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on Revising the Principles and Recommendations
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Implementation of international recommendations for housing topics in the 2010 round of population and housing censuses¹

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I. INTRODUCTION AND BACKGROUND

1. Housing census is conducted to provide information about the supply of housing units together with information on the structural characteristics and facilities. The *UN Principles and Recommendations for Population and Housing Censuses* indicates that sufficient demographic, social and economic data concerning the occupants should be collected to provide a description of housing conditions and basic data for analyzing the causes of housing deficiencies and for studying possibilities for remedial action (paragraph 2.412).
2. In addition to these objectives, the Statistical Commission at its ninth session emphasized the importance of the housing census to develop benchmark statistics that could be supplemented by recurrent building and construction statistics and would provide a continuous up-to-date picture of the housing conditions necessary for the designing and monitoring housing programmes (paragraph 1.32 of the *UN Principles and Recommendations for Population and Housing Censuses*).
3. The *UN Principles and Recommendations for Population and Housing Censuses* displays a list of topics to be investigated in housing censuses. It distinguishes between “core topics” collected directly, “derived core topics” and “additional topics”. The designation of “core” next to a specific topic indicates that the collection of statistics for that variable is considered a priority, in light of the importance the information has in terms of the exploitation of census statistics. As for the “derived core topics”, they are based on information collected through the questionnaire, and they usually – but not exclusively – do not come from replies to a specific question but are rather obtained indirectly (e.g. number of occupants). Additional topics are topics which are not assigned the highest priority yet may be of specific interest to countries that may find useful to include them in their population and housing censuses.
4. It should be noted that countries cover census topics to a different degree considering their needs based on country conditions and existing statistical system in a country. Some countries, in particular those with developed statistical systems, are relying on alternative sources for collecting data on some of the housing topics. Those countries may not cover some of the topics in the census since these topics might be available from other sources including administrative registers, and also sample surveys for the topics that are needed only for broad geographical area.
5. This report aims to review the countries’ practices in implementation of housing census topics as recommended by the *Principles and Recommendations for the 2010 round of Population and Housing Censuses, Revision 2*. It also focuses on the challenges in applying international definitions and classifications of housing topics. The primary objective of this report is to provide background information for the discussion related to the revision of *UN Principles and Recommendations for Population and Housing Censuses* for 2020 round of censuses in the area of housing topics. In addition, this report provides an input for the discussion related to the revision of concepts and definitions and is elaborating on relevant points regarding the possible inclusion of new topics.

II. METHOD FOR REVIEWING COUNTRY PRACTICES

6. The United Nations Statistics Division (UNSD) established and maintains several databases related to the 2010 World Programme on Population and Housing Censuses – one of these databases consists of the original questionnaires used for the purpose of conducting national population and housing census; another is used for storing national census dates². These databases were used to identify the countries covered in this report and to review national census questionnaires. This report covers the review of the census questionnaires of 124 countries which were available to UNSD as of March 2013, including the questionnaires of 27 countries in Africa, 18 in North America, 6 in South America, 27 in Asia, 24 in Europe and 22 in Oceania.

7. The purpose of the analysis was to assess the extent of implementation of the housing census topics as recommended in the current version of the *UN Principles and Recommendations for Population and Housing Censuses*. This review was done by comparing each question with the recommended topics based on concepts and classification used in both sources. The final determination on whether a specific question from a national census questionnaire matches the internationally recommended topic was based on a set of minimum criteria. For example, the *UN Principles and Recommendations for Population and Housing Censuses* suggests collecting data on “number of cars”, but significant number of countries collected this information through the question of “availability of a car” with no information about the actual number of cars but still providing information to a certain extent regarding the recommended topic. Since most of the countries applied similar terminology in formulating the questions, comparing the questionnaires with the recommended topics in most cases was conducted in an accurate manner. Therefore it was possible to evaluate the extent of compliance of national census practices with the international recommendations and concepts.

8. After matching national census questions with the recommended topics, summary statistics were calculated on the regional and global level to assess the level of implementation of the recommended topics in the censuses. In addition, the topics that are included in national censuses but not covered in the current version of the *UN Principles and Recommendations for Population and Housing Censuses* are also presented for the purpose of discussing their possible inclusion for the 2020 round of population and housing censuses.

