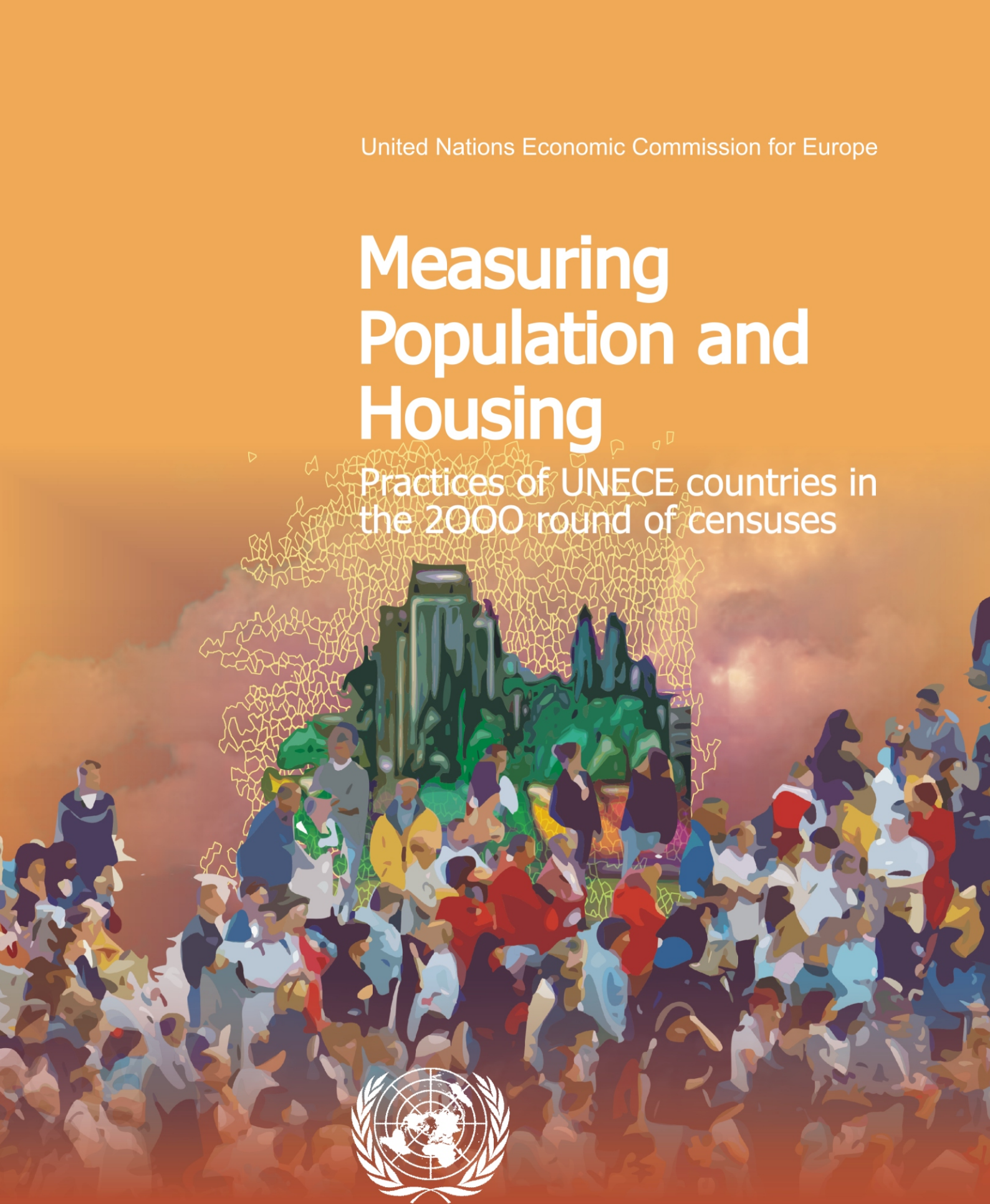
United Nations Economic Commission for Europe

Measuring Population and Housing

Practices of UNECE countries in the 2000 round of censuses



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FOREWORD

This publication reviews the practices followed by countries in the UNECE region during the 2000 round of population and housing censuses. The aim is to compare the different approaches and practices adopted by the countries taking into account the UNECE Census Recommendations developed for the 2000 census round[1]. This information may be useful when comparing the results in different countries.

The publication has been jointly prepared by the Statistical Division and the Population Activity Unit (PAU) of the UNECE. It is based on the material gathered by the Statistical Division of the UNECE as part of its preparation for the "Conference of European Statisticians [CES] Recommendations for the 2010 Censuses of Population and Housing"[2], and on additional material provided by Eurostat[3]. The publication is also part of the activities the PAU has undertaken under the "PAU Census Microdata Samples" project, funded partially by the US National Institute on Aging (NIA).

A survey was conducted in 2004 among UNECE countries to collect information on practices followed in the 2000 census round, and on plans for the 2010 round, building on a similar survey conducted by Eurostat in 2003[4]. A copy of the questionnaire, that was an expanded version of the questionnaire used by Eurostat, is shown in Appendix 1. Based on this information, and on examples of the census forms provided by countries, a series of papers was produced to analyse national practices in different areas, such as census methodology or economic characteristics. The papers were drafted by the staff of the UNECE Statistical Division and the following national experts: Werner Haug (Swiss Federal Statistical Office), Nico Keilman (Statistics Norway and University of Oslo), Kevin Kinsella (US Census Bureau), and David Thorogood (Eurostat). The papers were discussed at the November 2004 Joint UNECE-Eurostat Work Sessions on Population and Housing Censuses[5]. Eliahu Ben-Moshe assisted UNECE in assembling materials prepared earlier by different authors, and wrote a first draft of this publication that was reviewed by Peter Gardner. Edmund Jennings edited the final version of the publication, and Angela Me and Paolo Valente from the UNECE Statistical Division coordinated and assisted throughout the preparation of the document. Unless otherwise specified, data shown in this publication is derived from the UNECE or the Eurostat survey.

A total of 43 out of 55 UNECE member countries, plus Australia[6], responded to the questionnaire. The member countries that responded were: Albania, Armenia, Austria, Azerbaijan Republic, Belarus, Belgium, Bulgaria, Canada, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Greece, Hungary, Ireland, Israel, Italy, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Russian Federation, Serbia and Montenegro[7], Slovakia,

[1] United Nations Economic Commission for Europe (UNECE), *Recommendations for the 2000 Censuses of Population and Housing in the ECE Region,* Statistical Standards and Studies, No. 49.

[2] The new CES census recommendations for the 2010 censuses have been adopted by the CES in June 2006. The document is available on the website of the UNECE Statistical Division (http://www.unece.org/stats/stats_e.htm)

[3] Material collected for the study "Documentation of the 2000 round of population and housing censuses in the EU, EFTA and Candidate Countries" (Luxembourg, 2003), prepared on behalf of Eurostat by an international research team at the Laboratory of Social and Demographic Analysis (LDSA) of the University of Thessaly (Volos).

[4] See footnote 3 above.

[5] See websites: on population censuses - http://www.unece.org/stats/documents/2004.11.census1.htm on housing censuses - http://www.unece.org/stats/documents/2004.11.census2.htm

[6] Australia participated in the survey although not a member of UNECE because the Australian Bureau of Statistics participates regularly in the activities of the Conference of European Statisticians and contributed to the work on the new "CES Recommendations for the 2010 Censuses of Population and Housing".

[7] Montenegro declared itself independent from Serbia on 3 June 2006 following a referendum. On 28 June 2006 Montenegro was accepted as a United Nations Member State by General Assembly resolution A/RES/60/264, while the membership of Serbia and Montenegro was continued by the Republic of Serbia. Since the present publication is based on data collected and analysis conducted before 2006, reference will be made to the country "Serbia and Montenegro".

Slovenia, Spain, Switzerland, The former Yugoslav Republic of Macedonia, Turkey, Ukraine, United Kingdom, United States. Three countries where no census had been taken at the time of the survey responded to the UNECE questionnaire providing information on the plans for the 2010 census. They were: Germany, Moldova (where a census was taken after the UNECE survey, in October 2004) and Sweden.

Nine UNECE member countries did not respond to the UNECE questionnaire. They include Liechtenstein, Monaco, Tajikistan, Turkmenistan and five countries where no census was taken in the 2000 round[8]: Andorra, Bosnia and Herzegovina, Iceland, San Marino, and Uzbekistan.

The publication is divided into two parts: the first part deals with census methodology and technology, including operational and organisational aspects of census taking. The second part reviews the different topics investigated in the census, and the general degree of compliance of the practices followed by countries with the Recommendations for the 2000 Round of Censuses of Population and Housing in the UNECE region ("the Recommendations"). It was not possible to include all aspects of the census and for some chapters (10-12), the information presented is based on the census forms.

Responsibility for the publication and for any errors or omissions rests with the Statistical Division of UNECE. Countries may have interpreted the UNECE questionnaire in different ways and the results may therefore reflect different interpretations.

We hope that the publication will represent a useful tool for planners of future censuses, in conjunction with the new "Conference of European Statisticians Recommendations for the 2010 Censuses of Population and Housing". The two publications together will provide National Statistical Institutes with guidance and assistance in planning and conducting the censuses of the 2010 round, building on the experience of the 2000 round.

[8] In Andorra, Iceland and San Marino, population figures were compiled from population registers.

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PART I
METHODOLOGICAL AND OPERATIONAL ASPECTS OF CENSUS TAKING

1. INTRODUCTION

In the 2000 census round, some countries in the UNECE region continued to move from the traditional approach to census taking, based on field enumeration and counting, to alternative approaches. These alternative approaches, which may decrease costs and improve efficiency, emerged in the 1970s. More countries based their census on the combined use of different sources including registers and sample surveys, as a complement or a replacement of traditional fieldwork operations, than had been the case in the past. There were many innovations, with a significant number of countries adopting optical data entry or other technologies.

Part 1 deals with general aspects of census management. These range from the role of census data in the official statistical system and its uses, to some operational aspects related to the census such as legislation background, publicity campaign and census costs. Some attention is devoted to the use of technology, to the use of administrative data and to census evaluation activities. The main problems reported by the different countries in conducting the census are summarised.

Census data and its role in the official statistics system

The population census plays a central role in official statistics systems by providing a reliable estimate of the population at the national and smaller territorial levels, as well as the population distribution by sex, age and other demographic, social and economic characteristics. When a housing census is conducted together with the population census, information is also provided on the housing arrangements and on their characteristics and amenities. Population censuses are usually taken once a decade and in some cases once every five years.

The role of the census in providing data on social and demographic characteristics in countries that carried out a register-based census is different from in the other countries. In these countries the census was an opportunity to put together data from different registers (or other sources) rather than to produce new data.

Most of the countries that collected new data through the census (37 out of 44 countries) used these data to revise intercensal estimates and as a base for population projections. 34 countries mentioned they use the census as a frame for sample surveys and 10 countries reported using the census to update existing registers.

In order to analyze the role of the census in providing social and demographic data, information was collected on the extent to which different sources of data (including census, registers and surveys) have been used as part of the official statistics system. The topics covered included: employment, unemployment, education, migration, fertility, mortality and also characteristics of dwellings and housing facilities (see table 1.1).

For most topics, censuses played a central role. If they were not the only source they acted as a complementary source. At the national level, and particularly in the most developed countries, surveys or register data provide alternative sources to the census for most of the topics. Exceptions are educational attainment, literacy and housing characteristics, for which the census is often the only source. At the local level, the census is the most important source of social and demographic information. There were only a few topics (including enrolment in education, infant and child mortality) where censuses were not the only source of information.

In the field of employment and unemployment, at the national level, surveys play a significant role. For only 20 per cent of the countries the census is the only source of data at the national level. However, at the local level the importance of census data for employment indicators is clear. Excluding a small number of countries that use either registers for all their statistics or use survey data, most rely on censuses as the source of information on employment levels and characteristics (occupation, industry and employment status) at small area levels. For unemployment data at local level, censuses are the only source in 43 per cent of the cases, and in another 19 per cent they are used in conjunction with other sources.

Regarding education attainment, censuses are at both national and local level the most important source of data. In just over half (53 per cent) of the countries they are the only source at the national level and in two thirds (67 per cent) at local level, while in 32 per cent of countries censuses provide data which complements other sources at the national level and in 19 per cent of cases at local level.

Regarding other educational characteristics, attendance, enrolment and literacy, censuses were the most important source at both the local and the national level. The exception is enrolment for which data was primarily derived from registers and to a lesser extent from surveys. It should be noted that for literacy a large number of countries did not collect any information either at the local (54 per cent) or at the national level (45 per cent).

In the field of migration, censuses were the main source of data for immigration stocks, at both the national and local levels; but registers were also an important source. Registers were the main source for immigration flows (by periods) and for stocks of emigrants. Data for the stock of immigrants were not available in 44 per cent of countries at the national level, and in 50 per cent of countries at the local level.

Regarding demographic characteristics (e.g. fertility, child and infant mortality) the main source of data is from registers (usually the vital registration system) and to a lesser extent surveys.

Finally, censuses are often the only source of information on the number and characteristics of dwellings and on housing facilities, both at the national and local level. 62 per cent of the countries collected data on vacant dwellings through the census while the remaining countries either do not have this type of information or rely on registers. Regarding the number of dwellings (main characteristics and housing facilities) three quarters of the countries rely solely on census data at both the national and local levels.

Censuses are considered an important and fundamental element of a national statistical system. In addition to providing the most accurate data about the population structure by age and sex at national and local level there are a number of topics for which many countries rely exclusively on census data, particularly for small area statistics.

In countries with more developed statistical systems, the census plays a key role in providing data at local level and in a few selected areas such as educational attainment, housing characteristics and literacy. For the countries in Eastern Europe, Caucasus and Central Asia (EECCA)[9] and South-Eastern Europe, the census has a more significant role and in many cases represents the only source of information on social and demographic statistics at national as well as local level.

Moreover, a significant number of countries (more than one third) reported the census as the only source for most social and demographic topics, meaning that basic statistics for these topics are not available from any other source.

Regardless of the methodology used, the census continues to play a crucial role in national statistical systems. Even in countries where the census is an operation for compiling data from existing registers, the census is a unique opportunity to provide a consistent picture of the linkages between different social and demographic characteristics at both the national and the small area level.

[9] Part of the UNECE region covering the following countries: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine, Uzbekistan.

Table 1.1
Main source of data on selected topics in the year of the census: Censuses, Surveys, Registers

Topic	Total number of countries	Census only %	Census and other sources %	Surveys only %	Registers only %	Surveys and Registers %	No Data %
National Level							
Employment	39	21	31	33	8	5	3%
Unemployment	39	21	31	31	13	5	0%
Employment by occupation	39	26	38	26	5	0	5%
Employment by industry	39	18	33	31	8	3	8%
Employment by employment status	39	28	31	31	5	3	3%
Educational attendance	38	32	18	11	21	0	18%
Enrolment in education	37	16	14	22	35	0	14%
Educational attainment	38	53	32	5	8	0	3%
Literacy	38	39	8	8	0	0	45%
Stock of immigrants	39	38	13	8	31	3	8%
Stock of emigrants	39	13	0	13	31	0	44%
Flow of immigrants for a certain period of time	39	23	5	18	41	3	10%
Fertility	38	18	21	24	32	5	0%
Child mortality	35	3	6	29	57	0	6%
Infant mortality	35	3	6	29	57	0	6%
Total number of dwellings	39	79	3	3	13	0	3%
Number of vacant dwellings	39	62	0	0	8	0	31%
Main characteristics of dwellings	38	87	3	5	5	0	0%
Housing facilities (i.e. electricity, gas)	39	77	5	8	5	0	5%
Local Level							
Employment	39	53	13	16	11	3	5%
Unemployment	39	43	19	14	14	3	8%
Employment by occupation	39	65	11	11	5	0	8%
Employment by industry	39	54	14	11	11	0	11%
Employment by employment status	39	67	8	11	11	0	3%
Educational attendance	38	40	14	6	23	0	17%
Enrolment in education	37	24	8	16	35	0	16%
Educational attainment	38	67	19	3	8	0	3%
Literacy	38	40	6	0	0	0	54%
Stock of immigrants	39	41	8	5	32	0	14%
Stock of emigrants	39	13	0	8	29	0	50%
Flow of immigrants for a certain period of time	39	22	5	11	32	3	27%
Fertility	38	24	16	19	32	3	5%
Child mortality	35	6	3	26	51	0	14%
Infant mortality	35	6	3	26	51	0	14%
Total number of dwellings	39	76	5	0	13	0	5%
Number of vacant dwellings	39	62	3	0	8	0	27%
Main characteristics of dwellings	38	92	0	3	5	0	0%
Housing facilities (i.e. electricity, gas)	39	82	3	3	5	0	8%

Source: UNECE survey, 2004.

2. OVERVIEW OF THE 2000 CENSUS ROUND AND METHODOLOGICAL APPROACHES ADOPTED [10]

This chapter presents a review of where and when censuses have been conducted in the UNECE region in the 2000 round (1995-2004), followed by an analysis of the approaches used by the different countries. Information about the use of administrative data to support census activities and about the evaluation of the census results is also presented.

Where and when censuses were taken

Where?

In 1995, a resolution of the UN Economic and Social Council[11] urged Member States "…to carry out population and housing censuses during the period 1995-2004, taking into account international and regional recommendations relating to population and housing censuses…".

With regard to the UNECE region, in the period 1995-2004 a population census was taken in 48 out of 55 countries, that is 87 per cent of the countries. A population census was not taken in the 2000 round in the following seven UNECE countries: Andorra, Bosnia and Herzegovina, Germany, Iceland, San Marino, Sweden and Uzbekistan. In Andorra, Iceland and San Marino, population figures were compiled from population registers. In Bosnia and Herzegovina, a census was planned for 2001 but then it was postponed. In Germany, a test census took place in 2001 to assess the feasibility of a census carried out with field operations and supported by registers, but Germany has still to follow up the test with a full census. In Sweden, a population census based on registers is currently planned for 2010. In Uzbekistan no census has been carried out since independence.

When?

Table 2.1 presents the UNECE countries where a census was taken in the 2000 round (between 1995 and 2004), sorted by reference day. The population censuses were taken in almost all countries in the four-year period between 1999 and 2002. The exceptions are Turkmenistan, Israel and Malta, where the census was taken in 1995, and Moldova, where it was taken in 2004. The year in which most countries (23) took their census was 2001; 15 countries undertook a census in the period from January to May 2001 (which was the period recommended to the EU countries by the Community Census Programme), and eight countries in the second half of the year.

[10] This chapter is based on information previously presented in the paper "Types of censuses, enumeration methods and selected operational aspects: results of the ECE questionnaire" drafted by Paolo Valente (UNECE) and presented at the November 2004 Joint ECE-Eurostat Work Session on Population Censuses (WP No.1/Rev.1). See: http://www.unece.org/stats/documents/2004/11/census1/wp.1.rev.1.e.pdf

[11] UN Economic and Social Council, Resolution 1995/7.

Table 2.1
Population censuses in the UNECE region, 2000 round -Reference day

Month	Country	Reference day
Jan-1995	Turkmenistan	10 Jan 1995
Nov-1995	Israel	4 Nov 1995
	Malta	26 Nov 1995
Jan-1999	Azerbaijan	27 Jan 1999
Feb-1999	Belarus	16 Feb 1999
	Kazakhstan	25 Feb 1999
Mar-1999	France	8 Mar 1999
	Kyrgyzstan	24 Mar 1999
Jan-2000	Tajikistan	20 Jan 2000
Mar-2000	Estonia	31 Mar 2000
	Latvia	31 Mar 2000
Apr-2000	United States	1 Apr 2000
Jun-2000	Monaco	14 Jun 2000
Oct-2000	Turkey	22 Oct 2000
Dec-2000	Switzerland	5 Dec 2000
	Liechtenstein	5 Dec 2000
	Finland	31 Dec 2000
Jan-2001	Denmark	1 Jan 2001
	Netherlands	1 Jan 2001
Feb-2001	Hungary	1 Feb 2001
	Luxembourg	15 Feb 2001
Mar-2001	Bulgaria	1 Mar 2001
	Czech Republic	1 Mar 2001
	Portugal	12 Mar 2001
	Greece	18 Mar 2001
	Croatia	31 Mar 2001
Apr-2001	Albania	1 Apr 2001
	Lithuania	6 Apr 2001
	United Kingdom	29 Apr 2001
May-2001	Austria	15 May 2001
	Canada	15 May 2001
	Slovakia	26 May 2001
Aug-2001	Australia	6 Aug 2001
Oct-2001	Belgium	1 Oct 2001
	Cyprus	1 Oct 2001
	Armenia	10 Oct 2001
	Italy	21 Oct 2001
Nov 2001	Spain	1 Nov 2001
	Norway	3 Nov 2001
Dec-2001	Ukraine	5 Dec 2001
Jan-2002	Georgia	17 Jan 2002
Mar-2002	Romania	18 Mar 2002
	Serbia and Montenegro [a]	31 Mar 2002
	Slovenia	31 Mar 2002
Apr-2002	Ireland [b]	28 Apr 2002
May-2002	Poland	20 May 2002
Oct-2002	Russian Federation	9 Oct 2002
	The former Yugoslav Republic of Macedonia	31 Oct 2002
Oct-2004	Moldova	5 Oct 2004

[a] Montenegro: 31 October 2003.
[b] Census postponed due to the outbreak of the foot-and-mouth disease.

Source: UNECE survey, 2004.

How censuses were taken – methodological approaches

Censuses[12] have been traditionally based on collecting information using census forms. Traditional censuses are based on four essential features: individual enumeration, universality within a defined territory, simultaneity and defined periodicity. The census forms have changed over time. At the beginning they were just statistical summaries, later they became lists where each enumerated person was recorded in a separate line (within his own household), and finally they became individual forms where each individual/household had a separate form. The delivery and collection of the forms was done by census enumerators, but over recent decades, mail delivery and/or collection has been adopted in several countries. As for the compilation of census forms, there was also a transition from form-compilation completed by enumerators/interviewers, to "self-enumeration" where the forms are completed by the respondents. However, many countries (mainly in the EECCA and South-Eastern Europe) still use interviewers to complete the census forms.

During the 1970s, several Scandinavian countries shifted from the "traditional" census (based on questionnaires administered to all persons in the field), to a "register-based" census where individual information was collected from existing administrative registers. Denmark was the first country to conduct a fully register-based census in 1981, followed by Finland in 1991. The remaining Scandinavian countries are planning to complete the transition from traditional to register-based census in the next few years.

Since the early 1990s, several countries in the UNECE region started developing new approaches to conducting population censuses. In some cases the motivation for change was to overcome organizational problems or public opposition to traditional censuses where the traditional census was perceived as being too intrusive into people's private lives. In other cases reducing census costs was a primary motivation (for instance by taking advantage of the information available in the registers or other sources), or the desire to produce census data more frequently than every ten years, and in some cases on a continuing basis. Often, the interest in developing new approaches to census taking was in response to a combination of the reasons listed above. Although the majority of the countries in the region still used the traditional approach, in the 2000 round there was a growing trend toward the use of alternative methodology to carrying out population and housing censuses.

The use of population and other registers in combination with other sources is at the centre of most of the new methods. In several countries in the UNECE region population registers do exist, but their quality is not sufficient to produce census data without recourse to field operations. Registers covering other social and demographic characteristics also exist, but do not cover all census topics. For these reasons, combined systems were developed by some countries, making use of the information available in the registers to complement information collected through field operations or taken from other sources such as sample surveys.

As a result of the development of these new methodologies, classification of countries with respect to the approach used for carrying out the census is complicated. For our purposes three categories for summarizing different census approaches have been used: traditional, register-based and combined.

[12] See UN DESA Statistical Division, Principles and Recommendations for Population and Housing Censuses, Statistical Papers, Series M, No. 67/Rev. 1 UN NY 1998.

Table 2.2
Distribution of countries by type of population census and enumeration methods [a] adopted in the 2000 round of censuses

Type of population census:	traditional	combined		register-based		
Enumeration method:	*Information collected through field operations*	*Based on pre-existing administrative registers plus questionnaire submitted to all households*	*Based on pre-existing administrative registers plus use of existing sample survey data*	*Based totally on pre-existing administrative registers*	*Total number of countries using the method as MAIN method*	*Total number of countries using the method as SECONDARY method*
Interviewer, paper questionnaire	Albania, Armenia, Azerbaijan, Belarus, Bulgaria, Croatia, Cyprus, Estonia, Georgia, Greece, Hungary1, Kazakhstan, Kyrgyzstan, Lithuania, Poland1, Romania, Russian Federation, Serbia and Montenegro, The former Yugoslav Republic of Macedonia, Turkey, Ukraine, USA2	Latvia, Slovenia1			23	1
Interviewer, electronic questionnaire	USA4					1
Enumerators, self-compiled form, collected by enumerators	Australia1, Austria, Czech Rep., Ireland, Israel [b], Italy, Luxembourg, Portugal1, Slovakia, Hungary2, Poland2, UK2	Spain1, Slovenia2			10	4
Enumerators, self-compiled form, mailed back	Canada [b], France, UK1, Poland3, USA3				3	2
Mail-out, collection by enumerators	Malta, Portugal2 [f]	Belgium2, Switzerland2			1	3
Mail-out, mail-back	USA1 [c], UK3 [d]	Belgium1, Switzerland1			3	1
Internet	Australia2, USA5	Belgium3, Spain2, Switzerland3				5
Enumeration based on registers			Netherlands [e]	Denmark, Finland, Norway [g]	4	
Total number of countries by type of census:	35	5	1	3	44	

[a] When countries indicated more than one enumeration method, the main method is in bold font and with number 1 (e.g.: **Slovenia1**), and the secondary methods are in normal font and with numbers 2, 3… (e.g.: Slovenia2).
[b] Canada and Israel: "Long form" filled by 20% of households.
[c] USA: "Long form" filled by about one in every six households.
[d] UK: Mail-out and mail-back only in Scotland and Northern Ireland, in response to foot-and-mouth disease.
[e] Netherlands: Information on population was completely based on the population register. Some of the variables measured at the personal level (like level of education and occupation) were taken from sample surveys.
[f] In Portugal mail-back was used in a limited number of cases, for example where interviewers found difficulty in collecting census forms or contacting individuals.
[g] In Norway the population census was based on registers, but field operations were involved to collect information on housing and create a dwelling register.

Source: UNECE survey, 2004.

Table 2.2 presents information on how population censuses were taken in the UNECE countries in the 2000 round. Information is presented on the type of census and enumeration methods used. Some countries reported using more than one enumeration method. In these cases they specified the order of importance of the different methods (in terms of percentage of units enumerated). The analysis will focus on the main enumeration method used in each country.

The traditional approach

Eighty per cent of countries collected census data in the "traditional" way, covering all the households through field operations.

Among the 35 countries that adopted the traditional approach, the most common enumeration method used was the interviewer method, which was used in 21 countries, and in particularly in all EECCA countries and several Eastern European and Balkan countries. In nine countries, the forms were distributed and collected by enumerators/collectors, but the respondents completed them.

In the remaining five countries the respondents completed the forms but they were made available and collected in different ways. In the United States the mail was used both to send out and to collect the forms ("mail-out, mail-back"). In Canada, France, and the United Kingdom the forms were distributed by enumerators and collected by mail (mail-back only). In Malta, the forms were sent out by mail (mail-out only) and collected by enumerators.

Most countries used only one type of census form to enumerate the whole population. In three countries, Canada, the United States and Israel, two types of census forms were used. A "short form" with a very limited number of questions was completed by the majority of the households (80 per cent in Canada and Israel, approximately 83 per cent in the United States). A "long form", with questions on several social and demographic characteristics was completed by the remaining households (20 per cent in Canada and Israel, approximately 17 per cent in the United States).

The register-based approach

Three countries carried out a population census completely based on existing administrative registers: Denmark, Finland and Norway[13].

The combined approach

Five countries (11 per cent of the total) adopted a mixed system where some information was taken from existing registers and other information was collected through field operations, using census forms completed by all households in a traditional way. In Spain and Switzerland, information taken from the registers was pre-printed on the census forms, so that respondents were able to check it and make corrections[14]. In Belgium, only name, surname and date of birth were pre-printed on the forms, to facilitate identification. In Latvia and Slovenia, some variables were taken from the registers and used for the census but they were not pre-printed on the forms, which were used to collect the remaining information.

[13] Norway carried out a field operation to collect information on housing.

[14] In Spain, basic demographic data were taken from the population registers ("padron") and pre-printed on a separate form. After the census, this form - signed by the respondents and with any eventual corrections - was transmitted by the Statistical Office to the relevant municipality for the updating of the population register.

With regard to the enumeration methods, in Belgium and Switzerland census forms were sent out and collected by mail, and enumerators were only used as secondary method for collecting the forms that were not mailed back. In Spain, enumerators were used to distribute and collect the forms. In Latvia and Slovenia, enumerators interviewed the respondents and completed the census forms.

In the Netherlands, information on the population structure was completely based on the population register, but some of the social and demographic characteristics of individuals were based on data from existing sample surveys. For instance, information on level of education and occupation was taken from the Labour Force Survey[15]. The Netherlands was the only country in the UNECE region to adopt this approach in the 2000 round. However, information on plans by countries for the 2010 census round indicates that other countries are planning to adopt a similar approach[16].

Secondary enumeration methods

Some countries also adopted additional (secondary) enumeration methods as a complement to the "main" enumeration methods. The internet was offered as an option for the respondents to submit population census data in five countries: Australia, Belgium, Spain, Switzerland and the United States. Usually only a minority of the population, and in most cases not more than 1 per cent, used the Internet option (in the United States this was used on an experimental basis by about 60,000 respondents, which is about 0.02 per cent of the population). Switzerland reported almost 4 per cent of the population using the internet. In Norway housing data could be submitted by Internet (population data were taken from registers) and almost 10 per cent of the households used this option. In the United States, call-centre agents used a web-based CATI (computer assisted telephone interview) instrument for conducting telephone interviews and to complete some of the forms that were not mailed back.

Classification of countries by census methodology

The methodology adopted to take the census has a significant impact on census content, definitions and other census aspects as well as on organization of census operations. Countries have, therefore been classified into three main groups to identify any association between census methodology and characteristics of the census organization or of the information collected (census topics covered, definitions adopted, etc.). The groups are:

- **Group A – Traditional approach:** includes 35 countries where the census was taken in a traditional way. This group is subdivided in two sub-groups:
    - ***Group A1 – Interviewer enumeration:*** *includes 21 countries where forms were completed by the interviewer; and*
    - ***Group A2 – Self-enumeration:*** *includes 14 countries where the respondents completed forms.*
- **Group B – Combined approach:** includes six countries where some data was taken from registers, but where questionnaires were also submitted to all households to check and/or complete the information (sample survey data was used in the case of the Netherlands).
- **Group C – Register-based approach:** includes three countries where the population census was based on data from registers and no questionnaires were used.

[15] See: "The Dutch Virtual Census of 2001", Statistics Netherlands, 2004.
[16] See: "Countries' plans for the 2010 censuses: Results of the ECE questionnaire", papers prepared for the November 2004 Joint ECE-Eurostat Work Session on Population Censuses (http://www.unece.org/stats/documents/2004.11.census1.htm).

Looking at the geographic location of these groups, it can be seen that group C consists of Scandinavian countries (Sweden is planning a register-based census in 2010). Sub-group A1 includes mainly countries from Eastern Europe, Balkans and EECCA, while sub-group A2 includes most Western and Central European countries. Group B consists of six countries from different European regions.

Table 2.3
Classification of countries according to methodology adopted for the population census, 2000 round

Group A: Traditional approach		Group B: Combined approach	Group C: Register based approach
Group A1: Traditional census, interviewer (21 countries)	***Group A2: Traditional census, self-compilation (14 countries)***	***Data from registers + questionnaires submitted to all households or use of existing sample survey data (six countries)***	***Data from registers, no questionnaires used (three countries)***
Albania Armenia Azerbaijan Belarus Bulgaria Croatia Cyprus Estonia Georgia Greece Hungary Kazakhstan Kyrgyzstan Lithuania Poland Romania Russian Federation Serbia and Montenegro The former Yugoslav Republic of Macedonia Turkey Ukraine	Australia Austria Canada Czech Republic France Ireland Israel Italy Luxembourg Malta Portugal Slovakia United Kingdom United States	Belgium Latvia Slovenia Spain Switzerland Netherlands [a]	Denmark Finland Norway

[a] Information on population was completely based on the population register. Some of the variables measured at the personal level (like level of education and occupation) came from sample surveys.

Source: UNECE survey, 2004.

Administrative data and the census

Administrative registers played an important role in census taking. Most countries used administrative data and registers in connection with the census. Uses ranged from supporting census activities, especially when establishing address lists, to complementing census data or using administrative data to verify/control the quality of the collected data and in some cases to replace traditional census taking altogether.

The existence of registers

The extent to which registers (including population registers, business registers and others) were used for the population censuses is the most significant factor that differentiates the methodologies adopted by the different countries.

While only three countries conducted a pure register-based census, many other countries used registers to support the field operations. The reasons why registers were not used to generate census data in many countries include: data of poor quality or outdated data, lack of standardization between different registers, technical or legal problems in linking data, presence in the registers of only few variables, and political or public opposition.

Table 2.4 presents the information on the types of registers existing in the various countries. This information can be particularly relevant in assessing how many countries in the next census round could potentially move from a traditional census to a census based (partially or exclusively) on data generated from registers.

In 39 out of the 44 countries, there exists at least one administrative register (the five countries reporting no registers are: Albania, Malta, Russian Federation, Serbia and Montenegro and the United States).

The most common administrative registers are business registers (including agriculture registers), which exist in 34 countries, and population registers, which exist in 26 countries. Insurance registers (including social security registers) exist in a large number of countries (24), while dwelling registers exist in only seven countries. 23 countries reported the existence of additional types of registers, with the most common being the tax/income register (10 countries).

A significant number of countries in Group A have registers that could potentially allow them to move to a census based, at least partially, on registers. For these countries, however, the real issue is not the existence of the registers, but rather their content, especially in terms of coverage and quality, which would need to be of a sufficient standard to be used for census purposes.

The use of registers during the last census round

Two thirds of countries (30) used their registers in some way in connection with the 2000 census round. The results on the uses of the different registers are summarized in table 2.5.

The most frequent use of registers was in support of fieldwork and, in particular, to establish address lists (21 countries). The most used registers for this purpose were population registers (11 countries), followed by dwelling registers and post office address lists. Data from registers were also used to pre-fill census forms in eight countries, mostly using population registers.

Among the nine countries that used registers to produce census data (group B and C), the most used registers were business registers (used in eight countries) and population registers (used in seven countries).

In 10 countries, censuses have been used to update existing registers. The population register was the register updated in most countries (five).

Table 2.4
Administrative context for the 2000 round of censuses in the UNECE region: existing registers

Country	Existence of registers	Which registers exist:				
		Population	*Business (incl. agr.)*	*Dwellings*	*Insurance (incl. soc. sec.)*	*Other registers:*
Group A1 (Traditional census, interviewer)						
Albania						
Armenia	**X**		X			
Azerbaijan	**X**		X			
Belarus	**X**		X		X	
Bulgaria	**X**	X	X		X	Tax, health insurance
Croatia	**X**				X	
Cyprus	**X**	X	X		X	
Estonia	**X**	X	X	X	X	Tax, vehicle, birth, etc. (government and institutional databases)
Georgia	**X**		X			
Greece	**X**		X		X	Tax Service Register (not used for the census)
Hungary	**X**	X	X	X	X	
Kazakhstan	**X**					Registers maintained by the Ministry of Internal Affairs
Kyrgyzstan	**X**		X		X	
Lithuania	**X**	X	X		X	Farmers, real estate, mortgage, administrative units, settlements and streets etc. (about 50 registers)
Poland	**X**	X	X	X	X	
Romania	**X**	X	X		X	
Russian Federation						
Serbia and Montenegro						
The former Yugoslav Republic of Macedonia	**X**	X	X		X	Territorial units
Turkey	**X**	X				
Ukraine	**X**		X		X	Physical persons, taxpayers, pension registrations
Total no. of countries	**18**	**9**	**15**	**3**	**13**	

Table 2.4
Administrative context for the 2000 round of censuses in the UNECE region: existing registers (continued)

Country	Existence of registers	Which registers exist:				
		Population	*Business (incl. agr.)*	*Dwellings*	*Insurance (incl. soc. sec.)*	*Other registers:*
Group A2 (Traditional census, self-compilation)						
Australia	X		X		X	Births, deaths and marriages
Austria	X	X	X		X	Address register, tax register
Canada	X	X	X		X	Tax register
Czech Republic	X	X	X			
France	X		X			
Ireland	X		X			
Israel	X	X			X	Business register and institution register (being set up)
Italy	X	X	X		X	
Luxembourg	X	X	X		X	Tax register, driver licence register
Malta						
Portugal	X	X	X	X	X	Tax register, driver license register, social security register, health care register, electoral census
Slovakia	X	X	X			
United Kingdom	X		X		X	Electoral
United States						
Total no. of countries	**12**	**8**	**11**	**1**	**8**	
Group B (Combined approach)						
Belgium	X	X	X	X		Dwelling registers being set up
Latvia	X	X	X			Registers under responsibility of other ministries and institutions
Slovenia	X	X	X			Register of territorial units, statistical register of employment
Spain	X	X				Cadastre
Switzerland	X	X	X			New register of buildings and dwellings based on census 2000 data
Netherlands	X	X	X		X	
Total no. of countries	**6**	**6**	**5**	**1**	**1**	
Group C (Register-based census)						
Denmark	X	X	X	X		Income, education, social security
Finland	X	X	X	X	X	Buildings, unemployment, work pension, taxation, completed educational attainments, conscripts, pensioners
Norway	X	X	X		X	Jobs, wages, income, addresses, buildings, education. Dwelling register will be established
Total no. of countries	**3**	**3**	**3**	**2**	**2**	
GRAND TOTAL	**39**	**26**	**34**	**7**	**31**	

Source: UNECE survey, 2004.

Table 2.5
Number of countries in which different registers were used, for various purposes, in connection with the 2000 round of censuses in the UNECE region

Type of register:	Use of registers:			
	To establish address lists	*To pre-fill census forms*	*To produce census data*	*To update existing register*
Population	11	6	7	5
Dwellings	5	0	4	3
Business	0	2	8	1
Insurance	0	1	4	0
Post office address list	3	0	0	2
Other registers	6	2	7	4
Total no. of countries[a]:	**21**	**8**	**9**	**10**

[a] For each column, the figure for "Total number of countries" does not correspond to the total of the column because some countries may have selected more than one register.

Source: UNECE survey, 2004.

The existence and use of a Personal Identification Number

A national Personal Identification Number (PIN) is defined as a unique identification number assigned for identification by the public administration to each individual. In many countries a PIN is assigned to identify individuals in connection with administrative matters (like registration in population registers, electoral lists, tax system, etc.) and/or the provision of services (healthcare, school, social security, etc.).

The PIN is potentially a powerful statistical tool, because it enables individual data from different sources to be linked with relatively little effort and very few errors. For this reason the PIN is used in some countries not only for administrative purposes but also for statistical purposes.

However, in order to prevent the misuse of the linkage of individual information from different sources, the statistical use of PIN needs to be regulated to ensure that data confidentiality is guaranteed. For this reason, in many countries where the PIN exists, its use is strictly limited or even prohibited for statistical purposes. In some countries where public concern about data confidentiality is particularly strong, the PIN does not exist at all. The existence and possibility of using the PIN for statistical purposes may be an important indicator of the administrative framework existing in the various countries.

Table 2.6 presents information on the existence of a PIN and on its use for censuses, surveys and administrative sources. Available data show that a PIN exists in 33 out of 44 countries. The PIN is used for administrative sources in the majority of these countries (26), while its use is more limited for censuses (17 countries) and for surveys (13 countries). In five countries (Belarus, France, Italy, Slovakia and the United Kingdom) the PIN exists but it is not used for statistical purposes.

Among countries that carried out the census using register data, some used the PIN for linking censuses, surveys and administrative sources, while others (e.g. Switzerland) do not have any PIN at all. In the Netherlands a PIN exists in all registers. However, in order to match data for the census from different surveys and registers, a sort of "*de facto* PIN" was created, using the combination of the values for the following variables: six-digit postal code, house number (+ extension), sex and day of birth. The first two of these variables lead to a unique address in the country, and together with the last two variables lead to a unique person in the country.

The evaluation of the census

Population censuses in the 2000 round have been intensively evaluated within different countries.

Five different evaluation methods were assessed in the UNECE questionnaire, and countries reported on the use of them. The methods included:

a) Quality post-enumeration survey
b) Coverage post-enumeration survey
c) Demographic analysis
d) Field re-interviews
e) Comparison with other data sources

Countries were also able to report on "other methods".

Thirty-seven countries reported that they conducted at least one activity to evaluate their census results (see table 2.7). Only seven countries reported that they did not conduct any evaluation activities. Five were countries that used the register-based census approach or conducted their census using data from administrative registers (Austria, Belgium, Denmark, Finland and Spain). The other two were Kazakhstan and Turkey. However, it is not clear to what extent the field re-interview should be considered an evaluation method comparable to the others, since it mostly serves as part of the quality checks conducted during the field operations.

Table 2.6
Administrative framework for the 2000 round of population and housing censuses in the UNECE region: existence and use of PIN

Country	Existence of PIN	Use of PIN			
		Census	*Surveys*	*Admin.*	*(None)*
Group A1 (Traditional census, interviewer):					
Albania					
Armenia	X			X	
Azerbaijan					
Belarus	X				X
Bulgaria	X	X	X	X	
Croatia	X	X	X	X	
Cyprus	X			X	
Estonia	X	X	X	X	
Georgia	X			X	
Greece					
Hungary	X			X	
Kazakhstan	X			X	
Kyrgyzstan					
Lithuania	X	X	X	X	
Poland	X			X	
Romania	X			X	
Russian Federation					
Serbia and Montenegro	X	X			
The former Yugoslav Republic of	X	X		X	
Turkey					
Ukraine	X			X	
Total no. of countries	**15**	**6**	**4**	**13**	**1**

Table 2.6
Administrative framework for the 2000 round of population and housing censuses in the UNECE region: existence and use of PIN (continued)

Country	Existence of PIN	Use of PIN			
		Census	*Surveys*	*Admin.*	*(None)*
Group A2 (Traditional census, self-compilation):					
Australia					
Austria	X			X	
Canada					
Czech Republic	X	X			
France	X				X
Ireland					
Israel	X	X	X	X	
Italy	X				X
Luxembourg	X			X	
Malta	X	X	X	X	
Portugal	X			X	
Slovakia	X				X
United Kingdom	X				X
United States					
Total no. of countries	**10**	**3**	**2**	**5**	**4**
Group B (Combined Approach):					
Belgium	X	X	X	X	
Latvia	X	X	X	X	
Slovenia	X	X	X	X	
Spain	X	X		X	
Switzerland					
Netherlands	X	X	X	X	
Total no. of countries	**5**	**5**	**4**	**5**	**-**
Group C (Register-based census):					
Denmark	X	X	X	X	
Finland	X	X	X	X	
Norway	X	X	X	X	
Total no. of countries	**3**	**3**	**3**	**3**	**-**
GRAND TOTAL	**33**	**17**	**13**	**26**	**5**

Source: UNECE survey, 2004.

Table 2.7
Countries by number of evaluation methods used

Number of evaluation methods	Number of countries
Only one method	9
Two methods	13
Three methods	6
Four methods	6
Five methods	3
No evaluation activities	7
Total	**44**

Source: UNECE survey, 2004.

Out of the 37 countries reporting evaluation activities, only nine reported using only one evaluation activity. Three compared the census results with external data sources and four reported conducting re-interviews (mainly for quality-control purposes). One conducted a coverage Post-Enumeration Survey (PES) and another made comparisons with demographic statistics. The remaining 28 countries used more than one evaluation method, with 15 countries using three or more evaluation methods.

Table 2.8
Methods used to evaluate the census
(Most countries reported more than one method)

Evaluation method	Number of countries (out of 44)
Quality PES	12
Coverage PES	20
Demographic analysis	23
Field re-interviews	14
Comparison with external data	23
Other method	2

Source: UNECE survey, 2004.

The three most common evaluation operations reported (see table 2.8) were: comparisons with other data sources (23 countries), demographic analysis (23), coverage PES (20). 12 and 14 countries reported quality PES and field re-interviews respectively.

These evaluation activities demonstrate that a variety of strategies were adopted. One common combination of evaluation activities (eight countries) was both coverage PES and quality PES, together with demographic analysis and comparisons with external data. Three additional countries reported a similar approach but without the quality PES.

Evaluation of coverage levels (omissions, duplications and net coverage) has been done to some extent by 21 countries; 19 using coverage PES, seven using field re-interviews and two on the basis of comparisons to external data. However, not all of these countries calculated rates of coverage errors. Three countries that conducted coverage PES and four countries that did re-interviews in the field did not calculate coverage errors. The percentage of omissions ranged between 0 per cent and 3.95 per cent and the percentage of duplications between 0.0 per cent and 0.96 per cent. The rates of net coverage errors (the difference between omissions and duplications) reported by 15 countries varied between +0.7 per cent and -3.1 per cent, with four countries reporting net coverage rates of between 0.0 per cent and -0.7 per cent, seven countries between -1.0 per cent and -2.0 per cent, one -3.1 per cent and three countries reporting positive net coverage rates (between 0.05 per cent and 0.7 per cent). However these reported rates should be treated with caution since even the best designed PES may under-estimate the actual coverage rates. Moreover, coverage rates calculated at the total population level usually hide important differences in undercount rates for specific population groups, such as young people in their twenties and other hard-to-count groups.

There seems to be a high awareness in the UNECE area of the importance of evaluating the results of the census, as it is generally the most important and expensive statistical operation that is conducted in any country. There are regional differences. All the Baltic countries, most of the European Union countries and several South-East European countries conducted coverage PES and reported under-coverage results. None of the EECCA countries and only a few of the East European countries did this, even though some of them reported using other evaluation methods to evaluate the census.

Not all countries used the results obtained by evaluating the census to actually adjust the population count. Only eight countries (out of 18 that reported coverage errors) reported adjusting the census figures according to the estimated coverage rates. Out of these eight countries, four adjusted total population count, population in geographical subdivision and population by age and sex, two reported adjusting the total figure and the figures by geographical subdivisions, and one adjusted the total population by age and sex. Two additional countries reported using the adjusted figures for retrospective estimates or for population projections only. It is not clear to what extent the results of the census evaluation activities have been used to adjust the census data to produce annual population estimates.

3. ADOPTION OF CENSUS AND MAPPING TECHNOLOGIES[17]

Developments in technology are changing the way censuses are being conducted. The 2000 census round saw the adoption of several new technologies in a number of countries. These included scanning technologies replacing manual data capture, and digital maps and geographical information system (GIS) technologies replacing traditional census cartography. For most countries these technologies were used for the first time in the census, while for a few countries these technologies represented a consolidation of existing practices.

This chapter reports on several aspects of the practices adopted for the management of census operations, data capture and editing, data processing, and mapping.

