and older people predominate in rural areas. This pattern may be due to movement of persons from rural to urban areas for job purposes.

Table 4.2 Distribution of the population by Broad Age Group, Age Dependency Ratio and Median Age by Sex and Residence, 2008-2013

Age Group	2008			2013		
	Both Sexes	Males	Females	Both Sexes	Males	Females
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Cambodia	13,395,682	6,516,054	6,879,628	14,676,591	7,121,508	7,555,083
Total	100	100	100	100	100	100
0-14	33.7	35.5	32.0	29.4	31.2	27.8
15-59	55.7	55.6	55.8	58.0	58.4	57.5
15-64	62.0	60.9	63.1	65.6	64.7	66.4
60 +	6.3	5.3	7.3	7.6	6.3	8.9
65 +	4.3	3.5	5.0	5.0	4.1	5.8
Overall Age dependency ratio	61.2	64.1	58.5	52.4	54.5	50.5
Young age dependency ratio	54.3	58.3	50.7	44.9	48.2	41.9
Old age dependency ratio	6.9	5.8	7.9	7.5	6.3	8.7
Median age (years)	22.1	20.8	23.3	24.5	23.4	25.6
Urban	2,614,027	1,255,570	1,358,457	3,146,213	1,527,479	1,618,734
Total	100	100	100	100	100	100
0-14	25.4	27.1	23.9	25.0	26.4	23.6
15-59	65.5	65.5	65.5	63.2	63.8	62.7
15-64	71.0	70.1	71.9	70.5	69.9	71.1
60 +	5.5	4.6	6.4	7.3	6.1	8.4
65 +	3.6	2.8	4.2	4.5	3.7	5.2
Overall Age dependency ratio	40.8	42.6	39.1	41.8	43.0	40.6
Young age dependency ratio	35.8	38.6	33.2	35.4	37.8	33.2
Old age dependency ratio	5.0	4.0	5.9	6.3	5.2	7.4
Median age (years)	24.1	23.7	24.4	26.9	25.8	27.8
Rural	10,781,655	5,260,484	5,521,171	11,530,378	5,594,029	5,936,349
Total	100	100	100	100	100	100
0-14	35.7	37.5	33.9	30.7	32.5	29.0
15-59	53.4	53.3	53.4	56.6	57.0	56.1
15-64	59.9	58.8	60.9	64.3	63.3	65.1
60 +	6.5	5.5	7.5	7.7	6.3	9.0
65 +	4.4	3.7	5.1	5.1	4.2	5.9
Overall Age dependency ratio	67.1	70.2	64.2	55.6	57.9	53.5
Young age dependency ratio	59.6	63.9	55.7	47.7	51.3	44.4
Old age dependency ratio	7.4	6.3	8.4	7.9	6.6	9.1
Median age (years)	21.3	19.8	22.8	23.9	22.8	25.1

