Cambodia - Cambodia Inter-Censal Population Survey 2004

National Institute of Statistics

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Overview

Identification

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KHM-NIS-CIPS2004-v1.0

Version

VERSION DESCRIPTION
Version v1.0. - Edited data for internal use only

PRODUCTION DATE
2004-11-03

Overview

ABSTRACT
The Cambodia Inter-Censal Population Survey, 2004 was designed not only to obtain the much-needed demographic data following the census, but also to serve as a means to train the staff of the NIS and Provincial Planning Offices in demographic data collection.

There are plans to produce in-depth studies on fertility, mortality, migration, literacy and education, labour force, housing and household amenities, and population projections based on the results of the survey.

The Cambodia Inter-Censal Population Survey 2004 (CIPS) is a nationally representative sample survey taken between two censuses, the 1998 census and the proposed 2008 census, in order to update information on population size and growth and other population characteristics as well as household facilities and amenities. Due to the national elections and administrative issues, the CIPS was undertaken in March 2004 instead of 2003, which would have been the five-year midpoint between the 1998 and 2008 censuses.

The conduct of the CIPS 2004 is an important step in the creation of a continuous flow of data that will allow Cambodia to prepare plans and programmes supported by a strong database.

The Cambodia Inter-Censal Population Survey 2004 was conducted with the objective of providing information on the following indicators:

- Sex, age and marital status

- Births and Deaths

- Migration status

- Literacy/Educational level

- Economic characteristics

- Housing and household amenities

- Other population and household information

These fresh data will allow for calculations and reliable projections of:

- Population size and growth

- Fertility

- Mortality

- Migration

The survey was also intended to train the national staff in sampling, data collection, data processing, analysis and dissemination.

KIND OF DATA
Sample survey data [ssd]

UNITS OF ANALYSIS
Unit of Analysis:

1. Individual

2. Households

Scope

NOTES
The scope of the Cambodia Inter-Censal Population Survey includes:

1. Sex, age and marital status

2. Births and deaths

3. Literacy/Educational level

4. Economic characteristics

5. Housing and household amenities

6. Other population and household information

Collection of fresh data above will allow for the calculations and reliable projections of:

1. Population size and growth

2. Fertility

3. Mortality

4. Migration

The survey was also intended to train the national staff in sampling, data

collection, data processing, analysis and dissemination.

TOPICS

Topic	Vocabulary	URI
DEMOGRAPHY AND POPULATION [14]	CESSDA	http://www.nesstar.org/rdf/common

KEYWORDS
Housing and Population

Coverage

GEOGRAPHIC COVERAGE
National

Urban/ Rural

Individual Provinces and Groups of Provinces

GEOGRAPHIC UNIT
Individual Provinces

1. Kampong Cham (03)

2. Kampong Chhnang (04)

3. Kampong Speu (05)

4. Kampong Thom (06)

5. Kandal (08)

6. Phnom Penh (12)

7. Prey Veng (14)

8. Pursat (15)

9. Siem Reap (17)

10. Svay Rieng (20)

11. Takeo (21)

Groups of Provinces

12. Banteay Meanchey (01)

Oddar Meanchey (22)

13. Battambang (02)

Pailin (24)

14. Kampot (07)

Kep (23)

15. Koh Kong (09)

Sihanoukville (18)

16. Kratie (10)

Mondul Kiri (11)

Preah Vihear (13)

Ratanak Kiri (16)

Stung Treng (19)

UNIVERSE

All Population and housing for all regular households in Cambodia excluding special settlements and institutional households

Producers and Sponsors

PRIMARY INVESTIGATOR(S)

Name	Affiliation
National Institute of Statistics	Ministry of Planning

FUNDING

Name	Abbreviation	Role
United Nations Population Fund	UNFPA	Technical assistance, sponsorship
Deutsche Gesellschaft für Technische Zusammenarbeit	GTZ	Donor
Sweden International Development Cooperation Agency	SIDA	Donor
United Nations Children's Fund	UNICEF	

OTHER ACKNOWLEDGEMENTS

Name	Affiliation	Role
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Mr. Harry Lode	UNFPA	Data Processing Consultant
Dr. Hans Pettersson	UNFPA	Sampling Expert

Metadata Production

METADATA PRODUCED BY

Name	Abbreviation	Affiliation	Role
Bonarith Chhun	BC	NIS	Archivist
Chao Pheav	CP	NIS	Archivist
Saint Lundy	SLD	NIS	Archivist

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Version 1.0 (September 2009). Original DDI document.