Management of census operations

Twenty eight countries reported the use of software to support the management of the census[18]. Eleven countries developed ad-hoc-software while 18 reported the use of commercial software. Table 3.1 shows the list of the commercial software used. The most common commercial software used is Microsoft Project (12 countries). Italy reported the use of internet-based systems to help manage census operations.

Table 3.1
Type of commercial software used by countries as census management tool

Country	Software used
Armenia	CSPro and IMPS
Australia	Microsoft Project
Belgium	Formiris 2.7
Canada	Suretrak, Primavera, Microsoft Project
Croatia	Microsoft Project
France	PMW one by process
Georgia	Microsoft Project
Greece	Oracle, SQL and self-developed
Italy	Microsoft Project
Kyrgyzstan	Client-Server
Latvia	Microsoft Project
Lithuania	Microsoft Project
Norway	Microsoft Project
Portugal	Microsoft Project and self-developed "SIGINE" system
Russian Federation	Self-developed "Perepis"firmware
Spain	Microsoft Project
UK - England and Wales	Microsoft Project
United States	Primavera

Source: UNECE survey, 2004.

In terms of quality management, 22 countries reported using computer systems to monitor the quality of the census operations, while 18 reported that they did not.

[17] This chapter is based on information previously presented in the paper "Technologies used by ECE countries in their 2000 round of censuses" drafted by Angela Me (UNECE) and presented at the November 2004 Joint ECE-Eurostat Work Session on Population Censuses (WP No.5). See: http://www.unece.org/stats/documents/2004/11/census1/wp.5.e.pdf

[18] The 16 countries that reported they did not use a project management software are: Austria, Azerbaijan, Bulgaria, Cyprus, Estonia, Ireland, Luxembourg, Netherlands, Romania, Slovakia, Slovenia, Switzerland, The former Yugoslav Republic of Macedonia, Turkey, Ukraine.

Data entry[19]

Data entry was the area where new technologies played the most significant role. Most countries switched from manual data-entry systems, to optical data-entry systems based on advances in the fields of scanning, imaging and optical mark recognition (OMR) and character recognition (OCR).

Out of the 41 countries that reported on this issue[20], 29 (71 per cent) reported using some kind of optical data capture techniques to enter the main part of the census data (see table 3.2). The remaining 12 countries reported using only keyboard data-entry systems.

The optical data-entry systems had questionnaire scanning as the first step in the data-capture process. Once the data was captured and converted into digital images, automatic processes were used to recognize the information. For the recognition step, most of the countries (26) used OCR engines that allowed the automatic recognition of marks and characters (numerical and in some instances alphabetical). Only three countries used engines that recognized only marks (OMR).

Some countries used more than one data-entry system, and manual keyboard entry was sometimes used in conjunction with other techniques such as OMR or OCR/ICR (intelligent character recognition). Twelve countries relied only on manual data entry and a further nine countries used manual data entry in combination with other data entry methods. 17 countries relied only on OCR/ICR, while nine used OCR/ICR in combination with other methods. Three countries relied only on OMR.

Among the countries that adopted more than one technique, six used OCR in conjunction with keyboard data entry. This was done to complement the data capture process (in cases where parts of the questionnaire were not recognized by the automatic recognition engines), for verification (checking, and usually correcting, erroneous automatic-recognition results) and for coding (in cases were automatic-coding engines failed to identify the code or when all or part of the coding operations were conducted in a computer-assisted mode). The keyboard data entry was usually done from the scanned images and not the paper forms.

For some countries, the use of new technology led to improvements in the timeliness and quality of the data, but for others the use of new technology represented new challenges. The choice of the best technology to use depends on the national circumstances. Issues such as labour cost and capacity of the National Statistical Office (NSO) to manage the technology in terms of human and technical resources have been cited as important issues during the process of deciding what technology to use.

Table 3.2 shows that keyboard data entry was used in about half of the countries in some form. In total, 21 countries out of 41 reported the use of keyboard data entry in their data-capture process.

[19] Data capture and data entry are used as interchangeable terms that denote the conversion of data to electronic/digital media.

[20] Three of the reporting countries (Denmark, Finland and Netherlands) did not have any field operations. Norway reported information on data-entry system in reference to the field operations carried out to collect information on housing.

Table 3.2
Number of countries that used different data-entry methods

Data-entry method	One method only	Combined with other method/s	Total no. of countries using the method
Keyboard	12	9	21
OMR (without OCR)	3	-	3
OCR/ICR (incl. OMR)	17	9	26
Other [a]	-	8	8
Total	**32**	**9**	

[a] Other methods include, for example, internet (used in Australia, Belgium, Spain and Switzerland) and the comparison between values optically recognized and values in the population registers (used in Israel).

Source: UNECE survey, 2004.

Data capture techniques are usually subjected to a relatively high level of error. Two different (but not necessarily alternative) techniques help to monitor errors occurring during the entry operations and give a measure of the quality of the data entry. These techniques are double-entry operations and real-time error control (e.g. variable range checks, logical checks on the internal consistency of household composition).

Six countries did not carry out additional procedures to detect errors and these all used optical data entry (see table 3.3). Five used OCR as their main data-capture method and one used OMR. Of the 35 countries that carried out error-detection checks, real-time checks were used by most (30 countries or 86 per cent). More than half of the countries (18) used double-entry operations and of these, 13 also did real-time checks.

There is a relation between the type of technique used to control for errors and the main data capture method. Countries using OCR alone most likely used only real-time checks (12 out of 17). In countries using manual data entry there was no clear preference between the various techniques, many of them using both techniques. Also countries combining OCR with additional keyboard data-entry used both double-entry and real-time checks.

Real-time checks appear to be easily incorporated into OCR/OMR systems, while double entry is more practical only with keyboard data entry. Therefore countries that used keyboard data entry in conjunction with another data-entry system may have done it, at least partially, for the purpose of double checking the recognition results.

Table 3.3
Number of countries according to main data entry method and type of error-check technique used

Data entry method	Error-check technique(s) used				Total
	Double entry only	*Real-time checks only*	*Both double-entry and real-time checks*	*No error checks*	
Keyboard only	4	3	5	-	**12**
OCR only	1	12	1	3	**17**
OCR + Keyboard	-	1	6	2	**9**
OMR only	-	1	1	1	**3**
Total	**5**	**17**	**13**	**6**	**41**

Source: UNECE survey, 2004.

Table 3.4 shows the countries using double-entry operations according to the method adopted to enter the data and the percentage of data entered twice (this information is available for 13 countries only). The proportion of data double entered varies considerably from 10 per cent to 100 per cent for those using manual data-entry systems (keyboard), and from 1 per cent to 5 per cent for those using optical data-entry systems. The exception is Slovakia where 25 per cent of the data was double entered.

Table 3.4
Countries that used double-entry operations with the methods used for data entry and percentage of data double entered

Country	% data double-entered	Data-entry Method
Armenia	35	Keyboard
Azerbaijan	10	Keyboard
Bulgaria	20	Keyboard
Czech Republic	2	OCR/ICR
Canada	20.54	Keyboard
Italy	5	OCR/ICR
Kyrgyzstan	10	Keyboard
Malta	100	Keyboard
Poland	5	OCR/ICR
Slovakia	25	OCR/ICR
Ukraine	1	OMR
United Kingdom	100 (only two variables)	OCR/ICR
United States	5	OCR/ICR

Source: UNECE survey, 2004.

The length of time taken to capture the data does not seem to depend on the technique used for data entry (see table 3.5). The average amount of time for all reporting countries is 7.5 months. The new technologies are not necessarily faster than keyboard entry in terms of overall elapse time. OCR methods show the longest average duration (8.5 months), and in those cases where OCR was used in conjunction with keyboard techniques the average was 10 months. Those who used only OMR required on average 4.7 months, and for manual data entry the average was 6.3 months.

This comparison should be interpreted with caution, as several important factors are not taken into account. First, there are several "outliers" in the OCR groups reporting durations of more than a year and this heavily influenced the average duration. Second, the quality levels obtained under the different methods (and the extent to which they met pre-established goals) are not considered. Third, the duration of the process may be to a large extent a question of a country's preferences, for example how much to invest in speeding up the process, and at what cost in terms of quality levels.

Table 3.5
Number of countries according to main data entry method used and duration of data-entry operations

Data entry method	Duration of data entry (in months)	Number of countries
Keyboard only	0-4	1
	5-6	7
	7-9	2
	10+	1
	total	11
	Average duration 6.3	
OCR (+ OMR) only	0-4	4
	5-6	5
	7-9	5
	10+	2
	total	16
	Average duration 7.4	
OCR + Keyboard	0-4	1
	5-6	2
	7-9	2
	10+	4
	total	9
	Average duration 10	
OMR only	0-4	1
	5-6	2
	7-9	-
	10+	-
	total	3
	Average duration 4,7	
All methods	0-4	7
	5-6	15
	7-9	9
	10+	8
	total	39
	Average duration 7.5	

Source: UNECE survey, 2004.

Another factor that might be expected to affect the duration of data-entry operations is population size. The data does not support this hypothesis, and population size and duration of data entry do not appear to be strongly related (see table 3.6). Countries with the largest populations (50 million and over) reported relatively long data-entry durations ranging from nine months to 22 months. The exception was Italy (56 million inhabitants) where the reported duration was four months. Among countries with over 50 million inhabitants, the United States with the largest population (281 million) reported nine months and the Russian Federation (146 million) 13 months, Turkey with 68 million inhabitants reported a data-entry duration of 22 months.

There are several countries with small populations that reported relatively long data-entry durations such as Malta (378,000, 10 months), Luxembourg (440,000, eight months) or Slovenia (1.9 million, nine months). In addition some other countries reported relatively long durations despite their relatively small populations. These included Slovakia (5 million, 10 months) and Belgium (10 million, 24 months).

Table 3.6
Countries by duration of data-entry operations and population size

Country	Duration in months	Population Size
Malta	10.0	378,132
Luxembourg	8.0	439,539
Cyprus	5.5	689,471
Estonia	4.5	1,370,052
Slovenia	9.0	1,948,250
The former Yugoslav Republic of Macedonia	5.0	2,022,547
Latvia	3.0	2,377,383
Albania	6.0	3,069,275
Armenia	6.0	3,213,011
Lithuania	7.0	3,483,972
Ireland	9.0	3,917,203
Georgia	7.0	4,371,535
Croatia	4.0	4,437,460
Norway	8.0	4,485,000
Kyrgyzstan	6.0	4,822,938
Finland	8.0	5,181,115
Slovakia	10.0	5,379,445
Israel	7.0	5,548,523
Switzerland	6.0	7,288,010
Bulgaria	5.0	7,928,901
Austria	6.0	8,032,926
Serbia and Montenegro	5.0	8,075,741
Belarus	4.5	10,045,237
Hungary	6.0	10,198,315
Greece	5.0	10,206,539
Belgium	24.0	10,296,350
Portugal	4.0	10,356,117
Kazakhstan	6.0	14,953,126
Australia	5.0	18,972,000
Romania	9.0	21,680,974
Canada	5.0	30,007,094
Poland	6.0	38,218,500
Spain	5.0	40,847,371
United Kingdom	11.0	52,041,916
Italy	4.0	56,305,568
France	14.0	58,520,688
Turkey	22.0	67,803,927
Russian Federation	13.0	145,513,000
United States	9.0	281,421,906

As far as the software used for data entry is concerned, more than half of the countries (27) developed their own application using several different computer languages (see table 3.7). The most popular computer language was Visual Basic (seven countries), but countries used also Visual FoxPro, SQL, C++ and others.

Table 3.7
Computer language used by countries that developed their own application for data entry

Country	Language used to develop own-application for data entry
Armenia	Visual Basic
Albania	Visual Basic
Australia	Microsoft C
Azerbaijan	Visual FoxPro
Belarus	Visual FoxPro
Belgium	Formiris and Informix
Bulgaria	Visual Basic
Canada	Census Automated Control System developed by Canada Revenue Agency
Cyprus	AFPSPRO developed by private company
Georgia	Power Builder
Greece	Visual Basic, SQL, PL-SQL
Italy	Oracle Forms, Delphi
Kyrgyzstan	Query Language - SQL and tools for the development of Delphi
Malta	FoxPro
Norway	SAS
Portugal	C++
Romania	- Visual FoxPro
Russian Federation	C, C++, Visual Basic Script
Serbia and Montenegro	Visual Basic, Windows, NT, SQL, PL-II and Access
The former Yugoslav Republic of Macedonia	Visual Basic

Fewer countries (17) used commercial products (listed in table 3.8). Two countries used free non-commercial products. Armenia used CSPro and Hungary used Bull-LaPoste (a French product). Some countries used a mix of own-developed applications and commercial applications.

Table 3.8
Commercial products used by countries for data capture

Country	Commercial product
Australia	IBM Intelligent Form Processing; ReadSoft AB ICR/OCR (Eyes&Hands)
Austria	IBM Intelligent Form Processing; STAR recognition software (OCE)
Belarus	DBMS Oracle 8
Croatia	IBM Intelligent Form Processing
Estonia	ReadSoft AB ICR/OCR
Georgia	ReadSoft AB ICR/OCR
Ireland	Bespoke system build on AFPSPRO (Top Image Systems Israel)
Latvia	Readsoft AB ICR/OCR
Lithuania	Monsun/2
Portugal	FloWare form, Plexus, Kodak HVCS, Oracle
Slovakia	AFPSPRO
Slovenia	Readsoft AB ICR/OCR
Switzerland	Kodak capture
Turkey	AFPS-PRO
Ukraine	Eyes&Hands
United Kingdom	TMS Sequoia Formfix (OMR)+ CGK Recostar (OCR)
United States	Lockheed Martin (DCS2000)

Source: UNECE survey, 2004.

Coding and editing

Coding

One of the most resource-heavy operations of the census is coding of some variables, especially those where the answers are provided in free text (e.g. occupation and industry).

The complexity of this operation is reflected in the country reports, where coding was cited as one of the main problems faced in the last census round. Also the fact that there was no clear preference for a specific technique (see table 3.9) suggests that some countries were still trying to find the best solution to perform the coding operations. Countries mentioned the use of manual coding (21 countries), computer-assisted coding (23) and automatic coding (27) as techniques used. Most countries used a combination of two of these coding techniques (21). Five countries used a combination of all three coding techniques.

The most popular combination (adopted by 21 countries) was automatic coding and computer-assisted coding. After the automatic engine processed the data, computer-assisted coding was used to complete the remainder of the coding. The five countries that used all three methods used manual coding as part of the final coding step.

Table 3.9
Number of countries according to coding and data entry method(s)
(A = Automatic, CA = Computer-Assisted, M = Manual)

Data entry method(s)	Coding method(s)							
	M	***A +CA***	***A +CA +M***	***A +M***	***A***	***CA***	***CA+M***	***Total***
Keyboard only	6	1	2	1	1	-	1	12
OCR (+ OMR) only	3	10	2	1	1	-	-	17
OCR + Keyboard	1	5	1	1	-	1	-	9
OMR only	1	-	-	1	-	-	-	2
Total	11	16	5	4	2	1	1	40

Source: UNECE survey, 2004.

Manual coding was still used by a number of countries as either the main or only coding method. 11 countries reported using only this method (most of them EECCA countries). Six of these countries used manual data entry only, while the remaining five countries adopted optical data-entry systems.

With regard to the software used for automatic or computer-assisted coding, the majority of countries (26) reported having developed their own package, while only five countries reported the use of off-the-shelf packages for data coding (see table 3.10).

Table 3.10
Packages used by countries for computer-assisted or automatic coding

Country	Package used for data coding
Croatia	ACTR - Statistics Canada
Czech Republic	IRIS sw
Ireland	Precision data coder for Occupation coding
Italy	ACTR - Statistics Canada
United Kingdom	ACTR (text-based responses), MATCHCODE (address coding)

Source: UNECE survey, 2004.

Editing

Most of the countries (33) reported performing computer-supported editing. Among them, 22 included imputation. Almost all (20) of those who performed imputations generated statistics on imputation rates by variable.

Ten countries reported not having performed any computerized data editing. Three of them (Belgium, Netherlands and Switzerland), used registers in support of their data capture processes. The remaining seven were all from EECCA or Eastern Europe with the exception of Luxembourg.

Almost all countries (with the exception of four) reported the setting up of a database with census micro-data. Table 3.11 reports the type of database used. Most countries (34) used a high-level database, the most popular being Oracle (11 countries) and SQL (9). Several countries (13) combined the use of a high-level database with a statistical database (SAS and SPSS were the more popular) or with a desktop database (five countries).

Table 3.11
Type of database used for census micro-data

Type of database	Number of countries
High level (Oracle, SQL Server, …)	34
Desktop	5
Statistical (SPSS system file, etc.)	13
Demographic (REDATAM, etc.)	2
Other	5
Total [a]	**36**

Source: UNECE survey, 2004.
[a] The total adds up to more than the total number of reporting countries since some countries used more than one type of database.

Mapping

In the majority of countries, which conducted the census using the traditional door-to-door method, cartography support was essential to support the fieldwork and ensure the best coverage.

Table 3.12
Number of countries using cartographic support and technology

Type of cartographic support and technology	Yes	No	Total
Cartographic support to census	36	7	43
Cartographic unit in Census Division	23	21	44
Maps self-produced	24	18	42
Use of GIS	22	19	41
Use of digital maps	22	19	41

Source: UNECE survey, 2004.

Cartographic support for the census operations was available in 36 countries. Countries that reported no use of cartographic data were those that adopted the register-based or the combined census approach, or those using the traditional approach but relying on mail-out and mail back for the data collection (no enumerators in the field).

Half of the countries (23) reported having a cartographic unit within the census division. About half of the countries (22, mostly the countries with a cartographic unit) reported the use of digital maps mostly prepared by the statistical office. Overall, out of the 36 countries that reported using maps for the census, 24 produced the maps within the statistical office.

Digital maps were used in the last census round by a significant number of countries. Most of the cartographic production was done within census operation. 17 countries reported that data was geocoded in the registration phase. Digital maps, for example, have been used not only to support the census field operations but also for census data dissemination. 20 countries reported that geocoded data was made available to users.

4. OPERATIONAL ASPECTS OF CENSUSES: LEGISLATION, PUBLICITY, COSTS AND REPORTED DIFFICULTIES

In this chapter several operational aspects connected with the census are explored. These aspects include the existent relevant legislation at time of the census, characteristics of the publicity campaign and aspects of the census budget.

Statistical legislation[21]

In most countries, the preparation and conduction of a census requires a legal basis, regulating issues such as allocation of funds for the census operations; obligation of citizens to provide census information; relationships between the agency responsible for the census and other public administrations involved in the census operations; possible uses of registers to produce census data or to support field operations; data confidentiality.

In most countries, a specific census act is approved before each census, to deal with the issues mentioned above. In some countries, however, the statistics act includes all necessary provisions required for the conduct of a population census, and therefore a specific census act is not required.

One of the main issues covered in census and statistics acts is data confidentiality. In an increasing number of countries, specific data-protection laws have been approved to regulate this field. In some cases, data-protection laws include all necessary provisions to cover the specific needs of censuses, including for instance the possible use of register data for censuses, or specific measures to be applied to census enumerators. In others cases, specific provisions on data confidentiality have to be included in the census acts, to take into account aspects, which are specific to the census.

Table 4.1 presents information, for those UNECE countries where a census was taken in the 2000 round, on the presence of a census act, statistics act and data-protection law. Countries have been grouped by census methodology (using the classification proposed in Chapter 2) to highlight possible relationships between the type of census and the legal framework existing in each country.

Most countries (38 out of 44) had an approved census act. Also, the census act was generally passed a few years before the census. For these countries, it can be assumed that a census act is approved for each census round. In a few countries, the census act was originally approved many years before the census. These are: Turkey (1990), Australia (1905), Canada (1870), Malta (1948), the United Kingdom (1920), the United States (1976) and Finland (1938). However, in some of these countries (including Turkey, Malta and the United Kingdom) special orders or regulations were approved at the time of the last census to complement the census act[22].

[21] The text in this section is an edited version of the text presented in the paper "Types of censuses, enumeration methods and selected operational aspects: results of the ECE questionnaire" prepared for the November 2004 Joint ECE-Eurostat Work Session on Population Censuses (see http://www.unece.org/stats/documents/2004.11.census1.htm).

[22] See: "Documentation of the 2000 round of population and housing censuses in the EU, EFTA and Candidate Countries", EU, May 2003, page 21.

Table 4.1 Legal framework for the population censuses: dates of census acts, statistics acts and data-protection law in force at the time of the last census

Country	Census year	Census act (year)	Statistics act (year)	Data-protection law (year)
Group A1 (Traditional census, interviewer):				
Albania	2001	2000		
Armenia	2001	1999	2000	
Azerbaijan	1999	1996	1999	1994
Belarus	1999		1997	1994
Bulgaria	2001	2000	1999	
Croatia	2001	2000	1994	2000
Cyprus	2001		2000	2002
Estonia	2000	1998	1997	1996
Georgia	2002	2000	2001	2001
Greece	2001	2000	1956	1956
Hungary	2001	1999	1993	1992
Kazakhstan	1999		1997	
Kyrgyzstan	1999	1998	1994	1998
Lithuania	2001	1999	1999	1996
Poland	2002	1999	1995	
Romania	2002	2001	1992	2001
Russian Federation	2002	2002		1995
Serbia and Montenegro	2002 [a]	1999	2001	2001
The former Yugoslav Republic of Macedonia	2002	2002		
Turkey	2000	1990		1962
Ukraine	2001	2000	2000	2000
Group A2 (Traditional census, self-compilation):				
Australia (not member of UNECE)	2001	1905		
Austria	2001	2001	2000	2000
Canada	2001	1870	1970	
Czech Republic	2001	1999	1995	2000
France	1999	1998	1951	1978
Ireland	2002	2002	1993	
Israel	1995		1972	
Italy	2001	2000	1989	1996
Luxembourg	2001	2001	1962	
Malta	1995	1948		
Portugal	2001	2000	1989	1989
Slovakia	2001	1998	1992	1998
United Kingdom	2001	1920 [b]		1998
United States	2000	1976		1976
Group B (Combined approach):				
Belgium	2001	2001	1962	1962
Latvia	2000	1999	1997	2000
Netherlands [c]	2001		1996	1988
Slovenia	2002	2001	1995	1999
Spain	2001	1999	1989	1999
Switzerland	2000	1998	1993	1993
Group C (Register based census):				
Denmark	2001		2000	2000
Finland	2000	1938	1994	1999
Norway	2001	2001	1989	1978

[a] Montenegro: 31 October 2003.
[b] Northern Ireland: 1969.
[c] New legislation entered into force after the 1 January 2001 census: Statistics Act (November 2003); Personal Data Protection Act (September 2001).

Sources: UNECE questionnaire on population and housing censuses (2003); websites of: Agency on Statistics (Rep. of Kazakhstan), Danish Data Protection Agency, Statistics Netherlands, Dutch Data Protection Authority, INE (Portugal), Statec (Luxembourg).

The six countries where no census act has been approved are Belarus, Cyprus, Kazakhstan, Israel, Denmark and the Netherlands. Except for Israel, a statistics act was approved a few years before the census. In Israel's case, the legal basis for the 1995 census was the 1972 statistics act (a specific census decree was issued the year before the census).

Among the four countries where the census was based on registers, only one (Norway) approved a census act. The census act in Norway concerned only the housing census, which was conducted using the traditional method, and not the register-based population census. In Finland, the legal basis was the 1938 census act (followed by decrees until 1971), while in Denmark and the Netherlands no census acts were required for the 2001 censuses.

Data-protection laws were approved in the majority of countries (33 out of 44), including all nine countries where registers were used to produce census data.

Publicity and information campaigns

Publicity and information campaigns play an important role in ensuring the success of the census, especially in cases where the general public is expected to actively participate in the census activities as respondents and possibly as temporary employees.

These campaigns usually aim to publicize that a census is taking place and also to provide information to the general public and special groups about the census, and what is expected from them, in order to encourage participation.

In general, the publicity campaign is aimed at promoting public awareness, creating positive perceptions, and encouraging the participation in the census of the population and in particular of special groups. The information campaign focuses on the census operations and the compilation and collection of questionnaires, with the objective of obtaining correct responses from all the respondents. It is not always easy to separate the information campaign from the publicity campaign.

In relation to the publicity campaign, information was collected from countries about the means (media) used, the locations where the different means have been implemented, specific target population groups and specific slogans used. For the information campaign, information was obtained regarding the means used and the main campaign goals.

The publicity campaign

Countries reported on the means (i.e. media) that they used during their publicity campaign including any type of announcement to the public. The results are shown in table 4.2.

The data shows that almost all the countries[23] (41 out of 43) reported creating some kind of publicity for the census. Only two countries, Belgium and Denmark did not carry out any publicity work as they heavily relied on administrative data.

The most-used media were national TV and radio, and newspapers and magazines. More than 30 countries also reported using local radio and TV, press conferences, posters and leaflets.

[23] Netherlands did not report on this issue.

Table 4.2
Means (media) used in the publicity campaign

Means	No. of countries using the media
National TV	40
National radio	38
Local TV	31
Local radio	37
Internet	22
Posters	34
Newspapers and magazines	38
Leaflets	31
Billboards	20
Gadgets	9
Press conferences, other events	34
Other	7
No publicity	2

Source: UNECE survey, 2004.

Less-used instruments were the internet, billboards and gadgets. Several countries also reported other means of publicity. Canada reported using free ads/inserts (in products like sugar bags, milk cartons, train carriages, calendar and diary companies, mail inserts, plastic bags, ATMs) and France delivered school kits with census advertising. Others reported using SMS messages (Italy), recruiting the cooperation of the church (Lithuania) or having the President address the public (Kyrgyzstan).

Information on the locations where the publicity was implemented is shown in table 4.3. The most frequently used locations were public institutions and schools.

Table 4.3
Locations where publicity was implemented

Locations	Number of countries
Schools	29
Libraries	19
Public institutions	35
Stations, airports	25
Post, pharmacies	25
Banks	12
Other (streets, stores, public transit etc.)	16

Source: UNECE survey, 2004.

Special groups that were likely to be more difficult to count were identified as target populations of the publicity campaign in some countries (see table 4.4). One of the population groups which is most difficult to count is young people (in their twenties or early thirties). 27 countries identified this group as a specific target of their publicity campaign. Rural regions, foreigners and ethnic minorities were also reported as specific publicity targets by a number of countries. 13 countries had no specific target population.

Table 4.4
Specific population groups targeted by the publicity campaign

Population group	Number of countries
Young people, students	27
Rural areas	19
Foreigners living in the country	16
Ethnic minorities	14
Companies	9
Farms	8
Other (old people, indigenous people, journalists, unregistered, specific regions)	7

Source: UNECE survey, 2004.

As in any publicity campaign, the countries used different slogans for their censuses. A list of slogans is presented in table 4.5.

The information campaign

The information campaign provided information to the public or specific groups about aspects of the census. The main goals of the information campaign as reported by the different countries are presented in table 4.7, and the main means used for this campaign in table 4.6.

For the information campaign, like the publicity campaign, the mass media were used in almost all countries. In addition, information was provided via Internet and booklets and using call centres to answer specific questions from the public. Special events such as scientific and press conferences were organized in a number of countries.

Table 4.5
Publicity slogans [a]

Country	Slogan
Albania	A small sign a big investment
Armenia	How many are we?
Belarus	The number of us
Bulgaria	The census 2001- necessary information
Canada	Count yourself in - used prior to and including census day It's not too late - used after census day
Czech Republic	Making census for the next millennium (or we count up for the next millennium)
Estonia	Be present, because you count
France	Count on me
Georgia	Population census is a major condition for building the state! Take part in it!
Greece	We all say "present" for the future for we are handsome, but how many are we?
Hungary	Everyone counts!
Ireland	The knowledge to build your future. It's your future, don't leave it blank
Italy	Italy that you are, Italy that you will be
Kyrgyzstan	It is mandatory for everyone in Kyrgyzstan to be enumerated It is mandatory for everyone to provide precise and correct answer Your future and future of your children is population census results! Our common future is population census
Latvia	Without you the "picture" will not be completed
Lithuania	Count me in
Norway	Remember the population and housing census the 3rd of November
Poland	How many are we? What are we, where do we live? Give the answers during the census!
Portugal	More than a study, a picture of the country
Romania	The census 2002 - count with us
Russian Federation	Add yourself to the history of Russia!
Slovakia	We want to know how many we are
Slovenia	The census is ours - we are the future
Spain	Everybody counts / everybody one by one
Switzerland	Don't miss the photo of 5.12.2000
The former Yugoslav Republic of Macedonia	Confirm yourself for the future of your country
Turkey	Do you exist?
Ukraine	Your face in the portrait of Ukraine
United Kingdom	Count me in
United States	This is your future. Don't leave it blank.

[a] Publicity slogans have been translated into English where necessary and it is possible that some of the meaning may have been lost in the translation.

Source: UNECE survey, 2004.

Table 4.6
Means (media) used in the information campaign by order of importance

Means (media)	No. of countries
TV programs	38
Radio programs	36
Newspapers, magazines	38
Booklets	25
CD-ROM	6
Call centre	28
Internet	27
Events	17
Other	6

Source: UNECE survey, 2004.

Table 4.7
Main aims of the information campaign

Aim	No. of countries
Explain instruments	29
Explain legal framework	33
Give respondent confidence	38
Make it easier to answer correctly	36
Encourage response	4
Other	5

Source: UNECE survey, 2004.

Countries reported that the main goals of the information campaign were:

a) To make the respondent confident about the census and especially about the confidentiality of the reply.

b) To improve the respondent's answers (for example by explaining how to fill in the information when self enumeration was adopted).

c) To explain the legal framework with special emphasis on the obligation to participate in the census (where it was obligatory).

d) To explain the different instruments that were used during the data-collection phase.

Several countries reported goals that were specific to their own national circumstances. In Slovenia, for example, special attention was paid during the information campaign to self-enumeration (implemented for the first time) and to the question on ethnicity. Countries (e.g. USA) using mail-back devoted part of the campaign to encourage the population to respond by mail. In the case of Finland, where a traditional census was not conducted, the campaign was devoted to explaining that census data was still being produced by means that did not require bothering the public.

Census costs

Population censuses are the largest statistical operation undertaken in the context of any official statistical system. They are also the most expensive one, and since census expenses are usually concentrated during a short period of time, census costs may appear to be greater than if they were spread over time[24].

One of the main reasons for the high cost of censuses is that they require information from everyone in a country and so they are labour-intensive, particularly in the collection stage. During the collection stage large numbers of temporary employees are hired for relatively short periods of time, varying from several days or weeks to a few months.

Automation of census processing started at the end of the nineteenth century with the introduction of automatic sorters and accelerated with the introduction of computers in the 1950s. Computerization spread from being mainly dedicated to data entry and processing, to the whole range of the census activities, including in the latest census rounds cartography. Computers also brought many benefits including the ability to tabulate and analyze results in ways that would not be possible without them.

There has been a growing need for good census publicity to increase the chances of a successful census, and this has brought an added and growing item to census costs.

Managing census costs is an important aspect of the organization of censuses. This emerged clearly in the last census round, when countries developed a variety of approaches to reduce census costs, or at least to avoid their increase. In this section a descriptive analysis is presented of two main aspects of census costs in the 2000 round. The first is the relative per-capita costs of censuses and the second is the distribution of these costs across the main census activities.

This analysis should be considered with caution. The comparison of census costs across countries is affected by many factors. One of them is the complexity of comparing costs across currencies and different points in time (the reported censuses were conducted over eight years, during the period 1995-2002). Another important factor arises from the difficulties of categorizing census expenses across countries in a standard way to allow meaningful comparisons. In addition, per-capita costs can be misleading since some costs are not totally dependent on population size.

A cost comparison between France, Hungary, Sweden and the United Kingdom was undertaken after the 1990 census round[25]. It presented data on costs for the various aspects of the census and concluded that it was difficult to determine the total cost on a comparable basis.

The main goal of the present analysis is to describe the experiences of the reporting countries using relatively simple standardization techniques. Some tentative conclusions can be drawn that may help to understand the high variability of costs across countries and census activities.

For the present analysis the reporting countries (41 reported on total costs, and a subgroup of 35 on costs distribution) were subdivided into groups according to the type of methodology/approach used to conduct the census (see Chapter 2 for more detail):

[24] Handbook of Population and Housing Censuses, Part I, UN, NY, 1992, para.624.
[25] See on this respect "Costing aspects of population and housing censuses in selected countries in the UN/ECE Region", Statistical Standards and Studies No. 46 (United Nations publication, Sales No. E.96.II.E.15).

a) Group A1: Traditional approach, interviewers – 19 countries
b) Group A2: Traditional approach, self enumeration – 14 countries
c) Group B: Combined approach – six countries
d) Group C: Register-based approach – two countries

In group B, which includes countries that adopted the combined approach based on partial use of registers, the Netherlands differ from the other countries because in the Netherlands no new fieldwork was carried out for the censuses, and register data were complemented with results from existing household surveys. As a consequence, the total amount and the distribution of the census costs for the Netherlands are significantly different from the other countries in Group B. For this reason, the values for the Netherlands have not been included in the calculation of the average values for Group B.

Measures of census costs

Two different measures to compare census costs on a per-capita basis across the different UNECE countries are used. For each country, the costs have been calculated as close as possible to the census year for that country. While the results are presented on a per-capita basis to allow better comparison, this also can be misleading. This is because there are many census costs (e.g. computing and infrastructure costs) that are not totally dependent on population size[26].

The first measure is the simple conversion of the reported per-capita costs in local currency, into a common currency (US dollars) calculated at the year of the census. This measure does not reflect the differences in purchasing power across countries. However, as some international firms provide services, and some components of the census equipment such as computers are produced and sold in the international market, it may be considered relevant for some purposes.

The second measure is the conversion of the per-capita costs in the census year into purchasing power parity (ppp) units in US dollars (USDs). This measure provides a more internationally comparable estimate of costs. It is based on the purchasing power in the different countries standardized into one common measuring unit. Table 4.8 shows the two cost measures.

Total census costs across countries

The per-capita cost of the censuses in the 2000 round in the UNECE region averaged 4.2 nominal USDs or 6.7 ppp USDs. However, census per-capita costs in the region show a large variability, ranging from less than one ppp USD in Turkey to 23 ppp USDs in the United States.

It appears that, as in the case of the 1990 study, it is difficult to determine comparable total costs and thus it is difficult to draw many definitive conclusions. To illustrate, on average it appears that those countries which utilize registers have overall census costs lower than those which conduct traditional censuses. However, there are exceptions. In some of the countries that conducted traditional censuses using interviewers (like Turkey and Azerbaijan), the per-capita ppp costs were lower than the average for the countries that used registers. It should also be considered that the costs for the countries that used registers do not include the costs for maintaining the registers.

[26] Although the cost per capita is used here to analyse countries experiences, this does not imply that the cost per capita is a valuable measure to develop budgets for new censuses.

Among the countries that used registers, however, there were significant differences. The Netherlands and Finland, where no fieldwork was conducted (in Norway fieldwork was conducted to collect data on housing), reported very low per-capita costs. Switzerland, where the use of registers was subsidiary to the traditional approach, reported relatively high costs comparable to those of some of the countries with a traditional approach, like Ireland or Israel. These examples illustrate that there are many factors to be considered when analyzing data on census costs.

Factors that may affect census costs

Several hypotheses have been advanced in the past regarding factors that may affect census costs. Some of them are discussed below.

Mail-use effect: It has been argued[27] that the use of mail services (to deliver and/or collect the forms) reduces census costs. The evidence from this census round is not conclusive on this aspect since only a few countries used mail during the field operations and mail was used in different ways. Canada, France and the United Kingdom used mail back after delivery by enumerators; Malta delivered forms by mail that were collected by enumerators; the United States used mail for both delivery and collection; and so did Belgium and Switzerland, but using pre-printed data from registers. France and Malta reported the lowest costs in group A2 (respectively 3.4 and 5.4 ppp USDs); the United Kingdom reported a medium-low cost (6.5 ppp USDs), Canada reported a medium-high cost (11.1 ppp USDs) and the United States reported the highest per-capita costs (22.7 ppp USDs). Also Belgium and Switzerland have the lowest and the highest costs respectively in group B.

Among the countries that used mail during the field operations, it appears that the costs for the enumeration phase were low in Malta, France, the United Kingdom and Belgium but high in Canada and Switzerland (see table 4.10). No data for USA was provided regarding the distribution of census costs by census stages. The cost efficiency of one enumeration method compared with others depends on the national circumstances and the infrastructure existing in the countries to collect statistical information in the field. In countries where there is a permanent network of field staff it may be relatively cheap to deliver/collect census forms or follow up on non-responses.

Periodicity effect: It has been suggested that countries that conduct their censuses in intervals shorter than 10 years (usually five years) may have the advantage of having a collection infrastructure (including experienced staff) that may be effectively kept within the organization between censuses, allowing some cost reduction. The evidence from the 2000 census round does not seem to support this claim. The three countries that conduct (traditional) censuses every five years (Australia, Canada and Ireland) reported relatively high costs (9.1, 11.1 and 12.6 ppp USDs per capita respectively). However, when the specific costs of the enumeration stage are estimated, Australia shows low costs (see table 4.10). Also, in the case of Ireland, some of the high census costs may be attributed to the last-moment postponement of the census because of the outbreak of foot-and-mouth disease (a 20 per cent increase in the census cost has been reported because of the postponement). Another important census budget item in Ireland was equipment acquisition (22 per cent) and it is not clear to what extent this expense should be considered as part of census expenses as this equipment was used after the census for other purposes.

[27] See Handbook of Population and Housing Censuses, Part I, UN, NY, 1992, para.625 for further references.

Table 4.8
Measures of per capita census costs. Countries grouped by census methodology

	Census cost per capita (nominal USDs)	Census cost per capita (ppp USDs)
Group A1: Traditional approach with interviewers		
Turkey	0.3	0.6
Azerbaijan	0.3	1.3
Belarus	0.5	1.7
Kazakhstan	0.6	2.2
Bulgaria	0.7	2.5
Georgia	0.9	2.7
Kyrgyzstan	0.6	3.3
Russian Federation	1.0	3.5
Armenia	1.0	3.8
Romania	1.2	4.0
Cyprus	3.4	4.9
Albania	1.7	5.3
Greece	4.0	6.5
Lithuania	2.4	6.7
Serbia and Montenegro	2.7	6.8 [a]
Croatia	3.7	8.4
Poland	3.8	8.5
Hungary	3.5	9.6
Estonia	6.8	16.8
Average Group A1	**2.1**	**5.2**
Group A2: Traditional approach with self- enumeration		
France	3.4	3.4
Malta	3.1	5.4
United Kingdom [b]	5.7	6.5
Italy	4.7	6.5
Portugal	4.0	7.1
Austria	6.2	7.5
Slovakia	2.6	8.1
Australia	6.4	9.1
Luxembourg	9.4	10.6
Israel	11.0	10.8
Canada	8.9	11.1
Ireland	10.6	12.6
Czech Republic	7.0	19.3
United States	22.7	22.7
Average Group A2	**7.6**	**10.1**
Group B: Combined approach		
Netherlands	*0.2*	*0.2*
Belgium	2.1	2.7
Latvia	2.0	4.8
Spain	3.7	5.8
Slovenia	3.9	6.5
Switzerland	12.5	11.1
Average Group B [c]	**4.8**	**6.2**
Group C: Register based census		
Finland	0.2	0.2
Norway	2.9	2.8
Average Group C	1.5	1.5
Total average all countries	**4.2**	**6.7**

[a] Estimate
[b] England and Wales
[c] Excluding the Netherlands where no fieldwork was conducted to collect data from the whole population.

Source: UNECE survey, 2004.

Outsourcing effect: Another factor that may decrease census costs is the outsourcing of some of the census operations. Here too the evidence is inconclusive. Two countries that extensively used outsourcing in their census operations (USA and Switzerland) reported census costs among the highest. At the same time, among the other countries that outsourced the data-entry operations (all using Optical Data Entry [ODE] technology), some reported high costs while others reported relatively low costs compared with other countries in their own group. For example, in Group A1 only two countries reported outsourcing ODE operations. These were Lithuania with an estimated cost of 0.20 ppp USDs per capita for data processing (among the lowest costs in the group) and Hungary with an estimated cost of 1.18 ppp USDs per capita (which is the second highest cost reported in the group) (see table 4.11). Similarly, in Group A2, some outsourcing countries incurred among the lowest costs (e.g. Italy, France) in the group while others (e.g. Australia, UK) incurred among the highest per-capita costs. Meanwhile, countries that used ODE technology but did not outsource the operation are found at both ends of the data-processing costs. For example, in Group A2, consider Ireland (per-capita costs of 3.2 ppp USDs) and Israel (0.24 ppp USDs), and in Group A1, Georgia (0.04 ppp USDs) and Estonia (1.2 ppp USDs). It seems difficult to conclude that outsourcing had any clear effect on census costs, even when looking at the percentage of data-processing costs compared with the total census costs (see table 4.9): among the countries that outsourced their operations, the data-processing costs varied from three per cent (Lithuania) to 30.2 per cent (Switzerland).

Population size effect: It was expected that countries with larger populations might have an advantage over countries with smaller populations. However the evidence seems not to support this assumption. The largest country (the USA) had the most expensive census. The second country in population size (Russian Federation) reported costs that were lower that the average but relatively high when compared with most of the other EECCA countries. Many relatively large countries in both groups A1 and A2 had higher costs than smaller population countries in the same group. Among the countries that reported costs lower than the average there are some small countries like Cyprus and Malta, but also a large country such as Turkey.

Census costs distribution among census activities/phases

Information regarding the distribution of the budget among the different stages and activities of the census operations was obtained from 35 countries.

Table 4.9 presents the distribution of the census costs among ten main activities from the preparatory stage to the publication and dissemination phase. The enumeration stage was the most expensive activity reported by most countries.

Relative costs of census activities by country groups

The relative importance of the different activities in terms of budget share shows different patterns by methodology group. In Group A1 (traditional approach with interviewer), the average budget consumption of the main activities was:

a)	Enumeration (and training)	47%
b)	General preparations, services, logistics	20%
c)	Equipment	13%
d)	Data processing, checking, coding	7%

Each of the other activities on average consumed at most 4 per cent of the budget, and usually much less than that.

In Group A2 (traditional approach with self-enumeration) the order of average budget consumption of these activities was:

a)	Enumeration (and training)	48%
b)	Data processing, checking, coding	20%
c)	General preparations, services, logistics	11%
d)	Equipment	8%

Each of the other activities consumed on average at most 3 per cent of the census budget.

The countries in Group A2 are generally experienced in census taking. With the exception of Canada they also used ODE technologies with some of them (four out of 11)[28] outsourcing these activities. This group seems also to be less homogeneous in respect to the census cost distribution compared with Group A1. Seven out of 11 countries in Group A2 ranked data-processing costs in second place.

The specific experience of several countries warrants further attention. Slovakia was the only reporting country from Eastern Europe that conducted a census using self-enumeration (the Czech Republic did this also but did not report on cost distribution). The census cost distribution is similar to that of Group A1 countries with preparation (28 per cent) and equipment (25 per cent) acquisition being more important than data processing (20 per cent), and enumeration (21 per cent). Portugal reported spending 15 per cent of census budget on cartography, ranking it in second place after enumeration (50 per cent).

The equipment item was of particular significance in Slovakia, Ireland and Israel (25 per cent, 22 per cent and 15 per cent respectively). These are countries where the ODE technology was applied in-house (no outsourcing) with large investments in equipment. However, these expenses in equipment may not be considered pure census expenses since this equipment was available to be used for other purposes by the NSO after the completion of the census.

In Group B (combined approach and partial use of registers) only Belgium and Switzerland reported data processing to be one of the two more significant expenses. Latvia and Spain reported that data processing was not a significant item (4 per cent or less). Slovenia (which outsourced the ODE) reported data processing to be of similar importance (11 per cent) to preparations and equipment acquisition. In the case of Latvia, where wages are relatively low, an important part of the data-processing cost was the equipment item, which was 29 per cent of the census costs.

In Group C (register-based censuses), data processing was the most important cost item in the census of Finland, together with elaboration and analysis, and the second in importance in the case of Norway (after the preparations item).

[28] The fifth country in this group that outsourced ODE activities, the USA, didn't report in the ECE questionnaire on the census cost distribution among the different activities.

Table 4.9
Distribution of census costs among main activities/phases of the census operations by methodological approach groups [a]

	General preparation, services, logistics	Pilot micro-census	Cartography Mapping	Publicity and Information	Enumeration (including training)	Post - Enumeration evaluation	Data processing, checking, coding	Elaboration and analysis	Equipment	Publication, dissemination and Documentation	Total
Group A1: Traditional approach with interviewers - percent											
Belarus	29	0	2	1	18	0	4	13	31	4	**100**
Georgia	51	0	6	1	24	0	1	0	16	1	**100**
Kyrgyzstan	22	3	3	2	31	2	3	7	20	7	**100**
Hungary	38	0	3	4	35	0	12	1	6	1	**100**
Serbia and Montenegro	9	8	0	10	36	0	1	0	33	2	**100**
Russian Federation	30	2	2	7	40	0	7	1	11	0	**100**
Estonia	21	1	16	1	41	0	5	0	13	2	**100**
Bulgaria	24	0	0	0	45	1	13	0	10	7	**100**
Albania	5	0	9	0	46	2	13	4	9	12	**100**
Poland	34	1	0	0	49	0	6	2	7	2	**100**
Armenia	13	2	8	2	50	0	3	8	14	0	**100**
Ukraine	12	0	5	1	57	0	11	0	14	1	**100**
Cyprus	14	0	1	0	58	3	11	2	9	1	**100**
Turkey	5	0	1	2	60	0	12	0	5	15	**100**
Croatia	8	1	3	0	63	0	15	0	10	1	**100**
Lithuania	11	2	7	4	68	0	3	0	5	1	**100**
Romania	11	0	5	1	73	0	7	0	2	0	**100**
Average - Group A1	**20**	**1**	**4**	**2**	**47**	**0**	**7**	**2**	**13**	**3**	**100**
Group A2: Traditional approach with self-enumeration											
Slovakia	28	0	2	2	21	0	20	1	25	2	**100**
Australia	5	5	2	2	30	1	30	10	5	10	**100**
United Kingdom[b]	12	2	3	4	40	3	30	3	0	2	**100**
Malta	32	0	0	0	40	0	22	0	0	6	**100**
Canada	6	1	4	4	46	3	23	1	2	10	**100**
Ireland	0	2	0	4	47	0	25	0	22	0	**100**
Austria	11	0	0	0	48	0	30	8	1	2	**100**
Portugal	8	2	15	9	50	1	7	1	8	1	**100**
Israel	10	1	0	3	63	2	2	2	15	2	**100**
France	3	1	0	2	66	0	22	0	5	1	**100**
Italy	7	0	0	2	78	1	7	4	1	0	**100**
Average - Group A2	**11**	**1**	**2**	**3**	**48**	**1**	**20**	**3**	**8**	**3**	**100**

Table 4.9
Distribution of census costs among main activities/phases of the census operations by methodological approach groups [a] (continued)

	General prepa-ration, services, logistics	Pilot micro-census	Carto-graphy Mapping	Publicity and Inform-ation	Enum-eration (including training)	Post - Enum-eration evaluation	Data processing, checking, coding	Elaboration and analysis	Equipment	Publication, dissemin-ation and Document-ation	Total
Group B: Combined approach											
Netherlands	*20*	*0*	*0*	*0*	*0*	*0*	*0*	*30*	*10*	*40*	***100***
Belgium	19	1	1	1	4	5	45	6	5	13	**100**
Latvia	19	1	0	1	42	1	4	1	29	2	**100**
Switzerland	8	4	0	5	42	2	30	2	6	1	**100**
Slovenia	11	0	1	1	62	1	11	0	13	0	**100**
Spain	15	0	0	5	73	1	4	0	2	0	**100**
Average - Group B [c]	**14**	**1**	**0**	**3**	**45**	**2**	**19**	**2**	**11**	**3**	**100**
Group C: Register based census											
Finland	15	0	0	0	0	0	30	30	10	15	100
Norway	49	10	2	6	0	0	12	4	5	12	100
Average - Group C	**32**	**5**	**1**	**3**	**0**	**0**	**21**	**17**	**7**	**14**	**100**
Total Average	**17**	**1**	**3**	**2**	**43**	**1**	**13**	**4**	**10**	**5**	**100**

[a] Not all the reporting countries have been able to collapse their census costs into the ten categories of expenses provided in the ECE survey questionnaire, and some reported "other" expenses. These additional expenses have been reallocated across the categories. This was done according to their character and if that was not possible, distributed evenly across the 10 categories. No substantial effect on the countries cost distribution or the across- countries analysis was detected because of this correction. Totals may not equal 100 due to rounding.
[b] England and Wales.
[c] Excluding the Netherlands where no fieldwork was conducted to collect data from the whole population.

