

**United Nations Expert Group Meeting  
on Revising the Principles and Recommendations  
for Population and Housing Censuses**  
New York, 29 October - 1 November 2013

**Agenda: Session 4**

**Annotated outline for the  
Principles and Recommendations for  
Population and Housing Censuses: the 2020 round<sup>1</sup>**

Prepared by  
United Nations Statistics Division

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<sup>1</sup> This document is being reproduced without formal editing.

**Annotated outline for the *Principles and Recommendations*  
for Population and Housing Censuses: the 2020 round**

**Background**

1. In the preparation for the 2020 World Programme on Population and Housing Censuses one of the critical undertakings refers to the revision of the set of international standards on population and housing censuses as presented in the *Principles and Recommendations for Population and Housing Censuses, Revision 2*, which was prepared for the 2010 round of population and housing censuses. The need for international guidelines for population and housing censuses emanates from at least two sources; (a) the need to provide methodological and operational guidelines to national authorities in charge of producing complete and detailed population and housing counts, and (b) to ensure comparability of statistics at international and regional levels.
  
2. The United Nations Statistics Division is mandated by the United Nations Statistical Commission to develop international methodological standards in different fields of official statistics. Responding to this mandate, the Division regularly produces updates and maintains methodological guidelines such as the principles and recommendations for population and housing censuses or civil registration and vital statistics, for example. The preparation of methodological guidelines consists of a series of steps that can be described as follows:
  - Monitoring and evaluating national practices in conducting collection, processing, dissemination, evaluation and analysis of statistics in different fields of official statistics;
  - Acquiring understanding and knowledge of the recent developments in statistical theory and research that has an impact in producing official statistics;
  - In case of the principles and recommendations for population censuses, some of the regional commission of the United Nations initiate the discussion and development of regional guidelines; these are incorporated in the overall background materials for the global recommendations in order to ensure full harmonization and compatibility;
  - Developing the draft methodological guidelines, including all the accompanying components, which usually consist of up-to-date databases with national practices and instruments, as well as contributions from various meetings and professional gatherings;
  - Consulting with users of official statistics at international and national levels ensuring that their concerns and needs are fully addressed;
  - Subjecting the draft guidelines to the scrutiny and review by experts in the field; this is done by organizing expert group meetings and setting on-line instruments that allow for interactive exchange of opinions and contributions;
  - Finalizing the guidelines, including complete editing, cross-referencing, references and all the necessary appendices;

- Submitting the guidelines for final review and adoption to the United Nations Statistics Commission.
3. At this stage of preparation for the 2020 round of censuses<sup>2</sup> the United Nations Statistics Division is setting the stage for discussions leading to the production of the draft *Principles and Recommendations for Population and Housing Censuses: the 2020 Round*. The revision of this major set of international recommendations is a regular undertaking that takes place before the beginning of the census decade – the next census decade will start in 2015 and will run until the end of 2024. The United Nations Economic and Social Council is expected to promulgate the 2020 World Programme on Population and Housing Censuses in 2015 which will call on all countries or areas to conduct a statistical exercise counting the total population and all housing units and producing and disseminating small area detailed statistics at least once during the census decade. Therefore, the 2020 recommendations are needed to provide a methodological framework for national statistical authorities and to ensure international and regional comparability of official statistics.
  4. There are many lessons learned in the current round of censuses and the purpose of this paper is to address just some of them that have direct impact in the production of 2020 recommendations for population and housing censuses. The still current, 2010 round of censuses introduced the extensive use of population and accompanying administrative registers to generate detailed census-like statistics, as well as the concept of the rolling census, albeit in only one country. At the same time, the vast majority of countries that applied the traditional approach to the population census – collecting from each individual the information about personal and housing characteristics – took full advantage of contemporary technologies to facilitate, speed and improve the population and housing census. In addition, it is well documented that using the internet as a conduit between the data collectors and information suppliers – respondents – is becoming critically important for the 2020 round.
  5. The current set of principles and recommendations for population and housing censuses has been extensively used by 88 per cent of countries or areas<sup>3</sup> that provided responses to the survey the United Nations Statistics Division conducted in 2011 and 96 per cent replied positively to the question on whether the United Nations recommendations will be used for the 2020 round<sup>4</sup>. Consequently, it is of utmost importance to produce a comprehensive set of guidelines that the national statistical authorities will find substantively useful, applicable and holistic. Needless to point out, the principles and recommendations itself cannot address all the different aspects of such a complex exercise as a population and housing census; therefore, as was the case in all the previous census decades, it will be accompanied by a collection of handbooks and manuals produced by the United Nations Statistics Division.