9. The *UN Principles and Recommendations for Population and Housing Censuses* presents the list of core and non-core topics for housing census in Table 2 in paragraph 2.410. As the table indicates, there are 38 topics in total of which 20 are core and 18 non-core topics for housing censuses. Among these topics, the following three topics can be derived from the population census: i) Location, ii) Number of occupants, iii) Age and sex of head or other reference member of household.

10. Taking into consideration different units of enumeration for the housing census, the results of this overview of the housing topics are presented in three chapters in this report, namely: a) topics related to living quarters, b) topics related to buildings, and c) topics related to households. In addition to that, this

² See the following link. (http://unstats.un.org/unsd/demographic/sources/census/2010_PHC/default.htm)

report covers the review of implementation of the recommendations on agriculture topic which refers to agricultural production activity of members of household.

11. It should be noted that this report is not intended to provide detailed, comprehensive and final assessment regarding the implementation of internationally recommended topics in national housing censuses; this is due to the fact that it relies solely on the information extracted from the original census questionnaires and the fact that it covers 124 out of 202 censuses conducted this far in the 2010 census round. In order to provide a full understanding of the level of compliance with the international recommendations in terms not only of specific topics, but also in terms of definitions, classifications and other statistical concepts, it would be necessary to include also the review of manuals and instructions used in national housing censuses, and these are usually not available in one of the United Nations languages which makes them difficult to include in the analysis. Consequently, the purpose of this report is to provide an approximate overview of the level of implementation of internationally recommended topics in national censuses, thus providing a background material for the discussion related to the revision of the international guidelines for the 2020 round of population and housing censuses.

12. Furthermore, it should also be noted that this report evaluates country experiences based only on census questionnaires used to collect data in the field through face-to-face interviews with the households. Yet, in the 2010 round there were a number of countries that used administrative registers for compiling census statistics - Singapore, Switzerland, Turkey, to name a few. Assessing the level of implementation of international recommendations in these cases could not be covered in the present report.

III. FINDINGS AND LESSONS LEARNED

A. Overall findings

13. This section presents main findings, at the global level, on the extent of implementation of core and non-core housing census topics by countries in their national censuses – thus providing an indication of the level of relevance each recommended topic in specific national circumstances.

