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**CHANGES IN THE INTERNATIONAL RECOMMENDATIONS
FOR POPULATION AND HOUSING CENSUSES**

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CHANGES IN THE INTERNATIONAL RECOMMENDATIONS FOR POPULATION AND HOUSING CENSUSES

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(This is a summary a technical paper by Mr. Sam Suharto published in the Technical Notes on Population Statistics and Informatics, issued by the United Nations Statistics Division with some modifications to suit the new structure of the Principles and Recommendations)

I. Introduction

Since its early years the United Nations has issued a series of international recommendations on population and housing censuses to assist countries in planning and carrying out cost-effective censuses. Although the scope of these recommendations varied somewhat over the decades, they usually provide guidance on the main characteristics of population and housing censuses, general material on census operations and methods and more detailed guidance on the content of censuses, including illustrative tabulations. These series of recommendations were prepared under the guidance of the United Nations Statistical Commission. Examples of such publications are given in Annex I of this paper. The last such global recommendations were published in 1980 under the title of *Principles and Recommendations for Population and Housing Censuses (ST/ESA/STAT/SER.M/67)* and partially revised in 1990 under the title of *Supplementary Principles and Recommendations for Population and Housing Censuses (ST/ESA/SER.M 67 Add.1)*. The revisions included questions on economically active population, international migration and specific groups such as women, children, youth and the elderly.

The above-mentioned publications have been widely used by national statistical offices

and census takers in countries all over the world for planning and organizing population and housing censuses as well as for other related large scale data collection activities, particularly demographic and socio-economic surveys.

II. Process leading to the revised international recommendations

During the 1990 round of censuses the Statistical Commission considered that the existing recommendations remained largely valid as a guide for census-taking. However, a number of developments had occurred in both census methodology and substantive areas that had important implications for the 1990 and later rounds of population and housing censuses.

In its twenty-eighth session in 1995, the United Nations Statistical Commission adopted the resolution which *inter alia* requested that the present recommendations contained in the above-mentioned publications be reviewed and revised as needed to provide countries with guidance in conducting their 2000 round of population censuses and future data collection activities. For this purpose, the United Nations Secretariat held an Expert Group Meeting on the 2000 World Population and Housing Census Programme, from 9 to 13 September 1996, in New

York, in order to consider the draft revised United Nations principles and recommendations for population and housing censuses prepared by the Statistics Division of the United Nations Secretariat.

In preparing the revised *Principles and Recommendations for Population and Housing Censuses* (subsequently referred as *Principles and Recommendations*) four themes guided the process:

- a) Changes in technology and their subsequent adoptions for use in national census taking;
- b) The increased capability of national census offices to disseminate census data in a more flexible manner together with the increased ability of users to utilize census data stored in electronic formats;
- c) Changes in socio-economic situations in many countries, particularly those pertaining to housing, economic characteristics of the population and patterns of international migration; and
- d) The increased emphasis on responding to user needs for demographic and social data in addition to other uses for population and housing censuses which, *inter alia*, may affect the priority given to particular census topics.

A team of technical staff of the United Nations Statistical Division was charged with preparing the draft revision document, making use of the input received from experts requested to write papers in their areas of expertise.

The draft revision of the *Principles and Recommendations* was sent to all participants of the Expert Group Meeting in advance for review, so that the limited time they had in the meeting could be used to focus on discussing the changes that were needed to this draft. The Secretariat received comments and suggestions prior to this meeting and some of these comments and suggestions helped in focusing the discussion during the meeting. The experts were requested to provide guidance and advice to the Secretariat in revising the draft recommendations for submission to the Statistical Commission at its Twenty-ninth session in February 1997 for consideration and approval.

III. Report of the Expert Group Meeting

The Expert Group, in its report, stressed the importance of maintaining the right balance between the sometimes conflicting needs for continuity and change in census operations. A new section, "Strategic objectives," was proposed to be added at the beginning of Part One of the *Principles and Recommendations*. The Expert Group supported the inclusion of new sections on quality control and databases and expressed agreement with the revision of sections on data processing, dissemination and evaluation of the results. The Expert Group also proposed strengthening and simplifying the section on topics to be investigated and gave thoughtful consideration and advice to the treatment of the topics proposed. The Expert Group recommended that a new part be added, based on the section on specific population groups described in the *Supplementary Principles and Recommendations for Population and Housing Censuses* (1990).

The Expert Group emphasized that a new focus on the utilization of census data should be added. The Group recommended that the new section include a description of census products and services in order to serve as a link or bridge between the more technical aspects of the census and its users.

They also indicated that census tabulations, presently included as part of the document, provide valuable guidance to nations in responding to users' needs; they provide visible output to meet national needs and to justify the high cost of census taking; and provide a common approach that improves international comparability in census definitions, basic statistics and derived indicators.

Furthermore, the Group stressed that any changes in the UN *Principles and Recommendations* could have implications for census design, training, and the allocation of resources for censuses.

Recommendations for additions to the list of topics should therefore take account of their cost-effectiveness in meeting national and international needs. Other points of interest raised during the meeting included:

- a) The need to consider questions of confidentiality and data ownership;

- b) The need to archive census data properly to ensure access over time;
- c) The need to provide users with information on what census data are available and with easy access to such data; and
- d) The need to consider the relationship between census topics and specific uses of census data such as the Minimum National Social Data Set (MNSDS).

IV: Adoption of the recommendations

With few exceptions, the recommendations and advice of the Expert Group are incorporated into the provisional *Principles and Recommendations for Population and Housing Censuses* which was submitted for adoption by the Statistical Commission in February 1997.

The Statistical Commission considered the draft principles and recommendations for population and housing censuses (PROVISIONAL ST/ES/STAT/SER.M67/Rev.1) and approved them with some modifications. The Commission also requested their publication.

IV. Changes in the *Principles and Recommendations*

The structure of the *Principles and Recommendations* closely follows the existing recommendations. Modifications are made in the contents of Part one. Part Two combines Topics for population and housing censuses. An entirely new part, Part Three, has been added to highlight the needs of users. Formats for selected tabulations for each population and housing topic together with a brief statement of uses are shown in Annexes one and two. References and an index are shown at the conclusion of the publication. Finally, the latest revisions of the System of National Accounts, Recommendations on International Migration Statistics, draft International Statistical Classification of Education and International Classification of Impairments, Disabilities and Handicaps have been taken into account in preparing the *Principles and Recommendations*.

