Recommendations for the revision and update of the "Global United Nations Principles and Recommendations for Population and Housing Censuses"[*]

By

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UIS has identified the following as areas of Interest of the Population and Housing Census:

1. Units of Enumeration:
   - Person (definition)
   - Household (definition)
   - Institutional Population (definition)

2. Factors determining the selection of topics:
   - Importance of International Comparability

3. Geographical and Internal Migration Characteristics:
   - Total Population (definition of coverage)

4. Educational Characteristics:
   - Literacy
   - School Attendance
   - Education Attainment
   - Field of Education and
   - Educational qualifications

5. Economic Characteristics:
   - Activity Status (definition of Student)
   - Occupation (classification system)
   - Industry (classification system)

6. International Migration Characteristics:
   - Country of Birth (mobility of students)
   - Citizenship (mobility of students)

7. Cross-cutting Social Issues:
   - Statistics on Children and Youth (definitions of children and youth)

8. Other:
   - ICT Questions

9. Edits for Population Items

10. Product Development

**UIS Comments on the Relevant Sections from UNSD Census Principles
and Census Edits Handbooks**

Document: Principles and Recommendations for Population and Housing Censuses, Revision 1, United Nations, New York, 1997

1. Units of Enumeration (pp. 49-51)

Person

1.323. For census purposes, the term "person" denotes each individual falling within the scope of census. As emphasized above (Para. 1.318), a person can be identified as belonging to the household population (that is to say, the population living in households) or to the institutional population (that is to say, the population living in institutions, as a subset of collective living quarters) as defined in paragraph 1.330 below. Although each person must be included in the count of the population, there will be some variation in regard to the persons for whom information is collected on different topics. The variations usually depend on the person's age, sex and/or relationship to the head or other reference member of the household. It may be recommended that information on a particular topic should be investigated for less than the total population, and the group of persons for which a given topic should be investigated is indicated below under the definitions and specifications of such topics presented in part two, chapter V, section C. In addition, each tabulation presented in annex I is accompanied by a description of the population to be included in the tabulation.

A person should continue to be identified as per previous censuses.

Household

1.324. The concept of household is based on the arrangements made by persons, individually or in groups, for providing themselves with food or other essentials for living. A household may be either (*a*) a one-person household, that is to say, a person who makes provision for his or her own food or other essentials for living without combining with any other person to form part of a multi-person household or (*b*) a multi-person household, that is to say, a group of two or more persons living together who make common provision for food or other essentials for living. The persons in the group may pool their incomes and may, to a greater or lesser extent, have a common budget; they may be related or unrelated persons or constitute a combination of persons both related and unrelated.

1.325. The concept of household provided in paragraph 1.324 is known as the "housekeeping" concept. It does not assume that the number of households and housing units is equal. A housing unit, as defined in paragraph 2.331, is a separate and independent place of abode that is intended for habitation by one household, but that may be occupied by more than one household or by a part of a household (for example, two nuclear households that share one housing unit for economic reasons or one household in a polygamous society routinely occupying two or more housing units).

1.326. For a more detailed discussion of the concepts of household see paragraphs 2.60-2.66 and 2.77-2.83. A more detailed discussion of the concept of households is also presented in paragraphs 2.403-2.406. Some countries use a concept different than the housekeeping concept described in the previous paragraph, namely, the "household-dwelling" concept, which regards all persons living in a housing unit as belonging to the same household. (According to this concept, there is one household per occupied housing unit.) In the household-dwelling concept, then, the number of occupied housing units and the number of households occupying them are equal and the locations of the housing units and households are identical. However, this concept can obscure information on living arrangements, such as doubling up that is relevant for evaluating housing needs. The definition of household most often used in national censuses conducted during the 1990 round of censuses incorporates both the housekeeping and household-dwelling concepts.

1.327. Households usually occupy the whole or a part of, or more than, one housing unit but they may also be found in camps, boarding houses or hotels or as administrative personnel in institutions, or they may be homeless. Households consisting of extended families that make common provision for food or of potentially separate households with a common head, resulting from polygamous unions, or households with vacation or other second homes may occupy more than one housing unit.

1.328. Homeless households are those households without a shelter that would fall within the scope of living quarters.28 they carry their few possessions with them, sleeping in the streets, in doorways or on piers, or in any other space, on a more or less random basis. 1.329. For some topics investigated in housing censuses, the household may serve more efficiently than living quarters as the unit of enumeration. For example, tenure, if investigated in the census, should be collected with reference to households rather than living quarters. Information about household possessions that is normally included as part of the equipment of living quarters (radio and television receivers, for example) should be collected with reference to households. Information on rent, an item of significance in relation to both living quarters and households, would of necessity be collected in relation to the household.

It is important to ensure that the concept of the household is defined and applicable throughout the world. As the census provides the sampling frame for many household surveys, this concept needs to be clear in order that results of such surveys are valid and comparable.

Institutional Population

1.330. As emphasized in paragraph 1.318, institutions represent the second general framework within which persons, as major units of enumeration, are identified. The institutional population comprises persons who are not members of households. These include persons living in military installations, correctional and penal institutions, dormitories of schools and universities, religious institutions, hospitals and so forth. Similarly, personnel responsible for the running of an institution and not living in dormitories or similar accommodations should be excluded from the institutional population.

1.331. Persons living in hotels or boarding houses are not part of the institutional population and should be distinguished as members of one- or multi-person households, on the basis of the arrangements that they make for providing themselves with the essentials for living.

Knowing the educational characteristics of persons in institutions (prisons, nursing homes and other health care facilities and hospitals) is important. Often, prisons and other institutions are populated by persons at risk and excluded groups in society. Education is often seen as a means of helping these individuals to reintegrate into society.

2. Factors determining the selection of topics (pp. 57)

Importance of International Comparability

2.4. The desirability of achieving regional and worldwide comparability should be another major consideration in the selection and formulation of topics for the census schedule. National and international objectives are usually compatible, however, since international recommendations, based on a broad study of country experience and practice, are recommendations for definitions and methods that have successfully met general national needs in a wide range of circumstances. Furthermore, the analysis of census data for national purposes will often be facilitated if, by the use of international recommendations, it is possible to compare the data with those of other countries on the basis of consistent concepts, definitions and classifications.