Source: UNECE survey, 2004.

Costs associated with specific census activities: The enumeration stage

The most significant item in terms of costs in this census round was as expected[29] the enumeration (including staff training). This activity includes most of the working days paid in the census. Average costs for the enumeration phase in this census round were 43 per cent of the census budget across the UNECE region countries. Eight countries (excluding those from group C and the Netherlands which did not have a full field enumeration) reported the enumeration phase being responsible for less than 40 per cent of the census expenses, of which four countries reported this activity consuming less than 30 per cent of the census budget. At the other end of the spectrum, 11 countries reported enumeration costs consuming more than 50 per cent of the census budget, eight of them more than 60 per cent. Even though enumeration activities include the payment for most of the work-hours invested in the census, they are usually paid at a relatively low rate[30].

The methodological approach seems not to have any significant effect (excluding of course countries from group C and the Netherlands that had no enumeration costs) on the importance of the enumeration stage in terms of the proportion of census costs; the three groups show a similar average proportion of their budget (between 45 per cent and 48 per cent) spent on the enumeration phase.

[29] See the Handbook of Population and Housing Censuses, Part I, UN, NY, 1992, para.625.
[30] See publication on census costs previously cited in footnote 25.

Two countries in Group A1 (Belarus and Georgia), one in group A2 (Slovakia) and Belgium from Group B reported enumeration costs of less than 25 per cent of their census budget. The first three were conducting an independent population census for the first time. They conducted censuses when they were part of a larger country, but these censuses were of a different character. Perhaps for this reason the preparations (including learning, training and preparations of census materials and data) for this census consumed larger portions of their budget (about 28 per cent in the case of Belarus and Slovakia, 51 per cent in the case of Georgia). Another important budget item in these countries was the acquisition of equipment (presumably mostly computers) that consumed 31 per cent, 25 per cent and 16 per cent respectively of their census budget. This profile of census-cost distribution, where preparations and equipment play a very important role, is characteristic not only of these countries but also of most countries in Group A1. This group includes most of the countries that undertook their first census as independent states and high expenses for equipment reflect the need of these countries to develop their technical infrastructure.

In Belgium, where census questionnaires (partially pre-printed with register data) were delivered using the normal mail services, the cost of the enumeration phase was low (less than 4 per cent), whereas data processing was the most expensive operation (45 per cent), followed by preparations, services and logistics (19 per cent).

The per-capita enumeration costs (in nominal USDs and ppp USDs) for the different countries are presented in table 4.10.

Costs associated with specific census activities: Data processing, editing and coding

In the past this activity was the second most expensive census operation[31] after enumeration. This is because of the need to invest a significant number of work hours on these processes. While countries reported this activity to be responsible for a significant portion of the census budget with an average of almost 13 per cent overall, this activity moved to the third most significant cost item with general preparations for the census now ranked in second place, with 17 per cent of the census budget.

The main reason for the less significant share of the data-entry processes out of the total census budget is that in Group A1, the preparations for the census were of more significance in budget terms, accounting on average for 20 per cent of the census budget. Data-processing activities in this group consumed on average 8 per cent of the budget (in fourth place after enumeration, preparations and equipment). Many of the countries in Group A1 were conducting an independent census for the first time and this may explain the high investment in preparations for the census. They also had to buy significant quantities of equipment.

The per-capita costs (in nominal USDs and ppp USDs) for data processing, editing and coding in the different countries are presented in table 4.11. Countries in group A1 paid relatively low prices for the data-processing activity where data entry is the most significant component. About half of the countries (seven out of 16) used manual keyboard techniques for data entry that, together with the relatively low wages common in these countries, produced a low-cost data entry activity (averaging 0.23 ppp USDs per capita for the whole data-processing activity in this group). The other nine countries used Optical Data Entry techniques but they reported paying relatively low prices for it, averaging 0.55 ppp USDs per capita (compared with countries in Group A2 that spent on average 1.5 ppp USDs when using ODE technologies). It is possible the low wages in these countries and some sharing of software and hardware across countries may have reduced the costs of these activities. Most of the countries in this group conducted the data-processing activities with their own staff and this may be a factor in reducing the data-processing activity costs.

[31] See the Handbook of Population and Housing Censuses, Part I, UN, NY, 1992.

Finally, the low data processing costs were correlated with the high investment in equipment. Expenses in sophisticated equipment may be considered an investment for the future since these computers served after the census to substantially upgrade the NSO's systems.

Costs associated with specific census activities: General preparations

General preparations were the second most important cost item, accounting for 17 per cent of the census costs. In Georgia (51 per cent), Hungary (38 per cent), Slovakia (28 per cent) and Norway (48 per cent) general preparations was the most significant census cost item. It was especially important for most of the countries conducting their first independent census (mainly in Group A1) and in the countries in Group C, where no field operations were needed for the census.

Table 4.10
Enumeration costs by group [a], sorted by cost in ppp USDs within groups

	Per-capita enumeration cost in ppp USDs	Per-capita enumeration cost in nominal USDs	Enumeration costs as % of total cost
Group A1: Traditional approach with interviewers			
Belarus	0.3	0.1	16.3
Turkey	0.3	0.1	50.0
Georgia	0.6	0.2	23.5
Kyrgyzstan	1.0	0.2	31.2
Bulgaria	1.1	0.3	45.0
Russian Federation	1.4	0.4	40.0
Armenia	1.9	0.5	49.9
Albania	2.4	0.8	45.0
Serbia and Montenegro	2.4	1.0	35.9
Cyprus	2.5	1.7	49.8
Hungary	2.7	1.0	28.0
Romania	2.9	0.9	73.0
Poland	4.1	1.8	48.5
Lithuania	4.3	1.6	64.6
Croatia	4.8	2.1	57.7
Estonia	6.8	2.8	40.6
Average Group A1	**2.5**	**1.0**	**43.7**
Group A2: Traditional approach with self -enumeration			
Slovakia	1.7	0.6	21.4
France	2.1	2.1	62.9
Malta	2.2	1.2	40.0
United Kingdom[b]	2.6	2.3	40.0
Australia	2.7	1.9	30.0
Portugal	3.6	2.0	50.0
Austria	3.6	3.0	48.0
Canada	5.0	4.0	45.5
Italy	5.1	3.7	78.3
Ireland	5.9	5.0	46.9
Israel	6.8	6.9	62.6
Average Group A2	**3.8**	**3.0**	**47.8**
Group B: Combined approach			
Belgium	0.1	0.1	3.0
Latvia	2.0	0.8	41.0
Switzerland	3.8	4.3	34.3
Spain	4.0	2.6	70.2
Slovenia	4.1	2.4	62.0
Average Group B	**2.8**	**2.0**	**42.1**
Total average all countries	**3.0**	**1.8**	**44.8**

[a] Excluding Group C and the Netherlands where no fieldwork was conducted and there were no enumeration costs.
[b] England and Wales.

Source: UNECE survey, 2004.

Clearly, countries who conducted their first independent census needed to invest in learning, training and other preparations more than those countries who were more experienced in census taking. Those countries that conducted register-based censuses (group C) or adopted the combined approach (group B) reported they invested important parts of their budget in census preparations.

Costs associated with specific census activities: Equipment acquisition

Equipment acquisition was ranked fourth in importance on average (11 per cent). In several countries it played a more important role, with some reporting 20 per cent and even more than 30 per cent of their budget to have been invested in equipment acquisition.

In table 4.12 information is presented on the distribution of per-capita equipment costs across the countries and groups. Group C shows the lowest investment in equipment acquisition, since no equipment was needed for manual or optical data entry.

It is not clear to what extent this item could and should be considered exclusively as part of census expenses. Several countries indicated that they took advantage of the census by investing part of the census budget in buying equipment (mainly computers and computer related equipment) with the explicit intention to use it after the census for other NSO activities. In some countries this equipment served as the basis of a brand new (at times first) NSO computer system. In others it was used to significantly upgrade systems, including improving the data processing of statistical surveys by switching it to ODE technology.

Costs associated with specific census activities: Publication, dissemination and documentation

The publication, dissemination and documentation item averaged about 5 per cent of the census costs. This figure may be considered as an underestimation since several countries reported not including it in their census costs reports because they were still in the middle of this census phase when the information was collected.

In general, countries spent only a few percentage points of their budget with a small number of countries reporting this phase as consuming 10 per cent or more of the total census budget. Those countries were spread among the four country groups: Albania and Turkey from group A1 (12 per cent and 15 per cent respectively), Australia and Canada from group A2 (10 per cent each), Netherlands and Belgium from Group B (40 per cent and 12.5 per cent) and all the countries in group C (Finland 15 per cent and Norway 12 per cent). The remaining countries reported dissemination costs that were in most cases under 5 per cent of the total census cost.

Costs associated with specific census activities: Elaboration and analysis

The elaboration and analysis cost item may not have been completely reported because part of its activities were not completed at the time of the report. There may also have been some confusion in the reports regarding the expected content of this category, and perhaps it should be better considered together with data processing (or perhaps also data dissemination). This confusion is reflected in the fact that 11 countries did not report any expense on this item.

Table 4.11
Data-processing costs by group [a], sorted by cost in ppp USDs within groups

	Per-capita data-processing cost in ppp USDs	Per-capita data-processing cost in nominal USDs	Optical Data Entry (ODE)
Group A1: Traditional approach with interviewers			
Serbia and Montenegro	0.06	0.02	N
Belarus	0.06	0.02	N
Kyrgyzstan	0.11	0.02	N
Armenia	0.11	0.03	N
Romania	0.27	0.08	N
Bulgaria	0.33	0.09	N
Albania	0.68	0.22	N
Average for Keyboard DE	***0.23***	***0.07***	
Georgia	0.04	0.01	Y
Turkey	0.07	0.03	Y
Lithuania	0.20	0.07	Y (outsourcing)
Russian Federation	0.24	0.07	Y
Cyprus	0.53	0.24	Y
Poland	0.56	0.38	Y
Croatia	0.89	0.36	Y
Hungary	1.18	0.43	Y (outsourcing)
Estonia	1.23	0.54	Y
Average for ODE	***0.55***	***0.24***	
Average Group A1	**0.41**	**0.16**	**56% used ODE**
Group A2: Traditional approach with self-enumeration			
Canada	2.49	2.00	N
Average for Keyboard DE	***2.49***	***2.00***	
Israel	0.24	0.24	Y
Italy	0.46	0.33	Y (outsourcing)
Portugal	0.46	0.26	Y
France	0.73	0.74	Y (outsourcing)
Malta	1.19	0.68	Y
Slovakia	1.61	0.52	Y
United Kingdom [b]	1.96	1.72	Y (outsourcing)
Austria	2.26	1.86	Y
Australia	2.72	1.93	Y (outsourcing)
Ireland	3.21	2.69	Y
Average for ODE	***1.48***	***1.10***	
Average Group A2	**1.58**	**1.18**	**91% used ODE**
Group B: Combined approach			
Latvia	0.19	0.08	Y
Spain	0.21	0.14	Y
Slovenia	0.72	0.43	Y (outsourcing)
Belgium	1.21	0.94	Y
Switzerland	3.35	3.79	Y (outsourcing)
Average Group B	**1.14**	**1.07**	**100% used ODE**
Total average all countries	**0.92**	**0.65**	**75% used ODE**

[a] Excluding group C and the Netherlands, for which there was no data entry and therefore data processing costs are not comparable.
[b] England and Wales.

Source: UNECE survey, 2004.

Costs associated with specific census activities: Cartography and mapping

The importance of the activities related to cartography and mapping also may not be properly reflected in its incidence in the census budget. Only a few countries reported this cost item to be of relative significance in cost terms. Estonia and Portugal invested a significant proportion of their census budget on this item (16 per cent and 15 per cent respectively), Albania 9 per cent, Armenia 8 per cent, Lithuania 7 per cent, Georgia 6 per cent, Romania and Ukraine 5 per cent. All the remaining countries reported costs of less than 5 per cent, usually 2-3 per cent. Countries from Groups B and C had very low or no expenses on this item.

Costs associated with specific census activities: Other cost items

Three additional items were included in the UNECE survey questionnaire and these only consumed a small portion of the census budget. Two of them are related to survey operations conducted before the census (pilot micro-census, tests, dress rehearsals) to test the planned census operations or after the census (evaluation or post-enumeration surveys) to evaluate the census results. As with the mapping operations, the importance of these operations is not reflected in their share of the census budget. Most countries spent less than 3 per cent of their budget on these activities. A few exceptions regarding the pilot micro-census included Norway, where a new operation was implemented to establish a dwelling register. Norway devoted 10 per cent of the census budget to test the process in advance. The post-enumeration evaluation activities cost was, in most countries, less than 3 per cent of the census budget with the exception of Belgium (5 per cent). Belgium conducted a one-time collection operation, † partly planned data from the population register and normal mail services (without enumerators), and since this operation was intended to set the basis for pure register-based censuses in the future, they devoted a significant proportion of their budget to its evaluation.

The last cost item was publicity and information. This is a relatively new item in the census budget, and while most countries devoted around 1-2 per cent of their budget and only four spent a little over 5 per cent, its importance resides in the fact that almost all the countries (except five) reported creating some kind of publicity for their census.

Difficulties faced in the last census round

In the last census round some changes have been introduced by the countries of the region into their census activities. Among the main methodological changes was a more intensive use of administrative sources. In the technological field most countries used optical data entry technologies. Only a few countries in previous censuses used these technologies.

The public atmosphere and attitude towards the census and the concern with privacy also affected the census operations. Funding issues had been more acute than in the past because of the increasing costs that were experienced by many countries. In the last census round many countries in the region conducted for the first time an independent census. As a consequence, in some countries there was a shortage of experienced census staff.

The main difficulties reported by countries in relation to the census were in the data collection stage. A total of 16 countries faced difficulties during enumeration activities. A common problem was non-response, and in particular selective non-response for specific sub-population groups or specific geographical areas. The non-response was related in some cases to refusals to answer on the basis of privacy concerns or connected to the difficulties of finding people at home during the enumeration phase. Several countries reported specific problems of data collection in rural areas and in cities.

Table 4.12
Equipment costs by group (ordered by cost in ppp USDs)

	Per capita Equipment cost in ppp USDs	Per capita Equipment cost in nominal USDs	Optical Data Entry (ODE) (Y/N)	Equipment % of total cost
Group A1: Traditional approach with interviewers				
Turkey	0.03	0.01	Y	5.0
Romania	0.07	0.02	N	1.8
Bulgaria	0.25	0.07	N	10.0
Lithuania	0.34	0.12	Y (outsourcing)	5.1
Russian Federation	0.38	0.11	Y	11.0
Cyprus	0.43	0.30	Y (outsourcing)	8.7
Georgia	0.43	0.14	Y	15.8
Albania	0.45	0.15	N	8.5
Belarus	0.53	0.14	N	30.9
Armenia	0.54	0.13	N	14.1
Poland	0.55	0.25	Y	6.5
Hungary	0.60	0.22	Y (outsourcing)	6.2
Kyrgyzstan	0.68	0.12	N	20.4
Croatia	0.81	0.36	Y	9.7
Estonia	2.20	0.90	Y	13.1
Serbia and Montenegro	2.27	0.90	N	33.4
Average Group A1	**0.66**	**0.25**		**12.5**
Group A2: Traditional approach with self enumeration				
United Kingdom[a]	0.00	0.00	Y (outsourcing)	0.0
Malta	0.00	0.00	Y	0.0
Italy	0.04	0.03	Y (outsourcing)	0.6
Austria	0.08	0.06	Y	1.0
France	0.16	0.17	Y (outsourcing)	4.9
Canada	0.23	0.19	N	2.1
Australia	0.45	0.32	Y (outsourcing)	5.0
Portugal	0.53	0.30	Y	7.5
Israel	1.60	1.62	Y	14.8
Slovakia	1.99	0.64	Y	24.5
Ireland	2.81	2.36	Y	22.3
Average Group A2	**0.72**	**0.52**		**7.5**
Group B: Combined approach				
Netherlands	0.02	0.02	n.a.	10.0
Belgium	0.13	0.10	Y	5.0
Spain	0.14	0.09	Y	2.4
Switzerland	0.63	0.71	Y	5.7
Slovenia	0.85	0.50	Y (outsourcing)	13.0
Latvia	1.42	0.58	Y	29.4
Average Group B[b]	**0.64**	**0.40**		**11.1**
Group C: Register based census				
Finland	0.02	0.02	n.a.	10.0
Norway	0.14	0.14	n.a.	4.9
Average Group C	**0.08**	**0.08**		**7.5**
Total average all countries	**0.59**	**0.32**		**10.2**

[a] England and Wales.
[b] Excluding the Netherlands where no fieldwork was conducted to collect data from the whole population.

Source: UNECE survey, 2004.

Twelve countries mentioned staff recruitment as an important challenge. Most problems were connected with the hiring of temporary staff and the level of wages offered, which were too low to attract suitable employees. Some countries reported that the hiring was problematic in specific areas, such as rural areas.

Twelve countries reported funding problems. The main difficulty was the lack of sufficient budget at the national level and the lack of additional funding from international organizations.

New technologies, especially in the field of data entry, were adopted in this round by a majority of the countries. 12 countries reported difficulties in this area. Some reported administrative problems connected with tender processes and others reported more substantial problems connected with the ODE technology itself. In both cases these problems caused a delay in the data entry operations. Some countries reported technological problems connected with the implementation of large databases.

Cartography was seen by 11 countries to be among the main challenges faced in the last census round. Difficulties on questionnaire design were mentioned by nine countries, some of it in connection with the special design needed for optical data entry operations. Others reported difficulties in incorporating last-minute changes.

Difficulties have been reported to a lesser degree in the fields of publicity, coding, evaluation and dissemination. However, at the time the UNECE survey was conducted, some census activities were not yet finalized in some countries.

Special problems in the last census round were connected with the foot-and-mouth disease that affected some countries at the time of the census, and even caused the postponement of the Irish census. Some countries reported that political problems, last-minute decisions regarding the census methodology or bad publicity affected their census operations.

When asked what topics or issues the new UNECE Recommendations for the 2010 census round should cover, countries in the region mentioned the need for a better coverage of: evaluation of coverage, quality control, data processing technologies, use of GIS for data collection, enumeration methods and use of registers for censuses.

PART II
CENSUS TOPICS

5. INTRODUCTION

Part II of this publication reviews the practices in the UNECE region in relation to the census topics included by countries in the last census round.

The practices in regard of each of the different topics are reviewed with respect to the UNECE Recommendations for the 2000 round of censuses [32] and, where relevant with respect to the World Recommendations[33].

The review is mainly based on answers provided by 44 countries to the UNECE questionnaire on practices followed in the 2000 population and housing census round. A copy of the questionnaire is shown in Appendix 1. In some cases, the review is also based on the analysis of the census forms used by countries or on information from other sources.

Topics for which data was to be collected

The UNECE Recommendations included a list of the characteristics to be collected in censuses, related to persons, groups of persons (households or family nuclei), living quarters or buildings containing dwellings. These characteristics were divided into core topics and non-core topics. Core topics were those of basic interest and value to countries. These were recommended for inclusion in the 2000 round of population and housing censuses (unless the data were available from other sources).

The list of core and non-core topics included some topics, which were referred to as derived topics. Derived topics were those for which information could be obtained from other topics, and therefore were not required to be collected separately. Examples are topics that could be deduced from the replies given by a person to two or more questions, or from the replies to a particular question given by two or more persons.

Countries were invited to consult the World Recommendations for guidance concerning additional topics not included in the UNECE Recommendations list of topics.

The list of topics (core, non-core and derived topics) from the UNECE Recommendations is presented in table 5.1.

[32] Recommendations for the 2000 Censuses of Population and Housing in the ECE Region, jointly prepared by the United Nations Economic Commission for Europe and the Statistical Office of the European Communities, Statistical Standards and Studies – No. 49, United Nations, Sales No. E.98.II.E.5.
[33] Principles and Recommendations for Population and Housing Censuses, Statistical Papers, Series M, No. 67/ Rev.1, United Nations, Sales No. ST/ESA/STAT/SER.M/67/Rev.1.

Table 5.1
Topics for the 2000 Population and Housing Censuses[34]

CORE TOPICS	NON-CORE TOPICS
Geographic characteristics of persons	
1. Place of usual residence ***Derived topics*** ***(a) Total population*** ***(b) Locality*** **2. Place of usual residence one year prior to the census**	1. Place where found at time of census 2. Farm or non-farm residence¨ *Derived topics* *(a) Urban and rural areas* 3. Duration of residence 4. Previous place of usual residence *5.* Year (or period) of immigration into the country
Demographic characteristics of persons	
3. Sex **4. Age** **5. Legal marital status** **6. Country/place of birth** **7. Country of citizenship**	6. *De facto* marital status 7. Place of birth of parents 8. Citizenship acquisition 9. Ethnic group 10. Language 11. Religion 12. Total number of children born alive 13. Date of (i) first marriage and (ii) current marriage of ever-married women
Economic characteristics of persons	
8. Current activity status **9. Time usually worked** **10. Occupation** **11. Industry (branch of economic activity)** **12. Status in employment** **13. Place of work**	14. Usual activity status 15. Providers of non-paid social and personal services 16. Duration of unemployment 17. Secondary occupation 18. Type of sector (institutional unit) 19. Number of persons working in the local unit of the establishment 20. Main source of livelihood 21. Dependency relationship 22. Income *Derived topics* *(a) Socio-economic groups* 23. Location of school, university, etc. 24. Mode of transport to work 25. Length and frequency of journey to work
Educational characteristics of person	
14. Educational attainment	26. Educational qualifications 27. Field of study 28. School attendance 29. Literacy

[34] Recommendations for the 2000 Censuses of Population and Housing in the ECE Region (see footnote 33).

Table 5.1
Topics for the 2000 Population and Housing Censuses (continued)

CORE TOPICS	NON-CORE TOPICS
Household and family characteristics of persons	
15. Relationship to reference person	30. Type of institutional household, of private household or other communal establishment in which a person lives
	31. Whether living as inmate of an institutional household or other communal establishment or not
Derived topics	*Derived topics*
(c) Household status	*(c) Extended family status*
(d) Family status	
Characteristics of family nuclei	
Derived topics	*Derived topics*
(e) Type of family nucleus	*(d) Type of extended family*
(f) Size of family nucleus	*(e) Specified age groups of children*
(g) Number of children under a specified age	*(f) Number of members whose main source of livelihood is economic activity*
(h) Number of economically active members	*(g) Number of dependent member*
Characteristics of family nuclei	
Derived topics	*Derived topics*
(i) Type of private household	*(h) Generational composition of private households*
(j) Size of private household	*(i) Number of members whose main source of livelihood is economic activity*
(k) Number of economically active members	
(l) Number of children under a specific age	*(j) Number of dependent members*
(m) Number of members of retirement age	
16. Tenure status of households	32. Single or shared occupancy
	33. Rent
	34. Durable consumer goods possessed by the household
	35. Number of cars available for the use of the household
	36. Telephone
Characteristics of housing units and other living quarters	
17. Type of living quarters	
18. Type of ownership	
19. Location of living quarters	37. Type of vacancy
20. Occupancy status	38. Occupancy by one or more households
21. Number of occupants	
22. Number of rooms	39. Useful and/or living floor space
23. Kitchen	40. Cooking facilities
24. Water supply system	41. Hot water
25. Toilet facilities	42. Type of sewage disposal system
26. Bathing facilities	
27. Type of heating	43. Main type of energy used for heating
	44. Electricity
	45. Piped gas
	46. Position of dwelling in the building
Characteristics of buildings containing dwellings	
28. Type of building	47. Number of floors (storeys)
	48. Number of dwellings in the building
	49. Whether building is a farm building or not
	50. Lift
29. Period of construction	51. Materials of which specific parts of the building are constructed
	52. State of repair

The majority of the countries in the UNECE region complied with the UNECE Recommendations, by collecting information regarding most of the core topics, and many of the non-core topics and followed most of the recommended definitions and classifications. In some cases the compliance was partial, and these cases are discussed in more detail in the following chapters.

Organization and contents of the following chapters

In each of the following chapters specific topics are reviewed presenting the recommendations given for each topic and assessing the way the countries in the UNECE region complied with it. The information on the countries' practices was collected through the UNECE survey (described in Appendix 1) and in some cases through the review of census-questionnaires.

The core tabulation program

The UNECE Recommendations also included a list of recommended core tabulations to *"be included in the published results"*[35].

The purpose of providing a core set of standard tables was described as follows: *"The recommended core tabulation programme is primarily intended to provide an indication of the major types of census data that are required to meet important international and national objectives, and to provide general guidelines on the scope and content of the tables included in the recommended tabulation programme"*.

Moreover, it is also stated that: *"Each country is free to organize the tabulation process to suit its own convenience provided that the data specified in the recommended tabulations can be derived from the tabulations actually compiled."*

The recommended core tabulation programme included 24 tabulations. These tables were limited to the basic classifications of core topics. It should be noted that Eurostat further expanded this list to 42 detailed tables that included the 24 UNECE tables.

In practice most countries of the region used either the UNECE or the extended Eurostat tabulation program. 14 countries reported using the UNECE tabulation program and another 14 reported its use as a basis for their national program. Among the 12 countries that reported not using the UNECE tabulation program, many used the expanded Eurostat tabulation program.

The use of international classifications

Countries were encouraged to use international classifications for some of the variables and these were widely used in the region.

Out of the 44 reporting countries, 24 used the Economic Activity (NACE Rev1/ISIC Rev. 3 or 3.1) and/or the Occupation (ISCO-88) international classifications while 14 countries were able to convert the national classification to the international classifications of industry and occupation (at different digit levels) [36] (see table 5.2). Three countries didn't collect data on these topics. 19 countries used the international classification on employment status and a further six countries reported using a classification that can be converted into it.

[35] Recommendations for the 2000 Censuses of Population and Housing in the ECE Region, paragraphs 285-289.
[36] A total of 38 countries reported the use of at least one of the international classifications on industry and occupation.

Table 5.2
Countries using international classifications

	International classification fully used	National classification convertible to the international classification, 1 to 3 digit level:				National classification not convertible to the international classification
		Total	1	2	3	
NACE Rev1/ISIC Rev. 3 or 3.1	24	14	1	7	6	3
ISCO-88	24	14	1	5	8	3
ISCED	19	10	6	2	2	7
ICSE-93 (status in employment)	19	6	-	-	-	7

Source: UNECE survey, 2004.

The international classification on education (ISCED) was used by 19 countries and a further 10 countries were able to convert their national classification into ISCED.

Most countries used the recommended international classifications or at least were able to convert the national classification. This will allow easier comparisons of data across the countries in the region, especially in the field of occupation and industry.

6. PLACE OF USUAL RESIDENCE, TOTAL POPULATION AND OTHER GEOGRAPHIC CHARACTERISTICS[37]

This chapter discusses practices with respect of the geographic characteristics of persons. It reviews the definitions of "place of usual residence" and "total population" actually used, the practices regarding special population groups and some coverage (under and over-count) problems associated with enumeration.

Practices regarding the definition and classification of Locality and the classification of areas by Rural/Urban are also reviewed. The non-core topics - place of usual residence one year prior to the census, duration of residence, previous place of usual residence and year (or period) of immigration into the country - are discussed in Chapter 7.

Place of usual residence

The definition of place of usual residence is one of the most important and critical issues in a census since this definition, and the way it is applied during the census, directly influences the census results in terms of the total usually-resident population, at both the national level and at lower territorial levels.

The importance of this definition has increased in the recent years, because of the increasing number of persons who have multiple residences and the increased mobility of the population. More and more people move between different places for different reasons and with various frequencies (daily, weekly or yearly, as is the case for seasonal workers), and migration - including both legal and undocumented migration - is a phenomenon of increasing importance in most countries. For persons that may have more than one place of residence, the decision about what should be considered their place of usual residence is often not easy.

Recommendations

Recommended Definition: *"Place of usual residence is the geographic place where the enumerated person usually resides; this may be the same as, or different from, the place where he/she actually is at the time of the Census; or it may be his/her legal residence. A person's usual residence should be that at which he/she spends most of his/her daily night-rest."*

After this general definition, the Recommendations included a reference to the United Nations Recommendations on Statistics of International Migration (1997), in particular to the distinction between:

a) Long-term migrants, who move to another country for a period of at least one year, and should be counted in the country of destination (which becomes their new country of usual residence).

b) Short-term migrants, who move to another country for a period of at least three months but less than one year, and should be counted in the country of origin (which remains their country of usual residence).

[37] This chapter is based on information previously presented in the paper "The place of usual residence and other geographic characteristics: National practices in the 2000 round of censuses and comments on the ECE census recommendations" drafted by Paolo Valente (UNECE) and presented at the November 2004 Joint ECE-Eurostat Work Session on Population Censuses (WP No.7/Rev.1). See: http://www.unece.org/stats/documents/2004/11/census1/wp.7.rev.1.e.pdf

The UNECE Census Recommendations also presented a list of special groups of persons who may have difficulties in stating their place of usual residence, including persons who maintain more than one residence, students who live in school or university residences for part of the year and elsewhere during vacations, and other groups. For these groups, it was recommended to use the general recommended definition, but it was specified that: "*For persons with a spouse/partner and/or children, the usual residence should be that at which they spend the majority of the time with their family*."

Persons in the special group composed of "nomads, homeless and roofless persons, vagrants and persons with no concept of a usual address" were to be considered "*as usually resident where they are enumerated*."

Considering that countries could treat these groups in different ways, the Recommendations included the following paragraph: "*The treatment of all these cases should be set out clearly in the census instructions and, if possible, objective rules should be formulated for dealing with them. The treatment of each of these groups of persons should also be described in the census report and, where feasible, counts or estimates of the number of persons in each group should be given*."

Where possible separate information should be collected for each household and for each person in a household concerning: (a) persons usually resident and present at the time of the census; (b) persons usually resident but temporarily absent at that time; and (c) persons temporarily present at the time of the census who usually reside elsewhere (including their address of usual residence).

The collected information on place of usual residence should be detailed enough to allow tabulations to be made for the smallest geographic/administrative required subdivisions.

Compliance with the recommendations

Out of the 44 countries, the majority (40 countries; 91 per cent) adopted a definition of place of usual residence based on the recommended concept ("A person's usual residence should be that at which he/she spends most of his/her daily night-rest"), and only four countries adopted a definition based on a different concept: Austria, Czech Republic, Luxembourg and the Netherlands.

In the Netherlands, the information on the place of usual residence was taken from the population registers, regardless of the time spent by the person in the various places. In Austria, Czech Republic and Luxembourg the definition of place of usual residence was not based on the time spent in the place of usual residence (which was the key element of the definition included in the Recommendations) but rather on the family, professional and social ties between the person and the place of residence. In these countries, the definition was imposed by the national legislation, and in particular with the legislation on the official registration in the local population register (or "legal residence").

In the case of Austria, "*...the usual residence of a person is her/his main residence and is defined by Registration Act as the focus of his/her life. The focus is defined by duration of residence, place of employment or school, starting point of the commuting way, place of residence of the family members, the person's functions in public or private corporations*." In Austria people are registered in the local population register of the commune where they have their main residence. It should be noted that in Austria it is possible to have a secondary residence and be also registered at the commune of the secondary residence.

In the Czech Republic, the place of usual residence is the address "*...where the person has his/her family, parents, flat or job*". Each person can have only one place of usual residence.

In Luxembourg, "*The normal place of residence is the place where various persons forming a household live together or the place where a single person forming a household by himself/herself usually lives. The address of this place is usually the address under which the person is registered with their commune.*"

Among the countries that used a definition of place of usual residence based on the recommended concept (that is, the place of usual residence should be the place where the person spends most of the time), different approaches were adopted.

In Canada, the usual place of residence was defined as "*...the dwelling where a person lives most of the time, that is, where he or she spends the major part of the year*". This definition was adopted for various reasons: to meet users' needs, to allow comparability with previous census, and to be consistent with other statistical surveys.

In Australia, a similar definition was adopted that also took into account the intention to stay: "*Usual residence is the address where the person has lived or intends to live for six months or more in 2001*" (Census date was 6 August 2001).

In Switzerland, for the purpose of the census, the economic (or main) residence concept was taken into account. This was defined as *"...the municipality where the person spends the majority of the time, uses the infrastructures and from where he/she leaves to reach his/her place of work or study"*. In Switzerland it exists also another concept of residence, the civil residence. For Swiss nationals, this is defined as the municipality where the "*acte d'origine*" is stored or where the person pays taxes. For foreigners, it is the municipality that delivered the permit of stay. In most cases the economic residence and the civil residence coincide, with some exceptions, including persons living in institutions, students in boarding homes and persons who live during the week near their place of work or study (economic residence) and for the weekend return to their family (civil residence). In Switzerland, as in Austria, it was possible to indicate more than one residence. All persons with more than one residence had to fill in a personal questionnaire at any residence.

In Italy, foreign citizens were considered as usual residents only if they were registered in the local population register (or if they met the requirements to be registered).

Treatment of temporarily absent persons

According to the Recommendations, persons absent from the previous place/country of usual residence for one year or more should not be considered as temporarily absent.

Twenty nine countries out of 44 adopted the one-year threshold to distinguish temporarily absent persons (who do not change place of usual residence) from long-term absent persons (who change place of usual residence). Three countries adopted a stricter definition and a shorter threshold: three months in Ireland, and six months in Switzerland and the United Kingdom.

Twelve countries did not consider the duration of the absence to distinguish between temporarily absent and long-term absent persons: Austria, Belarus, Canada, Czech Republic, Kazakhstan, Kyrgyzstan, Luxembourg, Netherlands, Norway, Poland, Slovakia, and the United States. In Poland (and for some types of migration also in Belarus and Kyrgyzstan) persons living abroad for more than one year were still considered as temporarily absent and counted in the total resident population.

Treatment of special population groups

In this section, information is presented on special instructions given by countries (in the census forms or to the enumerators) for the treatment of the special groups of persons who may have difficulties in stating their place of usual residence, including persons who maintain more than one residence, students who live in school or university residences for part of the year and elsewhere during vacations, and other groups (see the definition of Place of usual residence given earlier in this chapter).

The majority of countries (between 50 and 65 per cent depending on the various special population groups) gave special instructions to define the place of residence for most of these groups. The countries that did not give special instructions included those that adopted a register-based census approach.

Some countries treated all these "difficult" population groups (or most of them) following the same general principle. For instance, in Austria the general principle valid for most groups was that persons were enumerated at their legal residence (or main residence). In Italy, persons having more than one residence had to fill in two (or more) forms, one in the place of usual residence (where they had to fill in the section reserved to persons usually resident in the dwelling) and one in each of the places of temporary residence (where they had to fill in a different section of the census form). In the United States, specific "residence rules" were developed to provide instructions on the place where persons (in particular members of "difficult" groups) had to be counted[38].

The main results on the instructions given by countries for the treatment of the various groups are summarized as follows:

Persons who maintain more than one residence, e.g. a town house and a country house

About two thirds of the countries (28 out of 44) gave special instructions for this group, which suggests that this group of persons is significant in many countries and that special instructions are required for the identification of the place of usual residence.

In most cases, the instructions followed the general principle that the place of usual residence is the place where the person lives the majority of the time (or of the rest time). There were some variations. These include "the address where they had spent most of the nights during the last month" (Israel); "the place of living the majority of the time in the course of a year" (Serbia and Montenegro); "the place where they spend the bigger part of a year" (The Former Yugoslav Republic of Macedonia); "the place where person lives more than six months of the year" (Turkey).

Only a few countries included in the instructions a reference to the family of the person: "The place where person's household lives should be regarded as person's permanent place of residence" (Estonia); "the place where majority of time with the family is spent" (Lithuania); "[the main address] is where they and their family spent the majority of their time" (United Kingdom).

For some countries, the place of usual residence for persons in this category was defined as the place of legal residence (Austria and Latvia), or the place of "normal" residence with no reference to time or other concepts (Luxembourg), or place of usual residence was determined by the respondents (Ireland).

[38] See WP.16 on "U.S. Residence Rules for Census 2000", presented at the Joint UNECE-Eurostat Work Session on Population Censuses (Geneva, 23-25 November 2004). Available at: http://www.unece.org/stats/documents/2004/11/census1/wp.16.e.pdf

Students who live in a school or university residence, as boarders in a household or as a one-person household for part of the year and elsewhere during vacations

Thirty one countries out of 44 (70 per cent) issued specific instructions to define the place of usual residence of students.

In 11 countries students were considered as resident at their family's address, while in 10 countries they were considered as resident at the school or university residence.

In several countries, information on students was collected at both places. For instance, in Poland they were counted as permanently staying (but temporarily absent) with their family, and temporarily staying at the school or university residence. In Switzerland and Italy they were requested to fill census forms, in each of the two places. In the United Kingdom, they were counted as resident at their term-time address, but some basic information was also collected at their home address for the purposes of household/family composition analyses.

Persons who live away from their homes during the working week and return at weekends

For this group, 25 countries out of 44 issued specific instructions. In the majority of cases (16 countries) persons who worked away from home during the week and returned home on the weekends were counted in the place where they were living with their family, as was recommended. In Cyprus and Israel, this was the case only for married persons, while unmarried persons were counted at the address where they spend most of the time.

In Greece and the United States, all persons in this category (married and unmarried) were counted in the place where they spend the majority of the time.

In five countries, information on these persons was collected at both places. In Italy and Switzerland they completed two census forms in the two places.

Persons in compulsory military service

Instructions for this group of persons were given in 23 countries out of 44. Several countries indicated that there is no compulsory military service and therefore this group doesn't exist for them. In the majority of cases, persons in this group were counted in the place where they live with their family. Only in the Russian Federation and Kyrgyzstan were they enumerated at the place of the military service (depending on the length of the compulsory military service).

Members of the regular armed forces who live in a military barracks or camp but maintain a private residence elsewhere

For this category of persons, 24 countries issued specific instructions. In 12 countries these persons were counted at their private address, but in some of these countries (e.g. Croatia and the UK) this was valid only if they had a family at the private address, otherwise they were counted in the military barracks or camp. Only in the Russian Federation and Romania were they enumerated at the military barracks or camp.

Persons who have been an inmate of a hospital, welfare institution, prison, etc, for a sufficiently long time to weaken their ties with their previous residence to which they may return eventually

Thirty one countries (71 per cent) issued specific instructions, and five countries also prepared special enumeration procedures for this group.

In eight countries, persons in this group were counted as resident in the institution only if they had been living there (or in some cases if they were expected to live there) for at least one year (or six months in Canada and the United Kingdom). In eight further countries, persons were counted in the institution with no reference to the length of their stay. Only in a few countries (including Luxembourg, Poland and the Former Yugoslav Republic of Macedonia) they were enumerated with their family.

Persons who have left the country temporarily but are expected to return after some time (up to one year of absence)

Twenty five countries gave special instructions for this group. In the majority of countries, these persons were enumerated at their usual place of residence in the country (normally with their family), or at the place of residence where they were living before leaving the country.

A few countries set a shorter length of the absence than 12 months, beyond which the persons were not enumerated as resident for census purposes. This limit was three months in Ireland and six months in Switzerland and the United Kingdom (where persons who intended to be abroad for more than six months were not counted as residents).

In the United States, persons temporarily away on vacation or a business trip were counted at their usual residence. However, U.S. citizens (and their family members) who were working, studying, or living overseas on census day were not counted in the census unless they were employed overseas as civilians by the U.S. Government. In this case, they were counted as part of the U.S. overseas population and not as part of the U.S. resident population. The term "temporarily" was not publicly defined, but the working assumption was "under six months of the year".

Nomads, homeless and roofless persons, vagrants and persons with no concept of a usual address

According to the 2000 Recommendations, persons in this group should be treated as usually resident where they are enumerated.

Special instructions were given by a number of countries (25). The instruction given most frequently was to consider these persons as resident in the place or the municipality where they were enumerated (12 countries).

In four countries, the place of residence was the institution or shelter for homeless persons where they were enumerated, with no indications of the treatment of those who did not live in institutions of shelters.

In some countries, special procedures were set up for this group of persons. In Israel lists of homeless persons were collected from the municipalities, in Romania a special registration was carried out by the Ministry of the Interior, and in Hungary and Switzerland they were listed in "virtual census districts" and "virtual buildings" respectively.

Children of separated/divorced parents who live similar portions of time with each of the two parents

This last "special" category was not mentioned in the Recommendations, but it was included in the UNECE questionnaire because it is a phenomenon of increasing relevance in various countries.

Only a few countries gave instructions for this category of children. In Canada, the United Kingdom and the United States they were counted as resident at the address where they live most of the time. In Canada and the United States it was specified that children spending equal time with each parent were counted where they were staying on census day.

In Croatia they were counted at the address of the parent who was granted the custody by the court at the time of the divorce.

Double counting or undercounting problems for specific population groups

Persons that are part of the special population groups discussed above, are also persons "at risk" of being double counted or not counted at all. This risk, in general, derives from the specific characteristics of the persons in the various groups, but also on the instructions given for establishing the place of usual residence. Instructions were aimed at minimizing the risk of double counting or undercounting, but still some people were missed or counted more than once.

25 out of 44 countries (57 per cent) reported that they experienced either double counting or undercounting problems for specific population groups. Among them, 21 countries (48 per cent) listed one or more groups with problems of double counting and 24 countries (54 per cent) listed one or more groups with problems of undercounting.

The population group considered at highest risk of double counting is *students who live near the school or university for part of the year and elsewhere during vacations* (eight countries). Other population groups with a high risk of double counting are *persons who maintain more than one residence* (six countries) and *persons who live away from home during the working week and return at weekends* (four countries). Persons in various types of *institutions* (including hospitals, nursing facilities and homes for elderly people) were considered at risk of double counting in five countries, while two countries mentioned problems of double counting for children of divorced parents.

With regard to undercounting, several countries considered among the population groups at risk various interrelated categories of persons: *young people between 15 and 30*, in particular *males* (five countries), *people living alone* (three countries), *mobile people* – usually young adults - who have more than one residences for work or study and for whom the concept of usual residence is not straightforward (five countries), and *persons temporarily absent* from their place of usual residence (three countries).

Immigrants were mentioned as being among the population groups at risk of undercounting in nine countries, including four countries that specified illegal immigrants and two countries that specified recent immigrants. Related population groups considered at risk of undercounting were "*households with language difficulties*" (UK), "*minorities*" (USA), "*indigenous people in urban areas*" (Australia) and "*Bedouins*" (Israel). Other population groups with problems of undercounting are the *homeless* (six countries) and *very young children* (three countries).

The census total population

The adherence to internationally agreed definitions about who should and who should not be included in the total population count is of importance.

With regard to population counts at censuses (at the national level and also for the various sub-national territorial divisions), there are different concepts of total population that can be used. The two most common concepts are:

a) The total usually-resident population (also called *de jure* population), that is, the total number of persons usually resident in the territory at the time of the census, regardless of their actual presence or temporary absence at the time of the census.

b) The total present population (also called *de facto* population), that is the population that is present in the territory at the time of the census.

With regard to census enumeration methods, the persons can be counted at their place of usual residence (censuses of this type are also called *de jure* censuses) or at the place where they are found at the time of the censuses (censuses of this type are also called *de facto* censuses). When a census is carried out on a *de facto* basis, it is still possible to produce figures for the *de jure* population if information is collected on the place of usual residence of the individuals.

The choice between a *de jure* and a *de facto* approach has major implications on the organisation of the enumeration phase. Also, the census results in terms of *de jure* population (at the national and sub-national levels) will be directly influenced by the definition of place of usual residence adopted and by its implementation during the census.

Recommendations

Recommended Definition: The UNECE 2000 Census Recommendations indicated that countries were to compile a total usually-resident population count (that is, the *de jure* population) for each territorial division, "*by adding... (a) Persons usually resident and present at the time of the census and (b) persons usually resident but temporarily absent at the time of the census."*

The definition of temporary resident includes only those who are absent for less than a year. The Recommendations state: "*In general, a person who is absent from his or her previous place/country of usual residence for one year or more should not be considered as temporarily absent*." This means they are not part of the total usually-resident population.

The Recommendations also included the following text: "*... it is not always possible to collect information about persons absent from their place of usual residence [...] particularly if a whole household is temporarily absent at the time of the census. Provision must therefore be made to collect information about such persons at the place where they are found at the time of the census [...] and if necessary "transfer" them to their place or territorial division of usual residence*."

The following groups of persons were to be included in the total usually-resident population:

a) Nomads
b) Vagrants
c) Persons living in remote areas
d) Military, naval and diplomatic personnel and their families, located outside the country
e) Merchant seamen and fishermen resident in the country but at sea at the time of the census (including those who have no place of residence other than their quarters aboard ship)
f) Civilian residents temporarily working in another country
g) Civilian residents who cross a frontier daily to work in another country
h) Civilian residents other than those in (d) to (g) temporarily absent from the country
i) Refugees (as defined under the Geneva Convention) in the country

The following groups of persons, instead, were NOT to be considered part of the total usually-resident population:

j) Foreign military, naval and diplomatic personnel and their families, temporarily located in the country
k) Civilian aliens temporarily working in the country
l) Asylum seekers
m) Civilian aliens who cross a frontier daily to work in the country
n) Civilian aliens other than those in groups (k) and (m) temporarily in the country e.g. tourists

If feasible the magnitude of groups (a) to (n) should be shown.