In this paper, we will refer to the changes briefly. Details of the changes are found in Annex I of this paper. Annex I is a detailed summary of all the changes introduced in the principles and recommendations. It is a technical paper written by Mr. Sam Suharto, the then TSS Specialist in Census Methodology. Mr. Sam Suharto is currently the Chief of Demographic and Social Branch of United Nations Statistics Division.

Part One: Operational aspects of population and housing censuses

1. Strategic objectives

In Part One, entitled “Operational aspects of population and housing censuses,” Chapter I is revised to include “Strategic objectives” which emphasizes the importance of developing a set of strategic aims and objectives to guide the census project and help determine its success.

2. Preparatory work

Changes in technology affect various aspects of census operations including data capture, data processing and data dissemination. Increased needs of users for statistics may also affect census operations, particularly in the way the data are stored and disseminated. In Chapter II, the draft *Principles and Recommendations* include several entirely new sections and some revisions to update sections previously adopted for the 1980 and 1990 censuses.

Cartographic (mapping) work, under Section A of this Chapter, “Preparatory work,” is extensively revised to emphasize the application of new technology. The use of *computer assisted mapping* and satellite-based *global positioning system* can be a particularly valuable application for overall census cartographic operation.

The revised recommendations also emphasize the importance of training of field staff in view of the rapid changing technology. It is also stressed the need for governmental authorities to freeze small area boundaries at least six months in advance of the census date so that no further jurisdictional changes are effected until the enumeration is over.

In order to emphasize the need to improve the quality of census taking and resulting data, three elements are added to this section, as follows:

- a) Plans for quality control and improvement programme. ;
- b) Plans for dissemination. It is also necessary that a comprehensive plan for dissemination of census results be made early in the planning process; and
- c) Avoiding gender biases and biases affecting data on minority populations. Gender-based stereotypes can introduce biases in census data.

3. *Quality control and improvement programme*

A new Section B, "Quality control and improvement programme," is introduced to emphasize the need to maintain and improve quality in all stages of the census operation. The importance of attaining the highest level of coverage and accuracy of the census data can not be over-emphasized.

4. *Data processing*

Section D, "Data processing," is extensively revised to incorporate the experience of using new technology for data capture, data editing, processing control and production of master files and tabulations.

A new item, "Coding", is added. This item emphasizes that whenever possible pre-coded responses should always be used in census questionnaires with numeric codes being printed next to each category. .

Under the item on "data capture" various alternatives of recently developed techniques are elaborated. They include: a) Keyboard data entry, b) Optical Mark Recognition (OMR) equipment, c) Optical Character Recognition (OCR) equipment, and d) Imaging techniques and scanner devices. Data editing is another important item introduced in this Section. In this respect the revised recommendations stress the precautionary action that should always be taken by making a regular back-up copy of the original data file at every stage of census processing, in case there is a need to go back.

5. *Databases*

The revised *Principles and Recommendations* encourages national statistical offices to store the

census data in various computerized database forms to satisfy the specific needs of internal users and to respond to a growing number of external requests for statistical information. A new Section E, "Databases," is therefore added in the revised *Principles and Recommendations*.

The section also contains a new item on *Geographic Information Systems (GIS)*. However, the *Principles and Recommendations* emphasizes that GIS development within the national statistical offices should proceed only where it is feasible to maintain the system during the intercensal years and where there is no dependence on external sources.

6. *Dissemination of the results*

Major revision was made in Section F, "Dissemination of results," which now includes, in addition to publication of results, dissemination on computer media and on-line through the Internet. For purposes of longevity of the *Principles and Recommendations*, and to avoid being limited by current technology, the text describes current technology only as an example subject to further development. Some aspects of census dissemination are considered to be best if addressed in Part One, particularly those related to how to prepare census products to be disseminated and the establishment of population databases. However other aspects of census dissemination, particularly those related to the contents of census products and the utilization of these products have been included in the new Part Four.

Based on the recommendations of the Expert Group Meeting, printed publications, despite their production cost, remain the preferred choice for dissemination of the main results in most countries. The revised *Principles and Recommendations* provides information on the use of new technology, such as desk-top publishing and other software, to improve the timeliness and quality of the publication. The section also provides elaboration on dissemination through computer media, such as diskettes and CD-ROM. Dissemination through Bulletin Board System which has been used in many countries is now included in the recommendations as one type of on-line dissemination. The fast emerging on-line media like the Internet is considered one of

the most promising dissemination techniques.

7. *Evaluation of the results*

An extensive revision is made for Section G, "Evaluation of the results." The revised section emphasizes the importance of considering a post enumeration survey (PES) with clearly defined objectives. The revised *Principles and Recommendations* indicates that a PES can be designed to provide a comprehensive evaluation of coverage and content error, especially when supplemented and integrated with detailed demographic analysis of census quality.

The revised *Principles and Recommendations* also provides guidance on the usefulness of demographic analysis for census evaluation.

8. *Other revisions in Part One*

The section, "Use of sampling in population and housing censuses," is revised. However, the revisions are mainly editorial rather than substantive, particularly to eliminate duplication in coverage of topics included in the sections on evaluation and quality control and improvement programme.

A revision is also made on the definition of one of the units of enumeration, i.e., household. In the past both household and family could be identified as a unit of enumeration. The revised *Principles and Recommendations* recommends that only the household be considered as the unit of enumeration. In addition, two approaches are described for the household, one based on "housekeeping" arrangements and the other based on "dwelling or housing units." To reflect the current practices, the definition of household is revised to indicate the preference for the use of the housekeeping concept, while acknowledging the widespread use of the household dwelling concept in many countries.

Part Two: Topics for population and housing censuses

Topics to be investigated in population censuses

1. *List of Topics*

Part Two, Section A, "Factors determining the selection of topics," is partially revised to stress that national offices determine census topics, with the goal of meeting user needs in the most reliable and cost-effective manner. The document emphasizes that the issue of census content is clearly a matter of national choice.

In Section B, "List of Topics," a simplification of the previous lists is introduced. In this section, the list shows all recommended topics, as shown previously as a consolidated list. The items in bold are those which were shown as priority topics in the majority of regional recommendations during the 1980 and 1990 rounds of censuses, and the remaining topics are shown in regular type. (See Annex I for details).

2. *Household and family characteristics*

The discussion on household and family characteristics is strengthened and clarified. To improve the quality of information on relationship among household members, instructions for reporting the relationship to the household head are emphasized.