DDI DOCUMENT ID
DDI-KHM-NIS-CIPS-2004-v12

Sampling

Sampling Procedure

The sampling design for the CIPS 2004 is a three-stage stratified cluster sampling design, it is a probability sample selection of 100 percent of the Cambodian villages coverage areas, the survey covered only regular households and excludes special settlements and institutional households.

The CIPS 2004 was conducted in a nationwide representative sample of 21,000 households within selected 700 villages (primary sampling units) out of 13,886 villages in Cambodia. The 700 villages were selected from updated frame (list of villages for Cambodia).

The General Population Census 1998 databases of the National Institute of Statistics together with the new updated list of villages that were excluded in the general population census of 1998 was used as the sampling frame for the sampling design of the CIPS 2004.

The frame has the following identification particulars:

1- Province code

2- Province name

3- District code

4- District name

5- Commune code

6- Commune name

7- Village Code

8- Village name

9- Size of village (number of households)

10- Area code (1 = Urban, 2 = Rural)

A three-stage sample design has been used for the CIPS. In the first stage a sample of villages was selected. The villages were implicitly stratified into 45 strata (21 provinces each with rural/urban strata i.e. 42 strata plus 3 provinces each totally urban, i.e. 3 urban strata). The villages were selected using linear systematic sampling with probabilities proportionate to size (PPS). The size measure used for the selection was number of households in the village according to the 1998 Census with estimation for a few additional villages not in the 1998 census frame.

In the second stage one Census Enumeration Area was selected randomly (in the head office) in each selected PSU. At the beginning of the fieldwork all households in the EA were listed. A systematic sample of 30 non-vacant households was selected as the third stage of selection.

The listing of households in the EA would become cumbersome if there are many households in the EA. This might be the case when the enumeration area had grown substantially since the census. When the EA was large (population wise) the interviewer was instructed to split the EA into two or more approximately equal-sized segments and to select one segment randomly. All households in the selected segment were listed. Out of the 700 Sample PSUs, 598 were from the rural super stratum and the remaining 102 were from the urban super stratum. For more information on sampling for the survey the general report at national level may be referred to.

Note: All provincial headquarters were treated as urban. In the case of Sihanoukville, Kep and Pailin, the entire province was treated as urban. In Phnom Penh province, the four districts of Doun Penh, Chamkar Mon, 7 Makara and Tuol Kouk were classified as urban. All the remaining areas of the country were rural. Further, urban and rural areas are being reclassified in Cambodia. While these reclassifications have already been drafted, they have not yet been approved by the Royal Government of Cambodia. Upon endorsement and adoption, the new classifications will be used in future census/surveys.

Response Rate

Response rate is 95 per cent.

Weighting

The probability selection and hence the weight, for the four variables (Total households, Total persons, Total males, Total females) is therefore different than the probabilities and corresponding weights for Form B and the four variables for Form A selected as the two stage sampling selection of first and second stage probabilities.

Questionnaires

Overview

The draft questionnaires for the CIPS 2004 were more or less on the 1998 General Census pattern. Some modifications, however, were made by adding new questions on

(i) whether children aged 0-14 living with own mother

(ii) whether a person's mother is alive and

(iii) details of deaths in households in the last one year with focus on maternal mortality.