Core topics

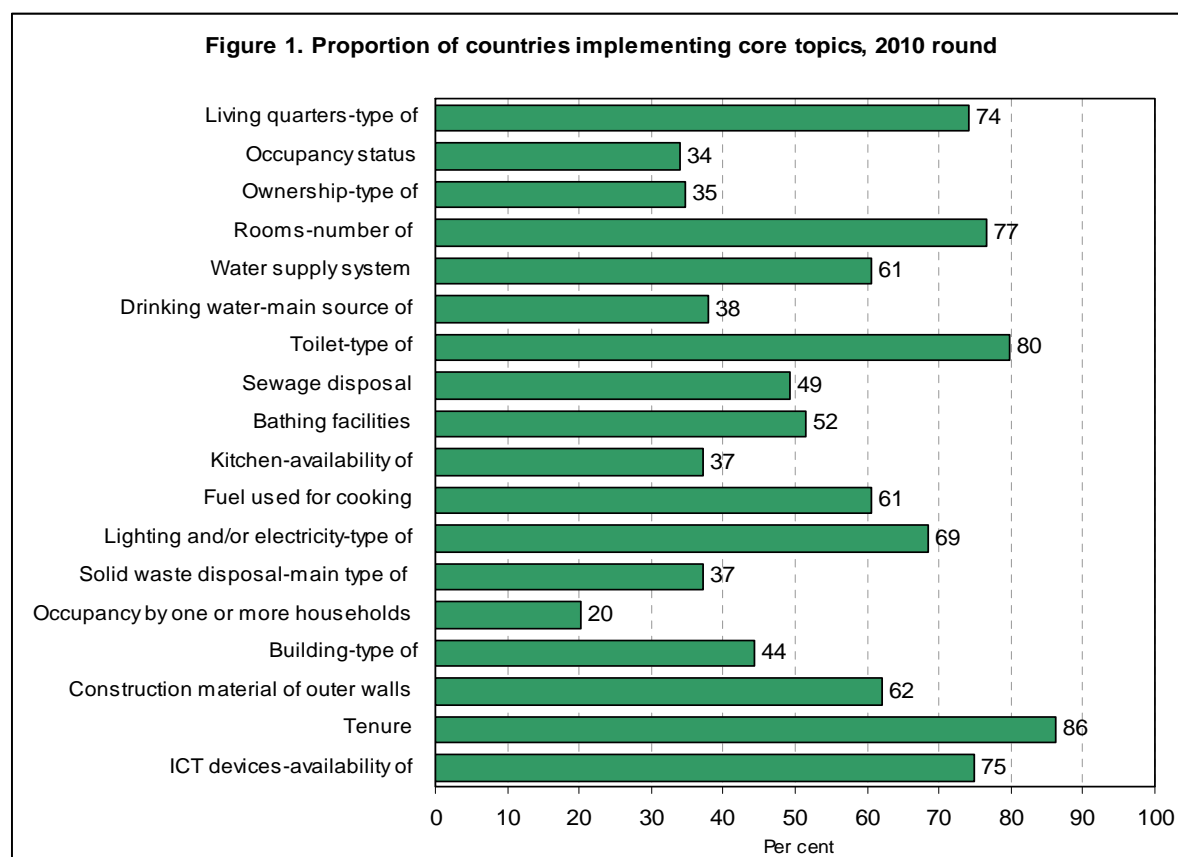
14. The *UN Principles and Recommendations for Population and Housing Censuses* lists 20 core topics related to living quarters (housing units and collective living quarters), buildings and households. Some of these topics can be derived from the characteristics of other units of enumeration³. Among these topics, the following three core housing topics can be derived from population censuses; i) location, ii) number of occupants, iii) age and sex of head or other reference member of household. As all countries included in this report conducted housing censuses simultaneously with population censuses, these three topics can

³ For more information about derived core topics, see the table 2 (paragraph 2.410) of the *UN Principles and Recommendations for Population and Housing Censuses*.

be derived from population censuses. Therefore comprehensive analysis of these three topics is included in the report on implementation of population topics⁴.

15. In short and not surprisingly, all countries collected data on detailed geographical **location** of housing units. Information about **age and sex of head or other person reference person** is also collected by all countries with exception of Aruba which collected data about whether father or mother of each enumerated person was living in the same household³. Statistics on the topic “**Number of occupants**” is presented either under the concept of the usual resident population or the population present at the time of the census. The *UN Principles and Recommendations for Population and Housing Censuses* emphasizes that the “*number of occupants*” refers to person(s) usually residing in a housing unit or collective living quarters, but the application of this definition depends upon definition of population used in the population census⁵. It should be noted that most of the countries applied concept of usual resident population in their censuses as recommended by the *UN Principles and Recommendations for Population and Housing Censuses*⁶.

16. As figure 1 presents⁷, the majority of the countries have collected data for most of the core topics listed in the *UN Principles and Recommendations for Population and Housing Censuses*. The most represented, with at least around 75 percent of the countries included in the analysis, were the following



⁵ See para. 2.510 of the *UN Principles and Recommendations for Population and Housing Censuses*.

⁶ See para 2.30 of *UN Principles and Recommendations for Population and Housing Censuses*.

⁷ Proportion is calculated by number of countries which collected data on a specific core topic divided by the number of total countries included in the report and multiplied by 100.

topics: “tenure status”, “number of rooms”, “types of toilet”, “ICT devices” and “type of living quarters”.

17. On the other end, the least represented among the core topics, were “occupancy by one or more households”, “occupancy status of dwelling”, “type of ownership”, “availability of kitchen”, “main source of drinking water” and “solid waste disposal”, indicating that these were not considered of particular priority to many countries for inclusion in the housing census, as these topics were covered by about 30 percent of total number of countries in this report. It has to be emphasized, however, and will be elaborated later in the report, that the non-inclusion of these topics in national housing censuses may be a consequence of either using a different source of producing statistics on these topics, or that the level of development infrastructure and services of a specific country makes it unnecessary and expensive for inclusion in the housing census.