3. *Fertility and mortality*

The *Principles and Recommendations* still recognizes the importance of the census for measuring fertility and mortality, particularly in countries where no alternative data sources exist. However, it emphasizes that many of the specialized questions are better suited for more focused demographic surveys and that strong reservations exist among experts on the extent to which adult mortality can be adequately measured in population censuses. New suggestions to improve the quality of data on several questions are introduced. Please refer to Annex I for details.

To improve the quality of data on duration of marriage, a section on “age, date or duration of marriage” is provided to give guidance on alternative methods for collecting this information. Also, information on “age of mother at first child born alive” is included in the document for countries who would be interested to collect these data.

4. *Educational characteristics*

The Section on “educational characteristics” was amplified, taking into consideration UNESCO’s proposal to reflect some of the issues leading to revision of the International Standard Classification of Education (ISCED). The revisions introduced are given in more detail in Annex I.

There have been changes in the order of the characteristics presented in the revised *Principles and Recommendations*, applying the following order: (a) literacy, (b) school attendance, (c) educational attainment and (d) field study and educational qualifications. The only new item under this topic is information on “field of education” which aims for examining the match between the supply and demand for qualified manpower with specific specializations within the labour market.

The revised *Principles and Recommendations* does not include the broad subject of fields of educational qualifications and their ISCED codes as in the previous *Principles and Recommendations*.

5. *Economic characteristics*

Economic characteristics, revised extensively in the *Supplementary Principles and Recommendations for Population and Housing Censuses* issued in 1990, were again revised particularly on the economically active population as defined by the recommendations of the International Labour Organization, where the concept of economic production is defined with respect to the new *System of National Accounts* (SNA). The revised section on economic characteristics, prepared in consultation with the International Labour Office (ILO), includes some improvements, the details of which are referred to in the attached annex.

6. *International migration characteristics*

Based upon revisions to the recommendations on international migration statistics, which is also under consideration by the Statistical Commission, the section on international migration characteristics in the *Principles and Recommendations* has been revised. In order to align the census recommendations with the recommendations on international migration, it is suggested that both citizenship and country of birth are needed to measure immigrant stock.

7. *Disability characteristics*

Recognizing emerging needs for disability statistics, a new topic on disability characteristics is introduced for the first time. Disability information is collected based on the “disability approach” rather than the “impairment” or the “handicap” approach to identify persons with disabilities. The *Principles and Recommendations* indicates the use of the census to develop a sample frame for survey purposes, since conducting a specialized disability survey is the preferred method for data collection on this topic. The text stresses that definitions of disability should be clear and that the wording of questions to identify disability should be simple. A specific question listing the types of disability rather than a generic question is recommended.

Topics to be investigated in housing censuses

This chapter, “Topics for housing censuses,” contains revisions in:

- a) The classification of housing units to clarify the differences between standard, medium-standard, marginal and temporary housing units;
- b) Occupancy status, where a three-digit classification of non-seasonal vacant dwellings is introduced; and
- c) The type of ownership where attention to employer-provided housing is given.

Details regarding these changes are referred to in the attached paper in detail. **As mentioned earlier in this presentation the housing topics now appear in Part Two instead of Part Three**. You will notice that in the published copy, which will be available by May 1998.

Part Three: Census products and data utilization

As mentioned earlier, Part Three is totally a new Part and is designed, in part, to serve as an introduction to users who are unfamiliar with population and housing censuses as a source to meet their needs for demographic and social statistics, and in part, to provide some of the indicators needed to monitor progress on the goals identified in the plans of action by various International Conferences held in the 1990s. Part Three highlights attention to user needs, to indicate to users what is possible to obtain from a census and to emphasize to census organizations the importance of having user input. It serves as a link or bridge between the more technical aspects of the census and its users. It is presented in three chapters with the following topics and subtopics.

1. Promotion of user-producer dialogue

This topic is presented in chapter VII and contains the following subheadings:

- A. Value of censuses of population and housing
- B. User needs
- C. Dialogue between users and producers

2. Census products and services

Chapter VIII provides guidance on what type of products may be produced in census operations which may include printed publications, mapping products, computer media and customized products and services. In particular, it contains the following:

- A. Publication of census results
- B. Mapping Products
- C. Computer media products
- D. Customized products and services

3. Census data utilization

In chapter IX consideration is made on the needs of a wide range of user groups including those who have a particular focus on gender, children and youth, the elderly or disabled persons. The Chapter includes the following broad categories:

- A. General uses of population and housing censuses
- B. Uses of local are data

- C. Cross-cutting social issues
- D. Social indicators

ANNEXES

In order to provide guidance for planning published tabulations from population and housing censuses lists of selected tables, their uses and formats are given as annexes I and II to the published *Principles and Recommendations*. These newly formatted tables incorporate the changes introduced in the revised *Principles and Recommendations*.

Annex 1. List, formats and uses of population census tabulations.

It contains tabulations on the following groups:

Group 1. Tabulations dealing with geographical and internal migration characteristics (8 table formats)

Group 2. Tabulations dealing with household characteristics (9 table formats)

Group 3. Tabulations dealing with demographic and social statistics (5 table formats)

Group 4. Tabulations dealing with fertility and mortality (10 table formats)

Group 5. Tabulations dealing with economic characteristics (6 table formats)

Group 6. Tabulations dealing with economic characteristics (24 table formats)

Group 7. Tabulations dealing with international migration on immigrant stock (7 table formats)

Group 8. Tabulations dealing with disability characteristics (7 table formats).

Annex 2. List, formats and uses of housing census tabulations

This annex contains 27 tabulations with table formats and uses of each table.

It should be noted that using these formats will depend on the national requirements and languages (one or more languages) used in the census publications.

PROPOSED CHANGES IN THE INTERNATIONAL RECOMMENDATIONS FOR POPULATION AND HOUSING CENSUSES

Sam Suharto*

I. Introduction

Since its early years the United Nations has issued a series of international recommendations on population and housing censuses. The recommendations are aimed to assist countries in planning and implementation of improved and cost-effective population and housing censuses. Although the scope of these recommendations varied somewhat over the decades, they usually provide guidance on the main characteristics of population and housing censuses, general material on census operations and methods and more detailed guidance on the content of censuses, including illustrative tabulations. These series of recommendations were prepared under the guidance of the Statistical Commission of the United Nations¹.

The international census recommendations presently in use were published in 1980 under the title of *Principles and Recommendations for Population and Housing Censuses*² and partially revised in 1990 under the title of *Supplementary Principles and*

*Recommendations for Population and Housing Censuses*³.