Countries were encouraged to compile a figure for the total usually-resident population and to provide detailed tabulations. Also if the total figure had been corrected for under- or over- enumeration, both figures (before and after the correction) should be shown.

Also it was mentioned that some countries might wish to compile additional figures for the population such as the total present-in-area (*de facto*) population, the totally legally resident population or the population working in the country.

Compliance with the recommendations

Most countries (39 out of 44; 89 per cent) compiled figures for the total usually-resident population, complying with the 2000 recommendations.

In Turkey a *de facto* census was conducted (a curfew was declared on census day to facilitate the enumeration) and figures were compiled only for the *de facto* population. A *de facto* census was also conducted in Australia (to avoid "...in the counting process the definitional complexities inherent in a *de jure* census") and Ireland (to ensure comparability with previous censuses and because it was more acceptable to respondents). However, these two countries were able to compile figures for the total usually-resident population.

In Austria, according to legislation, adding the persons with their "main residence" in the territory provides the population count. In France there are two concepts of population. Firstly, there is the total population used for administrative purposes, where some persons may be counted twice in more than one municipality, and secondly the statistical population, where each person is counted once. In Greece, the resident population is counted by adding members of the household present or temporarily absent and temporary guests. In the Netherlands, the figures on the total population were taken from population registers.

Other population counts

In addition to the total usually-resident population, a significant number of countries also compiled figures for other population counts as suggested in the Recommendations. About half of the countries compiled the figure for the total present population (also called *de facto* population, 22 countries) and for the working population (21 countries). Eight countries compiled data for nationals living abroad and three countries for the population temporarily absent from the country, while seven countries calculated the total legally resident population (only countries where this concept was different from that of usually-resident population).

In the United Kingdom, the daytime population was compiled, as a combination of usually-resident population and workplace population. A similar concept was adopted in Italy to consider the population that "uses" the territory, obtained by adding to the usually-resident population the non resident population that "uses" the territory for the greater part of the year, and subtracting the resident population that do not "use" the territory of residence for the greater part of the year.

Inclusion of selected population groups in the population counts

Information was provided on the treatment of some of the groups of persons that, according to the Recommendations, had to be included in or excluded from the usually-resident population count. The different treatment of these groups in different countries in terms of inclusion in the usually-resident population affects the international comparability of data on total population, and could even result in counting some persons in the usually-resident population of two countries. The practices adopted in the different countries with regard to the inclusion of these groups in the usually-resident population, in the present population or in other population counts are presented in table 6.1 below.

The first six groups in the table are population groups that were required to be included in the usually-resident population, according to the Recommendations, but a significant number of countries did not comply with this instruction. In particular, nomads were included in the usually-resident population only in 22 countries out of 40 (55 per cent). In 16 countries (40 per cent), nomads were not included in any population count.

Another category for which many countries did not comply with the Recommendations is refugees, which were included in the usually-resident population by only two thirds of the countries (28 out of 42), while in eight countries they were only included in the present (but not resident) population.

The category "*Military, naval and diplomatic personnel and their families, located outside the country*" was counted in the usually-resident population by 31 out of 43 countries (72 per cent). The remaining groups of persons were included in the usually-resident population (thus complying with the Recommendations) by a relatively high number of countries: "*Homeless*" by 38 countries out of 44 (86 per cent); "*Persons who have left the country temporarily but are expected to return after some time (up to one year of absence)*" by 39 countries out of 43 (91 per cent); and "*Merchant seamen and fishermen resident in the country but at sea at the time of the census*" by 35 countries out of 42 (83 per cent).

Table 6.1
Treatment of specific population groups with regard to the inclusion in the usually-resident population, in the present population or in other population counts

Groups of persons	2000 Recommendations	National practices in the 2000 censuses				
	Treatment with regard to the inclusion in the usually-resident population, according to the 2000 Recommendations	*Included in the count of the total resident population*	*NOT included in the count of the total resident population…*			*Total number of replies*
			...but included in the count of present population	…but included in other population counts	… and not relevant for any population count	
1. Nomads	To be included	22	1	1	16	**40**
2. Homeless	To be included	38	1	0	5	**44**
3. Persons who have left the country temporarily but are expected to return after some time (up to one year of absence)	To be included	39	0	0	4	**43**
4. Military, naval and diplomatic personnel and their families, located outside the country	To be included	31	1	3	8	**43**
5. Merchant seamen and fishermen resident in the country but at sea at the time of the census	To be included	35	1	0	6	**42**
6. Refugees (as defined under the Geneva Convention) in the country	To be included	28	8	1	5	**42**
7. Foreign military, naval and diplomatic personnel and their families located in the country	NOT to be included	10	7	0	26	**43**
8. Foreign workers with a legal but temporary status (up to one year), as for example seasonal workers	NOT to be included	15	18	2	8	**43**
9. Asylum seekers or other foreigners granted a temporary protection status	NOT to be included	22	13	0	7	**42**
10. Foreigners living in the country though not having the right to stay in the country (i.e. undocumented immigrants)	(Not specified in the 2000 Recommendations)	17	8	1	15	**41**

Source: UNECE survey, 2004.

Table 6.1 also presents three population groups that, according to the Recommendations, should not have been included in the usually-resident population. For these groups, a significant number of countries did not comply with the Recommendations. In particular, "*asylum seekers or other foreigners granted a temporary protection status*" were included in the usually-resident population by more than half of the countries (22 out of 42), "*foreign workers with a legal but temporary status (up to one year), as for example seasonal workers*" were included by 35 per cent of the countries (15 out of 43), and "*foreign military, naval and diplomatic personnel and their families located in the country*" were included by 23 per cent of the countries (10 out of 43).

The treatment of "*Foreigners living in the country though not having the right to stay in the country (i.e. undocumented immigrants)*" was not covered by the 2000 Census Recommendations but this is an important group in many countries. This group was included in the count of the usually-resident population in 17 out of 41 countries (41 per cent). They were counted in the present (but not resident) population in eight countries (20 per cent) and they were not included in any population count in 15 countries (37 per cent).

Locality definition and classification

Recommendations

Recommended Definition: "For census purposes, a locality is defined as a distinct population cluster, that is, the population living in neighbouring buildings which either:

a) *Form a continuous built-up area with a clearly recognizable street formation; or*

b) *(Though not part of such a built up area, form a group to which a locally-recognized place name is uniquely attached; or*

c) *Though not coming within either of the above two requirements constitute a group, none of which is separated from its nearest neighbour by more than 200 metres*"

The Recommendations included some clarifications on the implementation of the above definition and general guidance on how to identify localities and determine their boundaries are also provided. A distinction was also made between localities and the smallest civil division of a country.

Countries were recommended to develop their census statistics for localities approaching as closely as possible the concept of the population cluster used in the locality definition.

It was also recommended that the population be classified by size of locality according to specified size-classes.

Compliance with the recommendations

In the 2000 round, the concept of locality was used by 32 out of 44 countries (73 per cent), but only about half (17) of these countries complied with the definition included in the Recommendations. Among the 15 countries that used a different definition, the most frequent reasons for the deviations were: to meet users' needs (10 countries), to allow comparability with previous censuses (10 countries), and to be consistent with other statistical surveys (six countries). Only 17 countries (39 per cent of the total) compiled tables where the population was classified by size of the locality, and most of them used classifications that were different from the recommended classification.

It appears that the recommended classification of the population by size of the locality was used by a small number of countries.

Classification of urban and rural areas

The suggested definition of urban and rural areas

For the purpose of distinguishing urban and rural areas (which was considered as a non-core topic), the 2000 Recommendations indicated the locality as the most appropriate unit of classification. An alternative was the smallest civil division or agglomeration of units smaller than minor civil divisions.

It was suggested to define urban areas as localities with a population of 2,000 or more inhabitants, and rural areas as localities with a population of less than 2,000 and sparsely populated areas. However, countries defined urban areas considering other issues such as administrative boundaries, built-up areas, areas for which certain services are provided, or functional areas.

National practices on the definition of rural and urban areas

The majority of countries (36 out of 44, 82 per cent) distinguished urban and rural areas in the 2000 round of censuses. The most common unit of classification was the smallest civil/administrative unit, which was used in 17 countries, while 11 countries used the locality (as suggested by the Recommendations) and 10 countries used other classification units, generally defined at the national level. In France and Portugal, both the locality and the smallest civil/administrative unit were used as classification units.

In 17 countries (mostly in Eastern Europe and the EECCA), urban and rural areas were defined by national laws or other legal or administrative acts passed by the Government, the Parliament or other public administrations.

Only six countries (Austria, Czech Republic, France, Greece, Israel and Portugal) defined, as suggested in the Recommendations, urban areas as localities with a population of 2000 or more, and rural areas as localities with a population of less than 2,000 and sparsely populated areas. Four countries used a lower threshold of 200 inhabitants (Australia, Finland, Ireland and Norway).

In the United States, the threshold adopted was higher. Urban areas included the so-called "urbanized areas" (defined as a "densely-settled territory that contains 50,000 or more people") and "urban clusters" (defined as a "densely-settled territory that has at least 2,500 people but fewer than 50,000 people").

In Canada, urban areas were defined on the basis of a "*minimum population concentration of 1000 persons and a population density of at least 400 persons per square kilometre*", and all territory outside urban areas was classified as rural.

Four countries (Slovakia, Slovenia, Switzerland and the United Kingdom) adopted more complex approaches where urban areas were defined on the basis of different criteria, including population size and various spatial, economic, structural, functional and administrative characteristics.

The UNECE survey also collected information on other criteria used to classify the population according to the characteristics of the basic territorial entity - be it locality or civil unit or other basic unit - as for example functional areas, labour market areas, etc. Different criteria were adopted in 15 countries to create classifications of this type, including for instance:

a) Albania: areas with prevalence of industrial or agricultural activities.

b) Austria: "urban regions" or interconnection between localities through commuting.

c) Canada: Census Metropolitan Area and Census Agglomeration Influenced Zones (MIZ). Municipalities that were not included in either a census metropolitan area (CMA) or a census agglomeration (CA) were classified into one of four categories (from "strong MIZ" to "no MIZ") depending on the percentage of the residents who commute to work in the urban core of any census metropolitan area or census agglomeration.

d) Finland and Italy: Labour market areas - if 10 per cent or more of the labour force is commuting to the main municipality (in Finland).

As this was a "non-core topic" in 2000, the Recommendations presented a relatively broad choice of approaches, in addition to the "suggested" approach. The result is that while most countries in the UNECE region distinguished urban and rural areas, only a very small number of countries followed the approach suggested in the Recommendations. Moreover, in almost half of the countries urban and rural areas were defined at the national or local level by legal or administrative acts. As a consequence, the international comparability of data on urban and rural areas from the 2000 round of censuses is poor.

Considerations regarding compliance with the recommendations

With regard to the place of usual residence, the large majority of countries (84 per cent) reported that they complied with the recommended definition. However, a few of these countries did not completely follow the Recommendations since they considered as usual residents persons who were absent for more than one year.

Countries used different approaches to enumerate difficult-to-count population groups. Students living away from home while at school or university appeared to be the most critical group. About half of the countries counted them at the school/university address (as recommended in the UNECE Recommendations), while the other half counted them at the family address.

In addition to students, other population groups were reported as difficult to count and to be considered as described in the Recommendations due to their multiple residences and high mobility. Persons who maintain more than one residence and students are among the population groups reported by countries as having high risk of double counting. Young people, in particular singles, males, and mobile people, are among the groups reported by countries as having high risk of undercounting.

For the total population, most countries (89 per cent) reported that they complied with the Recommendations and compiled figures for the total usually-resident population. However, contrary to the Recommendations many countries did not include nomads and refugees in the total usually-resident population. On the other hand, many countries included in the total usually-resident population some population groups that were recommended to be excluded, such as persons living abroad for more than one year, foreign workers residing in the country for less than one year and asylum seekers. It should be noted that these deviations from the Recommendations could lead to the counting of some people in more than one country, or to not counting them at all.

Regarding the definition and classification of locality and urban/rural areas most of the countries did not comply with the population size criteria for the classification of localities and also did not comply with the population threshold of 2,000 inhabitants for the rural and urban areas. This makes comparisons between countries more difficult.

Finally, it should be added that the variations in the definitions of place of usual residence and total population also affect the measurement of international and internal migrations, as discussed in the next chapter.

7. INTERNATIONAL AND INTERNAL MIGRATION

Migration in general, and international migration in particular, plays an important role in shaping the demographic and socioeconomic structures of many industrialised countries. Different definitions were utilized in the last census round to provide migration information, also because a comprehensive and consistent framework was lacking, especially for the identification of migrants stocks.

In many countries the population census is not only a primary statistical source, but it also has a pivotal function for the range of definitions and classifications it produces. The censuses in the last round provided information about the stock of immigrants and other persons with foreign background, and also on timing and geographical patterns of their migration.

When addressing the issue of defining and measuring the stock of international migrants at a population census, two different aspects may be considered and are discussed below:

a) Implications of census definitions and practices, on the enumeration of special population groups that may be considered part of the migrant stock.

b) The different definitions (and approaches) used regarding who should and who should not be included in the stock of immigrants living in a country at a specified point of time.

In relation to the immigrants stock the UNECE Recommendations included two core topics that allowed identification of those born abroad (Country/Place of birth) and those with foreign citizenship (Country of citizenship - including multiple citizenships). Additional topics allow identification of additional groups that may or may not belong to the immigrant stock. These are; Citizenship acquisition (including citizenship at birth), Place of birth of parents, and, to some extent, Ethnic group, Language and Religion.

Other topics add information about timing and geographical patterns of international immigrants, allowing some inference about immigration flows:

a) Place of usual residence one year prior to the census, (and five years ago or at the time of the previous census

b) Duration of residence

c) Previous place of usual residence

d) Year (or period) of immigration into the country

Internal migration stocks and information about timing and geographical patterns of internal movements are collected using the same topics as those listed above. In the case of year (or period) of immigration it is replaced with “year of arrival to the present place of usual residence”.

INTERNATIONAL MIGRATION[39]

Stock of international migrants: definitions and practices

Two different aspects are relevant when addressing the issue of defining and measuring the stock of migrants at a population census:

a) Implications of census definitions and practices on the enumeration of migrants. The definition of resident population and therefore the choice of who should be included is very important in the case of migrants: quite a number of categories have border-line characteristics. The decision whether or not to include these categories in the resident population can have important implications on both the total and the migrant population.

b) Definition of immigrant stock: once the resident population is defined who has to be considered as an immigrant? At the international level, there is still no agreement on what has to be considered as the stock of immigrants living in a country at a specified moment.

Identification and counting of population groups relevant to immigration

The inclusion or exclusion of specific population groups in the total usually-resident population was discussed in Chapter 6. In this section the implications of these practices on the stock of international migrants are discussed, both in quantitative and qualitative terms. With reference to the population groups presented in table 6.1, five population groups are directly linked to the migrant stock: "*6. refugees*", "*8. foreign workers with legal but temporary status (up to one year)*", "*9. asylum seekers*" and "*10. foreigners living in the country not having the right to stay*" are different categories of the immigrant population, while "*3. persons who have left the country temporarily (up to one year of absence)*" represent a category of emigrants. For some of these groups, namely "*10. foreigners living in the country not having the right to stay*" and "*3. persons who have left the country temporarily (up to one year of absence)*", countries have also flagged operational problems in enumerating them, resulting in an undercounting of these categories (see section "Double counting or undercounting problems for specific population groups" in Chapter 6). It appears that the type of census methodology used may have some impact on this issue.

Temporary foreign workers with legal status

There was no definition for this category but two important features are clearly inherent to it: legal status and temporary residence (less than a year). In the UNECE Recommendations this population was part of those groups that "*should not normally be considered part of the total usually-resident population but countries may wish to collect data on them to produce alternative population counts*". However, as shown in table 6.1 (see group 8), 15 countries considered persons belonging to this typology as part of the resident population.

There was some difference between countries using different census methodologies. Two thirds (six out of nine) of the countries relying on administrative registers included foreign workers with legal temporary status in the count of the total resident population, while most of the countries (almost 75 per cent) carrying out a traditional census excluded them from the resident population.

[39] This section is based on information previously presented in the paper "Definitions and measurement of international migration in the 2000 census round and issues for the 2010 round" drafted by Enrico Bisogno and Chiara Pozzi (UNECE) and David Thorogood (Eurostat), presented at the November 2004 Joint ECE-Eurostat Work Session on Population Censuses (WP No.8). See: http://www.unece.org/stats/documents/2004/11/census1/wp.8.e.pdf

There are other groups of foreigners temporarily but legally living in a country (for example, students), for whom there were no explicit recommendations.

Resident foreigners without legal status

In the UNECE Recommendations no specific provision was made for this group (also referred to as "un-documented immigrants"), and countries reported three main different approaches in dealing with this category. About 40 per cent of countries included foreigners with no legal status in the resident population, provided that they were permanently living in the country (see group 10 in table 6.1). Among these countries, two (Slovenia and Spain) conducted their census under a combined approach using registers but also collecting information from the whole population while all the others carried out a traditional census. Of the 15 countries that did not include foreigners without legal status in any population count, seven had a combined or pure register-based census (out of nine that used these census methods). The third approach was to include this category in the present population and this was adopted by another group of eight countries, all located in Eastern Europe with the exception of Italy.

Many traditional or emerging immigration countries opted to include resident foreigners without legal status in the resident population (for example Australia, France, Greece, Hungary, Israel, Portugal, Russian Federation, Spain, the United Kingdom and the United States).
In deciding the preferred type of approach a decision had to be made whether to give priority to the legal or the *de facto* principle. Because illegal migration is a sensitive issue, the inclusion of this group in the census resident population was reported to be difficult for political reasons. An important operational factor was also the enumeration of this population, as many of these migrants would have been reluctant to complete the census.

Asylum seekers

This category includes those persons who have applied for refugee status under the 1951 Geneva Convention and who are waiting for a final decision. In practice, this group is also likely to include persons who have applied for other types of international protection under national or international laws and conventions. The 2000 Census Recommendations suggested that asylum seekers should not be included in the resident population.

In the 2000 census round half of the countries included this category in the resident population, while a number of countries (13) considered them as belonging to the present but not resident population (see group 9 in table 6.1). This latter group mainly included countries from Eastern Europe and the EECCA. Of the seven countries that followed the UNECE Recommendations, three had a combined or a register-based census (Netherlands, Denmark and Belgium).

One possible reason that the suggested recommendation was not adopted by so many countries is that asylum procedure can easily last one year or longer, and that the persons involved have a legal status.

Refugees

According to the broad definition used by United Nations High Commissioner for Refugees (UNHCR) but also by many governmental agencies, refugees are all those persons that have been recognized as such under the 1951 Geneva Convention but also those persons granted a refugee-like status on the ground of humanitarian reasons. Refugee status is generally granted on an individual basis. There are, however, situations of mass displacement where individual screening is not feasible and temporary protection is granted. In a broad definition these cases are also considered as refugees who are likely to remain in the destination country for a long period, often for more than 12 months.

The UNECE Recommendations suggested that refugees should be included in the resident population and most countries (28) followed this recommendation (see group 6 in table 6.1). 13 countries, mainly from Eastern Europe and the EECCA, considered them as present but not resident, while a small group (five) did not include them in any population count (three of these countries used registers data under a combined or pure register-based census approach).

Temporarily absent persons

The way in which temporarily-absent persons are treated can have important implications on the count of the total usually-resident population, especially in countries experiencing significant migration outflows.

Almost all countries include persons temporarily absent in the count of total resident population (see group 3 in table 6.1). There are no differences between countries conducting traditional censuses and those conducting combined or register-based censuses even though, from an operational point of view, the latter potentially face more problems in ascertaining the actual absence of persons.

Definition of the stock of international immigrants

Recommended Definition: The UNECE 2000 Census Recommendations did not give specific instructions as to how to define the stock of immigrants. They only mentioned that the core topic Country/Place of Birth *"is an important indicator for estimates of internal and international migration"*.

Two census topics were recommended to identify the migrants stock. These are place of birth and country citizenship. The first identifies the foreign-born population, and the second identifies foreigners living in the country.

In respect to country of birth, it was recommended to collect the information for all the persons enumerated in the census. Also it was recommended to collect and code this information, along with Country of Citizenship and multiple citizenships, in as detailed a manner as is feasible, using international standard classifications.

In addition to the two recommended (core) topics of country of birth and country of citizenship, additional topics allowed different groups to be identified relevant to the immigrant stock. These are citizenship acquisition (including citizenship at birth), place of birth of parents and, to some extent, ethnic group, language and religion.

Compliance with the recommendations

Most countries collected information about country of birth and country of citizenship. The only exceptions were the United Kingdom and Israel, which did not include a question on country of citizenship. Most countries followed the recommendation on the geographical classifications.

The UNECE Recommendations defined the place of birth as the place of residence of the mother at the time of birth. Only 19 countries followed this definition while all the others concentrated on the actual place or country of birth. Generally, reasons for not using the recommended definition were the need for consistency with previous censuses or other statistical surveys, but also respondent and user needs.

As shown in table 7.1, some countries asked about "legal" background by asking questions on dual citizenships or citizenship at birth. Other countries inquired about parents' place of birth, which allows identifying members of the so-called second generation. In both cases, the main purpose was to collect information on the background or origin of respondents and allow the identification of subpopulations of interest. Overall, 29 countries included at least one question on either citizenship background or place of birth of parents.

Table 7.1
Number of countries that included topics relevant to measuring migrants stocks in the 2000 Round Census, UNECE region

TOPICS	Included	Not included
Country of birth	44	0
Citizenship	42	2
Other questions on citizenship		
Multiple citizenships	20	24
Citizenship at birth	8	36
Place of birth of parents	8	36
Ethnic group	27	17
Related questions		
Language	33	11
Race	2	42
Religion	22	22
Reason for migration	11	33

Source: UNECE survey, 2004

Twenty seven countries asked an ethnic affiliation question and were interested in the long-standing multi-ethnic composition of their populations. There are countries where this question was asked with the aim of identifying stocks resulting from recent immigration flows.

Most countries found the issue of international (and as will be shown later also internal) migration suitable for investigation in the census and devoted a relatively large number of questions to these issues.

INFORMATION ON TIMING AND GEOGRAPHICAL PATTERNS OF INTERNATIONAL MIGRATIONS

Recommendations

Several census topics have been used to get information about timing and geographical patterns of international immigrants:

a) Place of usual residence one year prior to the census, (or five years beforehand or in the previous census)
b) Duration of residence
c) Previous place of usual residence
d) Year (or period) of immigration into the country

For "place of residence at a specific date in the past" a one-year period was selected by the UNECE Recommendations, which recommended this as a core topic. The World Recommendations indicated the five-year period as more relevant for international migration while the one-year period as more pertinent for internal migration.

Where the focus was on the length of stay in the current place of residence, it was recommended to record the year of arrival in the current place of residence as a means to characterize immigrants by period of arrival. The Recommendations also discouraged the use of duration of residence as an alternative to period or year of arrival.

Regarding the topic "previous place of usual residence", it was specified that it had only limited value without information on the time of immigration. Therefore, it was recommended that information on both topics be collected together.

Different approaches to capture timing and geographical patterns of migrations

As in the case of measurement of immigrant stock, most countries devoted a significant number of questions to the collection of data on timing and geographical patterns of migrations.

Two types of approaches (questions) to assess the timing and geographical origin of the immigrants have been identified:

a) Type A – Assessing the person's previous place of usual residence, at a fixed date in the past.
b) Type B – Assessing the person's year of arrival at the current place of residence with, or without, the previous place of usual residence.

The data resulting from the two different approaches are different and each approach has its own advantages and disadvantages.

Type A questions potentially offer a simple way to address all levels of migration, by asking about previous place of usual residence at a fixed point in the past. Some information can be provided on different types of migration; for example, short-distance local migrants, longer-distance internal migrants and international migrants.

However, a weakness of Type A questions is that they only allow the identification of cases where the migration has occurred within the stated reference period and offer no information about when the migration took place. Although questions on country of birth may indicate that a person has at some point migrated to their current country of residence, the Type A questions do not show when the migration occurred. Social and economic adaptation of a migrant into a new country of residence is a long-term process, and having information only on those who migrated within the last one or five years would generally be insufficient to allow this process to be studied in detail.

Whereas Type A questions offer flexibility with regard to the type/distance of the migration, Type B questions offer flexibility in terms of the time period in which the effects of migration can be studied. Such questions allow, for example, the identification of persons who migrated a number of years before the census, allowing comparisons to be made with more recently migrating groups. However, if the focus is on the arrival to the current place of residence, in terms of minor civil division, valuable information on long-range or international moves will be lost. For many users, typically those studying international migration, there is little value in knowing when the person became resident at a certain address or even in that part of the administrative area without knowing the type of movement (long, short or international) that this person was previously involved in.

A further consideration is the effect of memory (recall) on the quality of responses to the migration flow questions. Although Type B questions potentially allow the study of the longer-term effects of migration, persons who migrated some years before will be less able to recollect correctly the date of migration. Clearly this effect is expected to be less important for international migration (generally a major life event) as opposed to shorter distance migration (that may be perceived as having less significance for the individual). Overall, this implies that there is a limit beyond which only very broad ranges of dates may be used.

Compliance with the recommendations and adherence to the different approaches

Some countries adopted only one of the different approaches while others included both types of questions, presumably to overcome the disadvantages associated with each of the two approaches.

Thirty one countries responding to the questionnaire reported asking about previous place of residence at one or more fixed dates in the past, thus adopting the Type A approach. The majority (22 countries out of 31) used the one-year fixed period as recommended in the UNECE Recommendations. Nine of these 22 countries asked also about the place of residence at an additional date; four referred to the date of the previous census and five to the place of residence five years before the census.

Nine countries (out of the 31) used a question relating to place of residence at a fixed point in the past but did not follow the recommended one year time period. Five of these countries asked questions about place of residence five years previously, and a further four referred to place of residence at the date of their previous census.

In total, 10 countries (out of the 31), asked about place of residence five years before the census and eight about place of residence at the time of the previous census.

The Type B approach was followed by 30 countries that asked about year of arrival to the current place of residence and/or to the country. This group of countries is exactly split between those who asked the year of arrival in the current civil division and those who asked the year of arrival in the country: 17 countries in each group (four countries asked both questions).

In total 11 and 10 countries respectively, used only Type A or only Type B questions, 20 combined both approaches and three countries - Austria, Finland and Slovakia - did not use either approach. The type of census method, traditional or register-based or combined, doesn't seem to have an effect on the approach preferred to collect information regarding international migration.

Eleven countries reported the use of the census to collect information on the legal (three countries) or subjective reason for migration, a topic not covered by the UNECE Recommendations.

Finally, it should be underlined that 20 countries (out of 39 who collected data about migration) reported the census as a main source of data on international immigrants stocks and 10 of them as a main source of data on flows. Six countries reported the census to be a main source for information on stocks of emigrants, one of them for flows of emigrants.

INTERNAL MIGRATION

Recommendations

Specific indications about internal migrations are provided in the topic dealing with "place of usual residence one year prior to the census". This topic is included for the explicit purpose of providing information about migrations and in particular on migrants' characteristics. Some additional indications and recommendations are spread over several of the topics that were listed in the discussion on international migrations practices in the previous section. In the following paragraphs those parts that are relevant to internal migration measurement are overviewed.

The Recommendations provided guidance on how to determine the place of usual residence of some population groups of special interest for measuring internal migration

Place of birth was mentioned as a useful topic for the collection of (lifetime) migration information, but it was recommended that for this purpose it should be collected in conjunction with duration of residence and at least one of the previous place of residence variables.

Regarding duration of residence, the importance was stressed of clearly specifying the geographical unit to which the duration of residence applied to (i.e. locality, major or minor civil division), and not referring to the particular housing unit.

Compliance with the recommendations

The treatment of different groups of importance to the correct classification of the population by migration status, was discussed in Chapter 6. From this discussion, it is apparent that most of the countries (84 per cent) complied with the recommended definition of place of usual residence and with the recommendation to provide specific instructions for the treatment of these special groups. However, specific instructions varied between countries and did not always comply with the recommendations on who should or should not be included in the total resident population at the local level. This makes cross-country comparisons of internal migration data complicated.

The treatment of students not living with their parents provides an example of complications that arise from different definitions. Only 31 countries issued specific instructions on how to treat this group. As mentioned in Chapter 6 (section "Treatment of special population groups"), in a third of these countries students were considered as resident at their family's address, while in another third of the countries they were considered as resident at the school or university residence. In terms of internal migration, it is probable

that those countries where students were considered as resident at their family address will have less internal migration than countries where the students were classified as internal migrants to the area where they study. Across countries comparisons are further complicated by the fact that ten countries adopted other instructions for this group, and the remaining 13 countries did not have specific instructions. Similar differences occur for other groups such as those having multiple places of residence, or persons in compulsory military service at the time of the census.

These groups not only cause difficulties from the point of view of migration status, but they may be an important component of the internal migrants stock, even if they usually are relatively small groups compared to the total population. Their treatment is more significant since they are potentially an important component of the over and under-count in many censuses. An example is those persons living in different types of institutions, with many of them being in institutional households. This group was reported by several countries to be at high risk of over-counting, as in many cases, they are internal migrants who left a private household some time in the past. The treatment of this group may influence the estimation of the size of the internal migrants group, affecting the estimation of the out-migrants group across the country.

Most countries complied with the recommendation to use detailed classifications of geographical units for those variables connected with internal migration measurement (usually minor civil divisions).

Almost every country collected some information about internal migration (excluding only Austria and Slovakia, as was the case with international migration). It was also collected at a very detailed geographical level (minor civil divisions) and some countries used more than one approach (or set of variables). Out of the 42 countries who reported collecting information on internal migration, 32 used the previous residence at a fixed date in the past, 16 the combination of year of arrival and previous place of residence (no date), and six used both sets of variables.

While most countries reported detailed investigation of internal migration, 20 countries reported the census to be a main source of official statistics on internal migration for the year of the census. Of the 20 countries, almost all (18) mentioned the census was a main data source for stocks of in-migrants information, four of them for stocks of out-migrants and seven for flows of migrants at a specific time. Moreover, only two of the six which used two sets of variables for collecting internal migration data reported the census as a main source for official statistics on internal migration.

Considerations regarding compliance with the recommendations

Countries devoted significant efforts to obtaining information on both international and internal migrations during the latest census round. They used several questions to collect the data, some of them requiring extensive coding and therefore needing significant resources. However, the lack of consistency of the definitions used between countries make these data difficult to use for international comparisons.

Most problems are with the rules used to decide about the inclusion/exclusion of specific groups in the enumerated population. Despite being small in size relative to the total population, some of these groups are an important part of the migrant stock. The different approaches and definitions that have been used make migration data comparisons across countries difficult. In the case of international migration this means that it is difficult to use census data on immigrants coming from a specific country to estimate the emigrant numbers and characteristics from a particular country.

In some cases the origin of these inconsistencies is operational. For example, it is difficult to get reliable data on immigrants staying illegally in a country. Other inconsistencies are the consequence of countries not complying with the recommended definitions. Finally, some problems are also due to the lack of a comprehensive framework defining all the population groups relevant to international migration.

8. DEMOGRAPHIC AND ETHNO-CULTURAL CHARACTERISTICS

This chapter discusses the practices in the 2000 census round regarding demographic and ethno-cultural characteristics of persons. The demographic variables taken in consideration are sex, age and marital status (including both legal and *de facto* marital status), marriage and fertility. The ethno-cultural variables include ethnic group, language and religion.

SEX AND AGE

Recommendations

Sex is the census topic for which the recommended definition is the most clear, since the sex of each person had to be recorded.

With regard to age, the UNECE Recommendations required the collection of information on date of birth, which allows the data to be tabulated in two ways – by year of birth and by completed years of age. In the UN Principles and Recommendations two methods were presented for collecting information on age; the date of birth – recommended as the method that produces the most precise information - and a direct question on age at the person's last birthday. The second method yields less accurate responses and therefore it was recommended to be used only when people cannot provide a birth year.

Compliance with the recommendations

With regard to the topic sex, all countries complied with the Recommendations. In the case of age, most countries (25 out of 39) complied with the Recommendations and collected information on the date of birth.

For 10 countries (including seven EECCA countries[40], Cyprus, Lithuania and the United States), the census form included fields for both the date of birth and the age of the person at the last birthday. In Cyprus, information on age was collected only when the year of birth was not known. In the United States and Lithuania, information was collected on both date of birth and age of the person. In the Russian Federation and Georgia, information was collected only on the date of birth, and the interviewer on the basis of the date of birth determined the age without asking an additional question.

Among the four remaining countries, in Australia and Turkey only information on the age of the person was collected, and not the date of birth. In Hungary only the month and year of birth (but not the day) were collected. In Luxembourg, the year of birth was obtained together with an indication whether the birthday was before or after census day (15 February).

MARITAL STATUS

Recommendations

The Census Recommendations included two distinct topics for legal marital status (core topic) and *de facto* marital status (non-core topic).

[40] Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Russian Federation and Ukraine.

Legal marital status is defined as: *the (legal) conjugal status of each individual in relation to the marriage laws (or customs) of the country (i.e. de jure status)*.

Information on the legal marital status of each person should be collected at least for persons aged 15 and over. However, since the minimum legal age (or the customary age) for marriage varies between countries and since the population may also include young persons who have been married in other countries with lower minimum ages, some countries may find it useful to collect the data for persons under 15 as well.

The following classification of the population by marital status is recommended:

1.0 Single (i.e. never married

2.0 Married

3.0 Widowed and not remarried

4.0 Divorced and not remarried

The Recommendations also required that the national census report explain clearly the definitions of each tabulated marital status category, and specify how groups such as the divorced, legally separated, *de facto* separated, consensually married and with an annulled marriage were treated.

De facto marital status is defined as: *the marital status of each individual in terms of his or her actual living arrangements.*

De facto marital status was an additional topic more relevant for countries that have experienced increases in the number of persons living in consensual unions. Information on *de facto* marital status could be derived from information collected on topics related to household and family characteristics of persons, in particular the relationship to the reference person. No detailed definition and no classifications were presented in the Recommendations for this topic.

Compliance with the recommendations

Legal marital status

Out of 44 countries for which information was available, data on legal marital status was collected in 23 countries using the recommended definition and classification, and in 12 countries using a different classification. In seven countries, a mixed classification was used to collect information on marital status, including some legal and some *de facto* categories. In Portugal and Turkey, only information on *de facto* marital status was collected.

Among the 23 countries that used the recommended classification of legal marital status (see table 8.1), a few countries provided additional information on the treatment of specific groups. The category "married" included "legally separated" in Cyprus and Switzerland, and included "separated" in France. In Azerbaijan and Kazakhstan, separated persons were classified as "divorced". In Lithuania, the sub-category "remarried" was added under the main category "married".

In Cyprus, a question on *de facto* marital status was presented first, including the category "cohabitant". Only those who selected "cohabitant" to this question were asked to specify the legal marital status. Therefore, data on legal marital status for Cyprus assumed that the legal marital status corresponds to the *de facto* marital status for all respondents in categories: "never married", "married", "widowed" and "divorced".

Table 8.1
Countries that used the recommended classification of legal marital status

Country	Age group	Notes
Albania	all ages	
Austria	all ages	
Azerbaijan	15 and above	"Divorced" includes separated
Belgium	all ages	Data from registers
Bulgaria	all ages	
Croatia	all ages	
Cyprus	all ages	"Married" includes legally separated. Legal marital status was asked only to those who selected "cohabitant" for "marital status"
Czech Republic	all ages	
Estonia	15 and above	
Finland	all ages	Data from registers
France	15 and above	
Israel	all ages	
Kazakhstan	all ages	"Divorced" includes separated
Latvia	all ages	Data from registers
Lithuania	15 and above	"Remarried" added as sub-category of married
Luxembourg	all ages	
Netherlands	all ages	Data from registers
Romania	all ages	
Serbia and Montenegro	all ages	
Slovakia	all ages	
Slovenia	all ages	Data from registers
Switzerland	all ages	"Married" includes legally separated
The former Yugoslav Republic of Macedonia	all ages	

Source: UNECE survey, 2004.

With regard to the 12 countries where the classification used to collect information on legal marital status was different from the recommended classification (see table 8.2), in most cases the difference consisted of the presence of special categories for separated persons. Categories were added for "separated" in Australia, Greece, Ireland, Malta, and Spain; for "separated but still legally married" in Canada, Hungary, Italy, Poland and United Kingdom; and for "legally separated" in Italy, Norway and Poland. In Italy, the category "separated but still legally married" (called "*de facto* separated") was considered for dissemination purposes as a sub-group of "married".

In Denmark and Norway (where data were taken from registers) the case of registered partnerships (same sex couples) was considered in the classification. In Denmark, registered partnerships were included together with legal marriages. In Norway, additional categories were considered for "Registered partner", "Surviving partner", "Separated partner", and "Divorced partner". A broader classification in three categories was considered for dissemination in Norway; never married, married (including married and registered partners) and previously married (all the remaining categories).

In Ireland and Malta, specific categories were considered for "remarried". Moreover, in Ireland, "remarried following widowhood" was distinguished from "remarried following divorce/annulment".

Table 8.2
Countries that used a classification of legal marital status different from the recommended classification

Country	Age group	Notes
Australia	all ages	Additional category: "Separated but not divorced"
Canada	all ages	Two categories for "Legally married (and not separated)" and "Separated but still legally married"
Denmark	all ages	Data from registers. Legal marriages includes registered partnerships (to persons of the same sex)
Greece	all ages	Additional category: "Separated"
Hungary	all ages	Two categories for "Married living together" and "Married living separated"
Ireland	15 and above	Additional categories: "Re-married (following widowhood)", "Re-married (following divorce/annulment)" and "Separated"
Italy	all ages	Additional categories: "*De facto* separated" (for dissemination purposes considered as sub-group of married), "Legally separated"
Malta	all ages	Additional categories: "Remarried", "Separated". Divorced includes "Annulled"
Norway	all ages	Data from registers. Additional categories: "Legally separated", "Registered partner (same sex couples)", "Surviving partner", "Separated partner", "Divorced partner"
Poland	15 and above	Two categories for "Legally married (and living together)" and "Legally married (living separately)". Additional category for "Legally separated"
Spain	all ages	Additional category: "Separated"
United Kingdom	all ages	Two categories for "Married (first marriage)" and "Remarried". Additional category for "Separated, but still legally married"

Source: UNECE survey, 2004.

The seven countries where mixed classifications were used to collect information on marital status, including some legal and some *de facto* categories (see table 8.3), include six EECCA countries (Armenia, Belarus, Georgia, Kyrgyzstan, Russian Federation and Ukraine) and the United States.

With regard to the six EECCA countries, the "*de facto* married" category (usually indicated as "married, not registered") was considered as a separate category in Armenia, Belarus, Kyrgyzstan, the Russian Federation and Ukraine. For persons in this category the legal marital status cannot be identified in these countries. In Georgia, "*de facto* married" is included in "married" and therefore it is not possible to say how many of the "married" persons are in fact legally married.

In the United States, a mixed classification was used, where the category "now married" included married people not separated but also people in common-law marriages, if they considered this category the most appropriate. The category "separated" included people with legal separations, people living apart with the intention of obtaining a divorce, and people who were permanently or temporarily separated because of marital discord.

As a consequence of the limitations of the classifications adopted, the seven countries listed above may not be able to provide complete and accurate data on legal marital status.

Table 8.3
Countries that used a mixed classification of marital status with legal and *de facto* categories

Country	Age group	Notes
Armenia	15 and above	Additional categories for: "*De facto* married", "Married living separately", "Divorced, not registered"
Belarus	15 and above	Additional categories for: "*De facto* married", "Separated"
Georgia	15 and above	"Never married" are persons who have never been in legal *or de facto* union. "Married" includes *de facto* married. "Divorced" includes separated. "Widowed" included surviving partners of *de facto* union.
Kyrgyzstan	15 and above	Additional categories for: "*De facto* married", "Separated"
Russian Federation	16 and above	"Married" includes "Legally married" and "*De facto* married". "Separated" includes divorced, regardless of whether marriage was legal or *de facto*, or whether divorce was registered or not.
Ukraine	15 and above	Additional categories for: "*De facto* married" ("Live with partner"), "Separated"
United States	all ages[a]	"Now married" may also include *de facto* married. "Separated" includes legally separated or married people who are temporarily or permanently separated

[a] Asked to all individuals, but data edited and tabulated to show marital status only for the population 15 years and above.

Source: UNECE survey, 2004.

De facto marital status

Data from the UNECE questionnaire and the census forms indicates that 35 out of 44 countries collected information on *de facto* marital status[41]. The Recommendations did not include any recommended definition or classification of *de facto* marital status and the analysis of national practices will focus on the approach used by countries to collect information on this topic, rather than on compliance with the Recommendations.

The most common approach (followed by 20 countries) was to derive information on *de facto* marital status from the relationship to the reference person, in particular through the category "partner in consensual union" or similar categories (see table 8.4). In some countries, this information was integrated with information from other topics, such as legal marital status. In Italy, for instance, the topic of legal marital status included the category "*de facto* separated", while in Poland the category "legally married (living separately)" was included.

One of the limitations of this approach is that only the relationships involving the reference person are identified, but not the others. In the United Kingdom, where information on the relationships between all household members was collected through a "matrix" approach, the *de facto* marital status could be derived for all individuals and also relationships not involving the reference person could be identified. A similar approach was adopted in Estonia where, in addition to the relationship to the reference person, for each household member it was specified who in the household was the "legal spouse", the "partner in consensual union", the mother, and the father. This information allowed the identification of the relationships between the members of the household.

[41] Information on *de facto* marital status was not collected in the following countries: Azerbaijan, Georgia, Kazakhstan, Latvia, Luxembourg, Netherlands, Serbia and Montenegro, Switzerland, United States.

Table 8.4
Countries that collected data on *de facto* marital status using the relationship to the reference person

Country	Category and notes
Albania	"*De facto* partner" (not actually married)
Australia	"*De facto* partner"
Austria	"Consensual union partner"
Belgium	"Partner"
Croatia	"Partner in consensual union (cohabitant)"
Czech Republic	"Partner"
Estonia	"Partner in consensual union". For each member of the household information was collected on who in the household was the spouse and who was the partner in consensual union – matrix approach.
France	"In consensual union" ["*en union libre*"]
Greece	"Partner in consensual union"
Ireland	"Partner"
Israel	No specific category, information from open category "Other relation (please specify)"
Italy	"Cohabitant" In addition, marital status included the category "*de facto* separated"
Lithuania	"Cohabitant"
Malta	"Unmarried partner"
Poland	"Cohabitant (common-law partner)" In addition, marital status included the category "legally married (living separately)"
Slovakia	"Mate"
Slovenia	"Partner in consensual union"
Spain	"Partner"
The former Yugoslav Republic of Macedonia	"Partner in consensual union"
United Kingdom	"Partner". Information was collected on the relationships between all members of the household - matrix approach.

Source: UNECE survey, 2004.

Information on *de facto* marital status was collected through a specific question in seven countries (see table 8.5), including Portugal and Turkey where only information on *de facto* status was collected (information on legal marital status was not collected). In Turkey the four categories recommended for legal marital status were used: "single", "married", "widowed", and "divorced". In Portugal, the "married" category included two sub-categories for "legally married" and "*de facto* married", and a category was added for "separated".

In Cyprus, information on *de facto* marital status was collected using the four categories recommended for legal marital status plus the category "cohabitant". In Bulgaria, three categories were considered for *de facto* marital status: "not in marriage", "in marriage" (regardless of whether the marriage had been legally formalized or not) and "in consensual union". Information on *de facto* marital status was collected using direct questions in Canada ("Are you living with common-law partner?"), Hungary ("Do you live in cohabitation?"), and Romania ("Is the person living in consensual union?"). In Hungary, the persons living in cohabitation specified the duration of the relationship.

Table 8.5
Countries that collected data on *de facto* marital status using a specific question

Country	Question and notes
Bulgaria	Categories for "*De facto* marital status": "Not in marriage [a]", "In marriage [a]", "Consensual union".
Canada	"Are you living with common-law partner? YES/NO" Information on the relationship to the reference person was also used.
Cyprus	Categories for "Marital status": "Married", "Cohabitant", "Widowed", "Divorced", "Never married"
Hungary	"Do you live in cohabitation?" NO/YES, with present partner for … years … months
Portugal	Only *de facto* marital status was collected: Categories for "Marital status": "Single", "Legally married", "De facto married", "Widowed", "Divorced", "Separated"
Romania	"*De facto* marital status": "Is the person living in consensual union?" YES/NO
Turkey	Only *de facto* marital status was collected: Categories for "Marital status": "Single", "Married", "Widowed", "Divorced"

[a] Irrespective of whether this status is legally formalized or not [from the instructions]
Source: UNECE survey, 2004.

In five countries, all members of the EECCA, information on *de facto* marital status was collected using the generic question on marital status, which included some legal and some *de facto* categories (see table 8.6). In these countries, two categories were added to the recommended categories for legal marital status, to identify partners in consensual unions (also called "married not registered" or "*de facto* married") and separated persons (or "married living separately").

Table 8.6
Countries that collected data on *de facto* marital status using a mixed classification with legal and *de facto* categories

Country	Categories and notes
Armenia	"*De facto* married", "Married living separately"
Belarus	"Partner in consensual union (not registered)", "Separated"
Kyrgyzstan	"*De facto* married", "Separated"
Russian Federation	"Married" includes "Legally married" and "*De facto* married". "Separated" includes divorced, regardless of whether marriage was legal or *de facto*, or whether divorce was registered or not.
Ukraine	"Live with partner"

Source: UNECE survey, 2004.

In the three countries where the population census was completely based on data from registers (Denmark, Finland and Norway), information on *de facto* marital status was estimated on the basis of the composition of households and the legal marital status of individuals (see table 8.7). In Finland, in particular, the category "partner living in a consensual union" was estimated by considering couples of not-married people living together (with children in common or not). In Norway, an additional category was considered for "same-sex partners in consensual union".

In Norway, data on *de facto* marital status were also presented by distinguishing "persons living as a couple" and "persons not living as a couple". Persons in the first group were grouped according to whether they were married, registered partners (these two categories were normally grouped together in tables) or in cohabitation.

Table 8.7
Countries that collected data on de facto marital status using data from registers

Country	Categories and notes
Denmark	"Partner in consensual union" (with or without common children)
Finland	"Partner living in a consensual union" (with common children or not) Estimate based on register data: not married people living together
Norway	"Partner in consensual union", "Same-sex partner in consensual union" "Persons living as a couple" also identified, including three subcategories: "married", "registered partners" and "cohabitants"

Source: UNECE survey, 2004.

General considerations on legal and de facto marital status

From the analysis of the practices followed by countries to collect information on legal and *de facto* marital status, it can be concluded that the majority of countries were able to provide data on legal marital status (which was a core topic) complying with the 2000 Census Recommendations.

A number of countries considered additional categories for "legally separated", "separated but still legally married" or simply "separated". These groups are of increasing relevance in many countries, and in some cases there appears to be confusion between legal and *de facto* marital status. In many countries it is not clear how these groups were treated, and this may potentially affect the comparability of the results across countries.

