



Principles and Recommendations: Essential Features and Census Methodologies

Session 4

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- ❑ Reference: Chapter 1 of the *Principles and Recommendations, Rev. 3*



Definitions

- ❑ A **population census** is the total process of planning, collecting, compiling, evaluating, disseminating and analysing demographic, economic and social data at the smallest geographical level pertaining, at a specified time, to all persons in a country or in a well-delimited part of a country.

- ❑ A **housing census** is the total process of planning, collecting, compiling, evaluating, disseminating and analysing statistical data relating to the number and condition of housing units and facilities as available to the households pertaining, at a specified time, to all living quarters and occupants thereof in a country or in a well-delimited part of a country.



Essential features

Individual enumeration

The term "census" implies that each individual and each set of living quarters is enumerated separately and that the characteristics thereof are separately recorded. Only by this procedure can the data on the various characteristics be cross-classified. The requirement of individual enumeration can be met by the collection of information in the field, by the use of information contained in an appropriate administrative register or set of registers, or by a combination of these methods.



Essential features

Universality within a defined territory

The census should cover a precisely defined territory (for example, the entire country or a well-delimited part of it). The population census should include every person present and/or residing within its scope, depending upon the type of population count required. The housing census should include every set of living quarters irrespective of type. This does not preclude the use of sampling techniques for obtaining data on specified characteristics, provided that the sample design is consistent with the size of the areas for which the data are to be tabulated and the degree of detail in the cross-tabulations to be made.



Essential features

Simultaneity

Each person and each set of living quarters should be enumerated as of the same well-defined point in time and the data collected should refer to a well-defined reference period. The time-reference period need not, however, be identical for all of the data collected. For most of the data, it will be the day of the census; in some instances, it may be a period prior to the census.



Essential features

Defined periodicity

Censuses should be taken at regular intervals so that comparable information is made available in a fixed sequence. A series of censuses makes it possible to appraise the past, accurately describe the present and estimate the future. It is recommended that a national census be taken at least every 10 years. Some countries may find it necessary to carry out censuses more frequently because of the rapidity of major changes in their population and/or its housing circumstances.



Essential features

Capacity to produce small area statistics

The census should produce data on the number and characteristics of the population and housing units down to the lowest appropriate geographical level, compatible with national circumstance, and for small population groups all the while protecting confidentiality of each individual.



Census methodology - typology

- ❑ Traditional census
 - ❑ Traditional census with annual rolling surveys
- ❑ Rolling census
- ❑ Combined methodology census
- ❑ Register - based



Traditional census

- ❑ Information on census topics concerning individuals and households is collected by census questionnaire directly from respondents, using enumerators, or other modes of data collection (e.g. telephone interview, mail out/mail in, Internet, etc.), or by applying a combination of different modes of data collection
- ❑ Essential characteristic – each household in a country is contacted and asked to provide the required information
- ❑ Short form – long form on a sample of the population



Traditional census

Necessary conditions

- Legislation
- Permanent census organization
- Funding
- Support of the general public
- Trust in the statistical agency

Advantages

- Comprehensiveness of the coverage
- Simultaneity
- Flexibility in selecting the topics
- Provides ideal sample frame

Disadvantages

- Cost
- Administrative complexity
- Long processing time
- Data are relatively fast out of date
- Burden on the respondents



Traditional census with annual rolling survey

- ❑ This methodology is a combination of the traditional census with a very short form – about ten questions in total on both demographic and housing characteristics, taken every ten years – and a large survey that is administered each year on a rolling sample of the population that replaces the long census form
- ❑ Allows for a full population count and yearly estimates on a large range of demographic, social and housing characteristics
- ❑ Example: USA



Rolling census

- ❑ Information on individuals and households is collected through a continuous cumulative survey covering the whole country over a period of time (generally years), rather than a particular day or short period of enumeration
- ❑ The two main parameters of a rolling census are the length of the period of enumeration (which is linked to the frequency of updates required) and the sampling rate (which depends on the geographic levels required for dissemination purposes)
- ❑ Example: France



Rolling census

- ❑ **Necessary conditions**
 - ❑ Master address file, regularly maintained
 - ❑ Ability to explain obtained statistics to the users
- ❑ **Advantages**
 - ❑ Higher frequency of statistics
 - ❑ Reduction of the burden to the respondents
 - ❑ Cost is spread over many years
- ❑ **Disadvantages**
 - ❑ No snapshot
 - ❑ Duplication of respondents
 - ❑ Omission of respondents
 - ❑ Universality