2.5. If the particular circumstances within a country require departures from international standards, every effort should be made to explain these departures in the census publications and to indicate how the national presentation can be adapted to the international standards.

It is desirable that the education variables be defined in such a way that it will permit international comparability of the results. To this end, it is recommended that, for these variables the ISCED97 international education classification system be used or that correspondence to ISCED97 from the national system be made available.

3. Geographical and Internal Migration Characteristics (pp. 61-65)

Total Population

2.42. For census purposes, the total population of the country consists of all the persons falling within the scope of the census. In the broadest sense, the total may comprise either all-usual residents of the country or all persons present in the country at the time of the census. The total of all usual residents is generally referred to as the *de jure* population and the total of all persons present as the de facto population.

2.43. In practice, however, countries do not usually achieve either type of count, because one or another group of the population is included or excluded, depending on national circumstances, despite the fact that the general term used to describe the total might imply a treatment opposite to the one given any of these groups. It is recommended, therefore, that

each country describe in detail the figure accepted officially as the total, rather than simply label it as *de jure* or de facto.

2.44. The description should show clearly whether each group listed below was or was not counted in the total. If the group was enumerated, its magnitude should be given; if it was not enumerated, an estimate of its size should be given, if possible. If any group is not represented at all in the population, this fact should be stated and the magnitude of the group should be shown as "zero". This may occur particularly with groups (*a*), (*b)*, (*d*) and (*n*) described below.

2.45. The groups to be considered are:
(*a*) Nomads;
(*b*) Persons living in areas to which access is difficult;
(*c*) Military, naval and diplomatic personnel and their families located outside the country;
(*d*) 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);
(*e*) Civilian residents temporarily in another country as seasonal workers;
(*f*) Civilian residents who cross a frontier daily to work in another country;
(*g*) Civilian residents other than those in groups (*c*), (*e*) or (*f*) who are working in another country;
(*h*) Civilian residents other than those in groups (*c*), (*d*), (*e*) (*f*) or (*g*) who are temporarily absent from the country;
(*i*) Foreign military, naval and diplomatic personnel and their families located in the country;
(*j*) Civilian foreigners temporarily in the country as seasonal workers;
(*k*) Civilian foreigners who cross a frontier daily to work in the country;
(*l*) Civilian foreigners other than those in groups (*i*), (*j*) or (*k*) who are working in the country;
(*m*) Civilian foreigners other than those in groups (*i*), (*j*), (*k*) or (*l*) who are in the country temporarily, including refugees;
(*n*) Transients on ships in harbour at the time of the census.

In addition, there are Homeless persons and Street Children that are not typically captured by Census. Efforts to enumerate these groups are needed. The education characteristics of these groups is important to know since they are at risk and in the case of Street Children, should be attending school.

2.46. In the case of groups (*h*) and (*m*), it is recommended that an indication be given of the criteria used in determining that presence in, or absence from, the country is temporary.

2.47. In those countries where the total population figure has been corrected for under enumeration or over enumeration, both the enumerated figure and the estimated corrected population figure should be shown and described. The detailed tabulations will of necessity be based only on the actual enumerated population.

2.48. The population of each geographical unit of the country, like the total population of the country (see Para. 2.42), may comprise either all usual residents of the unit (see Para. .20) or all persons present in the unit at the time of the census (see pares. 2.25 and 2.26).

For some countries, the population estimates produced by the UNSD Population Division differ significantly from those produced by national authorities. As a result, the calculation of population based indicator(s) may differ significantly. Often, the difference is the exclusion/inclusion of refugee's in these population counts. Censuses should identify these populations and determine their education characteristics.

4. Educational Characteristics (pp. 75-78)

[Deleted 2.144 ISCED should be used for classification of schooling, but should NOT rely on any assumed relations between educational attainment and literacy. Countries should equally NOT use attainment to assume literacy]

Literacy

2.145. Literacy has historically been defined as the ability both to read and to write, distinguished between "literate" and "illiterate" people. A literate person is one who can, both read and write a short, simple statement on his or her everyday life. An illiterate person is one who cannot with understanding; both read and write such a statement. Hence, a person capable of reading and writing only figures and his or her own name should be considered illiterate, as should a person who can read but not write as well as one who can read and write only a ritual phrase that has been memorized. However, new understandings referring to a range of levels, of domains of application, and of functionality are now widely accepted.

2.146. The notion of literacy applies to any language insofar as it exists in written form. In multilingual countries, the census questionnaire may query the languages in which a person can read and write. Such information can be essential for the determination of educational policy and this item would therefore be a useful additional subject of inquiry.

2.147. It is preferable that data on literacy be collected for all persons 10 years of age and over. In a number of countries, however, certain persons between 10 and 14 years of age may be about to become literate through schooling. The literacy rate for this age group may be misleading. Therefore, in an international comparison of literacy, data on literacy should be tabulated for all persons 15 years of age and over. Where countries collect the data for younger persons, the tabulations on literacy should at least distinguish between persons under 15 years of age and those 15 years of age and over.

2.148.
Straightforward operational criteria and instructions for collecting literacy statistics should be clearly established on the basis of the concept given in paragraph 2.145, and applied during census-taking. Accordingly, although data on literacy should be collected so as to distinguish between persons who are "literate" and those who are "illiterate", consideration should be given to distinguishing broad levels of literacy skills. Simple questions with response categories that reflect different levels of literacy skills should be used. In addition, since literacy is an applied skill it needs

to be measured in relation to a particular task, such as reading, with understanding, personal letters and newspapers or magazines, or such as writing a personal letter or message. They may be able to do so easily, with difficulty or not at all, reflecting the different levels of literacy skills. Reading and writing may be measured separately to simplify the questions.