Questions mentioned at (i) and (ii) were intended respectively to estimate fertility (by application of own child method) and mortality (by application of orphan hood method). The questions to be included were carefully considered by a Working Group of Cambodia Inter-Censal Population Survey 2004, whose members were mostly from Ministries, NGOs and International Agencies. The Questionnaires were tested twice in the field (both urban and rural) by NIS staff in November 2003. The purpose of the pre-test was to have a full-dressed rehearsal of the whole process and particularly to test the questions in the field so as to make corrections in wording or definitions and to estimate the time taken for enumeration area mapping, house listing, sampling and enumeration of selected household. Based on the

pre-test experience the questionnaires were modified and finalized.

Two types of questionnaires were used in the CIPS 2004: Form A House-list and Form B Household Questionnaire.

The Form A was used to collect information on buildings containing one or more households during the preliminary round preceding survey night (March 3, 2004). The information collected related to: construction material of wall, roof and floor, whether it is a wholly or partly residential building, number of households within the building, name and sex of head of household and number of persons usually living in the household.

The Form B, which has five parts, was used for survey enumeration in the period closely following the reference time.

In Part I, information on usual members of the selected household present on survey night, visitors present as well as usual members absent on survey night, was collected.

Part II was used to collect information on each usual member of the household and each visitor present on survey night. The information collected included: full name, relationship to household head, sex, age, natural mother, child aged 0-14 living with own mother, marital status, age at first marriage, mother tongue, religion, place of birth, previous residence, duration of stay, reason for migration, literacy, full time education and economic characteristics.

Part III was used to collect information on females of reproductive age (15-49) as well as children born to these women.

The information collected in part IV related to household conditions and facilities: main source of light, main cooking fuel used, whether toilet facility is available, main source of drinking water and number of living rooms occupied by household.

Part V was used to record the following information in respect of deaths in the household within the last one year:- name of deceased, sex, relationship to head of household, age at death, whether the death has been registered with the civil authorities or not, the cause of death and maternal mortality information.

Data Collection

Data Collection Dates

Start	**End**	**Cycle**
2004-02-28	2004-03-10	N/A

Time Periods

Start	**End**	**Cycle**
2004	2004	N/A

Data Collection Mode

Face-to-face [f2f]

Data Collection Notes

For every Primary Sampling Unit (PSU) or village, a field listing was organized in order to make a current and complete listing of the households located within selected EAs. At the first step the enumerator would have to draw sketch maps of villages and EA maps. Residential and partly residential buildings, were numbered using stickers 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 operations of the survey (lasting four days from 28 February to 2 March 2004) buildings/structures wholly or partly used for residential purpose in selected EAs (700 in all) were listed in the House List called Form A. After the listing operation had been completed, a fixed sample size of 30 households was selected in each EA by the supervisors. This selection was carried out systematically by computing the sampling interval in each EA and choosing the random start, by using linear sampling. It was closely supervised by NIS SC to ensure correctness in the selection process.

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

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Data Collectors

Name	Abbreviation	Affiliation
National Institute of Statistics	NIS	Ministry of Planning

Supervision

Supervisor's position in the survey organisation

The supervisor is placed between the enumerator and the Province Survey Officer (PSO) or his nominated staff and is responsible for the work of the enumerator under his charge.

His main task is the supervision of a maximum of three villages and three enumerators who will work directly under him during the survey. He is responsible for completely enumerating all 30 households in the Sample EA of village or PSU allotted to him with the help of enumerators.

It is the supervisor's task to see that enumerators would efficiently carry out their assignment of enumerating all persons living on Survey Night in their EA.

The supervisor may also assist in the training of enumerators. There will be training courses when trainers will train enumerators and supervisors by giving them a series of lectures as well as class and field exercises.