Combined methodology - 1

- ❑ Information on individuals and households are collected by combining data collected from one or more surveys or full field enumeration with administrative and/or statistical registers
- ❑ Data from registers are employed not only as a frame or to support field operations, but directly as a data source for some census information
- ❑ In some cases, register data are used to prefill the questionnaires to be verified or corrected during data collection
- ❑ Ad-hoc sample surveys are used to provide information on census topics not available from administrative sources or to adjust data which are of poor quality in registers
- ❑ Examples: Italy, Ireland, Hungary



Combined methodology - 1

Necessary conditions

- Existence of an accurate and up-to-date population register
- Ability to link the information from registers and survey/full enumeration at individual level
- Links between the housing units and individuals

Advantages

- Reducing the burden on respondents
- Less expensive than traditional
- Reducing the non-response

Disadvantages

- Requires advanced and sophisticated processing
- Definitions of the topics
- No single census event to attract public attention



Combined methodology - 2

- ❑ Information on individuals and households are collected from existing administrative sources, namely, different kinds of registers, of which the following are of primary importance: individuals, households and dwellings
- ❑ These are linked at the individual level with information from existing sample surveys
- ❑ No field data collection will take place
- ❑ Existing sample surveys include intercensal sample surveys on different topics, such as the labour force survey, living standards survey ...
- ❑ Example: The Netherlands



Combined methodology - 2

- ❑ Necessary conditions
 - ❑ Existence of series of different registers
 - ❑ Existence of regular surveys
 - ❑ Capacity to link those source at the level of individual record
- ❑ Advantages
 - ❑ Much less expensive
 - ❑ More up-to-date statistics
- ❑ Disadvantages
 - ❑ Requires sophisticated methodology and staff
 - ❑ Adapting statistical definitions to registers'



Register based

- ❑ Information on individuals and households is collected from existing administrative sources, namely, different types of registers, of which the following are of primary importance: individuals, households and dwellings
- ❑ These are linked at the individual level with information taken from other administrative/statistical sources such as business, tax, education, employment and other relevant registers
- ❑ Examples: Denmark, Finland, Norway, Sweden, Turkey



Register based

- ❑ **Necessary conditions**
 - ❑ National legislation re. population register and its use
 - ❑ Existence of the population and other relevant registers
 - ❑ Up-to-date registers and universal coverage
 - ❑ Harmonized concepts and definitions across different registers
 - ❑ Universal personal identification number
- ❑ **Advantages**
 - ❑ Reduced costs of producing census statistics
 - ❑ Much more frequent production
 - ❑ No burden on respondents
- ❑ **Disadvantages**
 - ❑ Rigidity of the registers
 - ❑ Population base – only registered population



Census methodology – use of registers

Type of data collection	Use of registers as census data sources		
	No registers (Fully field enumeration-based and/or sample surveys)	Base registers (Individuals/Households/ Dwellings)	Integrated administrative sources
Full field enumeration	Full field enumeration only (Traditional census)	Base registers and full field enumeration	Integrated administrative sources and full field enumeration
Rolling surveys (continuous surveys)	Full field enumeration and rolling surveys	n.a.	n.a.
	Rolling census		
Ad-hoc sample surveys	n.a.	Base registers and ad-hoc sample surveys	Integrated administrative sources and ad-hoc sample surveys
Existing sample surveys	n.a.	Base registers and existing sample surveys	Integrated administrative sources and existing sample surveys
No field enumeration (Fully register-based)	n.a.	n.a.	Fully register-based