During the 1990 round of censuses the Statistical Commission considered that the existing recommendations remained largely valid as a guide for census-taking. However, a number of developments had occurred in both census methodology and substantive areas that had important implications for the 1990 and later rounds of population and housing censuses.

II. Process leading to the revised international recommendations

The above-mentioned publications have been widely used by national statistical offices and census officials in countries throughout the world for planning and organizing their population and housing censuses, as well as for other related data collection activities, particularly demographic and socio-economic surveys.

During its twenty-eighth session in 1995, the Statistical Commission adopted the resolution which *inter alia* requested that the present recommendations contained in the above-mentioned publications be reviewed and revised as needed to provide countries with guidance in conducting their 2000 round of population censuses and future censuses. For this purpose, the United Nations Secretariat held an Expert Group Meeting on the 2000 World Population and Housing Census Programme, from 9 to 13 September 1996, in New York, in order to consider the draft revised United Nations principles and recommendations for population and housing censuses prepared by the Statistics Division of the

¹ See for example the following United Nations publications: *Principles and Recommendations for National Population Censuses* (Sales No.E.58.XVII.5) and *General Principles for a Housing Census* (Sales No.E.58.XVII.8), both for censuses carried out in the 1960 round or during the decade 1955 to 1964; *Principles and Recommendations for the 1970 Population Censuses* (Sales No. 67.XVII.3.) and the *Principles and Recommendations for the 1970 Housing Censuses* (Sales No. 67.XVII.4) for censuses carried out in the 1970 round or during the decade of 1965 to 1974.

² United Nations publication, Sales No. E.80.XVII.8, for censuses carried out in the 1980 and later rounds.

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³ United Nations publication, Sales No.E.90.XVII.9, a supplementary publication to the 1980 publication for censuses carried out in the 1990 and later rounds.

United Nations Secretariat.

In preparing the revised *Principles and Recommendations for Population and Housing Censuses* (subsequently referred as *Principles and Recommendations*) four themes guided the process:

- a) Changes in technology and their subsequent adoptions for use in national census taking;
- b) The increased capability of national census offices to disseminate census data in a more flexible manner together with the increased ability of users to utilize census data stored in electronic formats;
- c) Changes in socio-economic situations in many countries, particularly those pertaining to housing, economic characteristics of the population and patterns of international migration; and
- d) The increased emphasis on responding to user needs for demographic and social data in addition to other uses for population and housing censuses which, *inter alia*, may affect the priority given to particular census topics.

To assist the United Nations in revising the draft recommendations, census experts from both developed and developing countries were invited to prepare technical papers on various census methods and topics. In total, 21 papers were received in 1995. A team of technical staff of the United Nations Statistical Division was charged with preparing the draft revision document, making use of the input received from the experts.

The draft revision of the *Principles and Recommendations* was sent to all participants of the Expert Group Meeting in advance for review, so that the limited time they had in the meeting could be used to focus on discussing the changes that were needed to this draft. The Secretariat received comments and suggestions prior to this meeting and some of these comments and suggestions helped in focusing the discussion during the meeting. The experts were requested to provide guidance and advice to the Secretariat in preparing the draft recommendations, which will be submitted to the Statistical Commission at its Twenty-ninth session in February 1997. In order that the *Principles and Recommendations* become international guidelines to be used by the Member

States of the United Nations, it must be adopted by the Economic and Social Council which is one of the organs of the United Nations General Assembly

III. Report of the Expert Group Meeting

The Expert Group, in its report, stressed the importance of maintaining the right balance between the sometimes conflicting needs for continuity and change in census operations. A new section, "Strategic objectives," was proposed to be added at the beginning of Part One of the *Principles and Recommendations*. The Expert Group supported the inclusion of new sections on quality control and databases and expressed agreement with the revision of sections on data processing, dissemination and evaluation of the results. The Expert Group also proposed strengthening and simplifying the section on topics to be investigated and gave thoughtful consideration and advice to the treatment of the topics proposed. The Expert Group recommended that a new part be added, based on the section on specific population groups described in the *Supplementary Principles and Recommendations for Population and Housing Censuses* (1990).

The Expert Group emphasized that a new focus on the utilization of census data should be added. The Group recommended that the new section include a description of census products and services in order to serve as a link or bridge between the more technical aspects of the census and its users.

They also indicated that census tabulations, presently included as part of the document, provide valuable guidance to nations in responding to users' needs; they provide visible output to meet national needs and to justify the high cost of census taking; and provide a common approach that improves international comparability in census definitions, basic statistics and derived indicators.

Furthermore, the Group stressed that any changes in the UN *Principles and Recommendations* could have implications for census design, training, and the allocation of resources for censuses. Recommendations for additions to the list of topics should therefore take account of their cost-effectiveness in meeting national and international

needs. Other points of interest raised during the meeting included:⁴

- a) The need to consider questions of confidentiality and data ownership;
- b) The need to archive census data properly to ensure access over time;
- c) The need to provide users with information on what census data are available and with easy access to such data; and
- d) The need to consider the relationship between census topics and specific uses of census data such as the Minimum National Social Data Set (MNSDS).

With few exceptions, the recommendations and advice of the Expert Group are incorporated into the provisional *Principles and Recommendations for Population and Housing Censuses* which is to be submitted for adoption by the Statistical Commission in February 1997.

IV. Proposed changes in the *Principles and Recommendations*

The structure of the *Principles and Recommendations* closely follows the existing recommendations. Modifications are made in the contents of Parts one, two and three. An entirely new part, Part Four, has been added to highlight the needs of users. The tabulations previously included in Part Two and Part Three are planned for inclusion in annexes to the published volume. In addition, an illustrative list of census maps will be included.

Part One: Operational aspects of population and housing censuses

1. Strategic objectives

In Part One, entitled "Operational aspects of population and housing censuses," Chapter I is revised to include "Strategic objectives" which

emphasizes the importance of developing a set of strategic aims and objectives to guide the census project and help determine its success. Ideally, the starting point for building the guidelines would be to combine information from evaluations of previous census experience, from understanding of user requirements for information and from an assessment of changes in both society and technology.

The strategic objectives of the census will be specific for individual countries and will differ according to local circumstances. In practice, the information required to determine the strategic objectives may be difficult to obtain and often provide conflicting guidance. However, such objectives can be used to assist in planning major elements of the process, such as determining census content, impact on public and on the census staff, production of results, and cost effectiveness.