It would be preferable also to use standardised questions, harmonised across countries to ensure comparability. UNESCO has developed a reference database of model questions. In addition, it would be preferable that literacy tests also be administered as part of a census survey, or combined with household surveys, in order to verify as well as improve the quality of literacy data. An evaluation of the quality of literacy statistics should be provided with census statistics on literacy.

2.149. The collection and tabulation of statistics on literacy during the population census should, not be based on any assumed linkages between literacy, school attendance and educational attainment. In operational terms, this means systematically inquiring about the literacy status of each household member irrespective of school attendance or highest grade or level completed.

The literacy question currently varies across countries and as a result, the data based on them are not always internationally comparable. Literacy should not be derived as an educational attainment proxy because although the two are related, there are substantial differences. For example, there are numerous cases where people leave school with only partial literacy skills, or lose them because of a lack of practice. Therefore educational attainment is not a good proxy measure of literacy skills.

The UIS is undertaking a new literacy initiative called the Literacy Assessment Monitoring Programme (LAMP) which is a household survey based literacy assessment tool that will be piloted in 5 countries during 2005-6. It is the opinion of the UIS that literacy attainment is best measured by such instruments such as LAMP rather than through the use of 1 or 2 simple self-assessment questions which are often used in Census.

The UIS is currently assessing the feasibility of continuing to use the Census as a method for measuring literacy attainment and will provide guidance to the UN Expert Group to Review Critical Issues Relevant to the Planning of 2010 Round of Population and Housing Censuses and Member States during this Census planning stage and for inclusion in UN Census guidance documents. The UIS has initiated a pilot study to develop a "Literacy Module" that can be incorporated into censuses and household surveys.

The document, both paper and electronic form, should consider the inclusion of a link to the UIS Literacy and LAMP webpage so that persons have a "up-to-date" source of information and guidance in this area for the census. This work is ongoing and developments will take some time to occur.

School Attendance

2.150. School attendance is defined as regular attendance at any regular accredited educational institution or programme, public or private, for organized learning at any level of

education at the time of the census or, if the census is taken during the vacation period at the end of the school year or during the last school year. For the purposes of ISCED education is taken to comprise all deliberate and systematic activities designed to meet learning needs. Instruction in particular skills which is not part of the recognized educational structure of the country (for example, in-service training courses in factories) is not normally considered "school attendance" for census purposes.

2.151. Information on school attendance in principle should be collected for persons of all ages. It relates in particular to the population of official school age, which ranges in general from 5 to 29 years of age but can vary from country to country depending on the national education structure. In the case where 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 (such as the in-service training courses mentioned in Para. 2.150), community-based organizations and other non-educational institutions, the age range may be adjusted as appropriate.

2.152. Data on school attendance should be cross-classified with data on educational attainment, according to the person's current level and grade (see Para. 2.151). This cross-classification can provide useful information on the correspondence between age and level or grade of educational attainment for persons attending school.

The issue surrounding the number of "Out-of-School" children has grown in importance within the last decade, particularly within the context of EFA Goal 1 – achieving universal primary education. The census offers an opportunity to measure the number of "Out-of-School" or "Ever-in-School" children (reciprocal of attendance). There is a difference between "attending-school" and "enrolled-in-school" thus results from Censuses and Administrative data may differ. The UIS and UNICEF are jointly working on efforts to better measure the number of out-of-school children in the world.

School attendance is complementary too but must be distinguished from "School Enrolment" which typically is obtained from administrative data. A child can be enrolled in school but not necessarily be attending. It is recommended that these concepts be clearly defined so that countries can determine which variable they wish to collect via the census.

It is also recommended that member states consider the need for an "internationally-harmonized" question(s) in order to measure school attendance and school enrolment.

Education Attainment

2.144. The recommendations on "educational attainment" (see Para. 2.153) and "educational qualifications" (see Para. 2.163) make use of categories of the 1997 revision of the International Standard Classification of Education (ISCED), issued by the United Nations Educational, Scientific and Cultural Organization (UNESCO). Many countries apply national classifications of levels and grades of education and of fields of education in collecting and tabulating statistics from population censuses. Special attention needs to be paid to establishing appropriate level-grade equivalence for persons who have received education

2.153. Educational attainment is defined as the highest grade completed within the most advanced level attended in the educational system of the country where the education was received. Some countries may also find it useful to present data on educational attainment in terms of highest grade attended. If required, data on educational attainment can take into account education and training received in all types of organized educational institutions and programmes, particularly those measurable in terms of grade and level of education or their equivalent such as programmes in adult education, even if the education and training were provided outside the regular school and university system. For international purposes, a "grade" is a stage of instruction usually covered in the course of a school year. Information on educational attainment should preferably be collected for all persons 5 years of age and over.

2.154. To produce statistics on educational attainment, a classification is needed that indicates the grades or years of education in primary, secondary and post-secondary school. Since the educational structure may have changed over time, it is necessary to make provision for persons educated at a time when the national educational system differed from that in place at the time of the census. In addition to focusing attention on the collection of educational attainment data, enumerator instructions, coding and data processing need to be designed in a way that will take account of any changes in the educational system of a country over the years and of those educated in another country, as well as those educated in the current system.

2.155. Information collected on the highest grade of education completed by each individual facilitates flexible regrouping of the data according to various kinds of aggregation by level of education, for the purpose, for example, of distinguishing between persons who did and persons who did not complete each level of education.

2.156. For international comparison, data from the population census are needed for three levels of education: primary, secondary, and post-secondary. To the extent possible, countries can classify statistics on educational attainment by individual ISCED levels as given below (or by their equivalent as set forth according to the national classification of levels of education):

ISCED level 0:   Pre-primary education
ISCED level 1:   Primary education
ISCED level 2:   Lower secondary education
ISCED level 3:   (Upper) secondary education
ISCED level 4:   Post-secondary Non-Tertiary education
ISCED level 5a: First stage of tertiary education (provides sufficient qualifications for gaining entry into advanced research programmes and professions with high skills requirements)

ISCED level 5b: First stage of tertiary education (provides practical oriented/occupationally specific training and the successful completion of which usually provides the participants with a labour-market relevant qualification)

ISCED level 6:   Second stage of tertiary education (leading to an advanced research qualification)

Persons with no schooling should also be identified. Any differences between national and international definitions and classifications of education should be explained in the census publications in order to facilitate comparison and analysis.