18. Table 1 presents information about implementation of housing core topics by the regions of the world. These data show a clearly distinguishable pattern in different regions of the world. For example, in Africa, topics such as “type of toilet”, “type of lighting/availability of electricity” and “fuels used for cooking” are among the most represented housing topics and are included in most of the housing censuses in the region. On the other hand, “type of ownership” “bathing facilities” and “type of building” are topics represented in most of European countries but not that much in other regions. Furthermore, “main sources of drinking water”, “fuels used for cooking” and “main type of solid waste disposal” are topics with scant representation in Europe, but of much interest in the countries in other regions.

19. It is also worth emphasizing that statistics on the topic on “water supply system” is collected by more countries in South and North America than in the countries in other regions. As for Asia, it appears that it follows a pattern similar to the one in Africa, with exception of “water supply system”, “solid waste disposal” and “construction materials of outer wall” which were not covered by most of the countries in Asia.

20. In general, the implementation of core topics, as recommended by the international guidelines, appears to be carried out by a considerable number, if not the majority, of the countries in the world. Yet, there are noticeable regional differences: topics such as “occupancy status by one or more households” or “occupancy status of living quarters” or “type of ownership” are of particular interest to countries in North America, since 67 per cent of their national censuses requested information on these topics compared to around 20 per cent of the countries overall. In conclusion, the results indicate that the core topics as presented in the current version of the *UN Principles and Recommendations for Population and Housing Censuses* are relevant for the majority of countries in the world and, based on national practices in the 2010 round of population and housing censuses, they would remain relevant for the next census round as well.

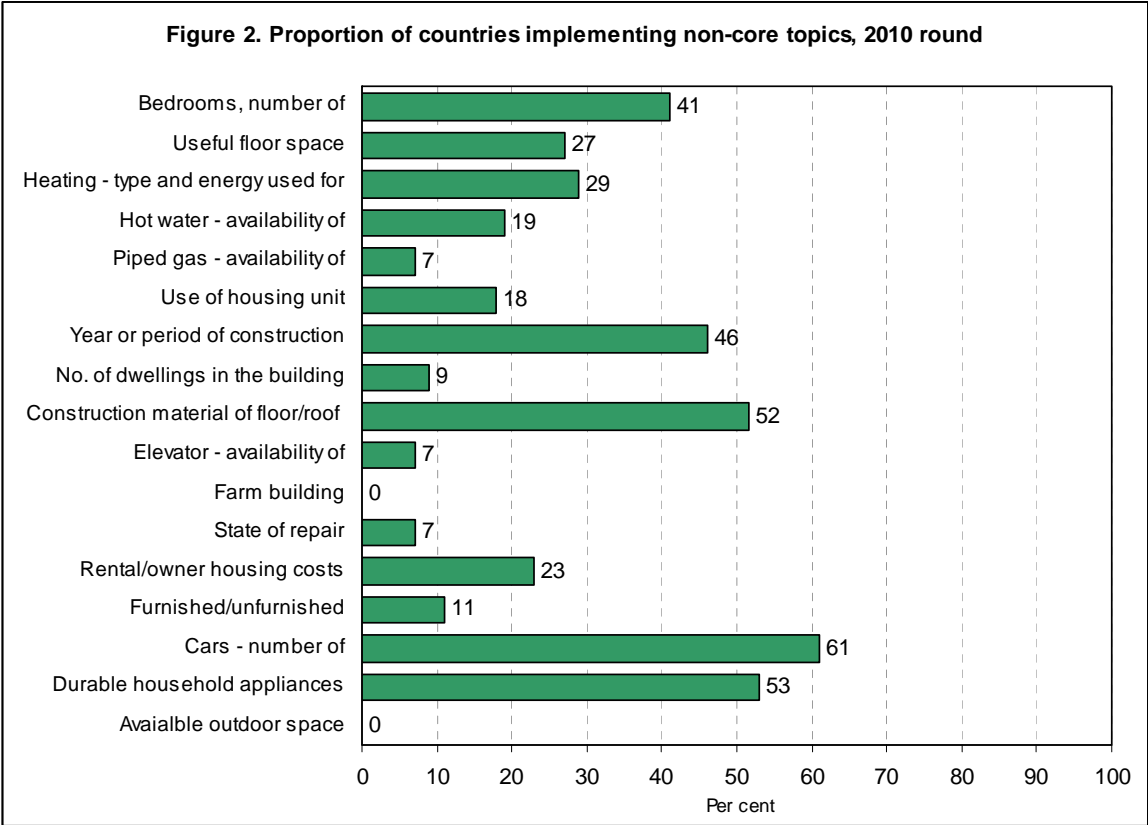
Table 1: Proportion of the countries implemented core topics by regions