4.5 Age Dependency Ratio

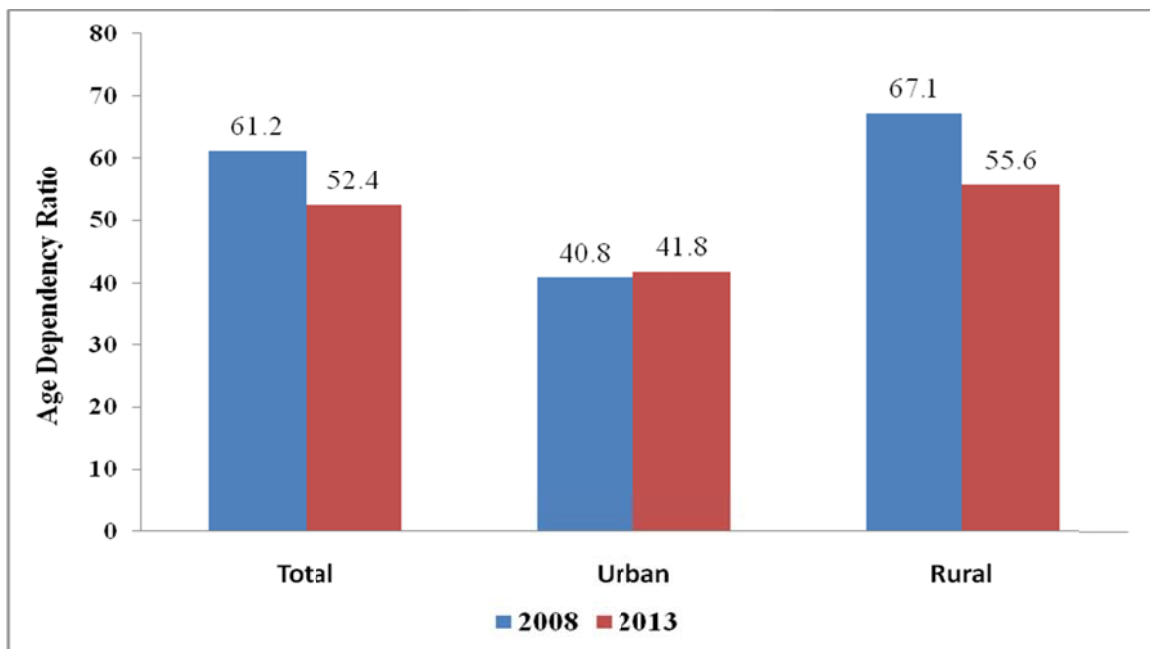
A common way to describe a population's age structure is by the index called age dependency ratio, which describes the proportion of the economically dependent component of a country's population to its productive component. This is conventionally expressed as the ratio of the young (0–14) plus the old (65+), to the population in the working ages (15–64).

In general, the age-dependency ratio for Cambodia (Table 4.2) has shown a declining trend during 2008-2013 indicating a reduction in the dependency burden. Cambodia's dependency ratio in 2013 was 52: this means that for every 100 persons in the working ages, there were 52 persons in the dependent ages (Table 4.2). The dependency ratio has decreased since the 2008 census when it was 61. In 1998 it was 86. The most favourable dependency ratio can be found in urban areas with only 42 dependent persons per 100 persons in their working ages. The dependency ratios are generally higher in the rural areas.

4.6 Sex Composition

Sex composition of the human population is one of the basic demographic characteristics, which is extremely vital for any meaningful demographic analysis. Changes in sex composition largely reflect the underlying socio-economic and cultural patterns of a society in different ways. Sex ratio is defined as the number of males per 100 females in a given population. A sex ratio above 100 denotes an excess of males, a sex ratio below 100 denotes an excess females. It is an important social indicator to measure the extent of prevailing equity between males and females in a society. It influences directly the incidence of marriage, birth, migration, economic activities, etc.

Figure 4.4 Age Dependency Ratio by Residence, Cambodia 2008-2013



The basic information made available by the survey is the number of males and females in the population. In both the Census 2008 and CIPS 2013, disaggregated information by males and females has been produced for almost all topics. This is a basic requirement in development planning. It also enables determination of gender impacts of development activities and helps respond effectively to gender issues. Cambodia's population as estimated in the CIPS 2013 is 14.68 million, with 7.12 million or 48.5 percent males and 7.56 million or 51.5 percent females.