Countries could consider asking a question which captures levels of education not successfully completed, or partially completed, should this be of interest to policy. This could be in the form of a direct question asking if a person has "some" education at the relevant level or via a question asking the last grade/year completed from any given level of education.

2.157. Data on school attendance, educational attainment and literacy status should be collected and tabulated separately and independently of each other, without (as elaborated in paragraph 2.149) any assumption of linkages between them.

In order to ensure continued and improved international comparability of census data by level of education, it is recommended that member states continue to ensure that the educational attainment variable is able to be mapped into the ISCED97 classification. This is typically achieved in post-census processing.

Field of Education and educational qualifications

2.158. Information on persons by level of education and field of education is important for examining the match between the supply and demand for qualified manpower with specific specializations within the labour market. It is equally important for planning and regulating the production capacities of different levels, types and branches of educational institutions and training programmes.

2.159. A question on field of education needs to be addressed to persons 15 years of age and over who attended at least one grade in secondary education or who attended other organized educational and training programmes at equivalent levels.

2.160. The revised ISCED distinguishes between the following major fields (one-digit codes) and sub-fields (two- digit codes) of education:

   Code
   0 General programmes
   01 Basic programmes
   08 Literacy and numeracy
   09 Personal development
   1 Education

14 Teacher training and education science
2 Humanities and arts
    21 Arts
    22 Humanities
3 Social science, business and law
    31 Social and behavioural science
    32 Journalism and information
    34 Business and administration
4 Science
    42 Life sciences
    44 Physical sciences
    46 Mathematics and statistics
    48 Computing
5 Engineering, manufacturing and construction
    52 Engineering and engineering trades
    54 Manufacturing and processing
    58 Architecture and building
6 Agriculture
    62 Agriculture, forestry and fishery
    64 Veterinary
7 Health and welfare
    72 Health
    76 Social services
8 Services
    81 Personal services
    84 Transport services
    85 Environmental protection
    86 Security services
9 99 Not known or unspecified

2.161. Countries may wish to consider collecting data on detailed fields of education, not only major ones. When coding field of education, countries should make use of an established national classification or, if this does not exist, adopt the classification and coding of fields of education of ISCED. Any difference between national and international definitions and classifications of fields of education should be explained in the census publications so as to facilitate international comparison and analysis.

2.162. Countries coding field of education according to a national classification should also establish correspondence with ISCED either through double-coding or through "conversion" from the detailed national classification to ISCED. A problem may arise in identifying the exact field(s) of education of persons with interdisciplinary or multi-disciplinary fields of specialization. It is recommended that countries follow the procedure of identifying the major or principal field of education of those with multidisciplinary specialization.

In order to ensure continued and improved international comparability of census data by field of education, it is recommended that the classification structure for the "fields of education" continue to be based on the ISCED97.

(*ii*) Educational qualifications

2.163. Qualifications are the degrees, diplomas, certificates, professional titles and so forth that an individual has acquired, whether by full-time study, part-time study or private study, whether conferred in the home country or abroad and whether conferred by educational authorities, special examining bodies or professional bodies. The acquisition of an educational qualification therefore implies the successful completion of a course of study or training programme.

2.164. According to national needs, information on qualifications may be collected from persons who have reached a certain minimum age or level of educational attainment. Such information should refer to the title of the highest certificate, diploma or degree received.

5. Economic Characteristics (pp. 78-91)

Activity Status

2.191. *Students, homemakers* and others who were mainly engaged in non-economic activities during the reference period, but were at the same time in paid employment or self-employment as defined in paragraph 2.182 above should be considered employed on the same basis as other categories of employed persons. Such persons should be identified separately where possible, that is, as having been engaged in paid employment, or as having been self-employed for longer than the stated minimum number of hours during the reference period (see Para. 2.183).

2.200. *Students*, *homemakers* and others who were mainly engaged in non-economic activities during the reference period and who satisfy the criteria for unemployment laid down above should be regarded as unemployed on the same basis as unemployed persons in other categories and identified separately, where possible.

In order to ensure continued and improved international comparability of census data, it is recommended that member states define or continue to define a student as "persons of either sex not classified as usually economically active, who attend any regular educational institution, public or private, for systematic instruction at any level of education" pp. 83 in UNSD 1997.

a. Population not usually active

2.202. The population *not usually active* comprises all persons not classified either as employed or as unemployed (see Paras. 2.182-1.200). It is recommended that the not usually active population be classified into the following four groups:

(*a*) *Students*: persons of either sex, not classified as *usually economically active*, who attended any regular educational institution, public or private, for systematic instruction at any level of education, (see Para. 2.205 below);

b. Population not currently active (in other words, population not in the labour force) 2.205. 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. They may, according to the reason for not being *currently active*, be classified in any of the following groups:
(*a*) Attending an educational institution;
(*b*) Performing household duties;
(*c*) Retiring on pension or capital income;
(*d*) Other reasons, including disability or impairment.

2.206. The term "attending an educational institution" refers to attendance at any regular educational institution, public or private, for systematic instruction at any level of education, or temporary absence for relevant reasons corresponding to those specified for persons temporarily not at work (see Para. 2.199 above). The term "performing household duties" refers to 68 engagements in household duties in one's own home. Domestic servants working for pay in somebody else's home are to be classified as *economically active*. Information should be given in the census report on the minimum age for data on economic characteristics, the minimum school-leaving age and the typical age for the start of old-age retirement payments.