2. Preparatory work

Changes in technology affect various aspects of census operations including data capture, data processing and data dissemination. Increased needs of users for statistics may also affect census operations, particularly in the way the data are stored and disseminated. In Chapter II, the draft *Principles and Recommendations* include several entirely new sections and some revisions to update sections previously adopted for the 1980 and 1990 censuses.

Cartographic (mapping) work, under Section A of this Chapter, "Preparatory work," is extensively revised to emphasize the application of new technology. The use of *computer assisted mapping* and satellite-based *global positioning system* can be a particularly valuable application for overall census cartographic operation. The application of computer-assisted mapping promises greater efficiency and consistency. It can enhance the pace of Enumeration Areas (EA) map production ensuring their availability for the census.

The proposed revised recommendations also emphasize the importance of training of field staff in view of the rapid changing technology. It is also stressed the need for governmental authorities to freeze small area boundaries at least six months in

⁴ See "Report of the Expert Group Meeting," United Nations Expert Group on the 2000 World Population and Housing Census Programme, document ESA/STAT/AC/51/L.5, September 1996.

advance of the census date so that no further jurisdictional changes are effected until the enumeration is over.

In order to emphasize the need to improve the quality of census taking and resulting data, three elements are added to this section, as follows:

- a) Plans for quality control and improvement programme. It is emphasized that quality control and improvement programme should be developed as part of the overall census programme, and should be integrated with the other census plans and procedures;
- b) Plans for dissemination. It is also necessary that a comprehensive plan for dissemination of census results be made early in the planning process; and
- c) Avoiding gender biases and biases affecting data on minority populations. Gender-based stereotypes can introduce biases in census data. There is much that can be done in the preparatory stages to minimize gender biases and other biases affecting the census results. In addition, particular attention will need to be given to the selection, training and supervision of the field staff, ensuring that both men and women are recruited and that manuals and training materials cover gender bias issues as they do other important sources of error. Similarly, stereotypes and biases against minority population groups, if any, need to be carefully paid attention to during the preparatory work.

3. *Quality control and improvement programme*

A new Section B, "Quality control and improvement programme," is introduced to emphasize the need to maintain and improve quality in all stages of the census operation. The importance of attaining the highest level of coverage and accuracy of the census data can not be over-emphasized.

There is a large number of stages of work in census planning and implementation which have to be carried out in a time bound manner. Countries employ a large number of persons for census work for a short period of time. The quality of work may vary from person to person, from one area to another and from time to time. The census efforts are wasted if the data are of poor quality. Every national census

organization should, therefore, establish a system of quality control and improvement as an integral part of census operations.

The *Principles and Recommendations* further stresses that the objectives of checking the quality are twofold. The first is to get information about the quality of work after the process is over and the second is to provide a practical tool on which decisions can be taken: i) to include additional steps to improve the quality, or ii) to discontinue certain unnecessary checks while the work is underway. Thus the system should be designed to reduce errors that could appear at each stage of census activities to the minimum and to attain the maximum degree of coverage and accuracy of the census data.

Section B also includes a brief description of quality control techniques which may be used in different stages of census operations. The section then elaborates quality control and improvement at planning stage, the pre-enumeration stage, the enumeration stage, the data processing and tabulation stage, and finally the management of the quality control and improvement programme.

4. *Data processing*

Section D, "Data processing," is extensively revised to incorporate the experience of using new technology for data capture, data editing, processing control and production of master files and tabulations. It is emphasized that an important element of a successful processing operation is the close and continuing collaboration, at all levels, between the data processing staff and the subject matter and other staff in the organization. The revised section on data processing emphasizes that there are two important trends: the first, is that microcomputers are now used in practically every phase of census operations, and the second, is that mainframe power is no longer an essential need in census processing. All tasks, including editing and tabulation of data files, can very well be done on small-sized desktop systems which can be placed in substantive departments and in field offices. Therefore, computer work is not necessarily dependent on a centralized data processing facility.

A new item, "Coding", is added. This item

emphasizes that whenever possible pre-coded responses should always be used in census questionnaires with numeric codes being printed next to each category. Since computer editing and tabulation of textual variables is not practical, verbal response will have to be replaced by a code. A coder normally works with one or several code books for various items in the questionnaires. It emphasizes that coding is tedious work and can be an important source of errors. The item elaborates the use of “computer-assisted coding”. The process requires that all the codes be stored in a database file which are accessed by coders during the coding operation. In using this method, it may be advantageous to change the order of activities in such a manner that pre-coded information in the questionnaire is to be captured first, followed by computer-assisted coding of the remaining information which also results in capturing the information. This technique has several advantages:

- a) Capturing the pre-coded information at an early stage leads to some data files becoming rapidly available, which opens up the possibility of generating and releasing preliminary census results;
 - b) The computer-assisted coding provides an opportunity for a computer system to alert the operator to problems with data that already captured, for example, missing information for a fully pre-coded variable;
 - c) The coder works directly on the computer screen;
 - and d) information from other variables may be helpful in determining applicable codes for write-in’s.
- In addition, this item also explained the advantages and disadvantages for applying “automatic coding”.

Under the item on “data capture” various alternatives of recently developed techniques are elaborated. They include: a) Keyboard data entry, b) Optical Mark Recognition (OMR) equipment, c) Optical Character Recognition (OCR) equipment, and d) Imaging techniques and scanner devices. It is emphasized that decisions on the type of data processing equipment should be made at least one year in advance of the census enumeration in order to allow appropriate questionnaire design and proper preparation of instruction manuals. Data editing is

another important item introduced in this Section. In this respect the revised recommendations stress the precautionary action that should always be taken by making a regular back-up copy of the original data file at every stage of census processing, in case there is a need to go back.

5. *Databases*

The proposed revised *Principles and Recommendations* encourages national statistical offices to store the census data in various computerized database forms to satisfy the specific needs of internal users and to respond to a growing number of external requests for statistical information. The establishment of such databases can contribute to improve the coherence between the input and output of the processing systems, to enhance the dissemination of the census results as well as to increase the effectiveness of the census operation. In addition, databases can be important tools for managers, decision-makers, planners and developers to give them immediate access to data for analysis and the projection of events or trends. A new Section E, “Databases,” is therefore added in the revised *Principles and Recommendations*.