Core Topics	Africa	Asia	Europe	North America	South America	Oceania	Total
Living quarters-type of	77.8	74.1	70.8	77.8	83.3	68.2	74.2
Occupancy status	29.6	11.1	50.0	50.0	83.3	22.7	33.9
Ownership-type of	29.6	29.6	79.2	22.2	16.7	13.6	34.7
Rooms-number of	81.5	63.0	87.5	88.9	66.7	68.2	76.6
Water supply system	51.9	25.9	66.7	88.9	83.3	77.3	60.5
Drinking water-main source of	48.1	55.6	4.2	22.2	66.7	45.5	37.9
Toilet-type of	100.0	74.1	70.8	72.2	66.7	81.8	79.8
Sewage disposal	51.9	40.7	50.0	55.6	83.3	40.9	49.2
Bathing facilities	33.3	37.0	83.3	38.9	83.3	59.1	51.6
Kitchen-availability of	29.6	37.0	41.7	27.8	66.7	40.9	37.1
Fuel used for cooking	92.6	63.0	8.3	77.8	66.7	59.1	60.5
Lighting and/or electricity-type of	96.3	55.6	37.5	72.2	100.0	72.7	68.5
Solid waste disposal-main type of	59.3	22.2	8.3	61.1	50.0	36.4	37.1
Occupancy by one or more households	11.1	25.9	25.0	27.8	66.7	0.0	20.2
Building-type of	33.3	37.0	70.8	33.3	0.0	59.1	44.4
Construction material of outer walls	81.5	48.1	33.3	66.7	83.3	77.3	62.1
Tenure	88.9	85.2	79.2	88.9	100.0	86.4	86.3
Information and communication technology (ICT) devices-availability of	88.9	63.0	50.0	83.3	83.3	90.9	75.0

Non-core topics

21. As defined in the *UN Principles and Recommendations for Population and Housing Censuses* a number of topics are listed as additional or non-core topics and they refer to variables on which statistics represent an important input for a number of countries and their respective national statistical systems. A population and housing census is a powerful vehicle that can accommodate more than just core topics and all the countries are inserting question pertinent to various aspects of living conditions and characteristics of the population. In the case of the housing censuses, and as expected, most of non-core topics, as listed in the current international guidelines, are not included in the censuses of majority of the countries. However, country experiences for 2010 round indicate that some non-core topics are of high and particular interest for a majority of countries. Particularly, “number or availability of cars”, “availability of durable household appliances”, “construction material of floor/roof”, “year or period of construction” and “number of bedrooms” are covered by almost half of the countries at the world’s level. For some of these topics, however, the importance and, therefore, representation is much higher in certain regions. For example, around 70 percent of countries in Africa, North America, South America and Oceania collected data on “number or availability of cars”, “availability of durable household appliances”

and “construction materials of floor/roof”. On the other hand, it should be noted that “useful floor space” and “type of heating and energy used for heating” are covered in the census questionnaires of around 80 percent of European countries – and here it is necessary to point out that the “useful floor space” is a core topic for the countries in the region, as per the regional European recommendations for population and housing censuses.