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<sup>2</sup> This paper is produced in August 2013.

<sup>3</sup> A total of 120 countries or areas provided replies, out of which 106 responded positively on the use of the *Principles and Recommendations for Population and Housing censuses, Revision 2*.

<sup>4</sup> A 100 countries replied positively, out of total 115 replies. This survey was conducted by United Nations Statistics Division on behalf of the US Bureau of the Census who was mandated to prepare the Report of the United States of America on the 2010 World Programme on Population and Housing Censuses, submitted to the 43<sup>rd</sup> session of the United Nations Statistical Commission in 2012 and available at: <http://unstats.un.org/unsd/statcom/sc2012.htm>.

## Proposed restructuring and additions

6. With the primary focus on traditional censuses, the current version of the *Principles and Recommendations* still provides a limited elaboration on alternative approaches to population and housing censuses. The emphasis was placed on the traditional approach which resulted in structuring the current version in three main parts, as follows:
  - a. Operational aspects of population and housing censuses
  - b. Topics for population and housing censuses
  - c. Census products and data utilization
7. As mentioned above, the use of administrative registers for generating census-like statistics is becoming widespread. In the region that is predominantly characterized by the use of this approach – Europe – there is already a wealth of methodological guidelines and layouts related to the use of records from administrative sources in generating census-like statistics. Therefore, the revised version should provide an elaboration of relevant methodological issues that need to be taken into account if a country considers adopting this concept.
8. In a survey conducted in the summer of 2013<sup>5</sup> in preparing for the Expert Group Meeting, one of the questions focused on whether the current essential features of the census will remain relevant for the 2020 round as well. The four essential features are: simultaneity of data collection, individual enumeration, universality within a well-defined territory and established periodicity. A vast majority of replies confirmed that these remain critical features of the statistical exercise that is known as the population and housing census, irrespective of the main methodology used – register based or traditional. Taking into consideration that another critical and essential feature of the population and housing census is generating statistics for small areas, it appears that this feature – generating detailed statistics for small areas – should be included in the list of essential features of the population and housing census.
9. In reviewing the current set of principles and recommendations, especially the part on the census products and utilization, it becomes apparent that two of the emerging issues relevant for the exploitation of census data are not covered: making micro-data available to the users and archiving of census records. In the contemporary stage of development of processing tools, the selection and dissemination of micro-data (selection of individual records in electronic format) is rapidly coming to the forefront of requests from scholars, researchers and analysts. At the current moment, aside from the general Fundamental Principles of Official Statistics<sup>6</sup>, more precise international guidelines and standards governing the release and usage of micro data are not available. Yet, this is of utmost concern to census-takers and users of census data. Consequently, the revised version of *Principles and Recommendations* would need to address this issue and provide some protocols that need to be adhered to in ensuring the privacy and confidentiality of individual information.
10. Similarly, archiving of census records for future use is of critical importance for a number of reasons – retrospective analysis, genealogical, to name a few. While the

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<sup>5</sup> A separate paper will present the results of this survey in detail.

<sup>6</sup> Please see: <http://unstats.un.org/unsd/dnss/gp/fundprinciples.aspx>,

UN Statistics Division dedicated a particular attention to the archiving of census documents in general in the course of building national capacities in the current 2010 round of population and housing censuses, the revised set would need to elaborate on this particular issue in a more comprehensive manner, providing an elaboration on protocols for archiving, maintaining and releasing of individual census records.

11. While quality assurance is discussed in the current set of recommendations, it is somewhat limited to the operational aspects of improving the quality of training, operations, content of collected information, dissemination and census evaluation. In the revised set, for each of the components of the population and housing census, depending of the main methodology applied for generating small area statistics, it would be necessary to outline the major factors that adversely affect the quality of the procedure and possible solutions that might improve the overall quality of this operation.
12. The revised version also needs to be updated throughout, based on the new developments in contemporary technologies; revision of international classifications pertinent to the population and housing census; innovative successful approaches documented in the 2010 round; and in terms of expected role that internet-based social media may play in the 2020 round.
13. In soliciting input for the preparation of the revision, the United Nations Statistics Division dispatched a survey in May 2013<sup>7</sup>; on, among other issues, whether recommended tabulations should remain as appendix to the next revision of the principles and recommendations. A number of countries ascertained the value of these tabulations that served as guidance not only within the national statistical office, but also as valuable starting point for discussions with shareholders. Consequently, and in the spirit of contemporary use of media, the recommended tabulations will remain a part of the next revision in electronic format only – instead of being printed in the appendix, they will be posted on the United Nations Statistics Division website and referenced in the publication itself.
14. Consequently, the proposed structure of the revised *Principles and Recommendations* is increasing the frame from three to four major components-parts, re-structured in terms of content, as follows
  - a. Definitions, essential features and uses of population and housing census
  - b. Topics for population and housing census
  - c. Census operations: Preparation, organisation and administration
  - d. Census products and data utilization
15. The first part focuses on the definition and essential features of the population and housing census, including uses of censuses, strategic objectives and the role of the population and housing census in the national statistical system.
16. The second part focuses on core and non-core topics for a population and housing census, including definitions and international classifications is available. This part also elaborates on essential concepts critical for ensuring international and regional