2.207. It is recommended that the population not in the labour force be classified at least according to the above-mentioned reasons for current inactivity. The classification will thus include the following categories: (*a*) persons in attendance at educational institutions, (*b*) persons engaged in household duties, (*c*) persons in retirement, old age and so forth and (*d*) persons inactive for other reasons, including disability. Some not currently economically active persons may be classifiable to more than one of the above categories. In such situations, priority should be given to the possible categories in the order above. Additional reasons for inactivity that are considered particularly important and included in the regional recommendations should also be taken into account in the classification of population not in the labour force.

2.208. Countries adopting the standard definition of unemployment may identify persons not classified as unemployed who were available for work but not seeking work during the reference period and classify them separately under the population not currently active.

Occupation

(i) Selection of "job"/activity to be classified

2.212. Individuals can be classified according to the variables *occupation, industry, status in employment* and *sector* only through their relationship with a job. This means that they must have been identified as being either employed or unemployed through the questions on

economic activity (see Paras. 2.172- 2.200 above). Whether economically active according to the *current activity (labour force)* concept or as defined by the usual activity concept, a person may have had more than one job during the reference period. For employed persons it is therefore recommended that the *primary* job held during the reference period first be established and then a possible second most important job. The primary job should be the job at which the person worked most of the time during the reference period, and the second job should be one, among the other jobs held during the same period, at which the person worked during most of the time not devoted to the primary job. For persons who have more than one job, it is recommended when using current activity to define employment, that a job from which the person was temporarily absent during the reference period not be considered the primary job, even if , had the person been active in it during the period in question, that job would have been the primary job. The purpose of this recommendation is to simplify the census questionnaire. An unemployed person should be coded to occupation, industry, status in employment and sector on the basis of the last job.

2.213. It is important to design the census questionnaire in such a way as to ensure that the variables *occupation, industry, status in employment* and sector are measured for a given job. Countries may want to describe in greater detail the type of secondary work carried out by respondents in more than one job during the reference period, in particular if those countries wish to be able to describe the extent and structure of employment in the informal sector (see Para. 2.242). In this case, the questionnaire should allow for the identification of a second, and perhaps even a third job for which information about occupation, industry, status in employment, sector and time worked can be collected and coded.

(ii) Item on occupation

2.214. Occupation refers to the type of work done during the time-reference period by the person employed (or the type of work done previously, if the person is unemployed), irrespective of the industry or the status in employment in which the person should be classified.

2.215. For purposes of international comparisons, it is recommended that countries prepare tabulations involving occupations in accordance with the latest revision available of the *International Standard Classification of Occupations (ISCO)*. At the time the present set of census recommendations was approved, the latest revision available was the one that was developed by the Fourteenth International Conference of Labour Statisticians (ICLS) in 1987 and adopted by the Governing Body of the International Labour Organization (ILO) in 1988. In order to be able to prepare such tabulations, information on occupation needs to be appropriately recorded and coded in the census.

2.216. Countries should code the collected occupational response at the lowest possible level supported by the information given. In order to facilitate detailed and accurate coding, it would be useful for the questionnaire to ask each active person "What kind of work does/did ...do in this job?" What are/were the main tasks and duties? For most persons this will produce responses that consist of an occupational title, or something similar, and a few words on tasks and duties performed on the job.

2.217. Methods for establishing linkages (mapping) between a national classification and ISCO is described in paragraph 2.220 below. An explanation of the differences between the national classification and ISC0-88 should be given in the census publications in order to facilitate analysis of occupational statistics and international comparison.

2.218. In preparation for the coding of the occupation responses, the organization responsible for the census should prepare a *coding index* reflecting the type of responses that will be given by the respondents. The coding index should be constructed by occupational classification experts on the basis of responses to similar questions in other data collections, such as previous censuses, census tests and labour-force surveys, as well as input from job placement officers of the employment service and the content of newspaper advertisements of vacant jobs. The coding index should clearly distinguish between responses belonging to "not elsewhere classified" categories and responses that do not provide enough information to determine an occupational group.

2.219. To ensure consistent, high-quality coding with a minimum of coding errors, each member of the coding staff should have easy access to the coding index and be given clear instructions to the effect that:

(*a*) The index should always be used to determine the correct code for a response;
(*b*) When searching for the correct index entry, the information given in the response should be used according to specified rules;
(*c*) The coding rules should give clear guidance on when and how use can be made of supplementary information, for example, the response to the "industry" question so as to determine an occupation code when the occupation responses are not sufficient for that purpose, as well as about when problems ("queries") should be referred to supervisors or expert coders for resolution. The results of the resolution of such queries should be quickly distributed to all coders, so that the coding index may be updated, thus ensuring consistent treatment of similar responses.

2.220. Countries coding *occupation* according to a national standard classification can establish a correspondence with ISCO either through double coding or through *mapping* from the detailed groups of the national classification to ISCO. Double coding can be achieved most easily when the coding index carries references both to the national classification and to ISCO, in which case coding should take the form of entering the line number of the selected index entry on the record for each response. Mapping means that, for each detailed group in the national classification, it is indicated to which ISCO group the (majority of) jobs in that national occupational group would be coded if coded directly to ISCO.

In order to ensure continued and improved international comparability of census data by occupation, it is recommended that the classification of Occupations in accordance with ISCO be used by National censuses.

Industry

16

2.221. Industry refers to the activity of the establishment in which an employed person worked during the time-reference period established for data on economic characteristics (or last worked, if unemployed). For guidance on the selection of the job/activity to be classified, see paragraph 2.212.

2.222. For purposes of international comparisons, it is recommended that countries prepare tabulations involving the industrial characteristics of active persons according to the most recent revision of the International Standard Industrial Classification of All Economic Activities (ISIC) available at 72 the time of the census. In order to be able to prepare such tabulations, information on industry needs to be appropriately recorded and coded in the census.

2.223. Countries should code the collected industry response at the lowest possible level supported by the information given. In order to facilitate detailed and accurate coding, the questionnaire should ask each active person "What is the name of your employer and what is the address of your place of work?" and "What are the main products and services produced at the place of work or what are the main functions?" Countries with business registers that are complete and up-to-date can use the response to the first question as a link to the register in order to obtain the industry code given there to the establishment. In preparation for the coding of the industry responses that cannot be matched to a pre-coded register the organization responsible employment, that is to say, the type of explicit or implicit for the census should create a *coding index* that reflects the type of responses that will be given on the census questionnaire.