The practice of using the same question to obtain data on legal and *de facto* marital status should be discouraged because the resulting data on legal marital status may not be accurate, in particular for selected groups such as persons in a consensual union.

With regard to *de facto* marital status (non-core topic), the analysis of national practices presented a large diversity of approaches, concepts and definitions adopted by countries. This reflects the diversity of the social and legal context in the different countries, and as a consequence it makes it difficult to compare results across countries.

MARRIAGE AND FERTILITY

Recommendations

Two (non-core) topics included in the Recommendations refer to aspects of marriage and fertility: the timing of marriage and the number of children ever born. The World Recommendations included (in a section dealing with fertility and mortality) a larger list of topics that may be relevant for the study of fertility (and mortality) than those included in the UNECE Recommendations.[42]

Definition of number of children ever born; *total number of live-born children should, in principle, include all children born alive during the lifetime of the women concerned up to the census date (i.e. excluding foetal deaths). The number recorded should comprise all live-born children whether born of the present or prior marriage(s), whether born of consensual or other unions or by a single mother.*

It is recognized that it may not be possible to specify in the enumeration instructions that children not born in a marriage or in a consensual union should be included.

It is also suggested that information on total number of live-born children (if this topic is included in the census) be collected for all women.

With the purpose of extending the knowledge that can be derived from data on number of live-born children it is suggested in the UNECE Recommendations to collect information regarding the date of legal marriage of ever-married women stressing that, if relevant, both first marriage and current marriage dates should be collected. The World Recommendations suggested that for widowed, separated and divorced women, data should be collected on timing of (age, date or duration since) the dissolution of the first marriage.

Compliance with the recommendations

No detailed information was reported in the UNECE survey on these topics. The only information reported is the fact that 15 countries indicated the census as the main source used to provide official statistics on fertility (for the year of the census) at the national level, and 13 at the local level.

ETHNIC GROUP[43]

Recommendations

The definition suggested in the UNECE Recommendations for the (non-core) topic ethnic group was: *Ethnic groups (and/or national groups) are made up of persons who consider themselves as having a same origin and/or culture, which may appear in linguistic and/or religious and/or other characteristics which differ from those of the rest of the population.*

[42] The list included in addition: children living, date of birth of the first child, deaths in the past 12 months, maternal or paternal orphanhood, and age of mother at birth of first child born alive.

[43] The sections on ethnic group, language and religion are based on information previously presented in the paper "Ethnic group, Language and Religion" drafted by Werner Haug (Swiss Federal Statistical Office) and presented at the November 2004 Joint ECE-Eurostat Work Session on Population Censuses (WP No.10). See: http://www.unece.org/stats/documents/2004/11/census1/wp.10.e.pdf

It depends on the historical and political circumstances whether countries consider such groups as ethnic groups and/or national groups. In addition it was stated that *persons should be free to declare to which ethnic group and/or national group they belong.*

The topic was included also in the World Recommendations, where it was stated that by the very nature of the subject, these groups will vary widely from country to country; thus no internationally-relevant criteria can be recommended. In addition, it is stressed that the basic criteria should be clearly explained in the census report so that the meaning of the classification is readily apparent.

Compliance with the recommendations

Most countries, 27 out of 44 (61 per cent), included a question on ethnic group. From the geographical distribution of those countries that collected these types of data two groups are identified. Countries in Central and Eastern Europe and the traditional immigration countries Australia, Canada, USA and Israel, as well as the United Kingdom, asked one or several questions regarding ethnic affiliation, whereas the rest of the Western European countries did not.

Most countries that included a question on ethnic group (21 out of 27) complied with the definition proposed in the 2000 UNECE Recommendations, while four countries diverged from it by enlarging the scope of the topic to ancestry, origin and race (USA, Canada) or by limiting it to certain subpopulations (Cyprus, Ireland).

LANGUAGE

Recommendations

The UNECE Recommendations regarding the (non-core) topic language included four different approaches that could be adopted by countries, based on different concepts:

a) *Mother tongue, defined as the first language(s) spoken in early childhood.*

b) *Main language, defined as the language which the person commands best.*

c) *Language(s) most currently spoken at home and/or at work.*

d) *Knowledge of language(s), defined as the ability to speak and/or write one or more designated languages.*

It was also suggested to ask at least two questions, namely question a) or b) and question c). If under question c), only one option is to be chosen, it is preferable to enquire about the language most currently spoken at home. The World Recommendations recommended collecting language information from all persons, indicating clearly what has been done regarding children not yet able to speak.

Compliance with the recommendations

Most countries (33 out of 44, i.e. 75 per cent) asked a question on language in the 2000 round census. Among them 21 countries asked for mother tongue, three for main language, 11 for the most spoken language and 17 for the knowledge of languages. Some countries limited the question to certain minority languages (UK, Ireland) or the use of the majority language (USA).

The recommendation to ask either the question on mother tongue or on main language was followed and no country asked both questions.

However, the recommendation to prioritize the question on spoken language to the one on knowledge of languages was not followed. Many countries, particularly from the EECCA, preferred to ask the question on knowledge of languages, for reasons of comparability with previous censuses.

Several countries (mostly immigration countries and multilingual countries) asked both questions.

RELIGION

Recommendations

The recommendations regarding the (non-core) topic of religion also included a distinction of different possible approaches:

a) *Formal membership of a church or a religious community*

b) *Participation in the life of a church or a religious community*

c) *Religious belief*

It was also stated that where only one question is asked, it is suggested that data be collected on "formal membership of a church or a religious community", allowing respondents to state "none". In any case, it was recommended that the definition used to collect the data should be set forth in the census publication.

Compliance with the recommendations

Around half of the reporting countries (22) collected data on religion. Most of them adopted one of the three approaches proposed in the Recommendations. Five countries asked for formal membership of a church or community and nine countries asked for religious belief. One country asked both for participation in the life of a church or a religious community and formal membership, and the remaining seven countries choose a different concept essentially referring to identification with communities or denominations.

The countries that collect data on religion are mainly immigration countries, countries from Central Europe, but also some countries from Western and Southern Europe. Western European countries mostly preferred the approach of collecting information about formal membership of a church or community.

The suggestion to prioritize the question on formal membership was not followed by most countries while identification with specific communities or denominations (beyond or without formal membership) was not explicitly addressed in the Recommendations. Some countries collapsed it in the same question with "religious belief".

9. HOUSEHOLD AND FAMILY CHARACTERISTICS[44]

The UNECE Recommendations for the 2000 round of censuses in the field of families and households implied major changes compared to the 1990 recommendations. One important change was that consensual unions were included systematically in the new recommendations. Other important revisions concerned *de jure*/*de facto* place of residence, the distinction between private and institutional households, the concept of child, and the concept of reconstituted family.

Rapid transformations in living arrangements and the emergence of new household types have been noted in many countries in Europe and North America in the recent past. Prominent trends include, for instance, later start of family life, increased cohabitation, larger numbers of one-parent families as a result of divorce, more reconstituted families, and increased proportions of people living alone at a younger age.

HOUSEHOLDS AND FAMILIES CONCEPTS

Countries were recommended to use the place of usual residence as the basis of household membership. On this basis several concepts regarding households and families have been defined and presented together with some specific recommendations.

Recommended definitions

Private and institutional households

In the Recommendations two types of households are defined; private and institutional.

Private households: For this type of households two different (alternative) concepts have been defined:

a) Under the "housekeeping unit concept" a private household is either:

* *A one person household, i.e. a person who lives alone in a separate housing unit or who occupies, as a lodger, a separate room (or rooms) of a housing unit but does not join with any of the other occupants of the housing unit to form part of a multi-person household as defined below; or*

* *A multi-person household, i.e. a group of two or more persons who combine to occupy the whole or part of a housing unit and to provide themselves with food and possibly other essentials for living. Members of the group may pool their incomes to a greater or lesser extent.*

b) Under the "household-dwelling concept" the private household is equated with the housing unit and is defined as *the aggregate number of persons occupying a housing unit*.

[44] This chapter is based on information previously presented in the paper "Families and Households in the 2000 rounds of censuses in ECE member countries" drafted by Nico Keilman (Statistics Norway and University of Oslo) and Kevin Kinsella (US Census Bureau), presented at the November 2004 Joint ECE-Eurostat Work Session on Population Censuses (WP No.11). See: http://www.unece.org/stats/documents/2004/11/census1/wp.11.e.pdf

Institutional Households: In the Recommendations the "institutional household" was defined as follows: *An institutional household comprises persons whose need for shelter and subsistence are being provided by an institution. An institution is understood as a legal body for the purpose of long-term inhabitation and provision of institutionalized care given to a group of persons. The institution's accommodation is by nature of its structure intended as a long-term accommodation for an institutional household. (...) Members of an institutional household have their place of usual residence at the institution. People who are normally members of private households but who are living in institutions as listed above are only considered as members of institutional households if their absence from the private households exceeds the one-year time limit specified for the place of usual residence topic. Staff members who live alone or with their family at an institution should be treated as members of private one-person or multi-person households.*

Family and related concepts

Family nucleus definition*: A family nucleus is defined in the narrow sense as two or more persons within a private or institutional household who are related as husband and wife, as cohabiting partners, or as parent and child. Thus a family comprises a couple without children, or a couple with one or more children, or a lone parent with one or more children.*

Child definition: *A child is defined as any person with no partner and no child who has usual residence in the household of at least one of the parents. "Children" also includes stepchildren and adopted children, but not foster children. A child that alternates between two households (for instance after the parents' divorce) is counted at only one of these households, for instance on the basis of the de jure place of usual residence or the number of nights spent at either of the households.*

Couple and consensual union definitions: *The term "couple" should include married couples and couples who report that they are living in consensual unions, and where feasible, a separate count of consensual unions and of legally married couples should be given. Two persons are understood as partners in a consensual union when they have usual residence in the same household, are not married to each other, and report to have a marriage-like relationship to each other.*

Three-generation household definition: *A three-generation household consists of two or more separate family nuclei or one family nucleus and (an)other family member(s). A woman who is living in a household with her own child(ren) should be regarded as being in the same family nucleus as the child(ren) even if she is never-married and even if she is living in the same household as her parents; the same applies in the case of a man who is living in a household with his own child(ren). Thus, the youngest two generations constitute one family nucleus.*

Reconstituted family definition: *A reconstituted family is a family consisting of a married or cohabiting couple with one or more children, where at least one child is a non-common child i.e. either the natural or adopted child of only one member of the couple. If the child (natural or adopted) of one partner is adopted by the other partner, the resulting family is still a reconstituted family.*

Extended family definition: for census purposes it was suggested to define it as *a group of two or more persons who live together in the same household and who do not constitute a family nucleus but are related to each other (to a specified degree) through blood, marriage (including consensual union) or adoption.*

Compliance with the recommended definitions

Private households: Regarding private households, the UNECE questionnaire asked which of the two concepts had been used. Information was received from 44 countries. One country responded that both the housekeeping definition and the dwelling unit definition had been used. Although in principle this is possible in the data-collection phase, it obscures international comparisons of household and family statistics (unless the type of definition is clearly given at each occasion).

61 per cent (26 of the 43 remaining countries) indicated that they used the housekeeping definition, and 37 per cent (15 countries) employed the dwelling unit definition. In the United Kingdom (with the exception of Scotland where the housekeeping concept was used) a private household was defined as one person living alone, or a group of people (not necessarily related) living at the same address with common housekeeping; that is, sharing either a living room or sitting room, or at least one meal a day. This is close to the housekeeping definition.

Most (12 out of 15) of the countries that did not base their household information on the housekeeping definition of the private household could not estimate the number of housekeeping units. In many cases (e.g. Denmark, Finland, France, Norway and Switzerland) these were countries that based their census, at least partially, on a population register. Register-based information on households is sufficient to construct households based on the dwelling unit definition, but not on the housekeeping definition.

Institutional households: Regarding the concept of institutional households, a total of 32 of the 44 countries (73 per cent) reported that they complied with the recommended definition. Canada used a time period of six months. In Ireland and Switzerland, (persons living in) institutional households were defined as (persons in) non-private households. There were only small differences compared to the recommended definition for Denmark, Italy, Kyrgyzstan, the United Kingdom, and the United States. Thus 37 of the 44 countries (84 per cent) used the recommended definition, or a definition very close to it.

In 27 of the 44 countries, information was collected on people living in specialized housing estates, such as retirement villages for the elderly. Such places provide living arrangements that have attributes of both private households and institutional dwellings. In consideration of the question to which type of household people living in such housing arrangements were assigned, 16 countries indicated “private households”, 13 answered “institutional households” and three “other”. Armenia, Canada, Georgia, Malta, and Portugal indicated more than one possibility.

Finally, 15 countries reported that they had collected information on other types of households than private or institutional, most often the homeless.

Family nucleus: 83 per cent (37 out of 44) of the countries responded that they used a definition that complies with the recommendation. The alternative definition used by Canada does not mention cohabiting partners, but rather a common-law couple. This is unlikely to be very differnt from the recommendation. A more important difference in Canada and the United Kingdom is that a grandparent (or grandparents) living with one or more grandchildren but without the grandchild’s (or grandchildren’s) parents are also regarded as a family. Canada and Ireland restricted the family to those living in private households. Norway complied with the definition when compiling international tables, whereas persons living alone are also counted as families (“one-person families”) in national tables. The Swiss census did not include family information. The US restricts families to two or more persons related by birth, by marriage or by adoption to the householder. This differs from the recommended definition in two respects. Firstly, cohabiting partners who are not married to each other are not counted as families, and secondly a household consisting of a household reference person ("householder") and two or more persons who form a family (according to the UN definition), but who are not related (by birth, marriage or adoption) to the reference person, is not considered

a family household. Better comparability with previous censuses or with other statistical surveys was mentioned often as the main reason for a different definition.

Child: Only five countries (11 per cent of the 44 responding countries) deviated from the recommended definition. The census in the Czech Republic required that children be economically dependent ("economically not active") and not older than 25 years of age. There is no restriction on partners or own children. Denmark required that children be less than 25 years old. In Switzerland, sons-in-law and daughters-in-law living in the same household were also considered as children. Moreover, there was no restriction on marital status in the Swiss definition. Thus, a child could be married and living with his or her spouse in the household of the parent(s). The US did not have any restrictions regarding the child's own children or partner. Comparability with a previous census was given most often as the main reason for not complying with the recommended definition.

Couple and consensual union: Only one out of 44 countries used a different definition. The US stated that people in consensual unions are not identified separately in census tabulations. Thus all countries collected information on couples in accordance with the definition, and in all but one of the 44 countries such information can be tabulated.

Three-generation household: The majority of the reporting countries were able to identify this type of household in their data and 13 included it in their census tabulation program.

Reconstituted Family: Only 17 of the 44 countries were able to identify reconstituted families using census data. Of those 17 countries, seven have provided data on reconstituted families in their tabulation program.

One possible explanation for the relative paucity of information on reconstituted families across countries is the fact that many countries mapped household structures by means of the relationship of each household member to the household reference person, but not by means of the relationship to other household members. For instance, the United States commented on this issue as follows: "Census data on household relationships are made only to the householder, which limits the ability to identify all reconstituted families. For example, if the father was the householder and the mother was his second wife, this family could not be identified as reconstituted since the child is referenced only to the householder. It would be tallied as being a married-couple family with a biological child of the householder but of unknown connection to the wife."

"However," they continued, "if the father were listed as the "husband" of the householder (the householder being the second wife), then this child would be listed as the stepchild of the householder. This family could be identified as a reconstituted family where the householder was not the biological mother of the child. So, in this example, even though all three people are living together and related individually the same way, because of the way the householder may be listed and identified on the roster limits the identification of a reconstituted family."

Of the 42 countries that reported that identified the relationship of each household member to the household's reference person, 11 reported that the relationship with other household members had also been recorded (see table 9.3); Albania, Cyprus, Estonia, Greece, Hungary, Kazakhstan, Lithuania, Portugal, the Russian Federation, Serbia and Montenegro, the United Kingdom.

Extended family: The identification of this type of family was possible in 31 countries but only 19 included it in their census tabulation program. Two countries reported using a different concept to the recommended one.

HOUSEHOLDS AND FAMILIES CHARACTERISTICS OF PERSONS

The household and family status of persons within these units is primarily based on the collected information of the (core) topic relationship to the reference person of private household.

In general extensive and detailed recommendations have been included for these topics.

There was some ambiguity with respect to the definition of the various categories. For example, in the question on type of relationship to reference person, "child of reference person" is one of the categories in the recommended classification. Four of the five countries that indicated that they did not use the recommended definition of "child", used "child of reference person" as a category, and thus followed the recommended classification in this regard. Similar problems were encountered for other concepts and definitions that were used in the recommended classifications.

Recommendations

Relationship to the reference person

Data on this topic are needed for use in identifying households and family nuclei and for compiling tabulations in which households are classified according to characteristics of the reference member.

It was recommended that information be collected for all persons living in private households on their relationship to the reference person. It was left to countries to choose between different criteria to determine the reference person; recommending at the same time that countries describe clearly in the census report the concept of the reference member adopted and the definition used.

The following criteria were suggested for the selection of the reference person:

a) *Either the husband or the wife of a married couple living in the household (preferably from the middle generation in a multi-generational household).*

b) *Either partner of a consensual union couple living in the household where there is no married couple present.*

c) *The parent, where one parent lives with his or her sons or daughters of any age.*

d) *Where none of the above conditions apply, any adult member of the household may be selected.*

A detailed classification of persons living in a private household by relationship to the household's reference person was recommended. This classification is shown in table 9.1 (excluding the last category "other typologies") and was considered basic at the one-digit level and optional at the two-digit level.

Household status of persons

It was recommended to derive information for all persons on their status or position in the household using a detailed classification of the population by household status. This is shown in table 9.2 (excluding the last category "other typologies" in the last line) and is considered basic at the three-digit level.

Family status of persons

It was recommended to derive information for all persons on their family status using a detailed classification of the population living in families. The classification is shown in table 9.3 (excluding the last "other typologies" in the last line).

Some additional instructions were provided for the classification of a stepchild, and this classification should be considered basic at the two digits level.

Extended family status

Countries interested in deriving data on extended families were recommended to classify persons in private households by extended family status according to the following classification, on the basis of their relationship to the reference person of the household:

1.0 Extended family reference person
2.0 Spouse of (or cohabitant/partner in consensual union with) reference person
3.0 Child of reference person
4.0 Other relative of reference person
5.0 Not member of an extended family

Compliance with the recommendations

Among the 44 countries, all but two (Denmark and Norway) reported that they identified a reference person in the household. However, for purposes of household structure mapping, Denmark and Norway define the oldest person in the household as a point of reference. Countries could indicate more than one possibility for identifying the reference person. In all, the 44 responding countries identified 48 possibilities. In 22 cases, the countries allowed respondents to choose the reference person from among the adults living in the household. The next most frequently used method (11 countries) for identifying the reference person was through family determination according to criteria, such as age and family relationships.

Forty-two countries collected information on the relationship to the reference person in private households. Table 9.1 shows that nearly all countries mapped traditional family relationships, such as spouse, father, mother, or child. Partners in consensual unions were also linked to the reference person in all countries. Of other relationships to the reference person (19 countries), grandparent/grandchild, brother/sister, and brother-in-law/sister-in-law were frequently mentioned.

Information was also provided on relationship to other persons than the reference person in the household. 16 countries recorded relationships with one or both parents and 11 with other members of the household.

According to the Recommendations, information should be derived for all persons in households on their status or position in the household. 41 countries provided information on private households, and 40 on non-private households (see table 9.2). The table lists the recommended classification for household position. Belarus and Ukraine did not distinguish people living alone in the last census, and cannot produce tables for this group either (category 1.2.1). Among the countries that indicated that other typologies had been used or could be produced, the homeless and children under 18 years of age (rather than the recommended 25 years) were mentioned.

Table 9.1
Compliance with recommended classification for type of relationship to the reference person in private households (recommended classification)

Type of relationship to reference person in private household	No. of countries
1. Spouse	42
2. Reference person's partner in consensual union	42
3. Child of reference person and/or of spouse/cohabitant	41
3.1 Child of reference person only	39
3.2 Child of reference person's spouse/cohabitant	38
3.3 Child of both	38
4. Spouse or cohabitant of child of reference person	39
5. Father or mother of reference person, of spouse, or of cohabitant of reference person	42
6. Other relative of reference person, of spouse, or of cohabitant of reference person	42
7. Non-relative of reference person of the household	41
7.1 Foster child	37
7.2 Boarder	37
7.3 Domestic servant	37
7.4 Other	37
8 Other typologies	19

Source: UNECE survey, 2004.

Table 9.2
Compliance with recommended household status classification

Household status (recommended classification)	Included in the tabulation program (number of countries)	Can be produced (number of countries)
1. Person in a private household	40	1
1.1 Person in a nuclear family household	38	3
1.1.1 Husband	34	8
1.1.2 Wife	34	8
1.1.3 Male partner in a consensual union	28	10
1.1.4 Female partner in a consensual union	28	10
1.1.5 Lone father	34	7
1.1.6 Lone mother	34	7
1.1.7 Child under 25 years of age	23	19
1.1.8 Son/daughter aged 25 or older	17	22
1.1.9 Other persons not a member of the nuclear family, but living in the nuclear family household	25	12
1.2 Person in other private household	37	1
1.2.1 Living alone	37	3
1.2.2 Living with others	37	3
1.2.2.1 Living with relatives	17	18
1.2.2.2 Living with non-relatives	17	18
2. Person not in a private household	38	2
2.1 In institutional household	36	3
2.2 Other not in a private household	15	3
Other typologies	6	2

Source: UNECE survey, 2004.

Table 9.3 gives information from 40 countries on family status of persons. About one quarter of countries reported that information on partner status is not readily available, but can be produced upon request. 16 countries have tabulations on children in single-parent families and a further 19 countries are able to produce such data.

Table 9.3
Compliance with family status classification

Family status (recommended classification)	Included in the tabulation program (number of countries)	Can be produced (number of countries)
1.0 Partner		
1.1 Husband in a married couple	31	9
1.2 Wife in a married couple	31	9
1.3 Male partner in a consensual union	28	11
1.4 Female partner in a consensual union	28	11
2.0 Lone parent		
2.1 Lone father	36	4
2.2 Lone mother	35	5
3.0 Child		
3.1 Child under 25	23	15
3.1.1 Child of both partners	8	19
3.1.2 Natural or adopted child of male partner only	3	12
3.1.3 Natural or adopted child of female partner only	3	12
3.1.4 Child of lone father	23	13
3.1.5 Child of lone mother	23	13
3.2 Son/daughter aged 25 or over	21	18
3.2.1 Son/daughter of both partners	7	19
3.2.2 Natural or adopted son/daughter of male partner only	3	12
3.2.3 Natural or adopted son/ daughter of female partner only	3	12
3.2.4 Son/daughter of lone father	16	19
3.2.5 Son/daughter of lone mother	16	19
Other typologies	6	1

Source: UNECE survey, 2004

Problems with reconstituted families were described earlier in this chapter (see "Households and families concepts - Compliance with the recommended definitions"). These problems are reflected in family statuses 3.1.2 and 3.1.3 for stepchildren. Only 15 countries have information about whether a child in a two-parent family is the child of both partners, or alternatively is a stepchild, being a child of the male or female partner only. Since many more countries (27 in all) have information on status 3.1.1 (child of both partners), the problem for statuses 3.1.2 and 3.1.3 must be the sex of the partner, not whether the child is a stepchild. The following 11 countries belong to the 27 that have information on status 3.1.1 but not to the 17 that have information on statuses 3.1.2 or 3.1.3; Belarus, Belgium, Bulgaria, Canada, Croatia, France, Georgia, Greece, Israel, Kyrgyzstan, and Russian Federation. This argument assumes, of course, that all countries noticed the fact that statuses 3.1.2 and 3.1.3 on the one hand, and 3.1.1 on the other, are mutually exclusive.

Among other typologies, a number of countries used the age of 18 for classifying children, rather than the recommended age of 25.

CHARACTERISTICS OF FAMILY NUCLEI

Whereas previous sections focused on the family and household position of persons, the analysis now focuses on the family or the household.

Recommendations

Two alternative classifications by type of family nuclei (derived core topic) are recommended for non-reconstituted and reconstituted families.

Type of family nucleus for non-reconstituted families: a detailed classification was recommended, and is shown in table 9.4 (excluding the last category "other typologies"). This classification was considered basic at the two-digit level.

Type of family nucleus for reconstituted families: In this case the following classification was recommended:

1.0 Reconstituted families, one child:
- *1.1 Married couples*
- *1.2 Cohabiting couples*

2.0 Reconstituted families, two children:
- *2.1 Married couples*
- *2.2 Cohabiting couples*

3.0 Reconstituted families, three or more children:
- *3.1 Married couples*
- *3.2 Cohabiting couples*

At least one child in the reconstituted family must be a non-common child. This classification was considered basic at the two-digit level, and more detailed subdivisions were also suggested, especially regarding the age of children.

Compliance with the recommendations

For the classification of families, the Recommendations distinguished between reconstituted families, and other family nuclei. Concerning reconstituted families, only nine countries (Albania, Australia, Estonia, Finland, Georgia, Italy, Poland, Portugal, Serbia and Montenegro) reported that they had classified these families according to different types, and two-thirds of these used the recommended classification.

Tabulated information on non-reconstituted family nuclei, broken down by the recommended family classification differs between countries (see table 9.4). Family types 1.3, 2.3, 3.2, and 4.2, that is, families with the youngest resident child aged 25 or older, have received low priority in the design of the census tabulation program (12-16 countries), but such information can be produced in most instances (22-25 additional countries). Eight countries report that no information can be produced on family type 2.0 (cohabiting couples). Four of these are EECCA countries.

Table 9.4
Compliance with recommended family type classification (for non-reconstituted families)

Type of family nucleus (Recommended classification)	Included in the tabulation program (number of countries)	Can be produced (number of countries)
1.0 Husband-wife family	34	6
1.1 Without resident children	32	7
1.2 With at least one resident child under 25	17	22
1.3 Youngest resident son/daughter 25 or older	12	25
2.0 Cohabiting couple	27	8
2.1 Without resident children	26	9
2.2 With at least one resident child under 25	18	17
2.3 Youngest resident son/daughter 25 or older	13	23
3.0 Lone father	32	6
3.1 With at least one resident child under 25	22	17
3.2 Youngest resident son/daughter 25 or older	16	22
4.0 Lone mother	32	7
4.1 With at least one resident child under 25	22	17
4.2 Youngest resident son/daughter 25 or older	16	22
Other typologies, please specify:	6	0

Source: UNECE survey, 2004.

CHARACTERISTICS OF PRIVATE HOUSEHOLDS

Recommendations

The Recommendations included a detailed breakdown of private households at the three-digit level (see table 9.5). Countries were recommended to classify one-person households (category 1.1 in table 9.5) by sex and five-year age group. It was also stated that this classification should be considered as basic.

The family-based classification recommended involved time-consuming processing and therefore was applied to a sample of households in some countries. A supplementary classification of private households by type on the basis of the age and sex structure and size of household, that could be easily and quickly derived on a 100-per-cent basis, was suggested on an optional basis, as a complement to the recommended classification:

1. One adult under legal retirement age without children
2. One adult over legal retirement age without children
3. Two adults, both under legal retirement age without children
4. Two adults, one or both over legal retirement age without children
5. One adult with one or more children:
   - 5.1 Adult female with one or more children
   - 5.2 Adult male with one or more children
6. Two adults with one child
7. Two adults with two children
8. Two adults with three children
9. Two adults with four or more children
10. Three or more adults with one or more children
11. Three or more adults without children

Additional recommendations were given regarding the generational composition of private households (derived non-core topic) and the size of household (derived core topic).

An additional core topic was recommended on "tenure status of households", that refers to the arrangements under which a private household occupies all or part of a housing unit.

Private households have been recommended to be classified by tenure status as follows:

1.0 Households of which a member is the owner of the housing unit

2.0 Households of which a member is a tenant of all or part of the housing unit

- 2.1 Households of which a member is a main tenant of all or part of the housing unit
- 2.2 Households of which a member is a sub-tenant of an owner-occupier or main tenant

3.0 Households occupying all or part of a housing unit under some other form of tenure

This classification was considered basic at the one-digit level but optional at the two-digit level. In view of the diversity of legal arrangements in different countries, countries were recommended to fully describe in the census report the coverage of each of the categories in the above classification.

The Recommendations also included other non-core topics related to the household characteristics, including: single or shared occupancy, rent, durable consumer goods possessed by the household, number of cars available for the use of the household, telephone.

Compliance with the recommendations

Table 9.5 presents information on the types of households considered by the different countries. Turkey is the only country that reports that it cannot produce information on one-person households. At the same time, in both Belarus and Ukraine one-person households were included in the tabulation program, whereas these two countries indicated that information on persons living in one-person households could not be produced.

Few countries have data readily available on households with the youngest resident child aged 25 or older (household types 2.3, 2.6, 2.8, 2.10), in particular when a further breakdown is required that reflects the possible presence of other persons in the household. Most countries can produce such information upon request.

Regarding tenure status the majority of the countries (37 out of 43) recorded information on this topic. The classification used for tenure status in general followed the recommended model with 36 countries including the "owner" category, 33 the "tenant" and 31 the "other form of tenure" category. No additional categories were used.

Table 9.5
Compliance with recommended household type classification

Type of household (recommended classification)	Included in the tabulation program (number of countries)	Can be produced (number of countries)
1.0. Non-family households	36	4
1.1 One-person households	42	1
1.2 Multi-person households	39	4
2.0 One family-households	41	2
2.1 Husband-wife couples without resident children	34	6
2.1.1 Without other persons	25	12
2.1.2 With other persons	25	12
2.2 Husband-wife couples with at least one resident child under 25	18	21
2.2.1 Without other persons	14	23
2.2.2 With other persons	14	23
2.3 Husband-wife couples, youngest resident son/daughter 25 or older	13	25
2.3.1 Without other persons	9	26
2.3.2 With other persons	9	26
2.4 Cohabiting couples without resident children	27	8
2.4.1 Without other persons	19	13
2.4.2 With other persons	18	15
2.5 Cohabiting couples with at least one resident children under 25	16	18
2.5.1 Without other persons	13	20
2.5.2 With other persons	12	21
2.6 Cohabiting couples, youngest resident son/daughter 25 or older	11	23
2.6.1 Without other persons	8	24
2.6.2 With other persons	8	24
2.7 Lone fathers with at least one resident child under 25	19	21
2.7.1 Without other persons	15	22
2.7.2 With other persons	14	23
2.8 Lone fathers, youngest resident son/daughter 25 or older	14	25
2.8.1 Without other persons	10	26
2.8.2 With other persons	10	26
2.9 Lone mothers with at least one resident child under 25	19	21
2.9.1 Without other persons	15	22
2.9.2 With other persons	14	23
2.10 Lone mothers, youngest resident son/daughter 25 or older	14	25
2.10.1 Without other persons	10	26
2.10.2 With other persons	10	25
3. Two or more family household	32	5

Source: UNECE survey, 2004.

General considerations about compliance with recommendations

As already mentioned the rapid transformations in living arrangements and the emergence of new household types required new concepts and classifications to be considered in the 2000 census round.

In general the majority of countries adopted the new definitions and concepts introduced in the UNECE Recommendations, even though not many have produced the detailed new classifications in their tabulation program. However, several departures from the Recommendations have been found that may have implications, regarding both census data production on these items and its comparability across the countries of the UNECE region. The more important variations are discussed below.

Regarding the definition of private households, most of the countries using the dwelling-unit approach were not able to produce data on housekeeping units (as requested in the UNECE Recommendations). Since this group included all the countries using a register-based approach, this is a matter of concern also for the future, as this group is likely to grow. The two different definitions (housekeeping and dwelling) produce different results, and the housekeeping definition is preferable to produce basic tabulations relating to private households.

In the last census round the notion of relationship to a reference person replaced the old concept of head of the household in most countries (except for Switzerland). This new concept allowed a broader classification of households and families by different types, and this was done in most of the countries of the UNECE region.

However, significant problems were found regarding the production of information about reconstituted families. One of the main obstacles is the identification of children that are not natural children of both partners. Unless the relationships within the household are collected not only on the basis of the relationship to the reference person but also to other household members, identification and classification of these types of families is difficult.

In summary, progress was made in the last census round that allowed for emerging types of living arrangements.

Most countries reported producing in their tabulation programs a small portion of the available data they collected on these issues.

10. ECONOMIC CHARACTERISTICS[45]

This chapter presents an analysis of questions used to collect economic characteristics in the 2000 census round in the UNECE region highlighting the approaches used by countries and their compliance with the 2000 Recommendations. Unlike chapters 6 to 9, the analysis is not based on reports received in the UNECE questionnaire since this did not include questions on economic characteristics. The analysis is based on census questionnaires from 38 countries (see table 10.2 for a list of the countries included). From the material available it was not always possible to review the definitions, and therefore the analysis focuses on reviewing the methods used in the questionnaires.

Compilation of economic characteristics is an important issue in population censuses. It allows countries to integrate information on the economic activity of individuals with other social and demographic characteristics (such as comparing literacy with profession, or wages with access to new information-technologies) and it provides information at the local level within a country.

The different approaches used by countries to investigate the individual's economic-activity status are examined. Three main approaches are identified and the different methods used within each approach discussed. Following that, the practices used in relation to the economic characteristics topics included in the 2000 UNECE Recommendations are reviewed.

Overview of different approaches

The basic recommended definition of "economically active" refers to *all persons who provide the supply of labour, as employed or unemployed, for the production of goods and services*. This definition is based on a capacity of supply so that employed and unemployed are both counted as the "economically active" population.

To help countries to classify people in or out of the "economically active" population the UNECE Recommendations define the concept of economic activity considering three main categories:

a) *Production of goods or service (for intermediary or final use) supplied (or intended to be supply) to units other than their producers.*

b) *Own-account production of all goods for final consumption or fixed capital formation.*

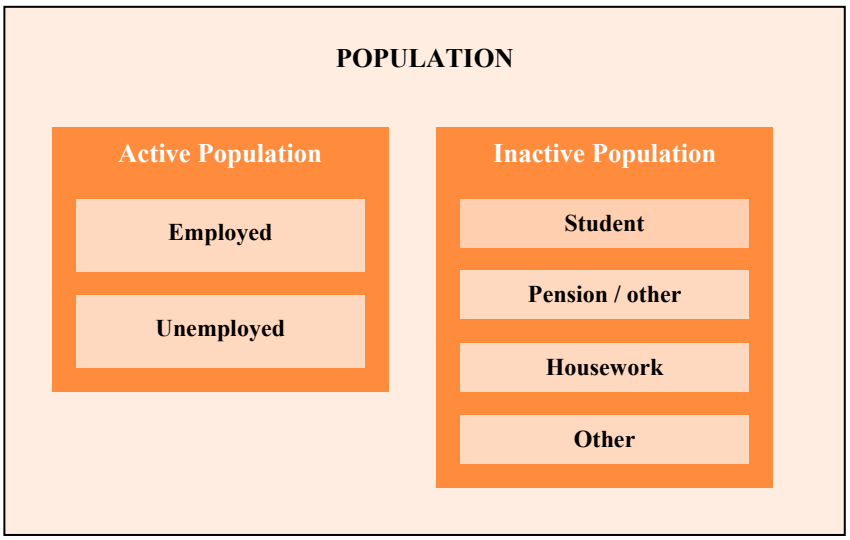
c) *Own account production of domestic and personal services by employing paid domestic staff.*

These three categories of economic activities are intended to guide countries to define the activity status of individuals and classify population according to this concept.

A common framework for the representation of the population subdivided by economic activity status is shown in figure 1.

[45] This chapter is based on information previously presented in the paper "Methods and definitions used to collect information on Economic characteristics in the ECE 2000 Round of Population and Housing Censuses" drafted by Angela Me and Julien Idier (UNECE), presented at the November 2004 Joint ECE-Eurostat Work Session on Population Censuses (WP No.13). See: http://www.unece.org/stats/documents/2004/11/census1/wp.13.e.pdf

Figure 1
Economic structure of the population by activity status



An important issue in a census is to identify the economic structure of the population according to this framework. That needs to be done using clear definitions and methodology in order to assign individuals to one of the boxes. This presents a challenge regarding those who could in principle belong to more than one box (like a student who works part-time). Other information on economic characteristics is also collected in a census for the whole population (source of livelihood for example) and for the economically or not economically active population (for example for employed persons: status in employment, occupation, industry, place of work).

Three different approaches

In the 2000 census round countries used different strategies to design the flow of questions able to identify employed, unemployed and inactive population. Three main approaches with different entry points can be identified:

a) First approach. The entry point in differentiating employed, unemployed and inactive population is based on the concept of activity status. The first question included in the sequence is of the type "*What is your current activity status"* and the response focuses on the different categories of active and not-active population (employed, unemployed, student, retired, unable to work).

b) Second approach: The entry point is based on the concept of work. The first question included in the sequence is of the type "*Did you work last week*?"

c) Third approach: The entry point is the concept of source of livelihood and the first question included in the sequence is of the type "*What are your sources of livelihood?"*

In table 10.1, an illustrative example of the set of questions used in three countries that used each of the different approaches is shown.

Table 10.1
Opening questions used in the three different approaches (an example)

Approach Country	First Ireland	Second United Kingdom	Third Hungary
(Type of) question	*How would you describe your present principal status?*	*Last week, were you doing any work as employee, self-employed or in your own/family business?*	*What is (are) your source(s) of livelihood?*
Answer categories	1. Working for payment and profit 2. Looking for first regular job 3. Unemployed 4. Student or pupil 5. Looking after home 6. Retired from payment 7. Unable to work 8. Other	1. yes 2. no	1. work 2. regular or reserve military service 3. child care allowance 4. child care fee 5. old age pension 6. disability pension 7. pension or benefit of relative's right 8. unemployment benefit 9. welfare assistance for unemployed 10. other regular benefit 11. from own asset or other source 12. dependent on private person 13. dependent on public institution

Source: UNECE survey, 2004.

Table 10.2
Countries implementing the first, second and third approaches

First Approach (activity status)	Second Approach (work)	Third Approach (source of livelihood)
Albania	Armenia [a]	Azerbaijan
Austria	Bulgaria	Georgia
Belgium	Canada	Hungary
Croatia	Cyprus	Kyrgyzstan
Czech Republic	Estonia	Ukraine
Greece	France	
Ireland	Israel	
Italy	Lithuania	
Latvia	Luxembourg	
Liechtenstein	Monaco	
Malta	Poland	
Romania	Portugal	
Serbia and Montenegro	Russian Federation	
Slovakia	Turkey	
Slovenia	United Kingdom	
Spain	United States	
Switzerland		
[a] The approach is related to having a job rather then to have worked.		

Source: UNECE survey, 2004.

In table 10.2 the countries using the three different approaches are listed. Most (32 countries) of the 38 countries used the first or second approach, with 17 countries using the first approach, and 15 countries the second approach. The approach based on the source of livelihood was implemented in five EECCA or former URSS transition countries.

While the approaches based on activity status and work can be related to the framework presented in figure 1, the concept of source of livelihood is outside this framework including additional aspects that are not only related to economic activity status and work.

It is not possible to determine if the three different approaches produce comparable results. In the absence of a one-to-one correspondence with the classifications of economic status used in the three approaches, it is not clear whether the mapping into the standard classification presented in the UNECE Recommendations may produce comparable results. It is also unclear which method might produce the best results. For example, comparing figure 2 and 3 it seems that the sequence used in the second approach requires more questions, but at the same time this seems also to be the simplest approach from a conceptual point of view, since respondents are driven by concepts more closely related to their experience (such as work rather then activity status) that may improve the quality and reliability of the responses.

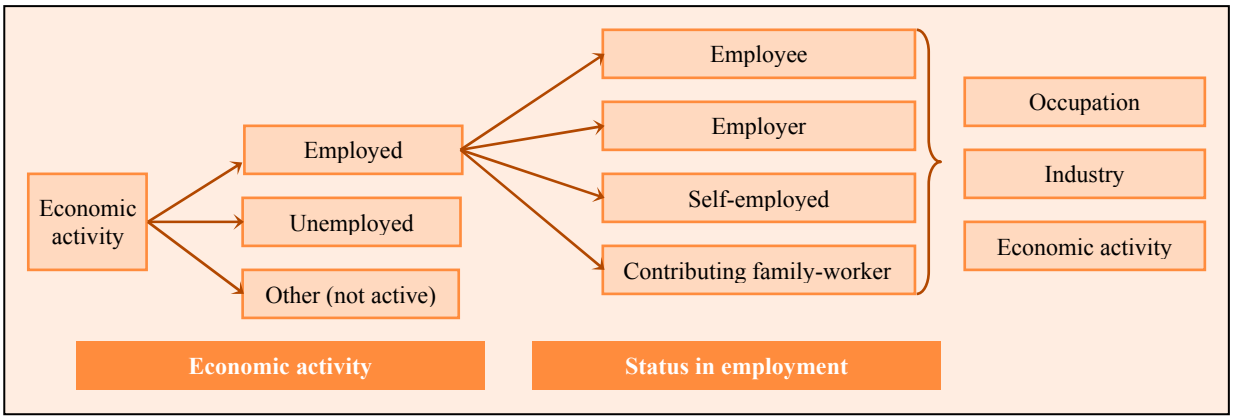
The three approaches show country preferences for different methodologies that may also reflect different needs. In the analysis presented, the three groups of countries show different patterns in relation to the inclusion and treatment of economic-related topics in the census. Countries that followed the first approach collected less detailed information on unemployment (many of them did not ask about the nature of unemployment, duration of unemployment, reasons for unemployment, search for a job, reasons for stopping looking for a job). Countries that used the second approach collected on average less detailed information on the inactive population and more on the employment and unemployment situation. The third approach seems very different from the first two but its use could be linked to the need to obtain information comparable with that obtained in previous censuses[46]. The following section discusses the advantages and disadvantages of each of the different approaches.

First approach – based on the activity status concept

The first approach (based on the concept of activity status) was adopted by 17 countries. Respondents were asked in the opening question ("What is your current activity status?", or a similar question) to select one of the categories related to activity status. For those who were identified as employed, additional questions were asked about their current or last employment (like status, occupation, industry).

The path of questions used to classify persons according to their economic status under this approach is summarized in figure 2.

Figure 2
Sequence of questions used to assess the economic status of the population under the first approach



[46] The Third approach was used in the past by the Soviet Union and this may be one of the reasons why some CIS countries adopted it.

Within this approach, there are differences in the categories included to differentiate people according to activity status. Most countries (12) included items related only to activity status (employment, unemployment, not active such as retired, students, etc.). Five countries included items related to both activity status and status in employment (see table 10.3). Table 10.4 reports the questions used in two countries where these two approaches were used. In Slovakia there are two separate questions on activity status and status in employment, while in Slovenia there is only one question including both activity status and status in employment.

Table 10.3
Countries that used the first approach (activity status) by the type of categories included in the classification by activity status

Included items related to activity status and status in employment	Included only activity status items
Croatia Latvia Malta Serbia and Montenegro Slovenia	Albania Austria Belgium Czech Republic Greece Ireland Italy Liechtenstein Romania Spain Slovakia Switzerland

Source: UNECE survey, 2004.

Table 10.4
Example of questions used in two countries (Slovenia and Slovakia): the first using only activity status and the second using together activity status and status in employment

Slovenia	Slovakia
What is your current activity status?	*Economic activity*
1) employed 2) self-employed 3) farmer 4) child/ pupil/ student 5) pensioner 6) contributing family member 7) unemployed 8) Military service 9) homemaker 10) unable to work 11) prison	1) working 2) apprentice 3) secondary school student 4) university student 5) maternity leave 6) home keeping 7) pensioner 8) Unemployed 9) child up to 16
	Social group
	1) employee working for wage, salary, other kind of remuneration 2) member of production cooperative 3) entrepreneur with salaries 4) entrepreneur without salaries 5) helping family member

These concepts, activity status and status in employment, are described in the UNECE Recommendations as two separate topics. Mixing the two concepts may have the following shortcoming:

a) Some data could not be collected for all the economically active population but only for the employed population.

b) The classification resulting for both activity status and status in employment could be distorted by the presence of other categories and the treatment of difficult-to-classify cases.

Some of the main categories related to activity status (homemakers, students, and pension or capital income recipients) are covered by nearly all countries. The category "unemployment" is covered by about 80 per cent of the countries, and between 35 and 65 per cent of the countries included categories to distinguish unemployment according to; looking for the first job, looking for a job, unemployed not looking for a job. Some of the countries included sub-categories such as maternity leave, conscripts, working student or pensioner, that are not as described by the UNECE Recommendations[47] and so can affect the results of the main categories.

In addition, the classification of current activity status that emerges is also incomplete. Although the category of self-employed is included, the two categories of employers and own-account workers are missing.

The classification of status in employment that emerges from the countries that separated the questions on activity status and status in employment (see the example of Slovakia in table 10.4) is close to the Recommendations.

The classification focuses on three main categories: "employee" "self-employed" and "contributing family worker". Within the category "self-employed" there is a distinction between "self-employed with employee" or "without employees" and sometimes the direct category of "employer". There is a lack of precision in considering "apprentice", and "people mainly engaged in non-economic activities that at the same time were in paid employment or in self-employment".

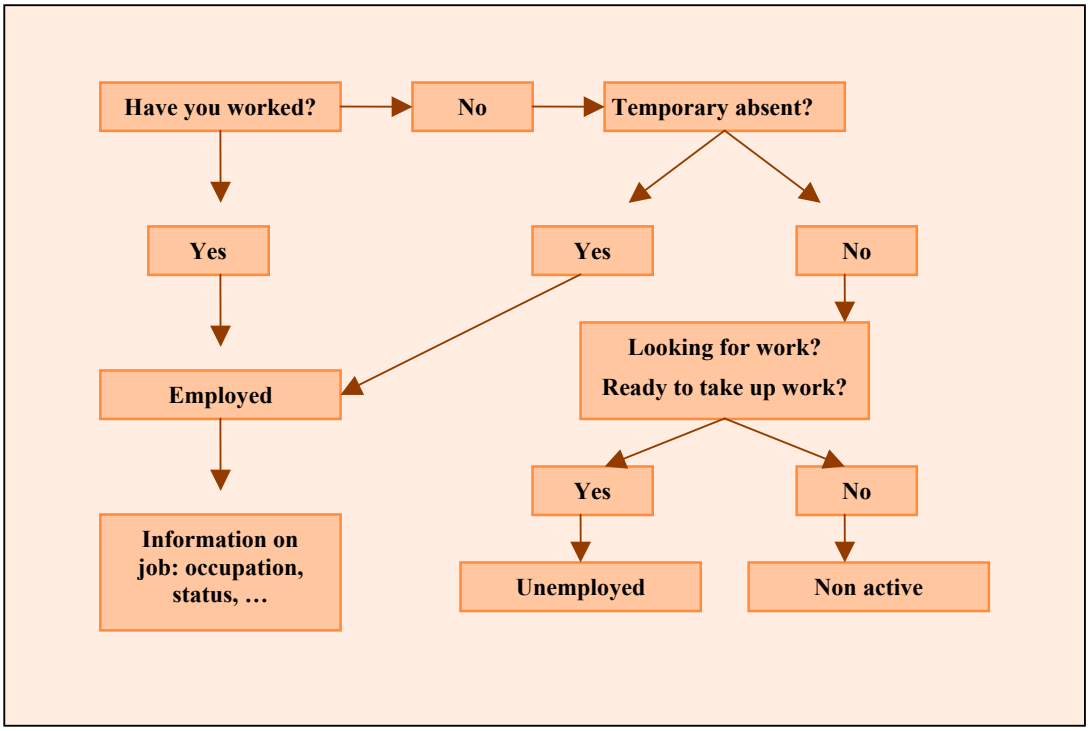
Second approach – based on the work concept

The 16 countries (see list in table 10.2) that adopted this approach initiated the sequence of questions to identify people activity status by a question on work. A typical question was; "Did you work during the reference week?"