Further, the revised *Principles and Recommendations* emphasizes that designing a population database involves several important issues including the different types of users, information requirements, types of information to be stored in the database, sources and maintenance/update of information, processing user queries, identifying the appropriate commercial software or developing one, and selecting appropriate hardware that will support the current and anticipated growth of the population database. However, census directors are cautioned against undertaking database projects unless there are focused user requirements.

The proposed revised *Principles and Recommendations* includes discussions on the advantages and disadvantages of databases of microdata and macrodata as well as various types of databases that may be produced from the census. The section also contains a new item on *Geographic Information Systems* (GIS). However, the *Principles*

and Recommendations emphasizes that GIS development within the national statistical offices should proceed only where it is feasible to maintain the system during the intercensal years and where there is no dependence on external sources.

6. *Dissemination of the results*

Major revision was made in Section F, "Dissemination of results," which now includes, in addition to publication of results, dissemination on computer media and on-line through the Internet. For purposes of longevity of the *Principles and Recommendations*, and to avoid being limited by current technology, the text describes current technology only as an example subject to further development. Some aspects of census dissemination are considered to be best if addressed in Part One, particularly those related to how to prepare census products to be disseminated and the establishment of population databases. However other aspects of census dissemination, particularly those related to the contents of census products and the utilization of these products have been included in the new Part Four.

Based on the recommendations of the Expert Group Meeting, printed publications, despite their production cost, remain the preferred choice for dissemination of the main results in most countries. The revised *Principles and Recommendations* provides information on the use of new technology, such as desk-top publishing and other software, to improve the timeliness and quality of the publication. The section also provides elaboration on dissemination through computer media, such as diskettes and CD-ROM. Dissemination through Bulletin Board System which has been used in many countries is now included in the recommendations as one type of on-line dissemination. The fast emerging on-line media like the Internet is considered one of the most promising dissemination techniques.

7. *Evaluation of the results*

An extensive revision is made for Section G, "Evaluation of the results." The revised section emphasizes the importance of considering a post

enumeration survey (PES) with clearly defined objectives. The revised *Principles and Recommendations* indicates that a PES can be designed to provide a comprehensive evaluation of coverage and content error, especially when supplemented and integrated with detailed demographic analysis of census quality.

The methodology of a sound PES is complex. Accordingly, countries must carefully weigh the demanding technical requirements and costs of conducting a successful PES, together with a clear statement of the PES objectives, before deciding to undertake one. Careful advance planning is crucial. For a PES to be valid it has to adhere to certain operational and statistical properties. These include the necessity for the conduct of the PES to be within a few months of the end of the census to ensure that natural population changes (births, deaths and migration) coupled with respondent recall lapse do not render statistical comparison impossible.

The revised *Principles and Recommendations* also provides guidance on the usefulness of demographic analysis for census evaluation.

8. *Other revisions in Part One*

The section, "Use of sampling in population and housing censuses," is revised. However, the revisions are mainly editorial rather than substantive, particularly to eliminate duplication in coverage of topics included in the sections on evaluation and quality control and improvement programme.

A revision is also made on the definition of one of the units of enumeration, i.e., household. In the past both household and family could be identified as a unit of enumeration. The revised *Principles and Recommendations* recommends that only the household be considered as the unit of enumeration. In addition, two approaches are described for the household, one based on "housekeeping" arrangements and the other based on "dwelling or housing units." To reflect the current practices, the definition of household is revised to indicate the preference for the use of the housekeeping concept, while acknowledging the widespread use of the household dwelling concept in many countries.

Part Two: Topics for population censuses

1. List of topics

Part Two, Section A, "Factors determining the selection of topics," is partially revised to stress that national offices determine census topics, with the goal of meeting user needs in the most reliable and cost-effective manner. The document emphasizes that the issue of census content is clearly a matter of national choice.

In Section B, "List of Topics," a simplification of the previous lists is introduced. In this section, the list shows all recommended topics, as shown previously as a consolidated list. The items in bold are those which were shown as priority topics in the majority of regional recommendations during the 1980 and 1990 rounds of censuses, and the remaining topics are shown in regular type. See Annex 1.

2. Household and family characteristics

The discussion on household and family characteristics is strengthened and clarified. To improve the quality of information on relationship among household members, instructions for reporting the relationship to the household head are emphasized. The head of household is defined as that person in the household who is acknowledged as such by the other members. For selecting the household head or reference person, it is important to specify criteria for choosing the person around whom the relationships between household members would best be described, especially in polygamous, multi-family units, or other households such as those composed only of siblings without a parent or composed entirely of unrelated persons. This information should be included in training materials and instructions to enumerators.

In order to develop statistics on the living arrangements of children, youth, elderly and other selected groups, a more detailed classification of household and family composition is presented and a new classification on household and family status is also proposed. Examples of types of households are provided to assist countries in developing household

classifications relevant to their needs.

3. Fertility and mortality

The *Principles and Recommendations* still recognizes the importance of the census for measuring fertility and mortality, particularly in countries where no alternative data sources exist. However, it emphasizes that many of the specialized questions are better suited for more focused demographic surveys and that strong reservations exist among experts on the extent to which adult mortality can be adequately measured in population censuses. To improve the quality of data, new suggestions are introduced to obtain:

- a) Children ever born and children living, by sex;
- b) Date of birth of the last child born alive, to measure current fertility; and
- c) Deaths in the twelve months preceding the census, to measure current mortality.

In order to improve the completeness of coverage and to assist the respondent in recalling her children ever born alive, it is recommended that a sequence of questions be included in the following order:

- a) The total number of sons ever born alive during the lifetime of the woman;
- b) The total number of sons living (surviving) at the time of the census;
- c) The total number of sons born alive who have died before the census date;
- d) The total number of daughters ever born alive during the lifetime of the woman concerned up to the census date;
- e) The total number of daughters living (surviving) at the time of the census; and
- f) The total number of daughters born alive who have died before the census date.

The responses to topics b), c), e) and f) allow for checking the responses to a) and d). Inconsistencies in the figures, if any, can sometimes be resolved during the interview.

To improve the quality of data on duration of marriage, a section on "age, date or duration of marriage" is provided to give guidance on alternative methods for collecting this information. Also, information on "age of mother at first child born

alive” is included in the document for countries who would be interested to collect these data.

4. Educational characteristics

The Section on “educational characteristics” was amplified, taking into consideration UNESCO’s proposal to reflect some of the issues leading to revision of the International Standard Classification of Education (ISCED). The revisions include:

- a) Collection of information on literacy in more than one language for use by countries where it was found necessary and manageable;
- b) Use of 5 years as the lower age limit for collecting information on literacy, school attendance and educational attainment; and
- c) References to ISCED made in general terms only, since the draft proposal is currently under consideration by UNESCO.