This coding index should be constructed by industry classification experts on the basis of available lists of enterprises, establishments, businesses, and so forth, as well as from responses to similar questions in other data collections, including previous censuses, census tests and labour-force surveys. The coding index should clearly distinguish between responses belonging to "not elsewhere classified" categories and responses that do not provide enough information to allow for the coding of a detailed industry group.

2.224. To ensure consistent, high-quality coding with a minimum of coding errors, each member of the coding staff for the census should have easy access to the coding index and should be given clear instructions that:

(*a*) The index should always be used to determine the correct code for a responses;
(*b*) When searching for the correct index entry, the information given in the response should be used according to specified rules. Where applicable, one should normally try to
find an exact match for the employer's name and address in the compiled list of businesses and so forth before using the information on products, function and activities;
(*c*) The coding rules should give clear guidance on when and how use can be made of supplementary information, for example, the response to the Occupation question, to determine an industry code when the industry responses are not sufficient, as well as about when problems ("queries") should be referred to supervisors or expert coders for resolution.

The results of the resolution of such queries should be quickly distributed to all coders, so that the coding index may be updated, thus ensuring consistent treatment of similar responses.

2.225. Countries coding *industry* according to a national standard classification can establish correspondence with ISIC either through double coding or through *mapping* from the detailed groups of the national classification to ISIC. Double coding can be achieved most easily when the coding index carries references both to the national classification and to ISIC, in which case the coding should take the form of entering the line number of the selected index entry on the record for each response. "Mapping" means that, for each detailed group in the national classification, it is indicated to which ISIC group the (majority of) jobs in that national occupational group would be coded if coded directly to ISIC.

6. International Migration Characteristics (pp. 91-92)

2.248. International migration, as a census topic, was first dealt with separately in the United Nations census recommendations contained in the *Supplementary Principles and Recommendations for Population and Housing Censuses*. Previously, it had been subsumed under the topic "geographical and migration characteristics", where migration is principally concerned with the movement of people within the country, in other words, with internal migration. Interest in the movement of people across national boundaries, namely, international migration, has steadily grown among countries and therefore, a new version of the *Recommendations on Statistics of International Migration* was adopted by the Statistical Commission in 1997. This new version is entitled *Recommendations on Statistics of International Migration, Revision 1* (ST/ESA/STAT/SER. M/58/Rev.1). The present section, concerned with the application of those recommendations in population censuses, is intended to supplement and expand the topic "geographical and internal migration characteristics," which is covered in paragraphs 2.18-2.59 above. Definitions of international migration and specific ways of applying them in population censuses are presented in this section.

2.249. The United Nations *Recommendations on Statistics of International Migration, Revision 1* deal on the one hand with migrant flows and on the other with immigrant stock. Population censuses are underscored as being the best source for collecting data on the immigrant stock and its characteristics and therefore this section is concerned chiefly with the topic of immigrant stock. Two items will be used to identify the immigrant stock: country of birth and country of citizenship.

2.250. Given the general definition of "international migrant" presented in the revised *Recommendations on Statistics of International Migration* (para.32), the logical definition of the stock of international migrants present in a country would refer to the set of persons who have ever changed their country of usual residence. However, data useful for studying the issues related to international migrants are citizenship-specific. It is therefore common to find that the need for information relates not to the generality of international migrants as characterized above, but rather to those who do not have the citizenship of the country where they live and possibly to those who, despite having acquired citizenship in that country, were not part of its citizenry from the beginning of their lives.

2.251. Consequently, for the study of the impact of international migration using the population census, two sub-groups of the population are the focus of interest. The first group consists of foreigners living in the country and the second comprises persons born in a country other than the one in which they live at the time of the census (the foreign-born). Consequently, two items must be recorded in the census: (*a*) country of birth, and (*b*) country of citizenship. In addition, it is also important to record year of arrival so as to establish length of stay in the country of international migrants.

The UIS agrees with this section. In addition, it is important in policy terms to know the education characteristics of migrants and immigrants. There are initiatives underway to establish a classification of tertiary education graduates as well as for defining internationally mobility.

Country of birth

2.252. The country of birth is, in the first instance, the country in which the person was born. It should be noted that the country of birth of a person is not necessarily the same as his or her country of citizenship, which is a separate census topic dealt with in paragraphs 2.104-2.108 above. The collection of information distinguishing between persons born in the country where the census is taken (natives) and those born elsewhere (foreign-born) is necessary even in countries where the proportion of the foreign-born population is small. It is therefore recommended that place of birth be asked of all persons first to distinguish the native-born from the foreign-born population.

The collection of additional information on the specific country of birth is recommended so as to permit the classification of the foreign-born population by country of birth. For respondents who are born outside of the country of enumeration and cannot name their country of birth, at least the continent or region where that country is located should be ascertained.

2.253. For purposes of both internal consistency and international comparability, it is preferable that information on the country of birth be available according to national boundaries existing at the time of the census. In addition to collecting detailed information on the actual country of birth, it is essential that the coding of information on the country of birth be done in sufficient detail to allow for the individual identification of all countries of birth that are represented in the population of the country. For purposes of coding, it is recommended that countries use the numerical coding system presented in *Standard Country or Area Codes for Statistical Use*. The use of standard codes for classification of the foreign-born population according to the country of birth will enhance the usefulness of such data, including an international exchange of foreign-born population statistics among countries. If countries decide to combine countries into broad groups, it is recommended that the standard regional and sub regional classifications identified in the above-mentioned publication be adopted.

The UIS has no comments.

Citizenship

2.254. Citizenship is the legal nationality of each person. A citizen is a legal national of the country of the census; a foreigner or alien is a non-national of the country. Because the country of citizenship is not necessarily identical to the country of birth, both items should be collected in a census. Data on citizenship are needed because of their policy relevance. For further information on citizenship, see paragraphs 2.104-2.108.