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<sup>7</sup> A separate paper is presenting the results in detail.

comparison, such as the definition of population, place of usual residence, economic activity, housing units and other characteristics of persons, households and housing units. These essential features, concepts and topics apply to all population and housing censuses, irrespective of the main methodology used to generate census-like small area statistics – whether it is a traditional or register based.

17. The second part elaborates on census operations, methodology and technology. Planning, organizing and conducting a population and housing census is a complex and multi-segmented activity and those components are focused upon in terms of sequencing, describing and putting them together in a holistic manner, starting from developing legal and financial framework, budgeting, setting up a functioning administrative infrastructure, consulting with shareholders, mapping, developing a questionnaire, testing, planning and conducting the enumeration, data processing, quality assurance and dissemination, to name a few. This part also introduces an elaboration on census technology, primarily for data collection, and the place and role of innovation in the context of census operations. Finally, it also introduces two chapters that elaborate on register-based censuses, including the components that are peculiar for this approach, since more general elements, such as legal and financial framework, apply to this census methodology as well.
18. The third part focuses on census data dissemination and, more broadly, utilization. It elaborates on census products, especially from the point of view of the use of contemporary approaches to data dissemination, such as interactive maps and internet-based databases. It also introduces a discussion on the dissemination of micro-data and accompanying requirements in terms of preserving the confidentiality and privacy of data, as well as establishing protocols in the context of use and analysis of micro-data. Another introduction refers to the elaboration on the process of archiving census records, maintenance of the archives and protocols for retrieval.
19. The detailed proposed outline – table of contents of the revised set is presented below (the completely new content is presented in **bold**):

*Part One*

*Definitions, essential features and uses of population and housing census*

Chapter

- I. Essential roles of the census
- II. Definitions, essential features and uses of population and housing census
  - A. Definitions
    1. Population census
    2. Housing census
  - B. Essential features
    1. Individual enumeration
    2. Universality within a defined territory
    3. Simultaneity
    4. Established periodicity
    5. **Small area statistics**
  - C. Strategic objectives
  - D. Uses in an integrated programme of data collection and compilation

1. Uses of population censuses
    - a. Uses for policy making, planning and administrative purposes
    - b. Uses for research purposes
    - c. Uses for business, industry and labour
    - d. Uses for electoral boundary delimitation
    - e. Uses as a sampling frame for surveys
  2. Uses of housing censuses
    - a. Uses for development of benchmark housing statistics
    - b. Uses for formulation of housing policy and programmes
    - c. Assessment of quality of housing
  3. Relationship between the population and housing census
  4. Relationship of population and housing censuses to intercensal sample surveys
  5. Relationship of population and/or housing censuses to other types of censuses and other statistical investigations
    - a. Census of agriculture
    - b. Census of establishments
    - c. Census of buildings
    - d. System of current housing statistics
    - e. Civil registration and vital statistics
- E. Census methodology**
- 1. Traditional census**
  - 2. Register-based census**
  - 3. Combined methodology**

*Part Two*

*Topics for Population and Housing Census*

Chapter

- III. Topics to be investigated in population censuses
  - A. Factors determining the selection of topics
    1. Priority of national needs
    2. Importance of international comparability
    3. Suitability of topics
    4. Resources available
  - B. List of topics
  - C. Population count
    1. Population present count
    2. Usual resident population count
    3. Service population count
    4. Difficult to enumerate groups
    5. Population subgroups for which counts are required
  - D. Definitions and specifications of topics
    1. Geographical and internal migration characteristics
      - a. Place of usual residence
      - b. Place where present at time of census