22. Underlying the regional differences in the area of housing census topics, this review identified considerable regional variation related to additional or non-core topics. For example, the topic “construction material of floor and roof” is highly relevant in Africa and is covered by more than 80 per cent of the housing censuses in that region; while at the same time none of the European countries covered by this report included this topic in the housing census. Similarly, acquiring statistics on the “number of bedrooms” had a high priority in North America, as almost all the countries in that region included this topic in their respective censuses, while only 8 per cent of European countries expressed interest in collecting this information. As expected, due to climate conditions, “heating type and energy used” and “availability of hot water” are not covered by many countries in Africa, South America and North America compared to the other regions.

Table 2: Proportion of the countries implemented non-core topics by regions

Non-core topics	Africa	Asia	Europe	North America	South America	Oceania	Total
Bedrooms-number of	37.0	33.3	8.3	94.4	66.7	40.9	41.1
Useful floor space	3.7	37.0	75.0	11.1	16.7	9.1	27.4
Heating-type and energy used for	18.5	25.9	83.3	11.1	0.0	9.1	29.0
Hot water-availability of	3.7	14.8	29.2	16.7	0.0	36.4	18.5
Piped gas-availability of	0.0	3.7	25.0	0.0	33.3	0.0	7.3
Use of housing unit	3.7	11.1	33.3	27.8	0.0	22.7	17.7
Year or period of construction	22.2	33.3	75.0	61.1	33.3	50.0	46.0
Dwellings in the building	3.7	0.0	33.3	11.1	0.0	0.0	8.9
Construction material of floors, roof	81.5	44.4	0.0	66.7	66.7	68.2	52.4
Elevator-availability of	3.7	0.0	20.8	5.6	16.7	0.0	6.5
Farm building	0.0	0.0	0.0	0.0	0.0	0.0	0.0
State of repair	3.7	3.7	4.2	11.1	16.7	9.1	6.5
Rental and owner-occupied housing costs	7.4	11.1	16.7	55.6	33.3	36.4	23.4
Furnished/unfurnished	3.7	7.4	12.5	16.7	16.7	13.6	10.5
Cars-number of	77.8	40.7	33.3	77.8	66.7	77.3	60.5
Durable household appliances-availability of	74.1	33.3	16.7	72.2	66.7	72.7	53.2
Available outdoor space	0.0	0.0	4.2	0.0	0.0	4.5	1.6

23. Concluding the general overview of additional topics it is necessary to outline that none of the countries covered in this analysis found it relevant to collect statistics on whether the building was “farm building” or not, as well as whether household had “available outdoor space”, albeit both are listed as non-core topics in international guidelines – clearly pointing out to the discussion on the relevance of these topics in terms of the revision of *UN Principles and Recommendations for Population and Housing Censuses* for the next round of censuses.

B. Evaluation of country practices and lessons learned from implementation of housing topics

24. This section aims of the report is designed to present as comprehensive assessment as possible on the extent of implementation of each housing census topic during the 2010 round. It will also present countries’ practices in applying the concepts and classifications of the topics in their censuses compared to the recommendations of the *UN Principles and Recommendations for Population and Housing Censuses* with emphasis on regional differences.

1. Topics related to living quarters

a. Type of living quarters (core topic)

25. The living quarters is defined as structurally separate and independent places for human habitation. It can be either a housing unit or collective living quarters⁸. The *UN Principles and Recommendations for Population and Housing Censuses* provides detailed explanation for definition and classification of living quarters including the types of housing units and collective living quarters. As emphasized in the *UN Principles and Recommendations for Population and Housing Censuses*, without an adequate classification of living quarters, no meaningful analysis of housing conditions is possible.⁹

26. This topic is covered by 90 countries out of 124 (around 75 per cent). The countries collected data on this topic using different approaches but usually with a goal of distinguishing housing units from collective living quarters. In fact, very few countries such as Cyprus asked the question about type of living quarters as such while most countries collected this information by asking the question on “type of buildings” or “type of dwellings” or “type of housing units”. There are few exceptional cases that countries such as Croatia and Lao collected this information with the question of “indicator” or “type of households”.