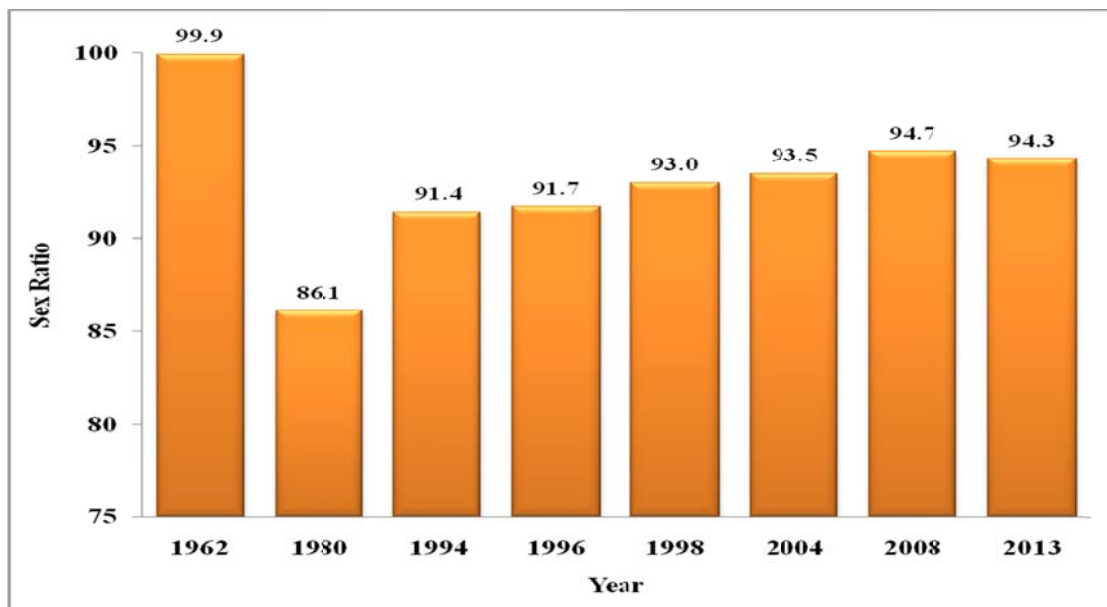
4.7 Sex Ratio

The number of male births always has an edge over the number of female births. Studies of births have revealed that the natural sex ratio of births varies within a range of 102 to 110 in most of the countries. The estimated Cambodian sex ratio at birth (105) falls within this range.

As may be seen in Figure 4.5, at the time of the first census 1962, the sex ratio of Cambodia was 99.9. It dipped to 86 in the early 1980s owing to heavy male mortality during the Khmer Rouge period. Since then it has been improving gradually reaching 93.0 at the 1998 Census and 94.7 at the 2008 Census.

The estimated sex ratio of 94.3 according to CIPS 2013 is only marginally less than what it was in 2008. In most of the countries of the world sex ratio ranges from 95 to 105. The low sex ratio of Cambodia may be mainly attributed to its history of war and political instability in the past (second half of the 1970s).

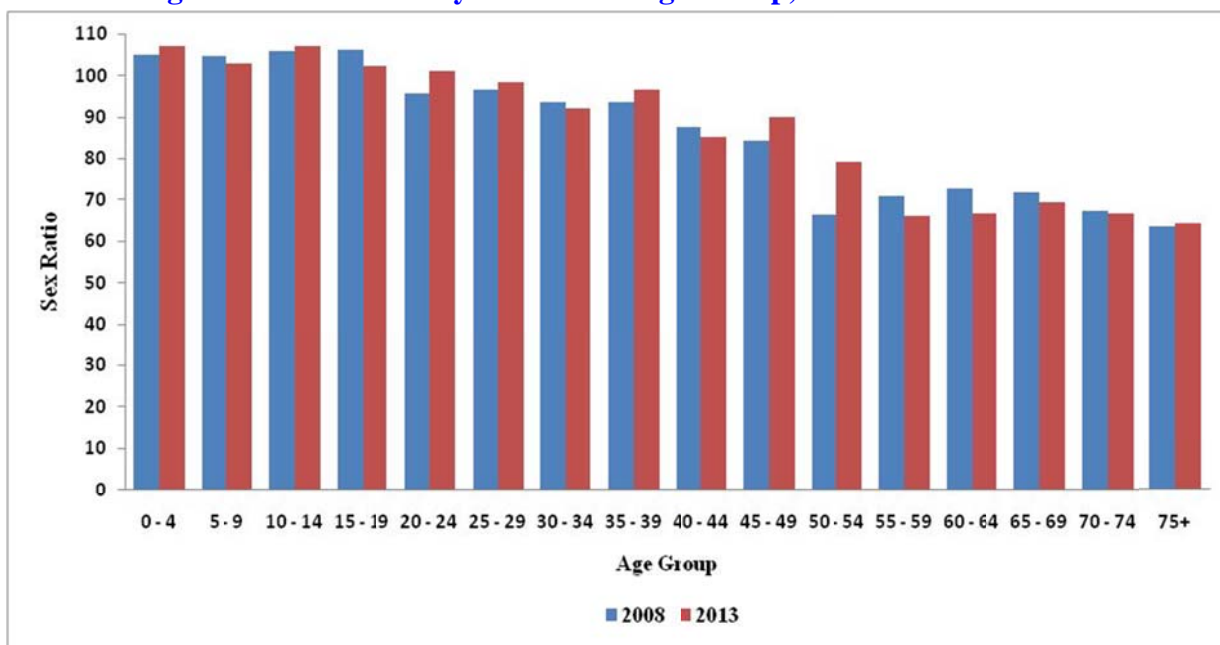
Figure 4.5 Sex Ratio of Cambodia according to different sources