There have been changes in the order of the characteristics presented in the revised *Principles and Recommendations*, applying the following order: (a) literacy, (b) school attendance, (c) educational attainment and (d) field study and educational qualifications. The only new item under this topic is information on “field of education” which aims for examining the match between the supply and demand for qualified manpower with specific specializations within the labour market.

The revised *Principles and Recommendations* does not include the broad subject of fields of educational qualifications and their ISCED codes as in the previous *Principles and Recommendations*.

5. Economic characteristics

Economic characteristics, revised extensively in the *Supplementary Principles and Recommendations for Population and Housing Censuses* issued in 1990, were again revised particularly on the economically active population as defined by the recommendations of the International Labour Organization,⁵ where the

⁵ For more details, see International Labour Office, “Thirteenth International Conference of Labour Statisticians, resolution 1: resolution concerning statistics of the economically active population, employment,

concept of economic production is defined with respect to the new *System of National Accounts* (SNA)⁶. The revised section on economic characteristics, prepared in consultation with the International Labour Office (ILO), includes the following improvements:

- a) The terminology and definitions of activities within and outside the production boundary should be carefully checked and reconciled with the 1993 SNA to ensure consistency between the national accounts and economic activity statistics;
- b) Since the informal sector is a subset of the “household sector,” the discussion of the informal sector is presented under the section on “institutional sector of employment.” In view of the complexity of collecting information on the informal sector, the *Principles and Recommendations* highlights the fact that surveys are the ideal medium for collecting such data;
- c) Modifications are made to provide general guidance on the measurement of the “usually active population;” and
- d) A new section on “Place of work” is introduced.

The *Principles and Recommendations* provides the definition of the *economically active population* which comprises all persons of either sex who (i) provide or (ii) are available to provide the supply of labour for the production of economic goods and services, as defined by the United Nations System of National Accounts (SNA) during a specified time reference period. *Activities* are within the production boundary defined by the SNA⁷ if they comprise the following:

- a) Production of goods or services supplied or intended to be supplied to units other than their producers;
- b) Own-account production of all goods retained by

unemployment and underemployment” (Geneva, 1983), paras. 14-20.

⁶ United Nations publication: *System of National Accounts 1993* (Sales No.E.94.XVII.4).

⁷ *Ibid.*, para. 6.18.

their producers; and

c) Own-account production of housing services of owner-occupiers and of domestic and personal services produced by paid domestic staff.

It should be noted that although several kinds of household activities, which are of particular importance in many developing countries, are considered within the boundary it has been suggested that for national accounting purposes, an effort to estimate the output from these activities is to be undertaken when this type of production is believed to be quantitatively important in relation to the total supply of that good in a country⁸. These activities include for example: production of agricultural products and their subsequent storage; production of other primary products such as mining of salt, cutting peat, the supply of water; processing of agricultural products; and other kinds of processing such as weaving of cloth, dress making and tailoring; production of footwear, pottery, utensils or durables; making furniture or furnishings; major renovations, extensions to dwellings, re-plastering walls or re-roofing by owners of owner-occupied dwellings.

Domestic or personal services provided by unpaid household members for final consumption within the same household are *excluded* from the production boundary and, hence, are *not* considered to be economic activities. (Examples are: (a) the cleaning, decoration and maintenance of the dwelling occupied by the household, including small repairs of a kind usually carried out by tenants as well as owners; (b) the cleaning, servicing and repair of household durables or other goods, including vehicles used for household purposes; (c) the preparation and serving of meals; (d) the care, training and instruction of children; (d) the care of sick, infirm or old people; and (e) the transportation of members of the household or their goods).

The above definition of economically active population constitutes refinement of the present definition as mentioned in the *Supplementary Principles and Recommendations for Population and Housing Censuses* (1990). The *Principles and*

Recommendations still recommends the collection of usually active and currently active population as well as the collection of other characteristics such as occupation, industry, and status in employment. The collection of *time worked* is recommended to provide better measurement of the contribution made by persons who were in and out of the work force or who work only a brief time of the year. A new item, *place of work* is added in the new recommendations, with the primary objective to link the place of work information to the place of residence.

In view of the complexity of collecting information on some of the characteristics, the *Principles and Recommendations* highlights the fact that surveys are often the ideal medium for collecting such data.

6. *International migration characteristics*

Based upon revisions to the recommendations on international migration statistics,⁹ which is also under consideration by the Statistical Commission, the section on international migration characteristics in the *Principles and Recommendations* has been revised. In order to align the census recommendations with the recommendations on international migration, it is suggested that both citizenship and country of birth are needed to measure immigrant stock.

7. *Disability characteristics*

Recognizing emerging needs for disability statistics, a new topic on disability characteristics is introduced for the first time. Disability information is collected based on the "disability approach" rather than the "impairment" or the "handicap" approach to identify persons with disabilities. The *Principles and Recommendations* indicates the use of the census to develop a sample frame for survey purposes, since conducting a specialized disability survey is the preferred method for data collection on this topic. The text stresses that definitions of disability should be clear and that the wording of questions to identify disability should be simple. A specific question listing the types of disability rather than a generic question is

⁸ *Ibid.*, para. 6.24 and 6.25.

⁹ *Draft Revised Recommendations on Statistics of International Migration*, Series M, No.58/Rev.1.

recommended.

Part Three: Topics for housing censuses

Part Three, "Topics for housing censuses," contains revisions in:

- a) The classification of housing units to clarify the differences between standard, medium-standard, marginal and temporary housing units;
- b) Occupancy status, where a three-digit classification of non-seasonal vacant dwellings is introduced; and
- c) The type of ownership where attention to employer-provided housing is given.