27. According to the recommended classification of type of living quarters, this topic should be used to collect information about type of housing units as well as type of collective living quarters. The purpose of distinguishing between different classes of housing units lies in the need to assess the characteristics of the housing stock, its replacement and maintenance parameters. This is critically important especially in countries with heterogeneous housing stock, ranging from shacks, barracks, one-room farmhouses, to the conventional dwellings in apartment buildings. Similarly, the collective living quarters usually cover very different structures in terms of facilities and levels of accommodations. The aim of the recommendations is to point to the need to establish different classes of living quarters so that housing conditions in a country are better understood. In this respect, most of the countries covered in this report have implemented this topic more or less in line with the recommendations, distinguishing different classes of living quarters – yet, some of them such as Nepal, India, Sri Lanka, Thailand and Bhutan collected data on housing units or collective quarters with no information about the type of these units.

28. Some examples for the structure of the question used for collecting this topic are given below.

⁸ Housing units can be conventional dwellings or non-conventional dwellings which include other types of housing units such as semi-permanent housing unit (built for temporary use mostly in tropical rural areas, mobile housing units (tents, boats, ships, etc.), informal housing units (such as improvised housing units built of waste materials like huts. Collective living quarters are built mostly for large group of individuals or several households which have common facilities shared by the occupants. For detail definition, see the pages 189-197 of the P&R.

⁹ Normally, housing units are of first importance in a housing census since the majority of people permanently living in housing units, but certain types of collective living quarters –based on the conditions in a country- are also significant even if not many people living in. In addition, types of housing units should be classified to distinguish at least conventional dwellings from the other housing units to make better analysis for housing conditions and living standards of people according to the housing units that they live (paragraph 2.414 of P&R).

What is the type of building (Albania)

1. *Detached house*
2. *Semi-detached house*
3. *Row (or terraced) house (with at least three linked dwellings, each with separate entrance)*
4. *Apartment building (flat)*
5. *Collective living quarters*
6. *Building designed for non-residential purposes*
7. *Other residential housing unit*
 - i. *Shelter*
 - ii. *Tent*
 - iii. *Caravan*
 - iv. *Shack*
 - v. *Other structure*

Type of dwelling (Ghana)

1. *Separate house*
2. *Semi-detached house*
3. *Flat/Apartment*
4. *Compound house (rooms)*
5. *Huts/Buildings (same compounds)*
6. *Tent*
7. *Improvised home (kiosk, container)*
8. *Living quarters attached to office/shop*
9. *Uncompleted building*
10. *Other (Specify)*

Type of housing unit (Estonia)

1. *Dwelling*
2. *Other housing units*
3. *Collective living quarters (students or retirement homes, convents, etc.)*

Type of household (India)

1. *Normal*
2. *Institutional*
3. *Homeless*

29. Implementation of type of living quarters does not show significant regional variation. Proportion of the countries collecting this topic varies from 71 percent to 83 percent between the regions indicating that all countries are highly interested in collecting this information during 2010 censuses.

30. It should be kept in mind that for the countries with small population particularly for islands, some categories of this topic may not be relevant according to national conditions. Therefore it is not expected that all countries will collect data for all categories of living quarters.

b. Occupancy status (core topic)

31. Occupancy status is collected for a conventional dwelling which is one of the types of housing units. This topic is defined as the status of conventional dwellings regarding whether it is occupied by usual residents at the time of the census or not¹⁰. It should be noted that without enumerating the dwellings used for secondary or seasonal houses or vacant at the time of the census, it is not possible to assess accurately the housing stock of the country - one of critical information for housing policies and programmes.

32. The *UN Principles and Recommendations for Population and Housing Censuses* indicates that the enumeration of seasonal/secondary use and vacant conventional dwellings is likely to pose certain problems due to difficulties in finding an adequate respondent, but at least a total count should be made for purposes of controlling the enumeration.

33. The results of this overview show that around 35 percent of the countries collected data on occupancy status of dwellings using census questionnaires. Among six regions, the countries in Europe, South and North America assigned a priority to this topic as more than 50 per cent included the question on their housing census. While around 25 per cent of the countries in Oceania and Africa included the question on this topic, only 10 per cent of the countries in Asia did so.