Figure 3 shows the path that these countries used to collect information on activity status and other employment characteristics.

[47] "Where considered useful, separate sub-categories may be introduced to identify (i) persons engaged in unpaid community and volunteer services and (ii) other persons engaged in activities that fall outside the boundary of economic activities".

Figure 3
Sequence of questions used by countries that adopted the second approach



This sequence differs from the one used by the first group of countries because it does not specifically ask people about their activity status but starting with a simple question on working it generates the classification through a series of additional questions.

For people who are not employed, it can be noted that these countries collected more detailed information for the unemployed population and less for the inactive population[48], than those countries that used the first approach. Given that this approach starts from the concept of work, it is easier to establish the category of "unemployed" collecting information on people who are looking for a job or are ready to work, while categories like "student", "homemaker", "pensioner" would require additional questions. Information on when people last worked, if they have ever worked and when they last took steps to seek a job can also be more easily obtained.

Third approach – based on the sources of livelihood concept

The third approach used by countries to identify economic status is based on the concept of income and sources of livelihood, and was used by five countries (see list in table 10.2).

For countries that used this approach it is not possible to identify a common pattern in the flow of questions asked to distinguish people according to their activity status. After the question on the main source of livelihood, some countries asked about occupation and industry (for those with a source related to employment) or asked questions designed to collect information on unemployment or education.

[48] Although it should be noted that countries such as Armenia and Russian Federation did not collect information on persons temporary absent from work.

The approach used by this group uses a very different concept from work and activity status, and it is not clear if the information collected on activity status or status in employment can be compared with the other two approaches. Waged work, income from property, pension, unemployment benefit, and dependant are the only categories that were used by all countries in this group. The other categories vary among the countries and include concepts related to income, status in employment, and industry.

Using the concept of income to identify people according to their activity status and status in employment may create some inconsistency, particularly for people with multiple sources of income.

Some of the categories related to the inactive population are similar to those used in the first two approaches, and for sub-populations such as pensioners, it may be possible to have comparable results. For other categories of the non-active population it would be difficult to compare data. It is, for example, not possible to distinguish students other than those who had a scholarship. As stated in the UNECE Recommendations, the identification of economic status through sources of income may also mis-report people with multiple sources of income.

The remaining part of this chapter deals with the different specific topics used to collect the economic characteristics of persons in the 2000 census round and the compliance of the UNECE countries with the 2000 Recommendations.

The topics are organized into the following items:

- Current activity status
- Current active population and employment:
  - i. Definitions
  - ii. Specific groups treatment
- Unemployment:
  - iii. Definition
  - iv. Specific groups treatment
  - v. Duration of unemployment
- Not currently active
- Usual activity status:
  - vi. Usually active
  - vii. Not usually active
  - viii. Classification by activity status
- Time usually worked
- Economic characteristics in person's main/last job:
  - ix. Occupation
  - x. (Number of persons working in the establishment-unit)
  - xi. Industry
  - xii. (Sector)
  - xiii. Status in employment
  - xiv. Type of contract
  - xv. Place of work
- Mode of transport to work and journey to work
- Main source of livelihood and dependency relationship
- Income

CURRENT ACTIVITY STATUS

Recommendations

Recommended definition: *Current activity status is the current relationship of a person to economic activity, based on a brief reference period such as one week or one day.*

Since the use of the "current activity" is considered most appropriate for countries where the economic activity of people is not influenced much by seasonal or other factors causing variations over the year, *it is recommended that countries in the UNECE region collect information in the census on activity status based on this concept*. In addition a time-reference period of one week was recommended.

Compliance with the recommendations

All countries that used the first two approaches collected information on current activity status. For those countries that adopted the approach based on source of livelihood, only Lithuania included activity status as a topic. The others could not fully retrieve information on the categories of economic activity listed in the UNECE Recommendations (students, pension or capital income recipients, homemakers).

An example of the categories used for sources of livelihood by one of the countries using the Third Approach is reported at table 10.5. This shows the difficulties related to the retrieval of information on activity status. The categories related to the inactive population can only be approximately allocated to the standards, and although the standard definitions included in the UNECE and World Recommendations are reported in the definitions provided to the interviewers, it is still not clear if the categories listed in the example can provide comparable information on the employed population. The question on source of livelihood is asked of everybody and its design may allow the identification of categories that in other approaches are more difficult to identify.

Table 10.5
Example of categories included in the approach based on source of livelihood

Source of income (persons with more then one source, specify each source). A box is reported at the end of the question to specify the main source	
Salaried employment	1. At an enterprise, organization, institution 2. In a farm 3. For individuals (including rendering household services)
Non-salaried employment Owners of enterprises, farms	4. Employer 5. On individual basis at family enterprise 6. Unpaid at farms 7. Personal subsidiary plots
8.Scholarship 9. Pension 10. Benefits and allowances (excluding unemployment benefits) 11. Unemployment benefits 12. Other type of State maintenance 13. Income from property 14. Dependent 15. Other sources	

CURRENTLY ACTIVE POPULATION AND EMPLOYMENT

Recommendations

Recommended definition: *The "currently active population" (the "labour force") comprises all persons who fulfil the requirements for inclusion among the employed or the unemployed:*

a) "Employed" persons comprise all persons above a specified age who during the short reference period of preferably one week performed some work for pay or profit, in cash or in kind, or were temporarily absent from a job in which they had already worked and to which they had a formal attachment or from a self-employment activity such as a farm, a business enterprise or a service undertaking.

b) The "unemployed" comprise all persons above a specified age who during the reference period were:

(i) "without work", i.e. were not in paid employment or self-employment as defined above;

(ii) "currently available for work", i.e. were available for paid employment or self-employment during the reference period; and

(iii) "seeking work", i.e. had taken specific steps in a specified recent period to seek paid employment or self-employment. (The specific steps may include registration at a public or private employment exchange (for the purpose of obtaining job offers); application to employers; checking at work sites, farms, factory gates, market or other assembly places; placing or answering newspaper advertisements; seeking assistance of friends or relatives; looking for land, building, machinery or equipment to establish own enterprises; arranging for financial resources; applying for permits and licenses, etc).

It is recommended that the census documentation and tabulations clearly describe the time limit chosen as the cut-off for considering persons to be "at work".

It is further stated that according to the international recommendations, the notion of "some work" should be interpreted as work for at least one hour during the reference period. Therefore, countries concerned about the usefulness of the one-hour criterion for other uses of census results were recommended to also collect data on "time worked".

A detailed list of eight specific groups that require special treatment in this respect is presented and specific recommendations on how to treat each of them is provided.

It is also recommended that information be given in the census reports describing how these groups and other relevant groups (e.g. retired persons) were treated, and that the desirability of identifying some of the groups in the tabulations be considered.

Compliance with the recommendations

To compile information on employment, the UNECE Recommendations advise countries to apply an age threshold and the "one-hour criterion".

As reported in table 10.6[49] the 15-year-old age threshold suggested in the Recommendations for the compilation of economic activity is followed by almost 60 per cent of the countries. The countries that did not apply any age limits include those that used the approach on sources of livelihood.

Table 10.6
Age limit applied in countries to collect information on employment

Age limit	Countries
No age limit, questions asked to everybody	Azerbaijan, Georgia, Hungary, Kyrgyzstan, Ukraine
11 and over	Greece
12 and over	Turkey
14 and over	France
15 and over	Albania, Armenia, Austria, Belgium, Canada, Croatia, Cyprus, Czech Republic, Estonia, Finland, Ireland, Israel, Italy, Latvia, Lithuania, Poland, Portugal, Russian Federation, Switzerland
16 and over	United Kingdom, Spain, Slovakia, Monaco, Malta

Source: UNECE survey, 2004.

From the available material it was difficult to conclude whether countries included in the census instructions the one-hour criterion in the measurement of employment. A total of 17 countries made explicit the one-hour criterion in their census questionnaires. Among these, there are an equal percentage of countries using the First and the Second Approach and none using the Third Approach. Although it may seem easier to introduce the concept of the one-hour limit in countries where it is asked about "work", it looks like it is equally acceptable to do so when asking about activity status.

The UNECE Recommendations list the following special groups of individuals and gives guidelines on how to treat them, to make sure they are included in the employed population:

a) "Person in paid employment temporarily not at work"
b) "Self-employed"
c) "Contributing family worker"
d) "Own-account producer of goods and services for own final use"
e) "Apprentices and trainees"
f) "Participants in job training scheme"
g) "Person mainly engaged in non-economic activities (working student or homemakers for example)"
h) "Members of the armed forces"

[49] The table reported the age limit of only 31 countries where this information was available.

Some of the countries that did not identify persons in paid employment temporary not at work used an approach related to "having a job" rather than to "working".

Own-account producer for own final use is generally not included in census questionnaires. The only country mentioning this category in the question related to work was Bulgaria.

Apprentices and trainees are mainly considered in questionnaires using the "current activity status" approach.

Participants in job training schemes were not identified by any of the countries.

Those mainly engaged in non-economic activities who were in paid employment or self-employed were identified in different ways:

a) The sub-group was measured in items related to activity status[50]. This methodology was used mainly in countries where the "current activity status approach" was followed (Belgium[51], Czech Republic, and Malta).

b) More than one activity status could be chosen and therefore individuals could identify themselves in both inactive and employed items. Four countries used this methodology: Austria, Liechtenstein, Spain, and Switzerland.

c) Through the method of source of livelihood, individuals can select more than one category and therefore pensioners who are working can be easily identified. All the six countries that used this approach (Azerbaijan, Georgia, Hungary, Lithuania, Kyrgyzstan, and Ukraine) can identify the category pensioners with employment.

Forty per cent of countries identified members of the armed forces; Austria, Croatia, Cyprus, Georgia, Greece, Hungary, Israel, Italy, Latvia, Lithuania, Portugal Slovakia, Slovenia, Spain, and the United States.

UNEMPLOYMENT

Recommendations

The term "unemployed" is defined above.

As in the case of employment the Recommendations include a list of specific groups that require special treatment in this respect, and specific recommendations on how to treat each of them are provided:

a) Persons without work and currently available for work who had made arrangements to take up paid employment or undertake self-employment activity at a date subsequent to the reference period should be considered as "unemployed", irrespective of whether or not they recently sought work.

[50] One example is the question used in Malta: *What is your economic activity status?* Where among the response items there are: i) Was in full time education and working part time; ii) Was working part time and looking after the home and family.
[51] Considering only Pensioners with part time job.

b) *Persons temporarily absent from their jobs with no formal job attachment who were currently available for work and seeking work should be regarded as "unemployed" in accordance with the standard definition of "unemployment". Countries may, however, depending on national circumstances and policies, prefer to relax the seeking-work criterion in the case of persons temporarily laid off. In such cases, persons temporarily laid off who were not seeking work but classified as "unemployed" should be identified as a separate sub-category.*

c) *Persons mainly engaged in non-economic activities during the reference period (e.g. students, homemakers), who satisfy the criteria for unemployment should be regarded as "unemployed" on the same basis as other categories of "unemployed" persons and be identified separately, where possible.*

Also in this case it is recommended that information should be given in the census reports on how persons in these and any other specific groups were treated.

Duration of unemployment is the length of time an "unemployed" person has been in that state since previously being either "employed" or "not economically active". Also it is stated that countries should decide on the basis of national priorities and conditions whether the duration of unemployment should be measured in terms of number of days, weeks or other time units, but to facilitate international comparisons it is suggested that from the measure chosen it should be possible to produce numbers for durations of "six months or more" and for "one year or more".

Compliance with the recommendations

The UNECE Recommendations report the three conditions that need to be met in order to consider an individual as unemployed: "being without work", "being available to work" and "actively seeking work".

The unemployment criteria were mostly asked in the countries of the second group. In the First Group if these criteria were asked they were included as special items in the classification of activity status; Unemployed looking for a job, or unemployed not looking for a job. In countries using the Second and Third Approaches, special questions were asked to people identified as not working: "Do you work?" "Are you looking for a job?" "Are you willing to start working within two weeks?"

The category of "people unemployed and not looking for a job since they have arrangements to take up a paid or a self-employed job" is considered in about one third of countries (usually mentioned as "future job guaranteed").

Additional information on the nature of unemployment was collected in some countries with additional questions:

a) Are you looking for the first job?

b) How long have you been looking for a job?

c) When did you last take any steps to seek a work?

d) Have you ever worked?

e) Have you stopped looking for a job and what are the reasons?

The last question was introduced in the Armenian census and it is of particular interest because categories such as "no need" and "no hope" can give a better view of the labour market opportunities.

Many countries (Belgium, Bulgaria, Czech Republic, Cyprus, France, Greece, Hungary, Ireland, Israel, Luxembourg, Portugal, Romania, United Kingdom and United States) collected information on previous employment asking the same questions related to the employed population.

Sometimes countries put a time limit to consider previous employment: Israel collected information on previous employment only if the individuals were working in the previous 12 months and the United States previous employment was considered within the previous five years.

A total of 13 countries included duration of unemployment in the census (Azerbaijan, Canada, Cyprus, France, Georgia, Hungary, Italy, Monaco, Poland, Portugal, Romania, United Kingdom, and United States) asked questions on the time since when the individual was not working and/or was looking for a job or on the duration of unemployment (in months or more than one year).

Information on duration of unemployment was generally not obtained for countries that used the first approach where fewer details were collected in general on unemployment.

NOT CURRENTLY ACTIVE (PERSONS NOT IN THE LABOUR FORCE)

Recommendations

Recommended definition: The *"population not currently active" or, equivalently, "persons not in the labour force", comprises all persons who were neither "employed" nor "unemployed" during the short reference period used to measure "current activity".*

The population not currently active is recommended to be classified into four groups: (a) Students, (b) Pension or capital income recipients, (c) Homemakers, (d) Others.

In addition, *where considered useful, separate sub-categories may be introduced to identify (i) persons engaged in unpaid community and volunteer services and (ii) other persons engaged in activities that fall outside the boundary of economic activities* (idem).

Compliance with the recommendations

The category of students is obtained in almost all countries, with the exception of countries where the approach is based on sources of livelihood (where there is only the category scholarship).

Given the nature of the income-based category all the countries in the third group collected information on both pensioners and capital income recipients. In some countries this category also explicitly included people with disabilities (example: "retired and disabled people").

The majority of the countries that used either the first or the second approach identified the category homemaker. The countries that used the third approach could not identify this category.

It appears that countries have adopted different terminology (and possibly different definitions) for the category "Pension or capital income recipients". Often the term pension includes people that receive government subsidiaries for invalidity or other reasons. Countries used the term disabled or people with disability under the category of the inactive population, even if people with disability could be part of the active population.

USUAL ACTIVITY STATUS

Recommendations

Recommended definition: *Usual activity status is the usual relationship of a person to economic activity based on a long reference period such as a year.*

Detailed recommendations are provided about how to define the "usually active population" and "the main activity status" when using this approach.

The recommended classification by usual activity status is the same as the current activity status, and similar recommendations as in the case of not active are provided for usually not active and for the classification of special population groups by usual activity status.

Some specific suggestions are given for countries that may wish to identify separately the persons who provide social and personal services to their own household, other households or to voluntary, non-profit organizations on an unpaid basis, either for a short reference period or for a longer one. However, these types of services are outside the production boundary as defined by the national accounts, and thus not considered as an economic activity.

Compliance with the recommendations

The concept of usual activity status is defined on the same basis as the current activity status. The difference is that the current activity status is based on the experience of the individuals over a one-week period (linked to reference census period) and usual activity status is based on a longer period of time (usually 12 months). Given the possibility in this longer period of time to change activity status, it is important that a main activity status be identified.

Not many countries (a total of five) included usual activity status in the census. Among the countries that did include it, different methods were used particularly considering the changes that could occur in economic status over the one year period:

a) Three countries (Romania, Greece, and United States) included questions considering the economic status of the individuals one year previous to the census.

b) Two countries (Bulgaria and Canada), asked the number of weeks or months worked during the previous 12 months. This approach is in line with the suggestions provided in the UNECE Recommendations.

TIME USUALLY WORKED

Recommendations

Recommended definition: *"Time usually worked" should reflect the time worked during a typical week or day, and should be measured for a short reference period and in hours. It is the total time usually spent producing goods and services during the reference period adopted for "economic activity" in the census, within regular working hours and as overtime.*

Compliance with the recommendations

The topic of time usually worked was included in 26 countries. Few countries specified in the questionnaire the hours worked in the main and secondary activity (Belgium and Estonia) or the sum of the hours worked in all activities (Israel). The majority of the countries (Belgium, Canada, Cyprus, Estonia, Greece, Hungary, Ireland, Italy, Liechtenstein, Luxembourg, Malta, Portugal, Romania, Serbia and Montenegro, Spain, Switzerland, United States, United Kingdom) included a generic question on working hours during a predefined week. 11 countries (Belgium, Canada, Croatia, France, Italy, Latvia, Liechtenstein, Malta, Monaco, Poland, and Switzerland) asked the question in terms of *full-time or part-time contract*. It was not possible to determine whether or not absence or overtime were included in the measurement of the total number of hours worked.

Only one country in the Third Group collected information on the time usually worked. In general few countries from Eastern Europe and Central Asia included it in the census.

ECONOMIC CHARACTERISTICS OF PERSONS FOR THEIR MAIN/LAST JOB

This section analyses the economic characteristics of persons regarding their main job (or last job if they are not working at the time of the census). The following (core and non-core) topics are covered in this section:

a) Occupation (and number of persons working in the establishment-unit)

b) Industry (and sector)

c) Status in employment

d) Type of contract

e) Place of work (and: mode of transport, journey to work)

Recommendations

Selection of main/last job: The Recommendations state that to characterize persons regarding their main/last job it is necessary to determine in advance to what job the characteristics refer.

The person must have been identified as being either "employed" or "unemployed" through the questions on (current or usual) "economic activity". Since an "employed" person may have had more than one job during the reference period it is recommended to first establish the "main" job held during the reference period as well as a possible second most important job. An "unemployed" person should be coded to "occupation", "industry", "status in employment" and "sector" on the basis of the last job which they had.

OCCUPATION

Recommended Definition: The (core) topic *"Occupation" refers to the type of work done in a job. "Type of work" is described by the main tasks and duties of the work*. Their classification should follow the latest revision available of the International Standard Classification of Occupations (ISCO-88), coded *at the lowest possible level supported by the responses*.

Some countries find it useful to ask for both the occupational title and a brief description of tasks and duties performed on the job by each active person.

The number of persons working in the local unit of the establishment is a non-core topic, which refers to the number of persons usually employed in the establishment, or similar unit in which the job(s) of persons in employment was located. This information is necessary in order to code correctly certain "occupation" categories (suggested categories: 1-10, 11-19,20-49, 50+ persons)

INDUSTRY (BRANCH OF ECONOMIC ACTIVITY)

Recommended Definition: *"Industry" (branch of economic activity) refers to the kind of production or activity of the establishment or similar unit in which the job(s) of the economically active person (whether employed or unemployed) was located.* It was recommended that the classification should follow the latest revision available of the International Standard Industrial Classification of All Economic Activities (ISIC), coded *at the lowest possible level supported by the responses.*

"Type of sector (institutional unit)" (non-core) topic *relates to the legal organization and the principal functions, behaviour and objectives of the establishment with which a job is associated*. Also it was recommended to distinguish between the following institutional sectors:

a) "Corporations sector"

b) "General government sector"

c) "Non-profit institutions serving the household sector"

d) "Household sector"

STATUS IN EMPLOYMENT

Recommended Definition: The (core) topic *"Status in employment" refers to the type of explicit or implicit contract of employment with other persons or organizations, which the person has in his/her job*, and in addition some clarifications over this definition are provided.

Recommended classification:

a) "Employees"

b) "Employers"

c) "Own-account workers"

d) "Contributing family workers"

e) "Members of producers' co-operatives"

f) "Persons not classifiable by status"

It is also recommended to identify separately "Owner-managers of incorporated enterprises", who normally will be classified among "employees", but whom one may prefer, for certain descriptive and analytical purposes, to group together with "employers". Also it is recommended to classify separately "Employees with stable contracts" and "Regular employees". Further clarifications are provided about how to define each category and classify different persons into it, and about the method used to collect the information and present it.

PLACE OF WORK

Recommended Definition: The (core) topic place of work is *the location in which a "currently employed" person performs his or her job, and where a "usually employed" person currently performs or last performed the job.* Also its primary objective, *to link the place of work information to the place of residence (...) in order to establish commuter flows from the place of usual residence to the place of work*, is stressed, and geocoding to the smallest civil division in which the economic activity is performed is suggested.

A classification by type of workplace used is recommended:

1.0 With a fixed place of work outside the home (and from this category it is suggested to request the precise location (address) of the place of work).

2.0 Work at home.

3.0 No fixed place of work.

The (non-core) topic mode of transport to work relates to the daily journey made and a classification, basic at the one-digit level and optional at the two-digit level, is recommended:

1.0 Rail:
- 1.1 National/international rail network
- 1.2 Metro/underground
- 1.3 Tram/light railway

2.0 Bus, minibus or coach

3.0 Car or van:
- 3.1 Driver
- 3.2 Passenger

4.0 Other:
- 4.1 Motorcycle
- 4.2 Pedal cycle
- 4.3 Walk
- 4.4 Other (e.g. boat, ferry, aeroplane....)

It is also suggested that interested countries collect information on length and frequency of journey to work (non-core) topic on the time and distance, including the time and distance of the journey, over a given period (e.g. a day or week).

Compliance with the recommendations

The topic of occupation was included in all countries except Slovenia through open questions and pre-coded questions (used only in Italy and Spain). It was not possible to assess the extent to which countries classified occupation according to ISCO-88 as suggested in the UNECE Recommendations.

Eight countries collected information on the number of persons working in the local unit of the establishment. These were Austria, Belgium, France, Greece, Hungary, Luxembourg, Portugal, and United Kingdom.

The topic of industry was included in 35 countries mainly through open questions. However in the three countries that did not include a reference to industry, individuals were asked to report the name and address of the place where they performed their main job, presumably to assist in the defining of industry.

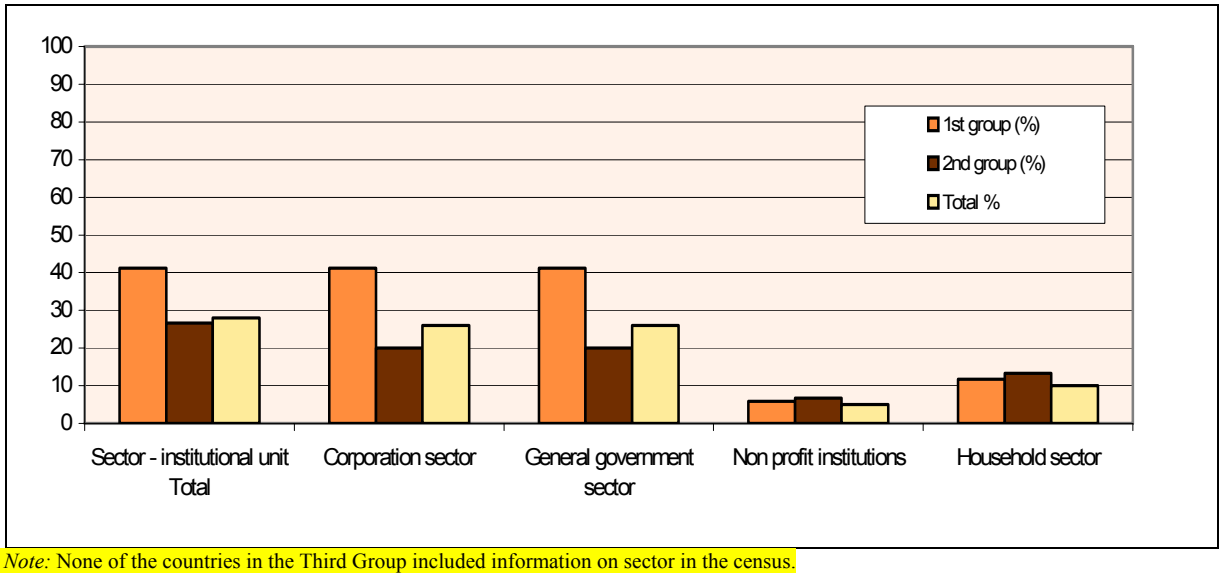
The (non-core) topic type of sector (institutional unit) was included in 11 countries using two different approaches:

a) Including a pre-coded question asking about the institutional unit. This approach was used in Serbia and Montenegro, Romania and United States.

b) Utilizing the question on status in employment and including response items that would differentiate individuals according also to the sector[52]. This approach was used in Belgium, France[53], Liechtenstein, Luxembourg, Monaco, Slovakia and Switzerland.

Graph 1 presents the percentage of countries that collected information on the topic of institutional unit, and the distribution of the countries that could identify the four sectors (corporate sector, general government sector, non-profit institution and household sector) described in the UNECE Recommendations. If all the countries that collected data on sector could distinguish the corporate and the general government, the other two sectors, non-profit and household were disregarded by almost all countries. None of the countries in the Third Group included information on sector in the census.

Graph 1
Percentage of countries that collected data on Institutional unit



Note: None of the countries in the Third Group included information on sector in the census.

The status in employment is a topic that was included by almost all countries (36[54] out of 38).

[52] An example is the question used in Belgium: *What is your professional status?* Civil servant, Civil servant not in the public sector, Managing director, employer, Other employee in the private sector, Worker in the private sector, apprentice, Managing director, Self employed, Self employed working mainly for one person or company, Other own account worker, Liberal profession, Contributing family worker, Household servant or domestic staff, Other statute, Without statute.

[53] Asking also the grade if working in the public sector.

[54] The three countries that did not include this topic are Azerbaijan, Georgia, and Kyrgyzstan. These countries however used the approach based on sources of livelihood and some of the categories for status in employment could be retrieved from the question on source of livelihood.

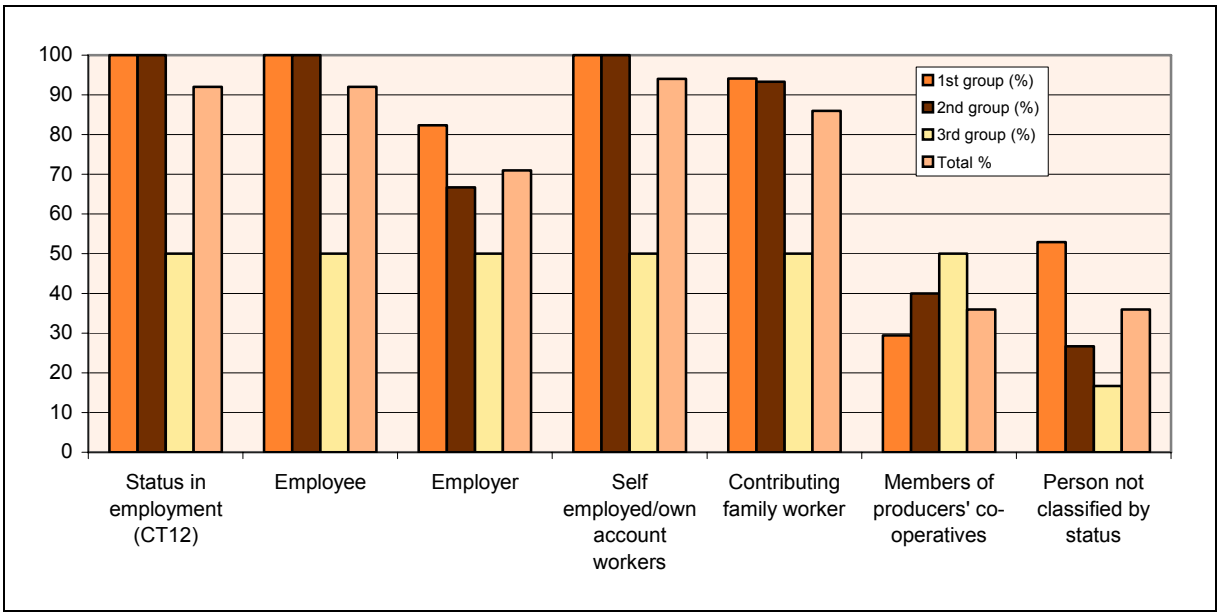
Graph 2 shows the distribution of countries in reporting the topic of status in employment and the categories suggested in the UNECE Recommendations. Employee and self-employed are categories reported by all the countries that included status in employment.

In some countries the items related to employee distinguish the type of contract.

There is a different use of the same terminology regarding the self-employed in different countries. Following Eurostat practices, European countries and others use the category "self-employed" or "self-employed without employees" meaning own-account workers although the international classification of the status in employment describes self-employed as the categories that includes all but employees.

The category of employer is usually included as a sub-category of "self-employed" (as used by Eurostat) where countries make the difference between "self-employed with employees" and "self-employed without employees". For this sub-group some countries collected information on the number of employees.

Graph 2
Percentage of countries that collected data on Status in employment



Contributing family worker was included in all but two countries.

Members of producers' cooperatives were included in 14 countries mainly from East and South of Europe. This category is included under self-employed in the Eurostat classification.

Only eight countries[55] collected information on the type of contract through pre-coded questions[56].

Thirty-two countries collected data on place of work. Some asked about the name of the establishment or enterprise, and address of the place where individual's work, and others included a pre-coded question to define the type of work place.

[55] Albania, Belgium, Canada, France, Hungary, Italy, Luxembourg, Monaco.
[56] As example in Albania the following categories were included: Permanent job. Temporary job, Occasional job, Seasonal job.

Nineteen countries included the topic of mode of transport to work in their census with a larger number of these countries belonging to the first group. All countries that collected data on mode of transport included the categories bus, motorcycle, and pedal cycle.

Fifteen countries included questions related to the length and frequency of journey to work and the majority of them belong to the Third Group.

Eight countries included the topic of departure point in their census.

MAIN SOURCE OF LIVELIHOOD AND DEPENDENCY RELATIONSHIP

Recommendations

Main source of livelihood

Recommended Definition: The (non-core) topic "main source of livelihood" is *the principal source from which the consumption of each person was financed during a specified reference period*. It was recommended to give preference to a long reference period, such as the preceding twelve months or the calendar year, and that information on "main source of livelihood" should be obtained for all persons, whether they are economically active or not. Further clarifications are also provided.

Recommended classification:

1.0 Economic activity:
- 1.1 Paid employment
- 1.2 Self-employment

2.0 Property and other investments

3.0 Pensions of all types:
- 3.1 Paid by the State and other public bodies
- 3.2 Paid by enterprises, institutions, co-operative organizations and others

4.0 Other transfers:
- 4.1 Sickness and maternity allowances
- 4.2 Unemployment benefits and relief
- 4.3 Benefits and assistance other than pensions, unemployment benefits and sickness and maternity allowances, provided by the State, other public bodies, co-operative organizations, enterprises or institutions

5.0 Loans or reduction of savings, realization of capital

6.0 Other sources

Dependency relationship

Recommended Definitions:

a) Dependant: *A dependant is a person who relies on the support of another person or persons for his or her main source of livelihood. The dependent population is identified by means of the classification by main source of livelihood in which all dependants are classified in category 6.0. A dependant may have some income from economic activity or other sources that is not large enough to constitute his or her main source of livelihood.*

b) Independent population: *The independent population comprises all persons who are classified in categories 1.0 to 5.0 of the classification by main source of livelihood. A supporter is a person in any of these five categories on whom one or more persons rely for their main source of livelihood.*

It was further suggested that it is desirable that dependent persons be attached, if possible, to their actual main supporters. However, since that may require the inclusion of a set of additional questions, it would usually be sufficient to include a single question in order to identify the actual main supporters of the dependants to be included in these tabulations.

Compliance with the recommendations

The main source of livelihood was obtained from all countries in the third group. Only Croatia collected information on this topic from the first group. In the second group, the topic was asked in nine countries[57].

Looking at the countries that used the categories suggested in the UNECE Recommendations[58], the first three categories are included in all countries that collected information on sources of livelihood, while the last two had limited coverage.

The period of 12 months suggested by the UNECE Recommendations as reference period was used only by four countries; Canada, Estonia, Lithuania, and United States. Israel used one month as reference period and the other countries did not include any reference period.

As suggested by the Recommendations, the topic was asked of all persons. In some countries it was possible to select all the relevant sources (with identification of the main), in others only a limited number of sources could be selected (in general three).

The dependency relationship was collected by 13 countries[59] mainly through the topic of sources of livelihood.

[57] Armenia, Bulgaria, Canada, Estonia, Israel, Poland, Portugal, Russian Federation, United States.
[58] 1.0 Economic Activity: Paid employment, self-employed; 2.0 Property and other investment; 3.0 Pensions of all types: paid by the State, paid by enterprises, institutions; 4.0 Other transfers: sickness and maternity allowances, unemployment benefits, benefits and assistance other than pensions, unemployment benefits, sickness and maternity allowances; 5.0 Loans or reduction of saving; 6.0 Other sources.
[59] Croatia, Estonia, Georgia, Hungary, Kyrgyzstan, Lithuania, Poland, Romania, Russian Federation, Serbia and Montenegro, Slovenia, Spain and Ukraine.

INCOME

Recommendations

Recommended Definition: The (non-core) topic income should be defined *as: (a) income received by each household member and from each source of livelihood (in accordance with the classification proposed for this topic earlier in this chapter) during the preceding twelve months or past year, and (b) total annual household income in cash and in kind from all sources.*

It is further recommended that if this (non-core) topic is included in the census data it should be obtained from all persons above a specified age, whether they are economically active or not. Also it is stated that income should be measured both for the individual and for the household of which he/she is a member. Also mentioned are problems of collecting data on income through a questionnaire, partly related to the sensitivity of such questions in many societies and partly to the difficulty which many persons may have in finding or remembering the requested information.

Compliance with the recommendations

The question on income was generally considered too sensitive to be included in a census and only four countries (United States, Canada, Malta and Israel) included them in the 2000 census round. In Canada and in the United States income was collected for each source of income.

11. EDUCATIONAL CHARACTERISTICS[60]

This chapter reviews the practices regarding the collection of educational characteristics in the last census round, based on 43 census forms[61] and available definitions used in the 2000 censuses of population in respect to the questions included on education. Unlike in Chapters 6-9, the analysis is not based on reports received in the UNECE questionnaire since this did not include questions on educational characteristics.

Even though additional sources like surveys, and different types of administrative data also provide information on the educational characteristics of the population, the information on educational attainment relies in most of the countries on census data, especially for small (local) areas within the country.

The review is divided into five sections covering the items of educational attainment, educational qualifications, field of study, school attendance and literacy. At the end of the chapter some comments are presented regarding compliance with the UNECE Recommendations on these issues.

EDUCATIONAL ATTAINMENT

Recommendations

Recommended definition: The core topic *"Educational attainment" refers essentially to the highest level successfully completed in the educational system of the country where the education was received. It is added that this should include all deliberate, systematic and organized communication designed to bring about learning, even if these were provided outside schools and universities*

The need is stressed of *establishing the appropriate level/grade equivalence for persons who received their education under a different or foreign system and in situations where the educational system may have changed more than once.* It is also noted that in cases where deviations from the recommended definitions and classifications that result from particular characteristics of the national educational system are necessary, *these deviations should be explained in census publications. It is recommended that an effort be made to relate the used categories to those which will make it possible to use the data for international comparisons.*

Information on educational attainment should be collected for all persons above the maximum age for starting compulsory schooling. Similarly, the World Recommendations suggest that this information *should preferably be collected for all persons five years of age and over*.

Four levels of education should be distinguished: primary; secondary - first stage; secondary - second stage; and post-secondary. No subdivision is required for neither primary nor post-secondary education. Persons who have received no formal schooling should also be identified.

[60] This chapter is based on information previously presented in the paper "Methods and definitions used to collect information on Educational characteristics in the ECE 2000 Round of Population and Housing Censuses" drafted by Angela Me and Valentina Giudetti (UNECE), presented at the November 2004 Joint ECE-Eurostat Work Session on Population Censuses (WP No.14). See: http://www.unece.org/stats/documents/2004/11/census1/wp.14.e.pdf

[61] The following ECE countries are excluded from the analysis: i) Andorra, Denmark, Finland, Norway, and Netherlands, in these countries census was undertaken using registers or a combination of registers and surveys without a traditional census questionnaire; ii) Bosnia and Herzegovina, Germany, Iceland, San Marino, Sweden, Uzbekistan, in these countries a census was not conducted in the 2000 round; iii) Turkmenistan, this country undertook a census in 1995 but the questionnaire was not available to the ECE secretariat; iv) Republic of Moldova, the census was carried out on 5-12 October 2004 and the questionnaire was not available at the time of this analysis.

Recommended standard classification: The use of the latest available version of the International Standard Classification of Education (ISCED) was recommended for the compilation of census data on educational characteristics of persons.

Compliance with the recommendations

Most (35 out of 42) of the countries included the topic of educational attainment in the 2000 round census questionnaires. Six countries did not ask a question on educational attainment, but only on educational qualifications referring to the highest certificate or diploma obtained[62]. It is sometimes difficult to clearly distinguish questions and items related to attainment and qualifications.

Implementation of the concept of educational attainment

The countries that included educational attainment did so using different modalities. Some countries asked about the highest level completed (as recommended) and some asked about all levels of education completed. 25 of the 36 countries that included the topic in the census followed the recommendations. 21 countries included questions on the highest level of education completed and four (Canada, France, Malta, Portugal) on the highest level of education completed or not completed (attended).

Four countries (Austria, Hungary, Liechtenstein, and Switzerland) did not ask about the highest level but about all levels of education completed. For seven countries (Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Tajikistan, Russian Federation and Ukraine) the question on educational attainment was generically referred to as “education” or “education attainment”.

Two countries, Bulgaria and Canada, asked different questions for people with different educational levels. In the Bulgarian census, the question on educational attainment was divided in two parts identifying all levels completed for persons with at least secondary education, and the highest level completed with persons with lower education.

Many countries, particularly from the EECCA and Eastern Europe complemented the question on educational attainment with other information. Some countries (Croatia, Latvia, Serbia and Montenegro, Slovakia, The former Yugoslav Republic of Macedonia, Ukraine) asked about the name or the type (Romania) of school where the highest level was completed, others (Austria, Belgium, Canada, Kyrgyzstan, Ukraine, and Russian Federation) asked a specific question on vocational training.

Information on the year when the highest level was completed was asked in five countries (Belgium, Bulgaria, Hungary, Monaco, Ukraine) while the number of years of schooling was asked in only three countries (Albania, Belgium and Israel). Three countries (Belgium, Greece, Italy, and Luxembourg) asked about the country where the studies were completed.

Classification of levels of education

Almost all the countries (34 out of 36) that included the topic of educational attainment characterized the question with a classification by levels of education. The remaining two countries (Canada and Romania) had an open question to record the highest grade or level completed.

[62] Albania, Armenia, Israel, Italy, Monaco, United Kingdom.

The classifications used by the countries reflect the diversity of education systems in different countries. They are in some cases very detailed (distinguishing different grades within primary, secondary and tertiary) and in other cases very general. The highest level of detail is usually within secondary school. In five countries items related to vocational and professional training have been included in the classification.

In some countries there was not a clear distinction in the classification between "levels" and "qualifications", and it was not always easy to distinguish the two concepts. Table 11.1 reports examples where educational qualifications were included in the classification of educational attainment. It is not clear if all the classifications used can be aggregated in the four levels suggested in the Recommendations. In some of the countries (Austria and Hungary) where all the levels were reported (and not only the highest), persons were asked to identify both levels completed and qualifications.

In Austria, Hungary, Liechtenstein, Portugal and Switzerland, the classification used for educational attainment is the same used for school attendance. This may help to cross-classifying attendance with data on educational attainment, according to the person's current level and grade, as suggested by the World Recommendations.

There seems to be some confusion regarding the way the data on levels of educational attainment and educational qualifications have been collected, both regarding the wording of the questions and the classification used.

In order to facilitate the respondent to focus on attainment rather then qualifications, many countries (27) included in the classification of educational attainment levels of education not completed. However, this was not systematically done by all countries and in all educational levels and problems of comparability may arise where this approach is used in a different manner. The inclusion of an item for not-completed primary school was adopted more often than for secondary and tertiary school. 18 countries included one or more categories to record persons who did not complete the primary level while only 10 countries included one or more categories to identify persons who did not complete the secondary level and/or the tertiary level.

Some countries asked about the highest level completed or not completed/attended. The UNECE Recommendations suggest only the highest level completed, but the World Recommendations say that: *Some countries may also find it useful to present data on educational attainment in terms of highest grade attended.* A number of countries (27) included in their classification levels not completed, thus making it possible to have a distribution of people by level completed and by level not completed.

Both the UNECE and the World Recommendations highlight the importance of identifying "Persons who have received no formal schooling". However, only about half of the countries (21) that classified educational attainment included an item to identify persons who have not received formal schooling. Three countries (Hungary, Turkey and the United States) included one category to record persons who did not complete any level and four countries (Albania, France, Israel, and Italy) report people without any diploma, but this does not allow identification of people with no formal schooling since there may be a group of people who attended school without completing it.

Although the global recommendations advocate that *data on school attendance, educational attainment and literacy status should be collected and tabulated separately and independently of each other*, many countries mixed these concepts in the classification of educational attainment. 13 out of the 36 countries that collected information on attainment included items concerning literacy in the response categories; and one country included school attendance (attends primary school) in the same classification.

Only four out of 36 countries included in the classification for educational attainment a category concerning pre-primary school, some countries did so including pre-primary with primary and others as a stand-alone category.

Table 11.1
Examples of educational attainment categories where qualifications were also included

Greece	Ireland	Luxembourg	Poland
Education (write the highest level of studies completed by the respondent) 1. PhD 2. Master's 3.Higher education degree 4.Technical education college, religious education degree 5. Post secondary education degree 6.Secondary education certificate 7.Technical school certificate 8.Technical college certificate 9.Lower secondary school certificate 10. Primary school certificate 11. Attends primary school 12. Has left primary school, but knows how to read and write 13. Does not know how to read and write	*What is the highest level of education (full-time or part-time), which you have completed to date?* No formal education Primary education *Second level:* Lower secondary Upper secondary Technical or Vocational qualification Both Upper secondary and Technical or Vocational qualification *Third level:* Non Degree Primary Degree Professional qualification (of Degree status at least) Both a Degree and a Professional qualification Postgraduate Certificate or Diploma Postgraduate Degree (Master's) Doctorate (PhD)	*What is the highest level of studies you successfully completed?* Primary education Lower stage of secondary education or technical sec. education Vocational diploma Diploma of master craftsman Secondary school leaving certificate Technician's diploma Higher education (- 4 years) Higher education (+ 4 years) Other	*What is your education level?* *Higher:* 1. At least doctorate 2. Master's degree 3. Non-university certificate or diploma *Post-secondary:* 4. Post-secondary with secondary school certificate 5. Post-secondary without secondary school certificate *Secondary:* 6. Vocational with certificate 7. Vocational without certificate 8. General with certificate 9. General without certificate 10. Basic vocational *Primary:* 11. Primary completed *Others:* 12. Primary not completed and no school education

Only eight countries followed the UNECE Recommendations and none followed the world recommendations on age limit. The approaches used also vary considerably among the countries and it is hard to identify a common regional approach. Table 11.2 shows the different approaches used.

It may be concluded that the age limit on attainment varies considerably between the countries of the region, while only a few countries followed the current UNECE Recommendations.

Table 11.2
Age limit applied in countries to collect information on educational attainment

Age limit	Countries
No age limit, questions asked to everybody	Azerbaijan, Bulgaria, Croatia, Hungary, Liechtenstein, Luxembourg, Spain, Switzerland, Tajikistan, United States
6 and over	Georgia, Greece, Kazakhstan, Kyrgyzstan, Portugal, Turkey, Ukraine
7 and over	Latvia
10 and over	Estonia, Lithuania, Russian Federation
11 and over	Romania
13 and over	Poland
14 and over	France
15 and over	Austria, Belarus, Belgium, Canada, Cyprus, Czech Republic, Ireland, Israel, Slovenia
16 and over	Malta, Slovakia
Not for pre-school and primary school children	Serbia and Montenegro, The former Yugoslav Republic of Macedonia

Source: UNECE survey, 2004.

EDUCATIONAL QUALIFICATIONS

Recommendations

Recommended definition: *Educational qualifications* [non-core topic in the UNECE Recommendations] *are the degrees, diplomas, certificates, etc. which have been conferred on a person by educational authorities, special examining bodies or professional bodies in his/her home country or abroad on the successful completion of a course of full-time, part-time or private study*. It is also added that this information *should include the title of the highest degree, diploma or certificate received, with an indication of the field of study if the title does not make this clear*.

It is suggested that information on educational qualifications be collected at least for all persons who have successfully completed a course of study at the post-secondary level of education.

Compliance with the recommendations

In total, 21 countries included this topic in the questionnaire. As mentioned in the section on educational attainment, it is sometimes difficult to clearly distinguish questions and items related to attainment and qualifications. In only six countries (Belgium, Canada, Finland, Kyrgyzstan, Malta, and United Kingdom) there is a clear difference between the two types of information collected.

Information collected

In relation to the information collected on educational qualifications, the recommendations suggest collection of data on educational qualifications including the title of the highest qualification received (with an indication of the field of study if the title does not make this clear). Seven countries (Albania, Belgium, Hungary, Italy, Kyrgyzstan, Liechtenstein, and Switzerland) recorded the title of the qualifications and four countries (Austria, Belgium, Canada, and Ireland) recorded the field of study. In five countries (Belarus, Georgia, Italy, Kazakhstan, and Kyrgyzstan) information about upper-tertiary education was also asked.

As for educational attainment, the situation regarding the cut-off age for answering the question is variable. Table 11.3 reports the different approaches used by countries.

Table 11.3
Age limit applied by countries to collect information on educational qualifications

Age limit	Countries
No age limit, questions asked to everybody	Hungary, Luxembourg, United States
6 and over	Albania, Greece, Italy, Kyrgyzstan
7 and over	Armenia
10 and over	Estonia, Lithuania, Russian Federation
13 and over	Poland
14 and over	France
15 and over	Austria, Belgium, Canada, Ireland, Israel, Liechtenstein, Switzerland
16 and over	Malta, Monaco
16-74	United Kingdom

Source: UNECE survey, 2004.