Sources: First Census, 1962, General Demographic Survey 1980, Socio-Economic Survey of Cambodia, 1993-94, Demographic Survey of Cambodia, 1996, Second Census, 1998, Cambodia Inter-censal Population Survey, 2004, Third Census, 2008 and CIPS 2013

Figure 4.6 shows the sex ratio by five year age groups according to the Census 2008 and CIPS 2013. The higher number of males at birth decreases with age mainly due to higher number of male deaths. It may be noted that sex ratios among children in the age groups 0-4, 5-9 and 10-14 slightly fluctuates during 2008-2013. In the age group 15-19 the sex ratio is almost the same both in 2008 and 2013 at a high level of around 106. In the age group 25-29 the sex ratio is close to 100 both in 2008 and 2013. In the middle and the older ages the number of females very much exceeds the number of males due to higher male mortality. Lower sex ratios from the age group 40-44 onwards in 2008 and from 50-54 onwards in 2013 are the results of higher mortality among males and large scale exodus of adult males from Cambodia during the Khmer Rouge years.

Figure 4.6 Sex Ratios by Five –Year Age Group, Cambodia 2008 -2013



4.8 Marital status

Marital status is a very important factor in population dynamics as it affects fertility and mortality as well as migration to a lesser extent. Table 4.3 below presents the distribution of persons, males and females aged 15 years and above by category of marital status. Responses to question on marital status in CIPS 2013 were grouped into these categories: never married, currently married, widowed, divorced and separated. A person is considered currently married if by law or local custom and tradition, he or she is acknowledged to be married, or living with someone of the opposite sex as husband and wife. It is observed that, the highest proportion, which is about 62 percent of the population aged 15 years and above, are currently married. Never married population accounts for 31.14 percent of population. The proportion of the widowed and divorced/separated population is close to 7 percent. However, there are relatively more widowed and divorced/separated females than males. This is the result of engagement of men in high risky working conditions. Furthermore, it is evident that men tend to remarry more than women in most cases due to many factors, for example men depend on women when it comes to household responsibilities and this is almost a world-wide phenomenon.