- c. Place of birth
  - d. Duration of residence
  - e. Place of previous residence
  - f. Place of residence at a specified date in the past
  - g. Total population
  - h. Locality
  - i. Urban and rural
2. International migration characteristics
    - a. Country of birth
    - b. Citizenship
    - c. Year or period of arrival in the country
  3. Household and family characteristics
    - a. Relationship to the head or other reference person in the household
    - b. Household and family composition
    - c. Household and family status
  4. Demographic and social characteristics
    - a. Sex
    - b. Age
    - c. Marital status
    - d. Religion
    - e. Language
    - f. Ethnicity
    - g. Indigenous people
  5. Fertility and mortality
    - a. Children ever born alive
    - b. Children living
    - c. Date of birth of last child born alive
    - d. Age of mother at birth of first child born alive
    - e. Household deaths in the past 12 months
    - f. Maternal or parental orphanhood
  6. Educational characteristics
    - a. Literacy
    - b. School attendance
    - c. Educational attainment
    - d. Field of education and educational qualifications
  7. Economic characteristics
    - a. Purpose of collecting data on the economic characteristics of persons
    - b. Economic activity of persons
    - c. Activity status
    - d. Selection of jobs to be classified by descriptive variables
    - e. Occupation
    - f. Industry
    - g. Status in employment
    - h. Time worked
    - i. Time related underemployment
    - j. Income
    - k. Institutional sector of employment

- l. Employment in the informal sector
    - m. Informal employment
    - n. Place of work
  - 8. Disability characteristics
    - a. Disability status
    - b. Disability framework and terminology
    - c. Use of census to screen for disability and follow-up with other surveys
  - 9. Agriculture
    - a. Introduction
    - b. Own-account agriculture production
    - c. Characteristics of all agricultural jobs during the last year
- IV. Topics to be investigated in housing censuses
  - A. Factors determining the selection of topics
    - 1. Priority of national needs
    - 2. Importance of international comparability
    - 3. Suitability of topics
    - 4. Resources available
  - B. List of topics
  - C. Definitions and specifications of topics
    - 1. Living quarters – type of
      - a. Definition of living quarters
      - b. Classification of living quarters
      - c. Definitions of each type of living quarters
    - 2. Location of living quarters
      - a. Address
      - b. Locality
      - c. Urban and rural
    - 3. Occupancy status
    - 4. Ownership – type of
    - 5. Rooms – number of
    - 6. Bedrooms – number of
    - 7. Useful floor space
    - 8. Water supply system
    - 9. Drinking water – availability of
    - 10. Toilet – type of
    - 11. Sewage disposal
    - 12. Bathing facilities
    - 13. Kitchen – availability of
    - 14. Fuel used for cooking
    - 15. Lighting and/or electricity – type of
    - 16. Solid waste disposal – main type of
    - 17. Heating – type and energy used for
    - 18. Hot water – availability of
    - 19. Piped gas – availability of
    - 20. Use of housing unit
    - 21. Occupancy by one or more households
    - 22. Occupants – number of
    - 23. Building – type of

- a. Definition of building
- b. Classification of buildings by type
- c. Compound
- 24. Year or period of construction
- 25. Dwelling in the building – number of
- 26. Construction material of outer walls
- 27. Construction material of floor, roof
- 28. Elevator – availability of
- 29. Farm building
- 30. State of repair
- 31. Age and sex of head or other reference person in the household
- 32. Tenure
- 33. Rental and owner-occupant housing costs
- 34. Furnished/unfurnished
- 35. Information and communication technology devices – availability of
- 36. Cars – number of
- 37. Durable household appliances – availability of
- 38. Outdoor space – availability of

*Part Three*

*Census operations: Preparation, organisation and administration*

Chapter

- V. Preparatory work
  - A. Legal basis for a census
  - B. Financial basis for censuses
  - C. Budget and cost control
  - D. Census calendar
  - E. Administrative organization
  - F. Census communication activities: user consultations, census publicity and promotion of census products
  - G. Plans for quality assurance and improvement programme
  - H. Mapping
    - 1. Strategic basis for a census mapping programme
    - 2. Conceptual planning for census mapping operations
    - 3. Operational implementation of a mapping programme
  - I. Small area identification
  - J. Living quarters and household listings
  - K. Tabulation programme; database design
  - L. Questionnaire preparation
  - M. Census tests
  - N. Plan of enumeration
  - O. Plans for data processing
  - P. Plans for census data dissemination
  - Q. Staff recruitment and training
  - R. Avoiding gender biases and biases affecting data on minority populations
- VI. Contracting out
- VII. Quality assurance and improvement programme