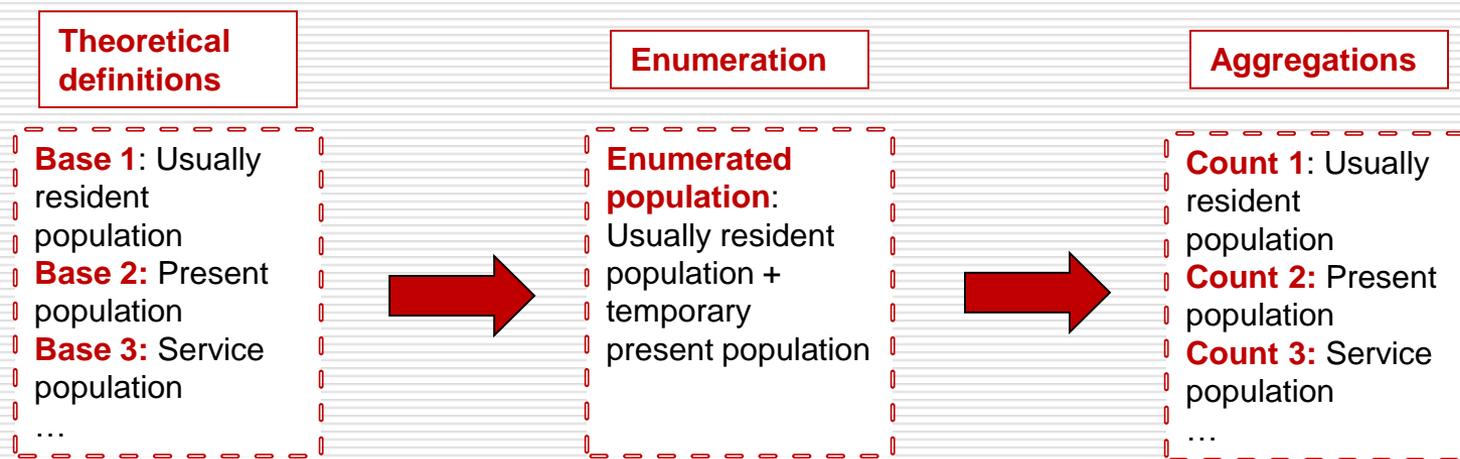


Population covered in a census

- ❑ Reference: Paragraph 2.46 – 2.63 of the *Principles and Recommendations*
- ❑ In the context of the population census, a country may wish to enumerate all persons present in the territory and/or supposedly belonging to the population of interest
- ❑ Population to be enumerated is the group of persons who the country decides should be covered by the census regardless of their later inclusion in a population count



Population covered in the census





Definition of usual residence

- ❑ In general, “usual residence” is defined for census purposes as the place at which the person lives at the time of the census, and has been there for some time or intends to stay there for some time
- ❑ It is recommended that countries apply a threshold of 12 months when considering place of usual residence according to one of the following two criteria:
 - ❑ a. The place at which the person has lived continuously for most of the last 12 months (that is, for at least six months and one day), not including temporary absences for holidays or work assignments, or intends to live for at least six months;
 - ❑ b. The place at which the person has lived continuously for at least the last 12 months, not including temporary absences for holidays or work assignments, or intends to live for at least 12 months



De jure population

- ❑ The concept of usual residence may be referred to as though it is synonymous with the concept of *de jure* residence. In certain circumstances, however, the term “*de jure*” may carry with it a requirement that the person’s residence at that place has a basis in the legal system applicable to that specific place.
- ❑ In turn this implies that people without such a legal basis should not be enumerated in that area.
- ❑ It is not recommended that censuses of population and housing enumerate only those people with a legal right to be in a place but rather should include either all those present at the place on census night or all those whose usual residence on census night was at the place of enumeration



Importance of the usual residence census

- ❑ The population census should allocate each person to one, and only one, place of usual residence. This is important in an international context in order to avoid persons either being counted in the populations of more than one country or not being counted at all. The same principle applies in a national context
- ❑ Regardless of the criteria used to define the 12-month period, countries should ensure that each person should have one and only one place of usual residence



Importance of the usual residence census

- Allocation of resources
- International and regional comparability
- Avoiding conceptual duplications and omissions
- Revenue planning
- Infrastructure
- Services
- Legal representation
- Minimalizes impact of seasonal patterns



Importance of the usual residence census

- ❑ With the growing need for information on households and families and on internal migration, it is becoming increasingly desirable to prepare tabulations on the basis of usual residence rather than on place where present, since the latter is often temporary and so is not useful for the investigation of the above-mentioned topics
- ❑ It is comparatively simple to enumerate each person where present on the day of the census and thus to obtain a present-in-area population distribution of the population. However, a usual residence distribution of the population is likely to be more useful for presentation and analysis of the resulting information than that of the present-in-area population during the enumeration