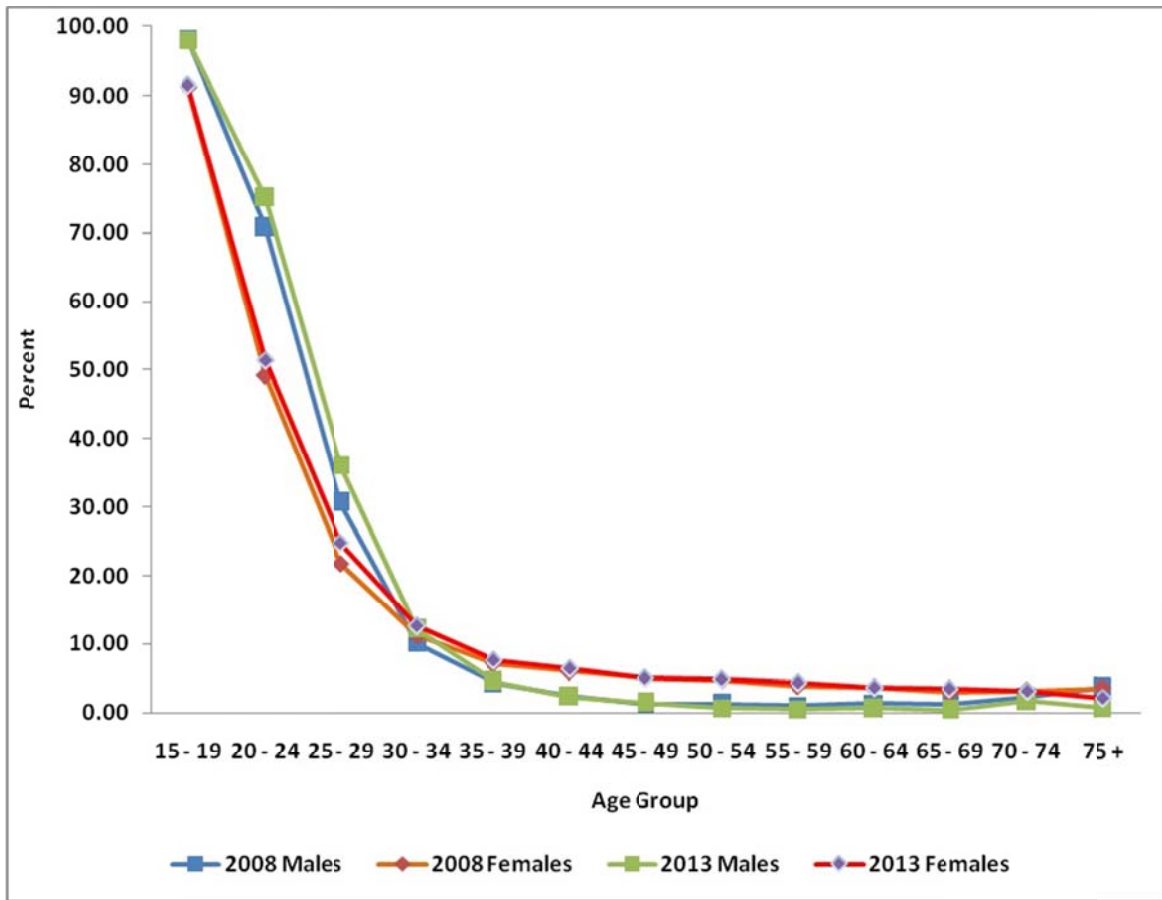
The proportions of never married and married males are higher than those for females whereas the opposite trend is noticed in respect of each of the categories widowed, divorced and separated (Table 4.3).

**Table 4.3 Percent distribution of Population Aged 15 and over by Marital Status,
Sex and Residence, Cambodia, 2008 and 2013**

Residence	Sex	Number	Percentage by Marital status of population					
			Total	Never Married	Married	Widowed	Divorced	Separated
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
2008								
Total	Both Sexes	8,881,890	100	32.71	60.16	4.99	2.02	0.12
	Males	4,201,248	100	37.00	60.80	1.29	0.84	0.07
	Females	4,680,642	100	28.86	59.59	8.32	3.07	0.16
Urban	Both Sexes	1,949,676	100	41.54	52.38	4.06	1.89	0.13
	Males	915,814	100	44.79	53.38	0.95	0.80	0.08
	Females	1,033,862	100	38.67	51.50	6.81	2.85	0.17
Rural	Both Sexes	6,932,214	100	30.23	62.35	5.26	2.05	0.11
	Males	3,285,434	100	34.83	62.88	1.38	0.85	0.06
	Females	3,646,780	100	26.08	61.87	8.75	3.14	0.16
2013								
Total	Both Sexes	10,355,191	100	31.14	61.88	5.03	1.76	0.19
	Males	4,901,333	100	35.31	62.53	1.30	0.75	0.11
	Females	5,453,862	100	27.40	61.29	8.38	2.67	0.27
Urban	Both Sexes	2,360,244	100	36.22	56.63	4.95	1.99	0.21
	Males	1,123,942	100	40.70	57.16	1.35	0.68	0.11
	Females	1,236,302	100	32.14	56.16	8.22	3.18	0.30
Rural	Both Sexes	7,994,947	100	29.64	63.42	5.05	1.70	0.19
	Males	3,777,391	100	33.70	64.13	1.29	0.77	0.11
	Females	4,217,560	100	26.01	62.79	8.42	2.52	0.26