FIELD OF STUDY

Recommendations

Recommended definition: No specific definition of what should be considered under the (non-core) topic of field of study was provided.

Some recommendations and suggestions are provided on how to collect such information. Also some common problems, like identifying exact field(s) of study of persons with interdisciplinary or multi-disciplinary specializations, are mentioned and suggestions on how to handle these cases are provided.

The adoption of the classifications and coding of fields of study of the most recent version of ISCED is recommended and, if this is not possible, to establish a correspondence with it.

Information on the field of study is recommended to be collected *primarily for persons within the adult population who have attained secondary education or above. This would mean that the question is to be principally addressed to persons aged 15 years and over who have completed secondary education or higher, or other organized educational and training programmes at equivalent levels of education.*

Compliance with the recommendations

Only nine countries (Austria, Belgium, Canada, Czech Republic, Finland, Ireland, Spain, Portugal, The former Yugoslav Republic of Macedonia) out of 43 included this topic in the questionnaire. In Ireland the respondents were asked to identify all the subject areas taken part of the final examination, but the rest of the countries allow the identification of only the main field of study.

Only four countries (Belgium, Finland, Ireland, and Spain) used pre-coded questions in line with ISCED while others used open questions.

Although countries did not use the same age threshold for the question on field of study (see table 11.4), it can be noted that almost all are in line with the recommendations.

Table 11.4
Age limit applied in countries to collect information on field of study

Age limit	Countries
No age limit, questions asked to everybody	Spain
15 and over	Austria, Belgium, Canada, Ireland
Persons with higher than elementary education	Czech Republic
Persons that are tertiary level graduates	Portugal
Not for pre-school children and pupils attending primary school	The former Yugoslav Republic of Macedonia

SCHOOL ATTENDANCE

Recommendations

Recommended definition: The (non-core) topic *School attendance is defined as attendance at any accredited educational institution or programme, public or private, for organized learning at any level of education. The term "education" is understood to comprize all deliberate, systematic and organized communication designed to bring about learning. Data on school attendance should refer to the time of the census*.

If the census is taken during the school vacation period, school attendance during the period just before the vacation will be taken into account. It is clarified *that instruction in particular skills, which is not part of the recognized educational structure of the country (e.g. in-service training courses in factories), is not considered "school attendance" for census purposes*.

It is also clarified that *the concept of school attendance is different from, but complementary to, that of enrolment as normally covered by school statistics. A person may be enrolled but does not attend; and a person attending a training programme may not be formally enrolled in a school or an educational institution*.

Information on school attendance is recommended to be collected *for persons of all ages. It relates in particular to the population of official school age, which ranges from five to 29 years old in general but varies from country to country depending on the national education structure.*

However if *data collection is extended to cover attendance in pre-primary education and/or other systematic educational and training programmes organized for adults in productive and service enterprises, community-based organizations and other non-educational institutions, the age range may be adjusted as appropriate*.

Compliance with the recommendations

Most of the countries (34) included school attendance in their census questionnaires. In the UNECE and World Recommendations it is considered important that the concept of attendance be identified as a different concept of enrolment. However, it was not possible to determine if all countries actually measured such differences. From the countries where information is available it seems that often behind the use of the word attendance there is the concept of enrolment. The approaches used to measure attendance can be summarized as follows:

a) Attendance was measured through the identification of the level/type of school they were attending. This approach was used by 20 countries.

b) Attendance was assessed with a Yes/No question where respondents were asked if they were attending school or had attended school in the past, without specifying the level currently attended. This approach was used by three countries: Belgium, Israel, and Portugal.

c) The respondents were asked about the level/type of school where they were studying. This approach was used by Armenia, Azerbaijan, Georgia, and the Russian Federation.

d) Other approaches not of types described above were used in Luxembourg, Greece, Monaco, and United Kingdom.

For four countries, only information on enrolment was collected.

Few countries in the region used the concept of school attendance as described in the UNECE and World Recommendations. Some countries asked about enrolment (even if they called it attendance) and some used the concept of "studying" which is difficult to compare with both enrolment and attendance.

Classification of level of school attended

Different classifications were used to identify the level of school attended in 24 countries. As in the educational attainment, this difference reflects the diversity of educational systems. Analyzing these differences, the following key issues can be highlighted:

a) In five countries (Austria, Hungary, Liechtenstein, Portugal and Switzerland), the classifications used for school attendance coincides with the ones used for educational attainment.

b) Fourteen countries collected data on attendance in pre-primary school:

   (i) Belarus and Kazakhstan included as sub-question

   (ii) Belgium, Estonia, Luxembourg, Monaco, Portugal, United States included as a category in the classification by type of school attended

   (iii) Georgia, Hungary, Italy, Kyrgyzstan, Russian Federation, Ukraine included a separate question for pre-primary

Sixteen countries have also included questions about the place of school attended.

As shown in table 11.5, countries asked the question on school attendance for different population groups. Almost half of the countries collected information for persons of all ages, as suggested in the Recommendations.

Table 11.5
Age limit applied in countries to collect information on school attendance

Age limit	Countries
No age limit, questions asked to everybody	Azerbaijan, Croatia, Hungary, Italy[63], Liechtenstein, Portugal, Serbia and Montenegro, Slovenia, Switzerland, Tajikistan, The former Yugoslav Republic of Macedonia, United States
3 and over	Estonia
5 and over	Lithuania
6 and over	Georgia, Greece, Kazakhstan, Kyrgyzstan, Russian Federation, Ukraine
7 and over	Armenia
13 and over	Poland
11 and over	Romania
15 and over	Canada, Ireland, Israel
16 and over	Spain
Less then 16	Monaco
For pupils and university students	Austria
For pupils and students	Luxembourg
For persons aged 6-60	Belarus
To be completed by everyone who takes classes or follows a vocational training, irrespective of whether he/she is working	Belgium

Source: UNECE survey, 2004.

LITERACY

Recommendations

Recommended definition: The (non-core) topic literacy is defined as *the ability both to read and to write. If this topic is included in the census, the information collected should be designed to distinguish persons who are literate from those who are illiterate. A person who can, with understanding, both read and write a short, simple statement on his everyday life is literate. A person who cannot, with understanding, both read and write a short, simple statement on his everyday life is illiterate.*

It is clarified that *a person capable of reading and writing only figures and his/her own name should be considered illiterate, as should a person who can read but not write and one who can read and write only a ritual phrase which has been memorized.*

It is also stressed that *the collection and tabulation of statistics on literacy during the population census should not be based on assumed inferences between literacy and school attendance and educational attainment.* Also it is clarified that *the language or languages in which a person can read and write is not a factor in determining literacy and need not be considered on the questionnaire*. However, if needed, additional information about reading and writing in different languages may be independently collected.

[63] This refers to the question on the attendance of vocational training/ updating courses. The question on the enrolment of respondent in school is for persons aged six and above.

Data on literacy was recommended to be collected for all persons ten years of age and over. In order to permit international comparisons of data on literacy, however, any tabulations of literacy not cross-classified by detailed age should at least distinguish between persons under 15 years of age and those 15 years of age and over.

Compliance with the recommendations

In total, 24 countries included some measurement of literacy in their 2000 round census questionnaire using different methods. Some countries included a specific question on literacy, as recommended in the Recommendations, asking about the ability to read and write a short sentence while other countries assessed literacy through items included in the question related to educational attainment. More specifically:

a) 11 countries (Albania, Armenia, Croatia, Cyprus, Kazakhstan, Malta, Portugal, Russian Federation, Serbia and Montenegro, The former Yugoslav Republic of Macedonia, Turkey) used a specific question on literacy:

   (i) Six countries (Albania, Cyprus, Kazakhstan, Malta, Portugal, Russian Federation) asked specifically about *the ability both to read and to write*;

   (ii) Five countries (Armenia, Croatia, Serbia and Montenegro, The Former Yugoslav Republic of Macedonia, Turkey) used only the categories *literate/illiterate.*

b) Thirteen countries recorded data on literacy inside the question of educational attainment.

As shown in table 11.6 countries adopted different age limits to collect data on literacy. Only four countries followed the suggested threshold of 10 years.

Table 11.6
Age limit applied in countries to collect information on literacy

Age limit	Countries
No age limit, questions asked to everybody	Azerbaijan, Bulgaria, Croatia, Portugal, Spain, Tajikistan
6 and over	Albania, Georgia, Italy, Kazakhstan, Kyrgyzstan, Turkey, Ukraine
7 and over	Armenia, Latvia
10 and over	Estonia, Lithuania, Malta, The former Yugoslav Republic of Macedonia
15 and over	Belarus, Cyprus

Source: UNECE survey, 2004.

CONSIDERATIONS ON COMPLIANCE WITH THE RECOMMENDATIONS ON EDUCATION DATA

The above reviewed practices regarding the collection of census data on education characteristics of the population indicate that the countries of the UNECE region used many and diverse ways to investigate these issues. To some extent this diversity of approaches may be justified by the fact that the UNECE and the World Recommendations on these issues were relatively broad, since only educational attainment was considered a core topic.

In addition it is clear that the differences in the type of educational systems played a role by constraining countries to ask questions that were relevant to their national educational circumstances.

However recommendations have not been followed by a significant number of countries. For example, although the World Recommendations recommend that *Data on school attendance, educational attainment and literacy status should be collected and tabulated separately and independently of each other, without (...) any assumption of linkages between them* there is still a consistent number of countries in the UNECE region that collects educational data without distinguishing these different concepts. Educational attainment is often presented in conjunction with educational qualifications and school attendance, while literacy is sometimes assessed through response items included on educational attainment.

There are no common approaches in the region regarding who should be covered in the collection of data on the different educational topics. The recommendations make suggestions on the age limits to apply to each topic, but a number of countries did not follow them. Countries in their census rarely measure the concept of school attendance. Although the word attendance is often used, countries often collect data on enrolment or on concepts such as “studying”.

It may be concluded that the different methods applied by different countries will make the comparisons of educational characteristics across countries complicated.

12. HOUSING TOPICS

Introduction

All countries in the UNECE region that conducted a population census in the 2000 round also collected information on housing. A few countries (for example Canada and Ukraine) collected only very limited information on housing (basic data like the location of dwellings and the number of rooms), while most countries collected detailed information on a number of housing topics selected from among those presented in the UNECE Recommendations.

This chapter presents a review of how countries in the UNECE region conducted their housing census in the 2000 round, and of the housing topics considered by the different countries. The UNECE questionnaire on censuses used to collect information on practices followed by countries in the 2000 census round did not include specific questions on housing topics. Therefore, the information presented in this chapter is mainly based on the analysis of the census forms used by countries. For countries that did not use census forms (Denmark, Finland and the Netherlands), information was derived from census reports and output[64].

How the housing census was taken – Methodological approaches

In order to analyse the methodology adopted by countries in the UNECE region for the housing census, the 46 countries for which information was available have been classified by methodological approach in table 12.1, as done in Chapter 6 with regard to the methodology adopted for the population censuses (see table 6.3).

Most countries collected housing census data adopting the same methodology used to collect population census data, with a few exceptions (shown in bold font in table 12.1). Three countries that adopted a combined approach for the population census (Belgium, Slovenia and Spain) used a traditional approach for the housing census and collected housing data using census forms. Similarly, Norway carried out a register-based population census, but information on housing was collected using a traditional questionnaire, in order to create a dwelling register.

As a result, the number of countries that in the 2000 census round adopted a combined or register based approach is lower for housing census (five countries) than for population census (nine countries). A fully register-based housing census was taken in Denmark and Finland, while in Latvia, Netherlands and Switzerland housing data were partially taken from registers and integrated with data collected with field operations (in Latvia and Switzerland) or with data from a housing survey (in the Netherlands).

The number of countries using registers for the housing census will probably increase in future, since several countries used the 2000 census to create or improve housing registers that could then be used for future censuses.

[64] See: "Population Census 2000 Handbook", Published by Statistics Finland, 2001; "Declarations of content: Census of Housing, 1st January", document available on the website of Statistics Denmark (http://www.dst.dk); "The Dutch National Census 2001 (40 Excel tables)", available on the website of Statistics Netherlands (http://www.cbs.nl).

Table 12.1
Classification of UNECE countries according to methodology adopted for the housing census, and number of housing topics considered, 2000 round

Group A: Traditional approach		Group B: Combined approach	Group C: Register based approach
Group A1: Traditional census, interviewer (23 countries) Average no. of topics: 16.1	*Group A2: Traditional census, self-compilation (18 countries) Average no. of topics: 13.2*	*Data from registers + questionnaires submitted to all households or use of existing sample survey data (three countries) Average no. of topics: 15.5*	*Data from registers only (two countries) Average no. of topics: 15*
Albania (15 topics)	Australia [d] (5 topics)	Latvia (18 topics)	Denmark (10 topics)
Armenia (14)	Austria (13)	Netherlands [c] (13)	Finland (20)
Azerbaijan (14)	Belgium [a] (18)	Switzerland (15)	
Belarus (20)	Canada (5)		
Bulgaria (21)	Czech Republic (22)		
Croatia (17)	France (16)		
Cyprus (14)	Ireland (10)		
Estonia (19)	Israel (7)		
Georgia (14)	Italy (19)		
Greece (17)	Luxembourg (12)		
Hungary (16)	Malta (13)		
Kazakhstan (16)	Monaco (14)		
Kyrgyzstan (14)	Norway [b] (15)		
Lithuania (20)	Portugal (19)		
Poland (17)	Slovakia (19)		
Romania (23)	Spain [a] (7)		
Russian Federation (13)	United Kingdom (10)		
Serbia and Montenegro (16)	United States (13)		
Slovenia [a] (22)			
Tajikistan (15)			
The former Yugoslav Republic of Macedonia (19)			
Turkey (9)			
Ukraine (5)			

[a] Data on population were collected using the combined approach (Group B).
[b] Data on population were collected using the register based approach (Group C).
[c] Data on housing are based on housing registers and results from the Survey on Housing Conditions.
[d] Information on selected housing topics was filled by the enumerator.

Source: UNECE survey (2004) and analysis of census material (census forms, reports and outputs) collected by the UNECE.

Topics covered by countries in the 2000 round of housing censuses

In the 2000 UNECE Census Recommendations, housing topics were presented in two sections, respectively on 1) characteristics of housing units and other living quarters and 2) characteristics of buildings containing dwellings. For each section, the Recommendations included a list of "core topics" (topics of basic interest that countries were recommended to include) and "non-core topics" (topics that countries could decide to cover or not, depending on national priorities). In total, the Recommendations included 27 housing topics, including 13 core topics and 14 non-core topics.

The number of housing topics included in each country is presented in table 12.1. On average, each country included about 15 housing topics. Countries in Group A1 where census forms were filled by interviewers on average considered more topics (16.1) than countries in Group A2 with self-compilation of forms (13.2 topics on average). Countries using registers, both in Groups B and C collected on average the same number of topics as the total average (about 15). The countries that collected the largest number of housing topics were: Romania (23), Czech Republic and Slovenia (22) and Bulgaria (21). The countries with the smallest number of housing topics were: Australia, Canada and Ukraine (5); Israel and Spain (7). Detailed information on the coverage by countries of the various housing topics is presented in the following sections.

General characteristics of housing units and other living quarters

The coverage by countries of census topics on the characteristics of housing units and other living quarters is presented in tables 12.2 (on general characteristics) and 12.3 (on housing amenities and facilities). With regard to general characteristics (table 12.2), most core topics (including type of ownership, location of living quarters and number of rooms) were collected by almost all countries. Among the other core topics, "type of living quarters" was collected by 38 countries (83 per cent), "number of occupants" by 34 countries (74 per cent) and "occupancy status" by 25 countries (54 per cent).

With regard to "type of living quarters", almost all of the countries that did not include the topic were using self-compilation of the census form (Group A2). It is likely that these countries considered that the quality of the information provided by respondents on this topic (where dwellings are required to be distinguished between conventional dwellings and different types of non-conventional dwellings) would not be sufficient.

The relatively high number of countries that did not collect information on occupancy status could also be partly explained by the difficulty in measuring this topic, which distinguishes between occupied dwellings (that are usual residence of at least one person), dwellings reserved for seasonal or secondary use and vacant dwellings. The analysis of practices followed by countries in the 2000 round showed difficulties in the practical application of the definition of vacant dwelling. Vacant dwellings were easily confused with dwellings reserved for seasonal or secondary use[65]. Countries that did not consider this topic are more or less equally distributed in the various groups by methodological approach.

With regard to non-core topics on general characteristics of housing units, the topic "useful and/or living floor space" was included in a large number of countries (35 countries, that is 76 per cent), while only a few countries collected data on "position of dwelling in the building" (12 countries), "occupancy by one or more households" (nine countries) and "type of vacancy" (two countries).

[65] See page 3 of the paper "Comments on the 2000 recommendations on housing censuses and proposals for the 2010 recommendations", presented at the Joint UNECE-Eurostat Work Session on housing censuses (Geneva, 26 November 2004). Available for download at: http://www.unece.org/stats/documents/2004/11/census2/wp.3.e.pdf

Housing amenities and facilities

Information on coverage by countries of topics on housing amenities and facilities is presented in table 12.3. Almost all of the core topics (including water supply system, toilet facilities, bathing facilities and type of heating) were included by most countries (between 67 per cent and 83 per cent). The core topic "kitchen" was included in half of the countries. The data indicates that the number of countries that did not consider the topics "kitchen" and "water supply system" is relatively high in Group A2 (countries using self-compilation of the census form) compared to the other groups of countries.

Two non-core topics ("type of sewage disposal system" and "main type of energy used for heating") were included in a majority of countries (28 countries, or 61 per cent). The other non-core topics were included in a smaller number of countries (between 15 and 21). Most countries that included these topics used interviewers (group A1), and are predominantly located in Eastern Europe and EECCA.

Characteristics of buildings containing dwellings

Table 12.4 presents the coverage by countries of topics on the characteristics of buildings containing dwellings. In the UNECE Census Recommendations these topics are referred to dwellings, so that for example the topic "type of building" includes a classification of *dwellings* by type of buildings (and not of *buildings* by type).

The two core topics in this section, "type of building" and "period of construction", were included in 27 countries (59 per cent) and 35 countries (76 per cent) respectively. For the topic "type of building", some countries faced difficulties in applying the recommended classification. This included terms like "ground-oriented houses" which is not a widely-used or well-understood term, and the important category of "apartment buildings" was not explicitly mentioned[66].

Among the non-core topics, "material of which specific parts of the building are constructed" was included in 17 countries, while "number of floors", "lift" and "state of repair" were included in 14, 10 and four countries respectively. It should be noted that the 2000 UNECE Census Recommendations also included two more topics ("number of dwellings in the building" and "whether building is a farm building or not") for which neither definitions nor classifications were given. No data are available on the number of countries that considered these topics.

[66] See page 10 of the paper "Comments on the 2000 recommendations on housing censuses and proposals for the 2010 recommendations", presented at the Joint UNECE-Eurostat Work Session on housing censuses (Geneva, 26 November 2004). Available for download at: http://www.unece.org/stats/documents/2004/11/census2/wp.3.e.pdf

Table 12.2
Coverage by UNECE countries of census topics in the 2000 housing census round
Characteristics of housing units and other living quarters: General characteristics

Country	Type of living quarters	Type of ownership	Location of living quarters	Occupancy status	Type of vacancy	Occupancy by one or more households	Number of occupants	Number of rooms	Useful and/or living floor space	Position of dwelling in the building
Group A1 (Traditional census, interviewer):										
Albania			**X**	**X**		X	**X**	**X**	X	
Armenia	**X**	**X**	**X**				**X**	**X**	X	
Azerbaijan	**X**	**X**						**X**	X	
Belarus	**X**	**X**	**X**	**X**		X	**X**	**X**	X	
Bulgaria	**X**	**X**	**X**	**X**				**X**	X	
Croatia	**X**	**X**	**X**	**X**				**X**	X	X
Cyprus	**X**	**X**	**X**	**X**				**X**		
Estonia	**X**	**X**	**X**	**X**		X	**X**	**X**	X	
Georgia	**X**	**X**	**X**				**X**	**X**	X	
Greece	**X**	**X**	**X**	**X**	X	X	**X**	**X**	X	
Hungary	**X**	**X**	**X**	**X**				**X**	X	
Kazakhstan	**X**	**X**	**X**			X	**X**	**X**	X	
Kyrgyzstan	**X**	**X**	**X**				**X**	**X**	X	
Lithuania	**X**	**X**	**X**	**X**			**X**	**X**	X	
Poland	**X**	**X**	**X**	**X**				**X**	X	
Romania	**X**	**X**	**X**	**X**		X	**X**	**X**	X	X
Russian Federation	**X**	**X**					**X**	**X**	X	
Serbia and Montenegro	**X**	**X**	**X**	**X**			**X**	**X**	X	X
Slovenia	**X**	**X**	**X**	**X**		X	**X**	**X**	X	X
Tajikistan	**X**	**X**					**X**	**X**	X	
The former Yugoslav Republic of Macedonia	**X**	**X**	**X**	**X**			**X**	**X**	X	X
Turkey	**X**	**X**	**X**				**X**	**X**		
Ukraine	**X**		**X**				**X**	**X**	X	
Group A2 (Traditional census, self-compilation):										
Australia	**X**	**X**	**X**					**X**[a]		
Austria	**X**	**X**	**X**				**X**	**X**	X	X
Belgium	**X**	**X**	**X**			X		**X**	X	X
Canada		**X**	**X**					**X**		
Czech Republic	**X**	**X**	**X**	**X**		X	**X**	**X**	X	X
France	**X**	**X**	**X**	**X**			**X**	**X**	X	X
Ireland	**X**	**X**	**X**				**X**	**X**		
Israel		**X**	**X**				**X**	**X**		
Italy		**X**	**X**	**X**			**X**	**X**	X	
Luxembourg		**X**	**X**	**X**			**X**	**X**	X	
Malta		**X**	**X**				**X**	**X**		
Monaco	**X**	**X**	**X**	**X**				**X**	X	
Norway		**X**					**X**	**X**	X	
Portugal	**X**	**X**	**X**	**X**			**X**	**X**		
Slovak Republic	**X**	**X**	**X**	**X**					X	X
Spain		**X**	**X**	**X**			**X**		X	
United Kingdom	**X**	**X**	**X**				**X**	**X**		X
United States	**X**	**X**	**X**				**X**	**X**		
Group B (Combined approach):										
Latvia	**X**	**X**	**X**				**X**	**X**	X	
Netherlands	**X**	**X**	**X**	**X**			**X**	**X**		
Switzerland	**X**	**X**	**X**	**X**	X		**X**	**X**	X	X
Group C (Register-based census):										
Denmark	**X**	**X**	**X**					**X**	X	
Finland	**X**	**X**	**X**	**X**			**X**	**X**	X	
TOTAL	**38**	**44**	**42**	**25**	2	9	**34**	**44**	35	12

[a] Number of bedrooms.

Source: Analysis of census material (census forms, reports and outputs) collected by the UNECE.
Note: **X** = core topics, X = non core topics

Table 12.3
Coverage by UNECE countries of census topics in the 2000 housing census round
Characteristics of housing units and other living quarters: Amenities and facilities

Country	Kitchen	Cooking facilities	Water supply system	Hot water	Toilet facilities	Type of sewage disposal system	Bathing facilities	Type of heating	Main type of energy used for heating	Electricity	Piped gas
Group A1 (Traditional census, interviewer):											
Albania	**X**		**X**		**X**			**X**			
Armenia		X	**X**		**X**		**X**		X	X	
Azerbaijan		X	**X**	X	**X**	X	**X**	**X**		X	X
Belarus		X	**X**	X		X	**X**	**X**	X	X	X
Bulgaria	**X**	X	**X**	X	**X**	X	**X**	**X**	X	X	
Croatia	**X**		**X**		**X**	X	**X**	**X**	X	X	
Cyprus	**X**		**X**	X	**X**		**X**	**X**	X		
Estonia	**X**		**X**	X	**X**	X	**X**	**X**	X	X	X
Georgia			**X**		**X**	X	**X**	**X**		X	X
Greece	**X**				**X**	X	**X**	**X**		X	
Hungary			**X**	X	**X**	X		**X**	X		X
Kazakhstan		X	**X**	X		X	**X**	**X**	X	X	X
Kyrgyzstan		X	**X**	X		X		**X**	X	X	X
Lithuania	**X**	X	**X**	X	**X**	X	**X**	**X**	X	X	X
Poland	**X**		**X**	X	**X**	X	**X**	**X**	X		X
Romania	**X**		**X**	X	**X**	X	**X**	**X**	X	X	X
Russian Federation			**X**	X		X		**X**		X	X
Serbia and Mont.			**X**		**X**	X	**X**	**X**		X	
Slovenia	**X**		**X**		**X**	X	**X**	**X**	X	X	X
Tajikistan		X	**X**	X		X	**X**	**X**	X	X	X
The former Yugoslav Republic of Macedonia	**X**		**X**		**X**	X	**X**	**X**	X	X	
Turkey	**X**		**X**		**X**		**X**				
Ukraine											
Group A2 (Traditional census, self-compilation):											
Australia											
Austria	**X**				**X**		**X**	**X**	X		
Belgium	**X**				**X**	X	**X**	**X**	X		
Canada											
Czech Republic			**X**	X	**X**	X	**X**	**X**	X		X
France					**X**	X	**X**	**X**	X		
Ireland			**X**			X		**X**			
Israel		X					**X**				
Italy	**X**		**X**	X	**X**		**X**	**X**	X		
Luxembourg		X			**X**		**X**	**X**	X		
Malta	**X**	X			**X**	X	**X**			X	X
Monaco		X	**X**	X	**X**		**X**	**X**	X		X
Norway	**X**	X			**X**	X	**X**	**X**	X		
Portugal	**X**		**X**		**X**	X	**X**	**X**		X	
Slovak Republic		X	**X**	X	**X**	X	**X**	**X**	X		X
Spain								**X**	X		
United Kingdom					**X**		**X**	**X**			
United States		X	**X**	X	**X**		**X**		X		
Group B (Combined approach):											
Latvia	**X**		**X**	X	**X**	X	**X**	**X**		X	X
Netherlands	**X**		**X**		**X**		**X**	**X**			
Switzerland	**X**			X				**X**	X		
Group C (Register-based census):											
Denmark	**X**				**X**		**X**	**X**			
Finland	**X**		**X**	X		X		**X**	X	X	X
TOTAL	**23**	15	**31**	21	**33**	28	**35**	**38**	28	21	19

Source: Analysis of census material (census forms, reports and outputs) collected by the UNECE.
Note: **X** = core topics, X = non core topics

Table 12.4
Coverage by UNECE countries of census topics in the 2000 housing census round
Characteristics of buildings containing dwellings

Country	Type of building	Number of floors	Lift	Period of construction	Material of which specific parts of the building are constructed	State of repair
Group A1 (Traditional census, interviewer):						
Albania	**X**	X	X	**X**	X	
Armenia				**X**	X	
Azerbaijan	**X**					
Belarus	**X**			**X**	X	
Bulgaria	**X**	X	X	**X**	X	
Croatia	**X**			**X**		
Cyprus	**X**			**X**		
Estonia	**X**			**X**		
Georgia				**X**		
Greece	**X**			**X**		
Hungary	**X**			**X**	X	
Kazakhstan						
Kyrgyzstan						
Lithuania				**X**	X	
Poland	**X**			**X**		
Romania	**X**	X		**X**	X	
Russian Federation				**X**	X	
Serbia and Montenegro				**X**	X	
Slovenia	**X**	X		**X**	X	
Tajikistan				**X**		
The former Yugoslav Republic of Macedonia		X		**X**	X	
Turkey						
Ukraine						
Group A2 (Traditional census, self-compilation):						
Australia	**X**					
Austria	**X**					
Belgium	**X**	X	X	**X**		X
Canada				**X**		X
Czech Republic	**X**	X	X	**X**	X	
France		X	X	**X**		
Ireland	**X**			**X**		
Israel				**X**		
Italy	**X**	X	X	**X**	X	X
Luxembourg	**X**					
Malta	**X**			**X**		
Monaco						
Norway	**X**	X	X	**X**		
Portugal	**X**	X	X	**X**	X	X
Slovak Republic		X	X	**X**	X	
Spain						
United Kingdom	**X**					
United States	**X**			**X**		
Group B (Combined approach):						
Latvia	**X**			**X**	X	
Netherlands	**X**			**X**		
Switzerland		X		**X**		
Group C (Register-based census):						
Denmark				**X**		
Finland	**X**	X	X	**X**	X	
TOTAL	**27**	14	10	**35**	17	4

Source: Analysis of census material (census forms, reports and outputs) collected by UNECE.
Note: **X** = core topics, X = non core topics

APPENDIX

13. UNECE Questionnaire on Population and Housing Censuses[67]

For your easy reference, the ECE Recommendations for the 2000 Censuses can be found at this Internet address:
http://www.unece.org/stats/documents/census/2000/CensusRecommendations.html

All answers to this questionnaire should be given in English, including attachments you may wish to attach

COUNTRY: _____

Organization _____

Responsible Person (Respondent):
*Full name:*_____
Position: _____..... *Address:*_____
*Tel/ Fax:*_____
*Email:*_____

[67] The questionnaire is an expanded version of the questionnaire used for the study "Documentation of the 2000 round of population and housing censuses in the EU, EFTA and Candidate Countries" (Luxembourg, 2003), prepared on behalf of Eurostat by an international research team at the Laboratory of Social and Demographic Analysis (LDSA) of the University of Thessaly (Volos).

Part A
General information on the 2000 Round of Population and Housing Censuses

1. Period of the census

Reference day of the census _____ **(dd/mm/yyyy)**

Enumeration period of census (in days) ___

2. Legislation

Census act (year) ____
Statistics act (year) ____
Data-protection law (year) ____

3. National Identification Number (personal)

Does a national identification number exist in your country?

☐ Yes ☐ No

If yes, please indicate if it is used for:

☐ Census
☐ Surveys
☐ Administrative sources

4. Registers

Do administrative registers exist in your country?

☐ Yes ☐ No

If yes, which registers?

☐ Population
☐ Business (including agriculture registers)
☐ Dwellings
☐ Insurance (including social security)
☐ Others, please specify:

_____

5. Pilot survey

Was a pilot survey organized before the population census?

☐ Yes ☐ No

6. Publicity and information campaign

Publicity (i.e. any type of announce to the public) during the census by means and **order of importance** *(1 for the most important, 2, 3, etc.)***:**

☐ National TV
☐ National radio
☐ Local TV
☐ Local radio
☐ Internet
☐ Newspapers and magazines
☐ Posters
☐ Leaflets
☐ Billboards
☐ Gadgets (to be specified)
☐ Press conferences, other events
☐ Other (e.g. SMS), please specify: _____
☐ No publicity

Main location of instruments like posters and leaflets (mark all applicable cases):

☐ Schools
☐ Libraries
☐ Public institutions
☐ Stations, airports, etc
☐ Post offices, pharmacies
☐ Banks
☐ Other, please specify: _____

Selected/main target of the publicity campaign (mark all applicable cases):

☐ Young and students
☐ People in rural areas
☐ Foreigners living in the country
☐ Ethnic minorities
☐ Companies
☐ Farms
☐ Other, please specify: _____

Main slogan used for the publicity campaign:

_____

Information campaign (i.e. diffusion of information as well as support) during the census by means **and order of importance** *(1 for the most important, 2, 3, etc.)*:

- ☐ TV programs
- ☐ Radio programs
- ☐ Newspapers and magazines
- ☐ Booklets
- ☐ CD-ROM
- ☐ Call center
- ☐ Internet
- ☐ Events (e.g. forum), please specify: _____
- ☐ Other, please specify: _____

Main aims of the information campaign (mark all applicable cases):

- ☐ Explain the instruments
- ☐ Explain the legal frame
- ☐ Make respondent confident
- ☐ Make answering correct and easier
- ☐ Other, please specify: _____

7. Cartography/Mapping

Is there a cartographic unit within the National Census Office?	Yes ☐	No ☐
Did you create on your own the necessary maps?	Yes ☐	No ☐
Did you use GIS technology?	Yes ☐	No ☐
Did you use digital maps?	Yes ☐	No ☐
Did you use cartographic data to support the census process?	Yes ☐	No ☐

8. Data processing

Use of a project management software: Yes ☐ No ☐

If yes, please indicate which software package, or whether this was a self-developed system

_____

Use of a computer system for the monitoring of the quality of all census operations

Yes ☐ No ☐

*What method of data entry was used? (*mark all applicable cases*)*

- ☐ *Keyboard*
- ☐ *Mark sensing*
- ☐ *OCR/ICR*
- ☐ *Internet*
- ☐ *Administrative census*
- ☐ *Other, please specify* _____

Was there any use of verification (double entry)? Yes ☐ No ☐
If so, which percentage of the data was keyed twice: _____%

Use of real-time error control during the data capture (e.g.: variable range checks, or check on the internal consistency of household composition)
Yes ☐ No ☐

Duration of the entire data-entry phase:_____ months

Software used for data entry/capture

☐ Commercial product (e.g.: MS Access), please specify: _____
☐ Non-commercial or free package (e.g. US Census Bureau CSPro or IMPS Centry, or United Nations PC-Entry), please specify _____
☐ Self-developed application (specify the language in which it has been prepared, e.g. Visual Basic), please specify _____

Coding of data based on classifications
☐ Manual coding using code books
☐ Computer-assisted coding
☐ Automatic coding
☐ Other, please specify: _____

If automatic or computer-assisted coding was applied, which software was used?
☐ Self-developed
☐ Obtained from elsewhere, please specify: _____
☐ Computer package, please specify: _____

Was there any computer-supported editing of the raw data files?

Yes ☐ No ☐

Did any computer-supported editing include automatic imputation?

☐ Yes, please specify the software used: _____
☐ Editing, but no automatic imputation

In case of automatic imputation, were statistics about imputation rate by variable generated?
☐ Yes, such statistics were generated
☐ Automatic imputation, but no statistics by variable
☐ No automatic imputation used

Setting-up of a database of census microdata (to be specified)
☐ High-level (Oracle, SQL Server, etc), please specify: _____
☐ Desktop (MS Access, Paradox, etc), please specify: _____
☐ Statistical (SPSS system file, etc), please specify: _____
☐ Demographic (REDATAM, etc), please specify: _____
☐ None or other : _____

9. Publication and dissemination

Publication of preliminary data: Yes ☐ No ☐

If yes, the information sources were: (e.g. checklists, to be described)

_____

10. Main census results

Number of buildings: _____
Number of dwellings: _____
Number of households: _____
Number of population: _____

11. Cost of the census. Breakdown by main lines/ phases (in %)

Total cost in national currency _____
Please provide the exchange rate against USD or EUR at the time of the Census: _____

Cost	(%)
General preparation, services, logistics	
Pilot micro-census	
Cartography/Mapping	
Publicity and information	
Enumeration (including training)	
Post-enumeration evaluation	
Data processing, checking, coding	
Elaboration and analysis	
Equipment	
Publication, dissemination and documentation	
Other*	
Total	100%
*To be specified	

International financial support (if any) % of the total census cost	

12. Main problems and difficulties that you faced: (multiple answers)

		Please specify :
Design of questionnaires	☐	
Conformity of contents according to the Recommendations and Concepts	☐	
Cartography/Mapping	☐	
Use of new technologies	☐	
Regional and local structure	☐	
Funding sources	☐	
Staff	☐	
Publicity	☐	
Data collection	☐	
Evaluation	☐	
Checking-controlling-coding	☐	
Data processing	☐	
Other (to be specified)	☐	

Part B
Compliance with selected topics of 2000 Recommendations

GEOGRAPHIC CHARACTERISTICS OF PERSONS

1. Place of usual residence (paras. 30-39 of the Recommendations)

In the Recommendations this topic was defined as follows (para. 30):

> *"Place of usual residence is the geographic place where the enumerated person usually resides; this may be the same as, or different from, the place where he/she actually is at the time of the Census; or it may be his/her legal residence. A person's usual residence should be that at which he/she spends most of his/her daily night-rest."*

1.a. Did the concept used in the last census comply with the recommended definition given above, with particular reference to the underlined text:

Yes ☐ No ☐

If the answer is yes, go to question 1.d

1.b. Please give below the definition of "place of usual residence" used in the last census:
(Please consider, for example, if a minimal duration threshold is part of the definition or legal requirements are part of the definition, either directly or indirectly)

_____

1.c. Please select the main reason(s) for deviation from the recommended definition (*mark all applicable cases*):

- ☐ The definition used was imposed by legislation
- ☐ The definition used reflected requirements and/or needs of some of the main users (i.e. Government, special agencies, etc.)
- ☐ The definition used allowed better statistical comparability with previous censuses
- ☐ The definition used was consistent with other statistical surveys
- ☐ The definition used was the only one available in the register used
- ☐ The definition used was more acceptable to respondents (*for reasons of clarity, social norms/values or confidentiality)*
- ☐ The ECE recommended definition was not known
- ☐ Other reasons, please specify:

  _____

1.d. Many countries use registers to facilitate the field-work or use the Census to update or create registers. Please indicate which registers were used and for what operations, on occasion of the most recent Census (*mark all applicable cases*):

Type of register	Establish address list	Pre-fill the census form	Update an existing register	Create a new register	Use of registers to produce census statistics
Population	☐	☐	☐	☐	☐
Dwellings	☐	☐	☐	☐	☐
Business	☐	☐	☐	☐	☐
Insurance	☐	☐	☐	☐	☐
Post office address list	☐	☐	☐	☐	☐
Others, please specify:	☐	☐	☐	☐	☐

1.e. There are various population groups for which some confusion may arise in defining their place of usual residence since they may appear to have more than one usual residence. Please indicate, for the following population groups, if special instructions(*) were given to define their place of usual residence, (*for example, reference might have been made to the place where majority of the time with the family is spent or to some legal requirements for residence*)

Population groups	NO, no specific instructions	YES, Some specific instructions	If yes, please specify:
i. Persons who maintain more than one residence, e.g. a town house and a country house	☐	☐	
ii. Students who live in a school or university residence, as boarders in a household or as a one-person household for part of the year and elsewhere during vacations	☐	☐	
iii. Persons who live away from their homes during the working week and return at weekends	☐	☐	
iv. Children of separated/divorced parents who live similar portions of time with each of the two parents	☐	☐	
v. Persons in compulsory military service	☐	☐	
vi. Members of the regular armed forces who live in a military barracks or camp but maintain a private residence elsewhere	☐	☐	
vii. Persons who have been an inmate of a hospital, welfare institution, prison, etc., for a sufficiently long time to weaken their ties with their previous residence to which they may return eventually	☐	☐	
viii. Nomads, homeless and roofless persons, vagrants and persons with no concept of a usual address	☐	☐	
ix. Persons who have left the country temporarily but are expected to return after some time (up to one year of absence)	☐	☐	

(*) *Instructions might have been given either through specific directions to enumerators or written on the forms.*

1.f. Were double-counting or undercounting problems experienced for specific population groups?

Yes ☐ No ☐

If yes, please specify:

1.g. Groups with problems of double-counting:

_____

1.h. Groups with problems of undercounting:

_____

2. **Total population** (paras. 40-43 of the Recommendations)

In the Recommendations this topic was defined as follows (para. 40):

> *The total usually-resident population count for each territorial division is usually compiled by adding (a) persons usually resident and present at the time of the census and (b) persons usually resident but temporarily absent at the time of the census.*

2.a. Did the concept used comply with the recommended definition given above:

Yes ☐ No ☐

If the answer is yes, go to question 2.d

2.b. Please describe below any other practice that was followed in this regard:

_____

2.c. Please select the main reason(s) for deviation from the recommended definition (*mark all applicable cases*):

- ☐ The definition used was imposed by legislation
- ☐ The definition used reflected requirements and/or needs of some of the main users (i.e. Government, special agencies, etc.)
- ☐ The definition used allowed better statistical comparability with previous censuses
- ☐ The definition used was consistent with other statistical surveys
- ☐ The definition used was the only one available in the register used
- ☐ The definition used was more acceptable to respondents (*for reasons of clarity, social norms/values or confidentiality)*
- ☐ The ECE recommended definition was not known
- ☐ Other reasons, please specify:

_____

In the Recommendations a maximum duration of absence for temporary absent persons was suggested (para. 35):

A person who is absent from his or her previous place/country of usual residence for one year or more should not be considered as temporarily absent

2.d. Did the concept used comply with the recommended definition given above:

Yes ☐ No ☐

If the answer is yes, go to question 2.f

2.e. Please describe below any other practice that was followed in this regard:

_____

2.f. It may be difficult to define the place of usual residence for persons or households living abroad and regularly visiting the country once or more times a year. Did the definitions of resident and temporarily absent population specifically indicate how to treat this population group? (*Mark only one box*)

- ☐ Yes, instructions were given to consider these persons as resident but temporarily absent
- ☐ Yes, instructions were given to exclude these persons from the resident population
- ☐ No, no specific instructions were given and in practice most of these persons were considered as resident but temporarily absent
- ☐ No, no specific instructions were given and in practice most of these persons were excluded from the resident population
- ☐ Other, please specify:

  _____

2.g. Please indicate below if, according to the definitions of resident and temporarily absent population of the last census, the following groups of persons were respectively: (a) included in the count of the total resident population(*), (b) included in the count of present but not resident population, (c) included in other population counts (please specify: _____) or (d) not relevant for any population count. (*Tick only one box per line*)

	(a)	(b)	(c)	(d)
i. Nomads	☐	☐	☐	☐
ii. Homeless	☐	☐	☐	☐
iii. Persons who have left the country temporarily but are expected to return after some time (up to one year of absence)	☐	☐	☐	☐
iv. Military, naval and diplomatic personnel and their families, located outside the country	☐	☐	☐	☐
v. Merchant seamen and fishermen resident in the country but at sea at the time of the census	☐	☐	☐	☐
vi. Foreign military, naval and diplomatic personnel and their families located in the country	☐	☐	☐	☐
vii. Foreign workers with a legal but temporary status (up to one year), as for example seasonal workers;	☐	☐	☐	☐
viii. Asylum seekers or other foreigners granted a temporary protection status	☐	☐	☐	☐
ix. Refugees (as defined under the Geneva Convention) in the country	☐	☐	☐	☐
x. Foreigners living in the country though not having the right to stay in the country (i.e. undocumented immigrants)	☐	☐	☐	☐

(*)Please note that persons considered as usually resident but temporarily absent at the time of the census should be included in count(a).

2.h. In addition to the count of the total "Usually-resident population", were data compiled for other types of population groups, such as: (*mark all applicable cases)*

☐ Total present population
☐ Total legally resident population (*mark only if a concept different from that of usually-resident population is used*)
☐ Working population
☐ National citizens living abroad
☐ Other population totals, please specify:

_____

2.i. Was an evaluation conducted during the most recent census? (*mark all applicable cases)*

☐ Yes, a quality post-enumeration survey
☐ Yes, a coverage post-enumeration survey
☐ Yes, through methods of demographic analysis
☐ Yes, field re-interviews (for example a 10 per cent checking)
☐ Yes, comparison with other data sources (for example surveys or registers)
☐ No, census evaluation was not conducted → go to question **3.a**
☐ Other, please specify:

_____

2.j. Was a coverage error calculated?

☐ Yes,
% of persons omitted _____
% of persons duplicated _____
% net coverage error _____
☐ No

2.k. In the case of a post-enumeration survey being conducted, were the Census **official** population figures adjusted accordingly? (*mark all applicable cases)*

☐ Yes, for the total population
☐ Yes, for geographic breakdowns
☐ Yes, for breakdowns by age and sex
☐ No adjustment was made to official population figures, but adjusted figures were used as a basis either for retrospective estimates and/or future forecasts
☐ No, no adjustment was made
☐ No post-enumeration survey was carried out

3. **Locality** (see paras. 44-55 of the Recommendations)

In the Recommendations this topic was defined as follows (para. 44):

> *"For census purposes, a locality is defined as a distinct population cluster, that is, the population living in neighbouring buildings which either: (a) form a continuous built-up area with a clearly recognizable street formation; or (b) though not part of such a built-up area, form a group to which a locally recognized place name is uniquely attached; or (c) though not coming within either of the above two requirements constitute a group, none of which is separated from its nearest neighbour by more than 200 metres."*

3.a. Was the concept of locality used in the most recent census?

Yes ☐ No ☐

If the answer is no, go to question 4.a

3.b. Did the concept used comply with the recommended definition given above:

Yes ☐ No ☐

If the answer is yes, go to question 3.e

3.c. Please give below the exact definition of "locality" used in your last census:

_____

3.d. Please select the main reason(s) for deviation from the recommended definition (*mark all applicable cases*):

- ☐ The definition used was imposed by legislation
- ☐ The definition used reflected requirements and/or needs of some of the main users (i.e. Government, special agencies, etc.)
- ☐ The definition used allowed better statistical comparability with previous censuses
- ☐ The definition used was consistent with other statistical surveys
- ☐ The definition used was the only one available in the register used
- ☐ The definition used was more acceptable to respondents (*for reasons of clarity, social norms/values or confidentiality)*
- ☐ The ECE recommended definition was not known
- ☐ Other reasons, please specify:

_____

3.e. Did the tabulation program include tables where the population was classified by size of locality (irrespective of the civil or administrative divisions of a country):

Yes ☐ No ☐

3.f. If the answer is yes, please specify the classification used:

_____

4. **<u>Urban and rural areas</u>** (see paras. 50-55 of the Recommendations)

4.a. In the tabulation program, were there tables where the population was classified according to urban and rural residence?

Yes ☐ No ☐

If the answer is no, go to question 4.d

4.b. What was the classification unit used to distinguish urban and rural areas:

- ☐ Locality (according to the definition adopted in the census, see 3.a and 3.b)
- ☐ Smallest civil/administrative unit
- ☐ Other, please specify:

_____

4.c. Please indicate the population threshold or other criteria used to distinguish between urban and rural areas:

_____

4.d. Were other criteria used to classify the population according to the characteristics of the basic territorial entity - be it locality or civil unit or other basic unit - as for example functional areas, labour market areas, etc.:

Yes ☐ No ☐

4.e. If yes, please specify the criteria used to identify the various typologies:

_____

INTERNATIONAL MIGRATION

5. **Place of usual residence one year prior to the census** (see paras. 56-61 of the Recommendations)

5.a. Was information collected on the place of usual residence at some point in time prior to the census? *(mark all applicable cases)*

☐ Yes, one year prior to the census
☐ Yes, five years prior to the census
☐ Yes, at another point in time prior to the census, please specify: _____
☐ No → go to 6.a

5.b. Please indicate which of the following items were included in the question on the place of residence at the point in time prior to the census: (*mark all applicable cases)*

☐ living in the same dwelling where the person was resident at the time of the census
☐ living in the same minor civil division where the person was resident at the time of the census
☐ living in another minor civil division
→ Was the name of the civil division asked? Yes ☐ No ☐
☐ living in another country
→ Was the name of the country asked? Yes ☐ No ☐
☐ Other, please specify:

_____

6. **Duration of residence** (see paras. 59-60 of the Recommendations)

6.a. Was information collected on the duration of residence or on the year of arrival in the current place or country of residence?