The UIS has no comments.

7. Cross-cutting Social Issues (pp. 130-133)

Statistics on Children and Youth (definitions of children and youth)

3.69. Extensive data on children and youth are available in censuses but may need improvements in terms of coverage and quality of information on specific characteristics, and on their presentation.

3.70. For statistical purposes, "children" are defined as persons less than 15 years of age and "youth" are defined as those aged 15-24. However, it is useful to further divide these special groups by five-year age groups (or nationally, by groups of specific school ages) because of the rapid changes in characteristics in this age range, such as in school attendance, marital status and activity status. Also, because of differences by sex in the age at marriage, family or household status and entry into the labour market, data should be classified not only by age but also by sex. To this end, the distribution by single years of age and sex is useful. If single-year age distribution is not feasible for young children under age 5, it would be desirable to distinguish between those under one year of age (infants) and those aged 1-4. For youth aged 15-19, it would be desirable to distinguish between those 15-17 years of age and those 18-19 years of age, or to have a distinction corresponding to the age below which the country considers an individual to be a minor.

3.71. For the purpose of developing statistics on children, the principal topics in census recommendations include, *inter alia*, (*a*) sex, (*b*) age, (*c*) school attendance (for school-age children) and (*d*) relationship to head or other reference member of the household.

3.72. Children under five years of age are generally under enumerated in censuses and all efforts should be made to achieve complete coverage of this group. Further improvement of age data should be striven for in censuses, including an in-depth evaluation of the accuracy of age data.

3.73. Given the priority on the girl child, highlighted by the World Summit for Children (1990), the International Conference on Population and Development (1994) and the Fourth World Conference on Women (1995), special attention needs to be given to improving and disseminating statistics on children. Of particular concern is the situation of the girl child with respect to school attendance, mortality, early marriage and so forth A basic problem

with statistics on the girl child is that data on children ever born and children surviving tend not to be disaggregated by sex at either the questionnaire design or the tabulation stage. These data are used for indirect estimates of child mortality.

3.74. The principal topics of investigation identified for children apply also to youth, with the following additions: (*a*) marital status, (*b*) literacy, (*c*) educational attainment, (*d*) economic activity status, (*e*) number of children born alive and (*f*) age at marriage.

3.75. Some of the useful statistics and measures can be readily compiled based on the above-mentioned topics, while any additional indicators can also be obtained based on more detailed cross-classifications using the existing recommended census time, recommendations on including disability questions in a topics and/or tabulations. For an illustrative set of indicators on youth, see *Statistical Indicators on Youth*.

The UIS has no comments.

8. *Other: ICT Questions*

UIS is interested in the development and inclusion of Internet Communications Technology (ICT) guidance for the next round of Census guidance instruments. UNESCO (UIS) is open to collaborating with other agencies where required in this area.

If such a topic is recommended, then a focus should be on computer literacy as defined as the ability to use basic computer applications to accomplish everyday tasks.

Document: Handbook on Population and Housing Census Editing, United Nations, New York, 2001

9. Edits for Population Items (pp. 45-91)

C. Social Characteristics (pp. 66-68)

427. Social characteristics vary from country to country, but are generally items that describe various aspects of socio-cultural conditions in the country. Educational items, including *(Literacy cannot be classified in terms of ISCED97),* school attendance, educational attainment, educational qualifications as well as field of education, can be classified according to the categories of the 1997 revision of the International Standard Classification of Education (ISCED), developed by the United Nations Educational, Scientific and Cultural Organization (UNESCO) (United Nations, 1998, Paras. 2.144-2.164). This section also covers disability, impairment and handicap, and the causes of disability. A common framework and definitions for disability-related issues can be found in the *International Classification of Impairments, Disabilities and Handicaps* (ICIDH), published by the World Health Organization in 1980. Other social characteristics reviewed below include religion, language and ethnicity.

1. Ability to read and write (literacy) (P5A)

428. It is preferable for data on literacy to be collected for all persons 10 years of age and over. In a number of countries, however, certain persons between 10 and 14 years of age may be about to become literate through schooling and the literacy rate for this age group may be misleading. *(Consider changing recommendation to collecting literacy data at 15+?)* Therefore, in an international comparison of literacy, data on literacy should be tabulated for all persons 15 years of age and over. Where countries collect data on younger persons, tabulations for literacy should at least distinguish between persons under 15 years of age and those 15 years of age and over (United Nations, 1998, para. 2.147).

429. Each country must establish the minimum age for literacy tabulations; similarly, editing teams must decide on the minimum age for literacy edits, since additional tabulations for internal use may be needed. As the questionnaire is being developed, the editing teams should decide the minimum age for collection

(Earlier in the text, we ask that links between educational attainment and literacy not be made so we should decide a minimum age solely based on the age criteria and ask the literacy question regardless of educational attainment. Educational attainment has been shown not to be a good proxy for literacy)

430. *(Given the above statement in 429, an edit based on Educational Attainment should not be used.)*

2. School attendance (P5B)

431. In principle, information on school attendance should be collected for persons of all ages. School attendance relates in particular to the population of official school age, which ranges in general from 5 to 29 years of age but can vary from country to country depending on the national education structure. When data collection is extended to cover attendance for 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 (United Nations, 1998, Para. 2.151).

(a) School attendance edit

432. Each country's editing team must decide which ages are appropriate for the collection of data on school attendance. Since most countries also divide schooling into several levels, if these levels are going to be compiled by age, the specialists must also decide which age groups are appropriate for various levels of schooling *(Although this in principal can be applied, there is a risk that over/under-age students will be placed in an incorrect level of schooling if these age restrictions are strictly applied. This age-cohort by level may be appropriate as a denominator for the calculation of an indicator such as the GER but not appropriate as a numerator). (Given trends in lifelong learning and adult education, this edit is not recommended to be used as it may lead to incorrect estimates if indeed persons over a specified age are enrolled at any level of schooling.)*

Presumably, responses and combinations of responses are tested prior to the census through pre-tests, so these decisions may be made before the actual census.