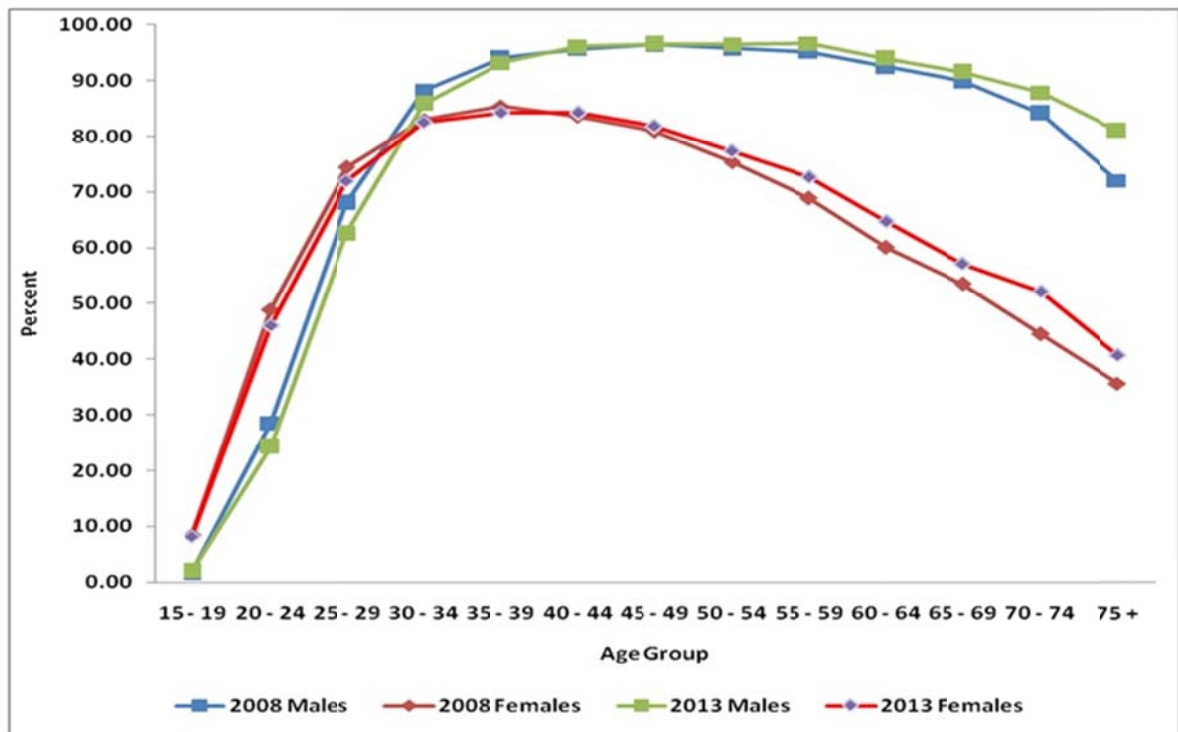
Figure 4.7 shows that 98.0 percent of males and 91.4 percent of females are single in the age group 15-19. By the age of 30-34 the proportion of those never married is reduced to about 12.2 percent in the case of men and almost one percent more than that among women. Beyond the age of 50 the never married population mostly remained single throughout their life time. The extent of non-marriage in population (celibacy level) is higher for females than males in higher ages. However, the proportion of single females falls more steeply around the age of 20. The proportion of single males is very much higher than the corresponding proportion of single females in every age group below 30. From the age group 30-34 onwards the already low proportion of single males in each age group is much lower than the corresponding proportion among females.