☐ Yes, duration of residence
☐ Yes, year of arrival
☐ No information collected on duration of residence/year of arrival→ go to question 7.a

6.b. The duration of residence, or for the year of arrival was asked in relation to (*mark all applicable cases)*:

☐ the living quarter where the person was resident at the time of the census
☐ the minor civil division where the person was resident at the time of the census
☐ the major civil division where the person was resident at the time of the census
☐ the country (*question usually reserved to foreign-born respondents*)
☐ Other, please specify:

_____

7. **Previous place of residence** (see para. 61 of the Recommendations)

7.a. Was information collected on the previous place of residence?

Yes ☐ No ☐

If the answer is no, go to question 8.a

7.b. Please indicate which of the following items were included in the question on the previous place of residence: (*mark all applicable cases)*

☐ another dwelling in the same minor civil division where the person was resident at the time of the census
☐ another minor civil division
→ Was the name of the civil division asked? Yes ☐ No ☐
☐ another major civil division
→ Was the name of the civil division asked? Yes ☐ No ☐
☐ another country
→ Was the name of the country asked? Yes ☐ No ☐
☐ Other, please specify:

_____

8. **Place/Country of birth** (see paras. 76-79 of the Recommendations)

In the Recommendations this topic was defined as follows (para. 76-77):

Place of birth is defined as the place of residence of the mother at the time of birth. For persons born outside the country, it is sufficient to ask for the country of residence of the mother at the time of birth.

8.a.

8.b. Did the concept used comply with the recommended definition given above:

Yes ☐ No ☐

If the answer is yes, go to question 8.d

8.c. Please give below the exact definition of place of birth used:

_____

8.d. Please select the main reason(s) for deviation from the recommended definition (*mark all applicable cases*):

- ☐ The definition used was imposed by legislation
- ☐ The definition used reflected requirements and/or needs of some of the main users (i.e. Government, special agencies, etc.)
- ☐ The definition used allowed better statistical comparability with previous censuses
- ☐ The definition used was consistent with other statistical surveys
- ☐ The definition used was the only one available in the register used
- ☐ The definition used was more acceptable to respondents (*for reasons of clarity, social norms/values or confidentiality)*
- ☐ The ECE recommended definition was not known
- ☐ Other reasons, please specify:

_____

In the Recommendations it was suggested to collect the information on the **country of birth** following two criteria:

a) on the basis of international boundaries existing at the time of the census.
b) collected and coded in as detailed a manner as is feasible, based on the three-digit alphabetical codes presented in International Standard, ISO 3166-1:1997: Codes for the Representation of Names of Countries, (5th ed., Berlin 1997).

8.e. Was the first criterion – use of international boundaries existing at the time of the census - followed:

Yes ☐ No ☐

If the answer is yes, go to question 8.f

8.f. Please give below the criterion used as to fixing international boundaries

_____

8.g. Was the second criterion – country of birth collected and coded according to the three-digit ISO alphabetical codes or using a classification fully convertible to it - followed:

Yes ☐ No ☐

If the answer is yes, go to question 9.a

8.h. Please describe below or attach the classification used:

_____

8.i. Please select the main reason(s) for deviation from the recommended criteria (*mark all applicable cases*):

- ☐ The definition used was imposed by legislation
- ☐ The definition used reflected requirements and/or needs of some of the main users (i.e. Government, special agencies, etc.)
- ☐ The definition used allowed better statistical comparability with previous censuses
- ☐ The definition used was consistent with other statistical surveys
- ☐ The definition used was the only one available in the register used
- ☐ The definition used was more acceptable to respondents (*for reasons of clarity, social norms/values or confidentiality)*
- ☐ The ECE recommended definition was not known
- ☐ Other reasons, please specify:

  _____

9. **<u>Country/Place of birth of parents</u>** (see para. 79 of the Recommendations)

9.a. Was information collected on the place/country of birth of parents? *(mark all applicable cases)*

☐ Place of birth of both parents	☐ Country of birth of both parents
☐ Place of birth of mother only	☐ Country of birth of mother only
☐ Place of birth of father only	☐ Country of birth of father only

☐ No information on the place/country of birth of parents → go to 10.a

9.b. Was the question asked to all respondents or to specific groups only:

- ☐ All respondents
- ☐ Specific groups (for example, only foreign-born or respondents above a certain age). Please specify:

  _____

10. **<u>Country of citizenship</u>** (see para. 80-82 of the Recommendations)

In the Recommendations this topic was defined as follows (para. 80):

> Citizenship is defined as the particular legal bond between an individual and his/her State, acquired by birth or naturalization, whether by declaration, option, marriage or other means according to the national legislation.

10.a. Was information on citizenship collected?

Yes ☐ No ☐

If the answer is no please go to question 11.a

10.b. Did the concept used comply with the recommended definition given above:

Yes ☐ No ☐

If the answer is yes, go to question 10.d

10.c. Please give below the exact definition of citizenship used:

_____

10.d. Was it possible to report dual or multiple citizenships?

☐ Yes, for all respondents
☐ Yes, only for national citizens
☐ Yes, only for foreigners
☐ No

10.e. Were national citizens asked to distinguish citizenship by naturalization from citizenship at birth?

Yes ☐ No ☐

If the answer is no please go to question 10.h

10.f. Was the year of naturalization asked?

Yes ☐ No ☐

10.g. Were national citizens by naturalization asked to indicate their citizenship at birth?

Yes ☐ No ☐

10.h. For the country of citizenship, was the same classification of country of birth used (see above, questions 8.f and 8.g)?

Yes ☐ No ☐

10.i. If the answer is no, please provide details on the classification used:

_____

11. Reason for migration

11.a. Was information collected from foreign-born respondents as to the reason of immigration?

☐ Yes, subjective reason of immigration
☐ Yes, legal reason of immigration
☐ No

If the answer is no, go to question 12.a

11.b. Please indicate below the list of items given as possible reasons of immigration (*such as: study, work, family, etc*.)

_____

12. **Ethnic or national groups** (see para. 83-84 of the Recommendations)

In the Recommendations this topic was defined as follows (para. 83):

> Ethnic groups (and/or national groups) are made up of persons who consider themselves as having a same origin and/or culture, which may appear in linguistic and/or religious and/or other characteristics which differ from those of the rest of the population..

12.a. Was information collected on ethnic or national groups?

Yes ☐ No ☐

If the answer is no please go to question 13

12.b. Did the concept used comply with the recommended definition given above:

Yes ☐ No ☐

If the answer is yes, go to question 13.a

12.c. Please give below the exact definition of ethnic or national group used:

_____

13. **Race**

13.a. Was information collected on race?

Yes ☐ No ☐

14. **Language** (see para. 85 of the Recommendations)

14.a. Was information collected on language?

Yes ☐ No ☐

If the answer is no, go to question 15.a

14.b. Please indicate what criterion was used to define language (*mark all applicable cases)*

- ☐ Mother tongue, defined as the first language(s) spoken in early childhood;
- ☐ Main language, defined as the language which the person commands best;
- ☐ Language(s) most currently spoken at home and/or at work;
- ☐ Knowledge of language(s), defined as the ability to speak and/or write one or more designated languages
- ☐ Other, please specify:

_____

15. **Religion** (see para. 86 of the Recommendations)

15.a. Was information on religion collected?

Yes ☐ No ☐

If the answer is no, go to question 16.a

15.b. Please indicate the nature of religious affiliation that was asked (*mark all applicable cases)*

- ☐ Formal membership of a church or a religious community;
- ☐ Participation in the life of a church or a religious community;
- ☐ Religious belief;
- ☐ Other, please specify:

_____

HOUSEHOLD AND FAMILY CHARACTERISTICS OF PERSONS

16. **Legal marital status** (see paras. 68-73 of the Recommendations)

In the Recommendations this topic was defined as follows (para. 68):

Marital status is defined here as the (legal) conjugal status of each individual in relation to the marriage laws (or customs) of the country (i.e. de jure status).

16.a. Was information on legal marital status collected?

Yes ☐ No ☐

If the answer is no, go to question 17.a

16.b. Did the definition used comply with the recommended definition given above?

Yes ☐ No ☐

If the answer is yes, go to question 16.d

16.c. Please give below the definition of "legal marital status" used:

_____

16.d. Please select the main reason(s) for deviation from the recommended definition (*mark all applicable cases*):

- ☐ The definition used was imposed by legislation
- ☐ The definition used reflected requirements and/or needs of some of the main users (i.e. Government, special agencies, etc.)
- ☐ The definition used allowed better statistical comparability with previous censuses
- ☐ The definition used was consistent with other statistical surveys
- ☐ The definition used was the only one available in the register used
- ☐ The definition used was more acceptable to respondents (*for reasons of clarity, social norms/values or confidentiality)*
- ☐ The ECE recommended definition was not known
- ☐ Other reasons, please specify:

_____

16.e. Please indicate whether information on this topic was collected for persons of all ages, or only for persons above a specified age:

☐ For persons of all ages
☐ Only for persons aged (please specify) _____ and over.

In the recommendations the following classification of the population by marital status was suggested (para. 70):

1: Single (i.e. never married)
2: Married
3: Widowed and not remarried
4: Divorced and not remarried

16.f. Did the classification used fully comply with the recommended definition given above?

Yes ☐ No ☐

If the answer is yes, go to question 17.a

16.g. If a different or more detailed classification was adopted *(including, for example, legally separated or with an annulled marriage)*, please describe it below:

_____

16.h. Please select the main reason(s) for deviation from the recommended classification (*mark all applicable cases)*:

☐ The classification used was imposed by legislation
☐ The classification used reflected requirements and/or needs of some of the main users (i.e. Government, special agencies, etc.)
☐ The classification used allowed better statistical comparability with previous censuses
☐ The classification used was consistent with other statistical surveys
☐ The classification used was the only one available in the register used
☐ The classification used was more acceptable to respondents (*for reasons of clarity, social norms/values or confidentiality)*
☐ The ECE recommended classification was not known
☐ Other reasons, please specify:

_____

17. ***De facto* marital status** (see paras. 74-75 of the Recommendations)

In the Recommendations this topic was defined as follows (para. 74):

De facto marital status is defined here as the marital status of each individual in terms of his or her actual living arrangements

17.a. Was information on "*de facto* marital status" collected?

Yes ☐ No ☐

If the answer is no, go to question 18.a

17.b. How was the information on "*de facto* marital status" collected (*mark all applicable cases)*:

☐ Through a general question on marital status, where both legal and *de facto* marital status were listed
☐ Through the relationship to the reference person
☐ Through a specific question on "*de facto* marital status"
☐ Other, please specify:

_____

17c. Please specify the items included in the classification adopted (for example: partner in a consensual union, de facto separated, same-sex partner in a consensual union, etc.):

_____

18. **Private and institutional households** (see para. 182-190 of the Recommendations)

In the Recommendations two different definitions of "private households" are given (paras 182-184):

(a) *The "**housekeeping unit concept**", a private household is either:*

- *"a one-person household, i.e. a person who lives alone in a separate housing unit or who occupies, as a lodger, a separate room (or rooms) of a housing unit but does not join with any of the other occupants of the housing unit to form part of a multi-person household as defined below, or*
- *a multi-person household, i.e. a group of two or more persons who combine to occupy the whole or part of a housing unit and to provide themselves with food and possibly other essentials for living. Members of the group may pool their incomes to a greater or lesser extent.*

(b) *The "**household-dwelling concept**": the private household is equated with the housing unit. It is defined as the aggregate number of persons occupying a housing unit.*

18.a. What concept of private household was used at the last census?

☐ Housekeeping unit concept → go to question 18.c
☐ Household-dwelling concept → go to question 18.b
☐ Other, please specify: → go to question 18.b

_____

18.b. Can the number of housekeeping units be estimated?

Yes ☐ No ☐

In the Recommendations the "institutional households" are defined as follows (para. 187):

> *An institutional household comprises persons whose need for shelter and subsistence are being provided by an institution. An institution is understood as a legal body for the purpose of long-term inhabitation and provision of institutionalized care given to a group of persons. The institution's accommodation is by nature of its structure intended as a long-term accommodation for an institutional household.(...) Members of an institutional household have their place of usual residence at the institution. People who are normally members of private households but who are living in institutions as listed above are only considered as members of institutional households if their absence from the private households exceeds the one-year time limit specified for the place of usual residence topic. Staff members who live alone or with their family at an institution should be treated as members of private one-person or multi-person households.*

18.c. Did the definition used comply with the recommended definition given above?

Yes ☐ No ☐

If the answer is yes, go to question 18.f

18.d. Please give below the exact definition of institutional household:

_____

18.e. Please select the main reason(s) for deviation from the recommended definition (*mark all applicable cases*):

- ☐ The definition used was imposed by legislation
- ☐ The definition used reflected requirements and/or needs of some of the main users (i.e. Government, special agencies, etc.)
- ☐ The definition used allowed better statistical comparability with previous censuses
- ☐ The definition used was consistent with other statistical surveys
- ☐ The definition used was the only one available in the register used
- ☐ The definition used was more acceptable to respondents (*for reasons of clarity, social norms/values or confidentiality)*
- ☐ The ECE recommended definition was not known
- ☐ Other reasons, please specify:

_____

18.f. In some countries some people live in specialized housing estates (for example "retirement villages" for elderly people) in which the occupants live in semi-independent arrangements but various care services are provided in a centralized manner. Such places provide living arrangements which have attributes of both private households and institutional dwellings. Are there such places in your country?

Yes ☐ No ☐

If the answer is no, go to question 18.h

18.g. Please indicate the type of household assigned to people living in such housing arrangements:

☐ Private households
☐ Institutional households
☐ Other, please specify:

_____

18.h. In addition to private and institutional households, in some countries other types of households are defined comprising, for example, the homeless or people living temporarily abroad. Alternatively, some persons may be classified as persons not living in a household. Was information collected on other possible types of households/on persons not living in households?

Yes ☐ No ☐

18.i. If yes, please provide details:

_____

19. **The Family nucleus** (see para. 191-198 of the Recommendations)

In the Recommendations the following definition is given (para.191):

A family nucleus is defined in the narrow sense as two or more persons within a private or institutional household who are related as husband and wife, as cohabiting partners, or as parent and child. Thus a family comprises a couple without children, or a couple with one or more children, or a lone parent with one or more children.

19.a. Did the definition used comply with the recommended definition given above?

Yes ☐ No ☐

If the answer is yes, go to question 19.d

19.b. Please give below the exact definition of family nucleus used:

_____

19.c. Please select the main reason(s) for deviation from the recommended definition (*mark all applicable cases*):

- ☐ The definition used was imposed by legislation
- ☐ The definition used reflected requirements and/or needs of some of the main users (i.e. Government, special agencies, etc.)
- ☐ The definition used allowed better statistical comparability with previous censuses
- ☐ The definition used was consistent with other statistical surveys
- ☐ The definition used was the only one available in the register used
- ☐ The definition used was more acceptable to respondents (*for reasons of clarity, social norms/values or confidentiality)*
- ☐ The ECE recommended definition was not known
- ☐ Other reasons, please specify:

_____

In the Recommendations the following definition is given (para.192).

A child is defined as any person with no partner and no child who has usual residence in the household of at least one of the parents. "Children" also includes stepchildren and adopted children, but not foster children. A child that alternates between two households (for instance after the parents' divorce) is counted at only one of these households, for instance on the basis of the de jure place of usual residence or the number of nights spent at either of the households.

19.d. Did the definition used comply with the recommended definition given above?

Yes ☐ No ☐

If the answer is yes, go to question 19.g

19.e. Please give below the exact definition of child:

_____

19.f. Please select the main reason(s) for deviation from the recommended definition (*mark all applicable cases*):

- ☐ The definition used was imposed by legislation
- ☐ The definition used reflected requirements and/or needs of some of the main users (i.e. Government, special agencies, etc.)
- ☐ The definition used allowed better statistical comparability with previous censuses
- ☐ The definition used was consistent with other statistical surveys
- ☐ The definition used was the only one available in the register used
- ☐ The definition used was more acceptable to respondents (*for reasons of clarity, social norms/values or confidentiality)*
- ☐ The ECE recommended definition was not known
- ☐ Other reasons, please specify:

_____

In the Recommendations the following definition is given (para.193).

The term "couple" should include married couples and couples who report that they are living in consensual unions, and where feasible, a separate count of consensual unions and of legally married couples should be given. Two persons are understood as partners in a consensual union when they have usual residence in the same household, are not married to each other, and report to have a marriage-like relationship to each other.

19.g. Did the definition used comply with the recommended definition given above?

Yes ☐ No ☐

If the answer is yes, go to question 19.j

19.h. Please give below the exact definition of couple:

_____

19.i. Please select the main reason(s) for deviation from the recommended definition (*mark all applicable cases*):

- ☐ The definition used was imposed by legislation
- ☐ The definition used reflected requirements and/or needs of some of the main users (i.e. Government, special agencies, etc.)
- ☐ The definition used allowed better statistical comparability with previous censuses
- ☐ The definition used was consistent with other statistical surveys
- ☐ The definition used was the only one available in the register used
- ☐ The definition used was more acceptable to respondents (*for reasons of clarity, social norms/values or confidentiality)*
- ☐ The ECE recommended definition was not known
- ☐ Other reasons, please specify:

_____

In the Recommendations the following definition is given (para.194).

A three-generation household consists of two or more separate family nuclei or one family nucleus and (an)other family member(s). A woman who is living in a household with her own child(ren) should be regarded as being in the same family nucleus as the child(ren) even if she is never-married and even if she is living in the same household as her parents; the same applies in the case of a man who is living in a household with his own child(ren). Thus, the youngest two generations constitute one family nucleus.

19.j. Is it possible to identify three-generation households using census data?

Yes ☐ No ☐

If the answer is no, go to question 19.l

19.k. Were data on three-generation households provided in the tabulation programme?

Yes ☐ No ☐

In the Recommendations the following definition is given (para.195).

A reconstituted family is a family consisting of a married or cohabiting couple with one or more children, where at least one child is a non-common child i.e. either the natural or adopted child of only one member of the couple. If the child (natural or adopted) of one partner is adopted by the other partner, the resulting family is still a reconstituted family.

19.l. Is it possible to identify reconstituted families using census data?

Yes ☐ No ☐

If the answer is no, go to question 19.n

19.m. Were data on reconstituted families provided in the tabulation programme?

Yes ☐ No ☐

In the Recommendations the following definition is given (para.198):

An extended family is a group of two or more persons who live together in the same household and who do not constitute a family nucleus but are related to each other (to a specified degree) through blood, marriage (including consensual union) or adoption.

19.n. Is it possible to identify using census data extended family as they have been defined above?

Yes ☐ No ☐

If the answer is yes, go to question 19.q

19.o. Was some other concept of extended family used?

Yes ☐ No ☐

19.p. If yes, please specify the concept:

_____

19.q. Were data on extended families provided in the tabulation programme?

Yes ☐ No ☐

20. **Household and family characteristics of persons** (see para. 199-201 of the Recommendations)

In the Recommendations, it was recommended that (para. 199):

Information should be collected for all persons living in private households on their relationship to the reference member of the household. Data on this topic are needed for use in (i) identifying households and family nuclei; and (ii) compiling tabulations in which households are classified according to characteristics of the reference member.

20.a. Was a reference person identified in private households?

Yes ☐ No ☐

If the answer is no, go to question 20.g

20.b. How was the reference person identified?

- ☐ The reference person was freely chosen by respondents, among the adults living in the household
- ☐ The reference person was the member considered as being the household head by all the other members
- ☐ The reference person was the member who contributed the most income
- ☐ The reference person was the one resulting from the Population or other administrative Register
- ☐ The reference person was identified according to criteria, such as age and family relationships, chosen to facilitate the family determination
- ☐ Other criteria, please specify:

_____

20.c. In order to facilitate identification of family nuclei and households, the following classification of persons living in a private household by relationship to the household's reference person was recommended. Please indicate, for each item, if it was included in the list used at the last census (*mark with an X*)

Relationship to the reference person	YES	NO
1.0 Reference person	☐	☐
2.0 Spouse	☐	☐
3.0 Reference person's partner in consensual union (cohabitant)	☐	☐
4.0 Child of reference person and/or of spouse/cohabitant	☐	☐
4.1 Child of reference person only	☐	☐
4.2 Child of reference person's spouse/cohabitant	☐	☐
4.3 Child of both	☐	☐
5.0 Spouse or cohabitant of child of reference person	☐	☐
6.0 Father or mother of reference person, of spouse, or of cohabitant of reference person	☐	☐
7.0 Other relative of reference person, of spouse, or of cohabitant of reference person	☐	☐
8.0 Non-relative of reference person of the household	☐	☐
8.1 Foster child	☐	☐
8.2 Boarder	☐	☐
8.3 Domestic servant	☐	☐
8.4 Other	☐	☐
Other typologies, please specify:		
	☐	☐
	☐	☐

20.d. In addition to the relationship to the household's reference person, were respondents asked to identify the reference number of one or both parents?

Yes ☐ No ☐

20.e. In addition to the relationship to the reference person, was the relationship with other members of the household asked?

Yes ☐ No ☐

20.f. If yes, please provide details:

_____

20.g. According to the recommendations, information should be derived for all persons on their status or position in the household (para. 202). Were household members classified according to their household status?

Yes ☐ No ☐

20.h. The following classification of the population by household status was recommended (see para. 202). Please indicate, for each item, if it was included in the classification used in the tabulation program or if it can be produced from the census data (*tick one box per line*)

Household status classification	Included in the tabulation program	Not included in the tabulation program but can be produced	Not included in the tabulation program and not possible to produce
1.0 Person in a private household	☐	☐	☐
1.1 Person in a nuclear family household	☐	☐	☐
1.1.1 Husband	☐	☐	☐
1.1.2 Wife	☐	☐	☐
1.1.3 Male partner in a consensual union	☐	☐	☐
1.1.4 Female partner in a consensual union	☐	☐	☐
1.1.5 Lone father	☐	☐	☐
1.1.6 Lone mother	☐	☐	☐
1.1.7 Child under 25 years of age	☐	☐	☐
1.1.8 Son/daughter aged 25 or older	☐	☐	☐
1.1.9 Other persons not a member of the nuclear family, but living in the nuclear family household.	☐	☐	☐
1.2 Person in other private households	☐	☐	☐
1.2.1 Living alone	☐	☐	☐
1.2.2 Living with others	☐	☐	☐
1.2.2.1 Living with relatives	☐	☐	☐
1.2.2.2 Living with non-relatives	☐	☐	☐
2.0 Person not in a private household	☐	☐	☐
2.1 In institutional household	☐	☐	☐
2.2 Other	☐	☐	☐
Other typologies, please specify:			
	☐	☐	☐
	☐	☐	☐

20.i. According to the recommendations, information should be derived for all persons on their family status (para. 203). Were family members classified according to their family status?

Yes ☐ No ☐

20.j. The following classification of the population by family status was recommended (see para. 203). Please indicate, for each item, if it was included in the classification used in the tabulation program or if it can be produced from the census data (*tick one box per line*).

Family status classification	Included in the tabulation program	Not included in the tabulation program but can be produced	Not included in the tabulation program and not possible to produce
1.0 Partner	☐	☐	☐
1.1 Husband in a married couple	☐	☐	☐
1.1 Wife in a married couple	☐	☐	☐
1.1 Male partner in a consensual union	☐	☐	☐
1.1 Female partner in a consensual union	☐	☐	☐
2.0 Lone parent	☐	☐	☐
2.1 Lone father	☐	☐	☐
2.2 Lone mother	☐	☐	☐
3.0 Child	☐	☐	☐
3.1 Child aged under 25	☐	☐	☐
3.1.1 Child of both partners	☐	☐	☐
3.1.2 Natural or adopted child of male partner only	☐	☐	☐
3.1.3 Natural or adopted child of female partner only	☐	☐	☐
3.1.4 Child of lone father	☐	☐	☐
3.1.5 Child of lone mother	☐	☐	☐
3.2 Son/daughter aged 25 or over	☐	☐	☐
3.2.1 Son/daughter of both partners	☐	☐	☐
3.2.2 Natural or adopted son/daughter of male partner	☐	☐	☐
3.2.3 Natural or adopted son/daughter of female partner only	☐	☐	☐
3.2.4 Son/daughter of lone father	☐	☐	☐
3.2.5 Son/daughter of lone mother	☐	☐	☐
Other typologies, please specify:			
	☐	☐	☐
	☐	☐	☐

21. **Characteristics of family nuclei** (see para. 205-210 of the Recommendations)

21.a. Were family nuclei classified according to their composition?

Yes ☐ No ☐

21.b. The following classification of family nuclei that are not reconstituted families was recommended (see para. 205). Please indicate, for each item, if it was included in the classification used in the tabulation program or if it can be produced from the census data (*tick one box per line*)

Family nuclei classification	Included in the tabulation program	Not included in the tabulation program but can be produced	Not included in the tabulation program and not possible to produce
1.0 Husband-wife family	☐	☐	☐
1.1 Without resident children	☐	☐	☐
1.2 With at least one resident child under 25	☐	☐	☐
1.3 Youngest resident son/daughter 25 or older	☐	☐	☐
2.0 Cohabiting couple	☐	☐	☐
2.1 Without resident children	☐	☐	☐
2.2 With at least one resident child under 25	☐	☐	☐
2.3 Youngest resident son/daughter 25 or older	☐	☐	☐
3.0 Lone father	☐	☐	☐
3.1 With at least one resident child under 25	☐	☐	☐
3.2 Youngest resident son/daughter 25 or older	☐	☐	☐
4.0 Lone mother	☐	☐	☐
3.1 With at least one resident child under 25	☐	☐	☐
3.2 Youngest resident son/daughter 25 or older	☐	☐	☐
Other typologies, please specify:			
	☐	☐	☐
	☐	☐	☐

21.c. Were reconstituted family nuclei classified according to different types?

Yes ☐ No ☐

21.d. The following classification of reconstituted family nuclei was recommended (see para. 206). Please indicate, for each item, if it was included in the classification used in the tabulation program or if it can be produced from the census data (*tick one box per line*)

Reconstituted family nuclei classification	Included in the tabulation program	Not included in the tabulation program but can be produced	Not included in the tabulation program and not possible to produce
1.0 Reconstituted families, one child	☐	☐	☐
1.1 Married couples	☐	☐	☐
1.2 Cohabiting couples	☐	☐	☐
2.0 Reconstituted families, two children	☐	☐	☐
2.1 Married couples	☐	☐	☐
2.2 Cohabiting couples	☐	☐	☐
3.0 Reconstituted families, three or more children	☐	☐	☐
3.1 Married couples	☐	☐	☐
3.2 Cohabiting couples	☐	☐	☐
Other typologies, please specify:			

22. **Characteristics of private households** (see para. 211-214 of the Recommendations)

22.a. Were private households classified according to their composition?

Yes ☐ No ☐

22.b. The following classification of private households was recommended (see para. 211). Please indicate, for each item, if it was included in the classification used in the tabulation program or if it can be produced from the census data (*tick one box per line*)

Private households classification	Included in the tabulation program	Not included in the tabulation program but can be produced	Not included in the tabulation program and not possible to produce
1.0 Non-family households	☐	☐	☐
1.1 One-person households	☐	☐	☐
1.2 Multi-person households	☐	☐	☐
2.0 One family-households	☐	☐	☐
2.1 Husband-wife couples without resident	☐	☐	☐
2.1.1 Without other persons	☐	☐	☐
2.1.2 With other persons	☐	☐	☐
2.2 Husband-wife couples with at least one	☐	☐	☐
2.2.1 Without other persons	☐	☐	☐
2.2.2 With other persons	☐	☐	☐
2.3 Husband-wife couples, youngest resident	☐	☐	☐
2.3.1 Without other persons	☐	☐	☐
2.3.2 With other persons	☐	☐	☐
2.4 Cohabiting couples without resident children	☐	☐	☐
2.4.1 Without other persons	☐	☐	☐
2.4.2 With other persons	☐	☐	☐
2.5 Cohabiting couples with at least one resident	☐	☐	☐
2.5.1 Without other persons	☐	☐	☐
2.5.2 With other persons	☐	☐	☐
2.6 Cohabiting couples, youngest resident	☐	☐	☐
2.6.1 Without other persons	☐	☐	☐
2.6.2 With other persons	☐	☐	☐
2.7 Lone fathers with at least one resident child	☐	☐	☐
2.7.1 Without other persons	☐	☐	☐
2.7.2 With other persons	☐	☐	☐
2.8 Lone fathers, youngest resident son/daughter	☐	☐	☐
2.8.1 Without other persons	☐	☐	☐
2.8.2 With other persons	☐	☐	☐
2.9 Lone mothers with at least one resident child	☐	☐	☐
2.9.1 Without other persons	☐	☐	☐
2.9.2 With other persons	☐	☐	☐
2.10 Lone mothers, youngest resident	☐	☐	☐
2.10.1 Without other persons	☐	☐	☐
2.10.2 With other persons	☐	☐	☐
3. Two or more family household	☐	☐	☐
Other typologies, please specify:			
	☐	☐	☐
	☐	☐	☐

23. Tenure status of private households (see para. 215-225 of the Recommendations)

In the Recommendations the following definition is given (para.215):

The tenure status refers to the arrangements under which a private household occupies all or part of a housing unit.

23.a. Was information on the tenure status of the housing unit collected at the last census?

Yes ☐ No ☐

If the answer is no, go to question 24

23.b. The following classification of private households by tenure status of the housing unit was recommended (see para. 215). Please indicate, for each item, if it was included in the classification used at the last census (*tick one box per line*)

	YES	NO
1.0 Households of which a member is the owner of the housing unit	☐	☐
2.0 Households of which a member is a tenant of all or part of the housing unit	☐	☐
3.0 Households occupying all or part of a housing unit under some other form of tenure	☐	☐
Other typologies, please specify:		
	☐	☐
	☐	☐

24. Miscellaneous

24.a. Was information collected on the possession of a personal computer?

Yes ☐ No ☐

24.b. Were the individual data geo-coded in the registration phase?

Yes ☐ No ☐

24.c. Are geo-coded data available to users?

Yes ☐ No ☐

24.d. Please indicate if the following international classifications were used:

	International classification fully used	**National classification convertible to the international one. Please indicate at what digit level the two classifications are compatible.**	**National classification not convertible to the international one**
NACE Rev1/ISIC Rev. 3 or 3.1	☐		☐
ISCO-88	☐		☐
ISCED	☐		☐
ICSE-93 (ILO classification on status in employment)	☐		☐

TABULATION PROGRAMME

25. Please indicate if the core tabulation programme included in the 2000 Recommendations was used to develop the national tabulation programme:

☐ The ECE tabulation program was to a great extent followed when developing the national tabulation program
☐ The ECE tabulation program was a useful basis to develop the national tabulation program
☐ The ECE tabulation program was not used to develop the national tabulation program
☐ Other, please specify:
_____

USE OF CENSUS DATA

26. Please indicate if the data from the most recent census was (or will be) used for the following purposes:

Revision of intercensal population estimates	Yes ☐	No ☐
As base for population projections	Yes ☐	No ☐
Revision of administrative population registers or electoral lists	Yes ☐	No ☐
Frame for sample surveys	Yes ☐	No ☐

For the following topics, please indicate what are the main sources used to provide official statistics for the country at national or local level for **the year of the census** (*please mark with X all the cells that apply*). In case the Census draws on register or survey data (as in the case of a register-based census) please select only the primary source, i.e. registers or surveys, and not the census.

Topics	**Census**		**Surveys (labour force, educational, multi-purpose)**		**Registers**		**Data not available**	
	Nat. level	Local areas	Nat. level	Local areas	Nat. level	Local level	Nat. level	Local areas
Employment	☐	☐	☐	☐	☐	☐	☐	☐
Unemployment	☐	☐	☐	☐	☐	☐	☐	☐
Employment by occupation	☐	☐	☐	☐	☐	☐	☐	☐
Employment by industry	☐	☐	☐	☐	☐	☐	☐	☐
Employment by employment status	☐	☐	☐	☐	☐	☐	☐	☐
Educational attendance	☐	☐	☐	☐	☐	☐	☐	☐
Enrolment in education	☐	☐	☐	☐	☐	☐	☐	☐
Educational attainment	☐	☐	☐	☐	☐	☐	☐	☐
Literacy	☐	☐	☐	☐	☐	☐	☐	☐
Stock of immigrants	☐	☐	☐	☐	☐	☐	☐	☐
Stock of emigrants	☐	☐	☐	☐	☐	☐	☐	☐
Flow of immigrants for a certain period of time	☐	☐	☐	☐	☐	☐	☐	☐
Fertility	☐	☐	☐	☐	☐	☐	☐	☐
Child mortality	☐	☐	☐	☐	☐	☐	☐	☐
Infant mortality	☐	☐	☐	☐	☐	☐	☐	☐
Total number of dwellings	☐	☐	☐	☐	☐	☐	☐	☐
Number of vacant dwellings	☐	☐	☐	☐	☐	☐	☐	☐
Main characteristics of dwellings	☐	☐	☐	☐	☐	☐	☐	☐
Housing facilities (i.e. electricity, gas)	☐	☐	☐	☐	☐	☐	☐	☐

Part C
Questions on the 2010 census round

1. The 2010 Census Round

1.a. Do you plan to have a census–like operation for the 2010 Round?

Yes ☐ No ☐

1.b. If yes, when: _____

2. Enumeration methods in 2000 and 2010 Census Rounds

2.a. A variety of methods can be used to enumerate the census populations and collect the relevant information. In the table below please indicate, which were the methods used in the last census to enumerate the relevant universes (population, households, dwellings and buildings).

Table 2.1	**2000 Census Round**			
Type of census	Population	Households	Dwellings	Buildings
Completely based on pre-existing administrative registers	☐	☐	☐	☐
Based on pre-existing administrative registers, questionnaire mailed out to **all** units to confirm/complete information	☐	☐	☐	☐
Based on pre-existing administrative registers **plus** sample survey data to complement available information	☐	☐	☐	☐
Information collected through field operations (traditional census)	☐	☐	☐	☐
Other, please specify:				
	☐	☐	☐	☐
	☐	☐	☐	☐

2.b. In the table below please indicate, for each of the reference universes (i.e.: population, households, etc.), the enumeration methods that were used according to their order of coverage (being one the method used to enumerate the higher percentage of units and then 2, 3, etc.)**:**

Table 2.2	**2000 Census Round**			
Enumeration methods	Population	Households	Dwellings	Buildings
Interviewer, paper questionnaire				
Interviewer, electronic questionnaire				
Enumerators, self-compiled form, collected by enumerators				
Enumerators, self-compiled form, mailed back				
Mail-out, collection by enumerators				
Mail-out, mail-back				
Internet				
Enumeration based on registers				
Other, please specify:				

2.c. In the table below please indicate, for each of the reference universes (i.e.: population, households, etc.), what type of census is planned for the **2010 Round:**

Table 2.3	**2010 Census Round**			
Type of census	Population	Households	Dwellings	Buildings
Completely based on pre-existing administrative registers	☐	☐	☐	☐
Based on pre-existing administrative registers, questionnaire mailed out to ALL units to confirm/complete information	☐	☐	☐	☐
Based on pre-existing administrative registers PLUS sample survey data to compliment available information	☐	☐	☐	☐
Information collected only through field operations (traditional census)	☐	☐	☐	☐
Other, please specify:				
	☐	☐	☐	☐
	☐	☐	☐	☐

2.d. In the table below please indicate, for each of the reference universes (i.e.: population, households, etc.), what enumeration method(s) is planned to be used for the **2010 Round** (*mark all applicable cases*)**:**

Table 2.4	**2010 Census Round**			
Enumeration methods	Population	Households	Dwellings	Buildings
Interviewer, paper questionnaire	☐	☐	☐	☐
Interviewer, electronic questionnaire	☐	☐	☐	☐
Enumerators, self-compiled form, collected by enumerators	☐	☐	☐	☐
Enumerators, self-compiled form, mailed back	☐	☐	☐	☐
Mail-out, collection by enumerators	☐	☐	☐	☐
Mail-out, mail-back	☐	☐	☐	☐
Internet	☐	☐	☐	☐
Enumeration based on registers	☐	☐	☐	☐
Other, please specify:				
	☐	☐	☐	☐
	☐	☐	☐	☐

2.e. If major methodological changes are planned for the 2010 census round, that do not appear from the above tables, please describe them below:

_____

3. Topics to be included in the 2010 Census Round

3.a. In the table below all topics included in the 2000 Recommendations are listed. Please indicate **for each topic** if there are plans to include it in the **2010 Round Census.** At this stage, a clear position as to the content of the next census may not yet have emerged. Nonetheless, a generic indication of the directions your office is taking would still help us to produce more relevant Recommendations for the 2010 Census Round. Please select one of the following options:

(a) The topic (most probably) will not be included;
(b) The topic (most probably) will be included as it is defined in the 2000 Recommendations;
(c) The topic (most probably) will be included **with some changes** with respect to the 2000 Recommendations;
(d) The topic (most probably) will be included **with substantial changes** with respect to the 2000 Recommendations.

In the last column additional comments can be provided. We would be interested to know in particularly how you think the topic should be revised (options 3. or 4.). In this column it can also be indicated if the topic should be upgraded (from "non-core" to "core") or downgraded (from "core" to "non-core").

			Do you consider including the topic in the 2010 Census Round?				
Core topic No.	**Non-core topic No.**	**Topic**	**1. NO**	**2. YES, as it is in 2000 Recom.**	**3. YES, with some changes**	**4. YES, with substantial changes**	**Comments (including proposals to upgrade topics to "core" or downgrade to "non-core"):**
Demographic characteristics of persons							
1		**Place of usual residence**	☐	☐	☐	☐	
	1	Place where found at time of census	☐	☐	☐	☐	
	2	Farm or non-farm residence	☐	☐	☐	☐	
Derived (a)		*Total population*	☐	☐	☐	☐	
Derived (b)		***Locality***	☐	☐	☐	☐	
	Derived (a)	*Urban and rural areas*	☐	☐	☐	☐	
2		**Place of usual residence on year prior to the census**	☐	☐	☐	☐	
	3	Duration of residence	☐	☐	☐	☐	
	4	Previous place of usual residence	☐	☐	☐	☐	
	5	Year (or period) of immigration in to the country	☐	☐	☐	☐	
Demographic characteristics of persons							
3		Sex	☐	☐	☐	☐	
4		**Age**	☐	☐	☐	☐	
5		**Legal marital status**	☐	☐	☐	☐	
	6	*De facto* marital status	☐	☐	☐	☐	
6		**Country/place of birth**	☐	☐	☐	☐	
	7	Place of birth of parents	☐	☐	☐	☐	
7		**Country of citizenship**	☐	☐	☐	☐	
	8	Citizenship acquisition	☐	☐	☐	☐	
	9	Ethnic group	☐	☐	☐	☐	
	10	Language	☐	☐	☐	☐	
	11	Religion	☐	☐	☐	☐	
	12	Total number of children born alive	☐	☐	☐	☐	
	13 (i)	Date of first marriage	☐	☐	☐	☐	
	13 (ii)	Date of current marriage of ever-married women	☐	☐	☐	☐	

			Do you consider including the topic in the 2010 Census Round?				
Core topic No.	**Non-core topic No.**	**Topic**	**1. NO**	**2. YES, as it is in 2000 Recom.**	**3. YES, with some changes**	**4. YES, with substantial changes**	**Comments (including proposals to upgrade topics to "core" or downgrade to "non-core"):**
Economic characteristics of persons							
8		**Current activity status**	☐	☐	☐	☐	
	14	Usual activity status	☐	☐	☐	☐	
9		**Time usually worked**	☐	☐	☐	☐	
	15	Providers of non-paid social and personal services	☐	☐	☐	☐	
	16	Duration of unemployment	☐	☐	☐	☐	
10		**Occupation**	☐	☐	☐	☐	
	17	Secondary occupation	☐	☐	☐	☐	
11		**Industry (branch of economic activity)**	☐	☐	☐	☐	
	18	Type of sector (institutional unit)	☐	☐	☐	☐	
12		**Status in employment**	☐	☐	☐	☐	
	19	Number of persons working in the local unit of establishment	☐	☐	☐	☐	
	20	Main source of livelihood	☐	☐	☐	☐	
	21	Dependency relationship	☐	☐	☐	☐	
	22	Income	☐	☐	☐	☐	
	Derived (a)	*Socio-economic group*	☐	☐	☐	☐	
13		**Place of work**	☐	☐	☐	☐	
	23	Location of school, university etc	☐	☐	☐	☐	
	24	Mode of transport to work	☐	☐	☐	☐	
	25	Length and frequency of journey to work	☐	☐	☐	☐	
Educational characteristics of persons							
14		**Educational attainment**	☐	☐	☐	☐	
	26	Educational qualifications	☐	☐	☐	☐	
	27	Field of study	☐	☐	☐	☐	
	28	School attendance	☐	☐	☐	☐	
	29	Literacy	☐	☐	☐	☐	
Household and family characteristics of persons							
15		**Relationship to reference person of private household**	☐	☐	☐	☐	
	30	Type of institutional or other communal establishment in which a person lives	☐	☐	☐	☐	
	31	Whether living as inmate of an institutional household or other communal establishment or not	☐	☐	☐	☐	

			Do you consider including the topic in the 2010 Census Round?				
Core topic No.	**Non-core topic No.**	**Topic**	**1. NO**	**2. YES, as it is in 2000 Recom.**	**3. YES, with some changes**	**4. YES, with substantial changes**	**Comments (including proposals to upgrade topics to "core" or downgrade to "non-core"):**
***Derived* (c)**		***Household status***	☐	☐	☐	☐	
***Derived* (d)**		***Family status***	☐	☐	☐	☐	
	Derived (c)	*Extended family status*	☐	☐	☐	☐	
Characteristics of family nuclei							
***Derived* (e)**		***Type of family nucleus***	☐	☐	☐	☐	
	Derived (d)	*Type of extended family*	☐	☐	☐	☐	
***Derived* (f)**		***Size of family nucleus***	☐	☐	☐	☐	
***Derived* (g)**		***Number of children under a specified age***	☐	☐	☐	☐	
	Derived (e)	*Specified age groups of children*	☐	☐	☐	☐	
***Derived* (h)**		***Number of economically active members***	☐	☐	☐	☐	
	Derived (f)	*Number of members whose main source of livelihood is economic activity*	☐	☐	☐	☐	
	Derived (g)	*Number of dependent members*	☐	☐	☐	☐	
Characteristics of private households							
Derived (i)		***Type of private household***	☐	☐	☐	☐	
	Derived (h)	*Generational composition of private households*	☐	☐	☐	☐	
Derived (j)		***Size of private household***	☐	☐	☐	☐	
Derived (k)		***Number of economically active members***	☐	☐	☐	☐	
	Derived (i)	*Number of members whose main source of livelihood is economic activity*	☐	☐	☐	☐	
Derived (l)		***Number of children under a specified age***	☐	☐	☐	☐	
	Derived (j)	*Number of dependent members*	☐	☐	☐	☐	
Derived (m)		***Number of members of retirement age***	☐	☐	☐	☐	
16		**Tenure status of household**	☐	☐	☐	☐	
	32	Single or shared occupancy	☐	☐	☐	☐	
	33	Rent	☐	☐	☐	☐	
	34	Durable consumer goods possessed by the household	☐	☐	☐	☐	

			Do you consider including the topic in the 2010 Census Round?				
Core topic No.	**Non-core topic No.**	**Topic**	**1. NO**	**2. YES, as it is in 2000 Recom.**	**3. YES, with some changes**	**4. YES, with substantial changes**	**Comments (including proposals to upgrade topics to "core" or downgrade to "non-core"):**
	35	Number of cars available for the use of the household	☐	☐	☐	☐	
	36	Telephone	☐	☐	☐	☐	
Characteristics of housing units and other living quarters							
17		**Type of living quarters**	☐	☐	☐	☐	
18		**Type of ownership**	☐	☐	☐	☐	
19		**Location of living quarters**	☐	☐	☐	☐	
20		**Occupancy status**	☐	☐	☐	☐	
	37	Type of vacancy	☐	☐	☐	☐	
	38	Occupancy by one or more households	☐	☐	☐	☐	
21		**Number of occupants**	☐	☐	☐	☐	
22		**Number of rooms**	☐	☐	☐	☐	
	39	Useful and/or living floorspace	☐	☐	☐	☐	
23		**Kitchen**	☐	☐	☐	☐	
	40	Cooking facilities	☐	☐	☐	☐	
24		**Water supply system**	☐	☐	☐	☐	
	41	Hot water	☐	☐	☐	☐	
25		**Toilet facilities**	☐	☐	☐	☐	
	42	Type of sewage disposal system	☐	☐	☐	☐	
26		**Bathing facilities**	☐	☐	☐	☐	
27		**Type of heating**	☐	☐	☐	☐	
	43	Main type of energy used for heating	☐	☐	☐	☐	
	44	Electricity	☐	☐	☐	☐	
	45	Piped gas	☐	☐	☐	☐	
	46	Position of dwelling in the building	☐	☐	☐	☐	
Characteristics of buildings containing dwellings							
28		**Type of building**	☐	☐	☐	☐	
	47	Number of floors	☐	☐	☐	☐	
	48	Number of dwellings in the building	☐	☐	☐	☐	
	49	Whether building is a farm building or not	☐	☐	☐	☐	
	50	Lift	☐	☐	☐	☐	
29		**Period of construction**	☐	☐	☐	☐	
	51	Material of which specific parts of the building are constructed	☐	☐	☐	☐	
	52	State of repair	☐	☐	☐	☐	

4. Proposals on new topics to be included in the 2010 Recommendations

4.a. Please indicate in the table below the census topics, which **were NOT included in the 2000 Recommendations but are planned to be included in the next census in your country and/or should be included in the 2010 Recommendations**

New topics	Mark if there are plans to be included in the 2010 census round	Mark if to be included in the 2010 Recommendations	Comments:
Disability	☐	☐	
Agriculture (please specify:	☐	☐	
Employment in informal sector (specific questions to capture work in the informal economy or informal employment)	☐	☐	
Other topics, please specify:			
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	

5. Census methodology topics to be included in 2010 Recommendations

5.a. The 2000 Census Recommendations included a very short (about two .....s) section on census methodology, covering areas like census methods, units of enumeration etc. Please indicate if you think that the new recommendations for the 2010 round of censuses should cover the following aspects of census methodology, technology and organization:

Possible areas to be covered in the 2010 Census Recommendations	**YES, this area should be covered in great detail**	**YES, this area should be covered but with limited detail**	**NO, this area should not be covered**	**Comments:**
Uses of registers for censuses	☐	☐	☐	
Use of sampling techniques for censuses	☐	☐	☐	
Enumeration methods	☐	☐	☐	
Emerging technologies for data collection (internet, handheld devices, etc.)	☐	☐	☐	
Use of GIS for data collection	☐	☐	☐	
Emerging technologies for data processing (automatic coding, editing, imputation, etc.)	☐	☐	☐	
Publicity campaign	☐	☐	☐	
Quality control	☐	☐	☐	
Dissemination	☐	☐	☐	
Evaluation of census coverage and quality	☐	☐	☐	
Other areas:	☐	☐	☐	
	☐	☐	☐	

Date:_____ Signature: _____