Categories **included** in the usual resident count

- Persons found at the moment of enumeration that cannot identify their place of usual residence, such as those that move often
 - National military, naval and diplomatic personnel and their families, located outside the country
 - Foreign persons working for international organizations and businesses (not including foreign diplomats or military forces), provided that they meet the criteria for the usual residence in the country
 - Merchant seafarers and fishers usually 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)
 - Persons who may be illegal, irregular or undocumented migrants, as well as asylum seekers and persons who have applied for or been granted refugee status or similar types of international protections, provided that they meet the criteria for the usual residence in the country
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Categories **included** in the usual resident count

- ❑ Persons who cross a frontier daily or weekly to work or study in another country, provided that they meet the criteria for the usual residence in the country
- ❑ Children born in the 12 months before the census reference time and whose families are usually resident in the country at the census reference time
- ❑ Persons of minor age studying abroad for one year or more to attain the primary secondary level of education, regardless of the frequency of return to the family home located within the country. If the person is also working abroad, the same rules for cross-border workers apply



Categories **not included** in the usual resident count

- ❑ Foreign military, naval and diplomatic personnel and their families, located in the country, regardless of their place of usual residence
- ❑ Persons of minor age attending the primary or secondary level of education whose family home is located abroad, regardless of the duration of their stay. However, if these persons are also working in the country, then the identification of the place of usual residence follows the same rules as for cross-border workers
- ❑ Third-level students who are absent from the country for one year or more
- ❑ Persons who regularly live in more than one country during a year, if they are not present in the country at the moment of the enumeration



Several other cases

- ❑ For persons without a usual residence, such as homeless or roofless persons, and nomads, the place of enumeration should be taken to be the place of usual residence
- ❑ When a person regularly lives in more than one residence within the country during the year, the place of usual residence should be the place where the person spends most of their time, irrespective of whether or not the person is present in that place at the census reference time
- ❑ Same rule applies for persons living in more than one residence in different countries



Several other cases

- ❑ A child who alternates between two households within the country (for instance after his or her parents have separated or divorced) should consider the household where he or she currently spends the majority of the time as his or her place of usual residence. Where an equal amount of time is spent with both parents, the place of usual residence should be the same of that of the parent/household with whom the child is living at the census reference time
- ❑ The institution should be taken as the place of usual residence of all inmates who at the time of the census have spent, or are likely to spend, six months or more in the relevant institution
 - ❑ Examples of inmates of institutions include patients in hospitals or hospices, old persons in nursing homes or convalescent homes, prisoners and those in juvenile detention centers



Workers and students

Category	Place of work/study	Regular return to family home*	Inclusion in the usual population	Place of residence <i>within</i> the country
Workers	In the country	Yes	Yes	Family home
		No	Yes	Own address
	Abroad	Yes	Yes	Family home
		No	No	None

*Regular return to family home refers to a return more than twice each month (such as twice a week, weekly, etc.)



Workers and students

Category	Place of work/study	Regular return to family home*	Inclusion in the usual population	Place of residence <i>within</i> the country
Children in family nucleus in education below tertiary level	In the country	Yes	Yes	Family home
		No	Yes	Family home
	Abroad	Yes	Yes	Family home
		No	Yes	Family home

*Regular return to family home refers to a return more than twice each month (such as twice a week, weekly, etc.)



Workers and students

Category	Place of work/study	Regular return to family home*	Inclusion in the usual population	Place of residence <i>within</i> the country
Adults in family nucleus in education below tertiary level	In the country	Yes	Yes	Family home
		No	Yes	Term-time address
	Abroad	Yes	Yes	Family home
		No	No	None

*Regular return to family home refers to a return more than twice each month (such as twice a week, weekly, etc.)



Workers and students

Category	Place of work/study	Regular return to family home*	Inclusion in the usual population	Place of residence <i>within</i> the country
Persons not in family nucleus in education below tertiary level	In the country	Not applicable	According to usual rules	According to usual rules
	Abroad	Not applicable	According to usual rules	According to usual rules

*Regular return to family home refers to a return more than twice each month (such as twice a week, weekly, etc.)



Workers and students

Category	Place of work/study	Regular return to family home*	Inclusion in the usual population	Place of residence <i>within</i> the country
Students in tertiary education	In the country	Yes	Yes	Term-time address
		No	Yes	Term-time address
	Abroad	Yes	No	None
		No	No	None

*Regular return to family home refers to a return more than twice each month (such as twice a week, weekly, etc.)