Figure 4.7 Percentage Never Married, 15 years and older, by Sex and Residence, 2008 and 2013



In general, on a lifetime basis, marriage is more universal among men. Almost all men marry at least once in their life. In the age group 55–59, less than one percent of males remain never married whereas among women in the same age group about 4 percent are never married. Women tend to marry earlier than men. Overall, the proportion of men aged 15 and over who are never married is almost 7.91 percentage points higher than the proportion among single women (35.31 percent compared to 27.40 percent). The divorce rates in Cambodia remain low, but there are important differentials by sex and residence. The proportion divorced among women is higher than among men. For both men and women, divorced rates in urban areas are triple those in rural areas. This may be because economic conditions of people in urban areas, especially of urban women allow greater independence than in rural areas and so divorce is more easily accepted. The separation rate is negligible, and there are almost no differentials by sex, or by urban/rural residence.

Figure 4.8 Percentage Ever Married 15 years and older by Sex 2008 and 2013

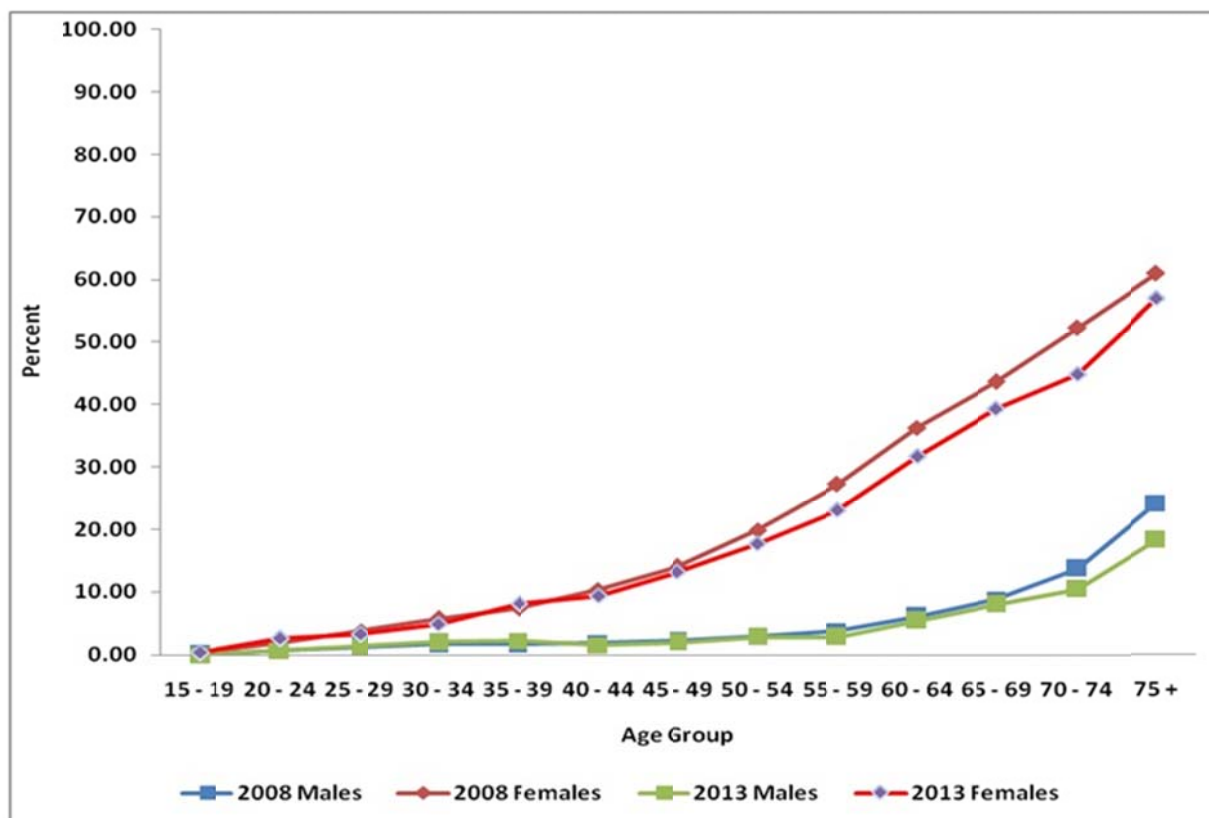


The widowhood rate is positively related to age, with the rate slightly increasing as age increases. The widowhood rate among women increases by age more rapidly than for men. Ranging from 8.03 percent to 18.37 percent, men aged 65 and older are widowers, while among women in the same age group, the percentage of widow's ranges from 39.35 to 56.95 percent (Figure 4.9). Data indicate the proportion widowed among women is five times higher than among men. The reason for this differential includes higher male mortality in general and in particular during the Khmer Rouge era combined with the fact that widowers are more likely to remarry than widows.

4.9 Average age at marriage

Table 4.4 shows the proportion ever married in the age groups 15-19, 20-24 and 45-49, and the Singulate Mean Age at (first) marriage (SMAM) which indicates the average number of years that a hypothetical cohort has lived unmarried before they marry for the first time. This indicator is usually calculated separately by sex. The proportion ever married for each young age group 15-19 and 20-24 has not showed significant changes for both men and women between 2008 and 2013. The proportion ever married in the age group 45-49 shows the prevalence of marriage in relation to population reproduction. This proportion among men in 2008 was 88.3 percent and in 2013 it is 86.4 percent. The proportion ever married among women in the age group 45-49 in 2008 was 74.5 percent and in 2013 it has increased to 75.0 percent.