1. Living quarters

Housing census defines living quarters as either housing units or collective living quarters. The collection of information concerning housing units is considered the most important aspect in a housing census, since it is in housing units that the bulk of the population permanently lives. A revised classification of living quarters is introduced in the *Principles and Recommendations* and a system of three-digit codes has been designed to group in broad classes housing units and collective living quarters with similar structural characteristics. The distribution of occupants (population) among the various groups supplies valuable information about the housing accommodation available at the time of the census. The classification also affords a useful basis of stratification for sample surveys. The living quarters may be divided into the following categories:

- 1 Housing units
 - 1.1 Conventional dwellings
 - 1.2 Basic dwellings
 - 1.3 Temporary housing units
 - 1.4 Mobile housing units
 - 1.5 Marginal housing units
 - 1.5.1 Improvised housing units
 - 1.5.2 Housing units in permanent buildings not intended for human habitation
 - 1.5.3 Other premises not intended for human habitation
- 2 Collective living quarters

- 2.1 Hotels, rooming houses and other lodging houses
- 2.2 Institutions
- 2.3 Camps
- 2.4 Other

2. Occupancy status

Occupancy status applies only to conventional and basic dwellings, since all other living quarters are required by definition to be occupied in order to fall within the scope of the census. The enumeration of vacant units is likely to pose difficult problems; but a total count should be made for purposes of controlling the enumeration. Vacant units intended for seasonal occupancy may represent a substantial proportion of the housing inventory in resort areas and in areas where large numbers of seasonal workers are employed. Vacant units may be further distinguished according to the type of occupancy for which they are intended, for example, "holiday home," "seasonal workers' quarters" and so forth. The recommended classification for conventional and basic dwellings is as follows:

- 1 Occupied
- 2 Vacant
 - 2.1 Seasonally vacant
 - 2.2 Non-seasonally vacant
 - 2.2.1 For rent
 - 2.2.2 For sale
 - 2.2.3 For demolition
 - 2.2.4 Other

3. Floor space

This topic is introduced for the first time. The main purpose for collecting this information is for measuring overcrowding. This topic refers to the useful floor space in housing units, i.e., floor space measured inside the outer walls of housing units, excluding non-habitable cellars and attics. In multiple-dwelling buildings, all common spaces should be excluded. For collective living quarters it would be necessary to collect information on the useful floor space per occupant of the collective living quarters. Data should be derived by dividing

the total useful floor space by the number of occupants that are living in the space.

Countries are cautioned that in collecting information on the floor space available to occupants of housing units may prove to be difficult; occupants often may not know the exact or even approximate area of a housing unit they occupy; training enumerators how to calculate the floor space would be complicated, costly and inaccurate. In this context, and taking into account the importance of this information, countries should take into consideration developing detailed instructions on proper procedures for assessing these data (e.g., to request information from official documents available to the occupants, such as the rental agreement or title that is supposed to include the information on the floor space).

4. *Housing facilities*

Refinement has been introduced in the collection of toilet facilities, bathing facilities and cooking facilities. In particular, the *Principles and Recommendations* distinguishes whether facilities are for the exclusive use of the occupants or shared with other households. In addition to collecting toilet facilities, it is also recommended that the sewage system for disposal of human excreta be collected.

5. *Solid waste disposal*

Securing sustainable development, and in the context, the treatment of solid waste, prompted the incorporation of this topic in a number of national housing censuses. It does not seem debatable that household surveys represent a more suitable way of collecting data on solid waste disposal; however, in order to establish reliable and sound information that could be used as basis for future data collection, countries should consider incorporating this topic in the forthcoming round of population and housing censuses (the 2000 round) as a basic topic. This topic refers to the collection and disposal of solid waste generated by occupants of the housing unit. As guidelines, the classification of housing units by solid waste disposal is as follows:

a) Solid waste collected on a regular basis by

authorized collectors

b) Solid waste collected on an irregular basis by authorized collectors

c) Solid waste collected by self-appointed collectors

d) Occupants dispose solid waste in a local dump supervised by authorities

e) Occupants dispose solid waste in a local dump not supervised by authorities

f) Other arrangements (including incineration of solid waste by occupants).

Part Four: Census products and data utilization

As mentioned earlier, Part Four is totally a new Part and is designed, in part, to serve as an introduction to users who are unfamiliar with population and housing censuses as a source to meet their needs for demographic and social statistics, and in part, to provide some of the indicators needed to monitor progress on the goals identified in the plans of action by various International Conferences held in the 1990s. Part four highlights attention to user needs, to indicate to users what is possible to obtain from a census and to emphasize to census organizations the importance of having user input. It serves as a link or bridge between the more technical aspects of the census and its users.

1. Promotion of user-producer dialogue

The first chapter under Part Four emphasizes the need to promote dialogue between users and census producers to improve understanding of the use of census products as well as to obtain user input in improving the design of and access to census products and services. The planning of population and housing censuses presents an ideal opportunity to thoroughly evaluate data needs for as broad a range of users as possible in the public and private sectors.

Since this new Part focuses on improving the value of census results for a wide range of users, the first chapter stresses the importance of continued dialogue between data users and the census organization, specifically on how data users can influence census authorities to consider their needs.

2. *Census products and services*

The second chapter of this new Part considers how the census organization determines what types of products and services should be produced to meet the users' needs. The chapter provides guidance on what type of products may be produced in census operations which may include printed publications, mapping products, computer media and customized products and services.

With the rapid development of technology, census data users have increasing demands for various types of products and services from the census organization. With the availability of microcomputers, some data users may prefer to obtain census products in computer media rather than in printed form. However, there are still many users who would prefer to receive census results in printed form. Since the cost of producing census products in various forms, e.g., printed, computer media or on-line, can be high, it is recommended that countries consider very carefully the forms in which the census results are disseminated. In particular, when a cost recovery scheme is being planned from the dissemination programme, early study and analysis of the potential data users and their requirements is recommended.

3. *Census data utilization*

In this chapter consideration is made on the needs of a wide range of user groups including those who have a particular focus on gender, children and youth, the elderly or disabled persons. The Chapter includes general uses of population and housing censuses, local

area uses, cross-cutting social issues and social indicators. As a follow-up to the recent United Nations global conferences, there is new interest in sound social data to assist Governments in a range of social policy development issues and to monitor progress in achieving goals. Population and housing censuses provide an essential source of data on various social issues. The chapter also discusses using the population and housing census for some of these cross-cutting social issues, specifically gender, youth, the elderly and the disabled population. In addition, it considers the use of the population and housing census to generate social indicators.

The latter section includes selected indicators from the minimum national social data sets (MNSDS) that can come from population and housing censuses.

4. *Annexes*

There still remains a need for providing guidance in planning published tabulations. The following annexes are planned for inclusion in the published *Principles and Recommendations*:

- Annex 1. List and uses of population census tabulations;
- Annex 2. List and uses of housing census tabulations;
- Annex 3. List of census maps;
- Annex 4. Formats of population census tabulations.
- Annex 5. Formats of housing census tabulations.