Data Processing

Data Editing

The completed records (Forms A, Form B, Form I, Form II, Map, and other Forms) were systematically collected from the provinces by NIS Survey Coordinators on the due date and submitted to the team receptionist at NIS. NIS Survey Coordinators formed into three teams of two persons were trained during March 7-10 to receive and arrange the completed forms and maps for processing after due checking form the field. Control forms were prescribed by DUC to record every form without any omission. These records were carefully checked, registered and stored in the record room. Editing and coding of the questionnaires were done manually, after which the questionnaires were submitted to the computer section for further processing. The instruction for editing and coding were revised and expanded. Training on editing and coding was conducted for senior staff, who in turn had to train 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. Coding had to be done very carefully in respect of birthplace and previous place of residence by using the district and province codes, and occupation and industry by using the UN International Standard Classification of Occupation (ISCO) and the International Standard Industrial Classification (ISIC) respectively. For these purposes, NIS utilized staff with sound knowledge and experience of the survey and its concepts. Those who worked as trainers or supervisors were put on this job supplemented by welltrained and tested staff. Editing and Coding was done by two teams (each with six editors and one team leader); so that one of the editors who was trained specifically in occupation/industry coding should do that coding for columns 20 and 22 of part 2 household questionnaire. The work of team members was completely checked by the Team leaders. The training on editing and coding was done from 23 to 26 March. The manual processing commenced on March 29 and was completely done by the end of May 2004.

Other Processing

The form A is completely identical to the one used during the 1998 General Census, whereas the main survey questionnaire, Form B, has had a few new questions added on mother alive, whether living with own mother, age at first marriage, registration of birth and a new panel consisting of 9 questions related to Deaths in Households in the last 12 months.

In order to capture the data recorded on Form A and Form B two separate data entry applications needed to be developed. A decision to develop the data entry using CSPro software package, and to generate the tabulation using IMPS, had already been taken by NIS. CSPro, which stands for Census and Survey Processing System, is a public service system free of cost disseminated by US. Census Bureau. IMPS (Integrated Microcomputer Processing System), has been adopted in many statistical offices, worldwide.

Both methodologies were discussed with senior NIS staff and it was agreed to adopt a mixture of the two approaches. Many NIS staff members received a twoweek

CSPro training course (5 to 14 May 2003). This provided them a thorough insight into the CSPro language and good understanding of the kind of edits normally performed in census and survey data processing.

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 from 20 to 23 April 2004. The questionnaires were keyed-in twice in order to minimize typing errors (i.e. full verification of the data was achieved). Data entry commenced on 26 April and was completed by 30 June 2004.

Computer editing and correction was performed using the CONCOR module of IMPS. After computing the weights the Survey results were tabulated with the CENT and QUICKTAB module of IMPS. Tabulation was completed by the end of August 2004. Multiple backups of the Survey data were made onto Magnetic Optical disks.

Data Appraisal

Estimates of Sampling Error

Calculations of sampling errors have been made for some estimates of totals, means and proportions for variables in Form B (annex 3).

The software used for the calculations is STATA 8.0. For the calculations presented here we have assumed that stratification was done on provinces and urban/rural (an implicit57 stratification on province and urban/rural was used for the sample selection).

In seven of the 45 strata there are only one PSU (EA) selected. This causes a problem for the standard error calculations, it is not possible get standard errors in these strata. In these strata we have split the sole EA in two parts and defined the parts as two PSUs.

The standard errors are generally rather small for estimates for major domains like urban/rural and men/women. The coefficients of variation (CV)1 are below 1% in many cases. The coefficients of variation are substantially higher for provincial estimates, especially for provinces with a small sample (e.g. province19). Design effects (Deff) have been calculated for some estimates. They are, as expected, quite low for estimates of demographic characteristics. They are considerably higher for estimates of socio-economic characteristics like employment status (also as expected). For the demographic characteristics "age at first marriage" and "marital status" we find design effects below 5 for major domains like men/women and urban/rural. The socio-economic characteristics are typically more "clustered" than the demographic characteristics, this shows up in generally higher design effects. For the major domain estimates we find design effects up to 20 and occasionally very high values of 200 or more. These "freak" values occur when the sample in terms of number of PSUs is small and when the PSU averages (or proportions) show large variation. One example is the design effect of 285 for the estimate of proportion of government employees in urban areas. The proportion is varying substantially between the 102 PSUs in the domain, the range is from 0 % to75%.