(b) Full-time or part-time enrolment

433. Some countries may want to obtain information on part-time or full-time enrolment in school. If this item is included, a separate edit may be required that is based on section 434 following.

(c) Consistency between school attendance and economic activity

434. Consistency edits with other major items, such as major economic activity, should be performed first. If attending school is one of the entries for major economic activity, and a person reported his or her major activity as going to school, the code for "yes" should be assigned to school attendance and major economic activity should be "student". That is, the responses should be consistent. In all other cases, any valid response should be accepted.

3. Educational attainment (highest grade or level completed) (P5C)

(a) Edit for educational attainment

(b) Minimum age for educational attainment

438. Each country's editing teams must decide the minimum age for entering formal school, typically known as primary school. When the minimum age is set, the highest level completed ordinarily should not exceed a person's age plus some constant (which represents that minimum of age for entering school). Again, it is important to use single year of age for children since updating the imputation matrices may introduce errors if the age groups are very broad.

4. Field of education and educational qualifications (P5D)

440. Information on persons by level of education and field of education is important for examining the match between the supply and demand for qualified labour with specific specializations within the labour market. It is equally important for planning and regulating the production capacities of different levels, types and branches of educational institutions and training programmes (United Nations, 1998, Para. 2.158).

441. Persons who are younger than 15 (or other predetermined age) should not have information about field of education *(They could have already completed primary education and as such, have a qualification)*. For persons 15 years and over, a relationship should exist between the level of educational attainment and the field of education and/or educational qualifications. In each case, when invalid entries occur, countries not using dynamic imputation can make the entry "unknown". *(Today, many persons work in occupations or are in industries that do not reflect their initial educational attainment or education qualification. I would caution therefore the use of this edit and perhaps not recommend using such an interpolation.)*

D. Economic Characteristics (pp. 71-77)

(iii)Economic activity of students and retired persons

484. If category 6, student, is selected, the subject-matter personnel need to decide whether the entry for the variable for school attendance must be "yes, in school". If category 8, pensioner, is selected, the subject-matter personnel need to decide whether persons must be of a certain age to be retired.

3. Occupation (P6C)

491. Occupation refers to the type of work done during the time-reference period by the person employed (or the type of work done previously, if the person is unemployed), irrespective of the industry or the status in employment in which the person should be classified (United Nations, 1998, Para. 2.214).

492. This item should be edited only for persons whose economic activity is "employed, at work" or "self employed, at work". If dynamic imputation is not used, blank, zero or invalid responses should be changed to "not reported".

493. Codes for industry tend to be developed so that different digits represent major and minor occupation codes. Write-ins, which are almost unavoidable for occupation, will add to the coding burden.

494. If dynamic imputation is used, minimal variables for the imputation matrix include age groups and sex, but other variables such as educational attainment or industry major categories can also be used.

4. Industry (P6D)

495. According to the United Nations (1998, para. 2.221) "industry refers to the activity of the establishment in which an employed person worked during the time reference period established for data on economic characteristics (or last worked, if unemployed). For guidance on the selection of the job/activity to be classified, see paragraph 2.212 in *Principles and Recommendations*.

496. This item should be edited only for persons whose economic activity was "employed, at work" or "self employed, at work". If dynamic imputation is not used, blank, zero or invalid responses should be changed to "not reported".

497. Codes for industry tend to be developed so that different digits represent major and minor industry codes. Write-ins, which are almost unavoidable for this item, will add to the coding burden.

498. If dynamic imputation is used, minimal variables for the imputation matrix include age groups and sex, but other variables such as educational attainment or industry major categories can also be used.

Derived Variables (pp. 91-97)

B. Derived variables for population records

5. Current year in school

632. Some countries ask two questions about education: (a) if the person currently attends school; (b) the highest level of educational attainment.

633. In these countries, editing teams often find a mismatch between the two items when a person is actually attending school at the time of enumeration. Sometimes this may cause the person's highest level of attainment to be one year less than the current year in school. If the person is in the middle of a series of grades or levels, the statistics will be unaffected. However, if the person is attending the first grade in a series for a particular level, a match with data from other sources might not be possible. For example, a person attending the first grade will be recorded as being in school but having no educational attainment. Similarly, a

person entering secondary school will be recorded as being in school, but the level of attainment will be the highest grade (or level) of primary school.

634. A derived variable called "current year in school" can be developed for this combination of items. If the person is not currently attending school, the code will be the same as the highest level of educational attainment. If the person is currently attending school, the edit will add one to the grade (or level) for educational attainment, and assign that to "current year in school." Also, if asking highest grad/year completed has been asked, this can be used to determine "current year in school".

635. Some countries ask three questions for education, the two items above, and a third item on whether the highest grade was completed. If this information is also obtained, it should be used as well in determining "current year in school."

Document: Handbook on Population and Housing Censuses, United Nations, New York, 2001

10. Product Development

(*b*) *Classifications*

A key attribute of the work of a national statistical agency should be to produce output that presents the data according to standard classifications. A starting point for the consideration of these standards should be international classifications that have been issued by various organizations. Examples include the International Standard Classification of Occupations (ISCO), issued by the International Labour Organization, and the International Standard Classification of Education (ISCED), issued by the United Nations Educational, Scientific and Cultural Organization.

Within these guidelines, it must be understood that output information can never be more detailed than the information collected from respondents and transformed by coding in the processing phase. For example, some responses may not be able to be coded to the most detailed level of a particular classification because the level of detail in the response is not sufficient. In these cases, a higher-level code in the classification (e.g., at minor or major group) may be allocated.

In developing the output classifications, the following steps should be covered:
   (*a*) Review of classifications to cover new topics and changes in concepts;
   (*b*) Development of a directory of classifications to enable effective access by users;
   (*c*) Development of a dictionary of census terms to assist users' understanding of the data items.

   The UIS has no comments.