Figure 4.9 Percentage Widowed, Divorced and Separated 15 years and older by Sex 2008 and 2013



However, women marry at younger ages than men. The average age at marriage was 26.2 and 23.7 years for males and females respectively, calculated based on the proportion never married/single by age (SMAM). The higher proportion of young married women compared to men of the same age is a further indication that women generally marry at younger ages than men (Figure 7). As compared to 2008 the average age at marriage has increased by 0.6 years and 0.4 years for males and females respectively.

Urban-rural differential is observed in respect of SMAM. For both men and women, SMAM in urban areas is higher than in rural areas. In 2013, SMAM among urban men was higher than among rural men by 1.1 years. This differential among women was 0.3 years. Urban men seem to have a tendency to marry later than rural men.

A direct question on age at first marriage was also included in the CIPS 2013 (Col.9 of Form B Household questionnaire Part 2). Based on the answers to this question, the age at first marriage at the national level was derived as follows: Males: 24.05 and Females: 21.15. These figures are less than the corresponding figures derived from the indirect method of SMAM (see Table 4.4). However the SMAM estimate may be adopted as the results of direct question have to be evaluated for assessing content errors. This could be done during further analysis of marital status data.

4.10 Adolescent marriage

The proportions of teen age marriage among men and women are nearly the same both 2008 and 2013 at the national level. However, in the urban areas there is a marginal decrease that is matched by a marginal increase in the rural areas. For both men and women, the proportion married among adolescents aged 15-19 in rural areas was higher than that in urban areas (Table 4.4). The proportion ever married among women aged 20-24 in rural areas was more than double that in urban areas.

Table 4.4 Singulate Mean Age at Marriage, Proportion Ever Married by Sex, Age Group and Residence, Cambodia, 2008 and 2013

Residence	Male				Female				Difference SMAM between male and female
	SMAM (Years)	Percent Ever Married			SMAM (Years)	Percent Ever Married			
		15-19	20-24	45-49		15-19	20-24	45-49	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
2008									
Total	25.6	1.7	28.5	88.3	23.3	8.4	48.9	74.5	2.3
Urban	28.0	1.1	15.5	79.2	25.5	5.0	30.8	70.5	2.5
Rural	24.8	1.8	33.1	89.3	22.5	9.4	55.9	75.6	2.3
2013									
Total	26.2	2.0	24.2	86.4	23.7	8.1	46.1	75.0	2.5
Urban	29.1	0.4	11.0	78.9	25.8	4.3	28.8	70.3	3.3
Rural	25.4	2.4	28.0	88.8	23.0	9.1	51.0	76.4	2.4