- A. Need for a quality management system for the census process
- B. The role of managers
- C. Quality improvement and the census
  - 1. Topic selection
  - 2. Form design and testing
  - 3. Field operations
  - 4. Processing
  - 5. Dissemination
  - 6. Evaluation
- VIII. Enumeration
  - 1. Method of enumeration
  - 2. Timing and length of the enumeration period
  - 3. Supervision
  - 4. Monitoring the enumeration**
  - 5. Use of technologies in the enumeration**
  - 6. Use of sampling in the enumeration
- IX. Data processing
  - 1. Method of processing
  - 2. Coding
  - 3. Data capture
  - 4. Data editing
    - a. Micro editing
    - b. Output or macro editing
  - 5. Processing control
  - 6. Master file for tabulation
  - 7. Methods of tabulation
  - 8. Provisional census results
- X. Databases
  - 1. Database for micro data
  - 2. Database for macro data
  - 3. Geographic information systems
- XI. Archiving**
  - 1. Purposes of archiving census databases**
  - 2. Procedures for archiving and confidentiality**
  - 3. Data storage, maintenance and security**
- XII. Evaluation of the results
  - 1. Purpose of census evaluation
  - 2. Methods of census evaluation
  - 3. Demographic analysis for census evaluation
  - 4. Post-enumeration survey
  - 5. Re-interview surveys
- XIII. Dissemination of results
  - 1. Privacy and confidentiality
  - 2. Acceptance of results
- XIV. Analysis of the results
- XV. Systematic recording and **documentation** of census experience
- XVI. Use of sampling in population and housing censuses
  - A. Features of acceptable sampling operations
    - 1. Accuracy and precision
    - 2. Census resources

- B. Sampling as integral part of the census
    - 1. Tests of census procedures
    - 2. Post-enumeration surveys and field checks
    - 3. Quality assurance and improvement programmes
  - C. The census as a basis for subsequent sample surveys or survey programmes
- XVII. Units, place and time of enumeration for population and housing censuses
- A. United of enumeration
    - 1. Person
    - 2. Household
    - 3. Institutional population
    - 4. Living quarters
    - 5. Building
  - B. Place of enumeration
    - 1. Concepts relating to place of residence
    - 2. Operational issues relating to place of residence and place of enumeration
  - C. Enumeration point of time
  - D. Time reference period for data on the characteristics of the population and of living quarters
- XVIII. Operational aspects for register-based census**
- A. Essential features**
    - 1. Definition of registers**
    - 2. Pre-conditions**
  - B. Administration of register-based census**
    - 1. Legal framework**
    - 2. List of registers**
    - 3. Matching procedures**
    - 4. Editing**
    - 5. Master file**
    - 6. Quality**
    - 7. Meta data and documentation**
    - 8. Coordination**

*Part Four*

*Census products and data utilization*

Chapter

- XIX. Census products and services
  - A. Publication of census results
    - 1. Provisional results
    - 2. Tabulations
      - a. Basic/essential tabulations
      - b. Recommended tabulations
      - c. Additional tabulations
    - 3. Thematic statistical or analytical reports
    - 4. Other reports
    - 5. Procedural reports

- B. Mapping
    - 1. Basic mapping
    - 2. Thematic mapping
  - C. Interactive digital outputs
    - 1. Overview
    - 2. Geographical information systems
  - D. **Metadata**
    - 1. **Definition and content**
    - 2. **Uses of metadata**
  - E. Customized products and services
  - F. General interest products and special audience reports
    - 1. Posters
    - 2. Brochures
    - 3. Special audience reports
    - 4. Videos
    - 5. Instructional materials
- XX. Census data utilization
- A. General uses of population and housing census
    - 1. Uses of population censuses
    - 2. Uses of housing censuses
  - B. Uses of small area data
  - C. **Uses of micro-data**
    - 1. **Definition of micro data**
    - 2. **Making micro data anonymous**
    - 3. **Protocols for dissemination**
  - D. **Use of archived census records**
    - 1. **Process of archiving census records**
    - 2. **Protocols for retrieval of archived records**
  - E. Cross-cutting and emerging social issues
    - 1. Statistics on gender
    - 2. Statistics on children and youth
    - 3. Statistics on elderly
    - 4. Statistics on persons with disabilities
    - 5. Ethno-cultural characteristics
  - F. Promotion of, and training on, uses of census data