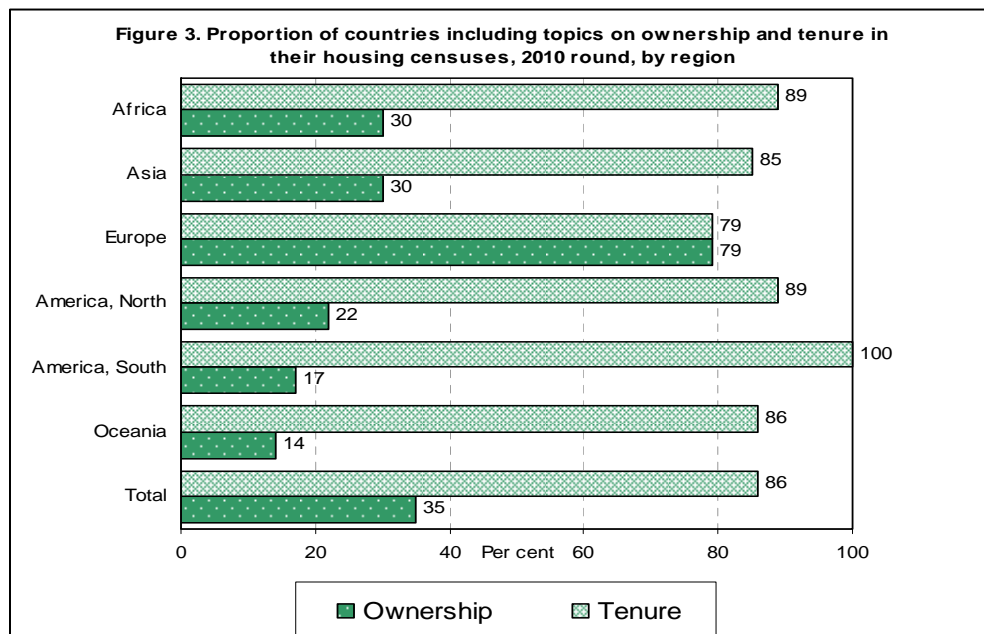
34. As occupancy status is an important issue in formulation of housing policies and ensuring complete enumeration of dwellings, there is a need for further elaboration for the exploitation of statistics on occupied, vacant and secondary dwellings for the purpose of the analysis of the stock of housing units and its characteristics. Experience of the countries which covered this topic in the 2010 round should provide valuable inputs in revising the recommendations for the next round if needed.

c. Type of ownership (core topic)

35. This topic refers to type of ownership of the housing unit itself and not of that of the land on which it stands. Type of ownership has been covered by 43 countries (35 per cent). Most of the countries collected data about this question with the classification recommended by the *UN Principles and Recommendations for Population and Housing Censuses*. There is strong regional pattern dominated by European countries in measuring this topic. Almost 80 per cent of European countries collected data for this topic, while around 25 per cent of the countries in other regions expressed interest in including it in their housing censuses. In fact, the countries in other regions are more interested in collecting data for tenure status rather than type of ownership.

36. Figure 3 presents proportion of countries which collected data on ownership and/or tenure status. The figure clearly indicates that although both are core topics, except Europe, most of the countries covered only tenure status in the census.

¹⁰ Conventional dwelling can be occupied or non-occupied because it could be reserved for secondary or seasonal use or could be vacant. This topic is one of basic characteristics of housing units because it presents the supply for dwellings covering all types of dwellings whether occupied or vacant but constructed for human accommodation.



37. Out of 124 countries, 37 countries (30 per cent) collected data on both topics - ownership and tenure status- in the 2010 round of population and housing censuses.

38. Countries applied, in general, two approaches in formulating the question. Some countries collected data through separate question for ownership and tenure status and some others asked only one question for both tenure and ownership topics with combined classification of both topics. It should be noted that number of countries such as Bhutan, Indonesia, Trinidad and Tobago, and Samoa collected data also on the ownership status of the land on which the dwellings stand. Ownership of the land is not included in the internationally recommended list of housing topics either as core or non-core.

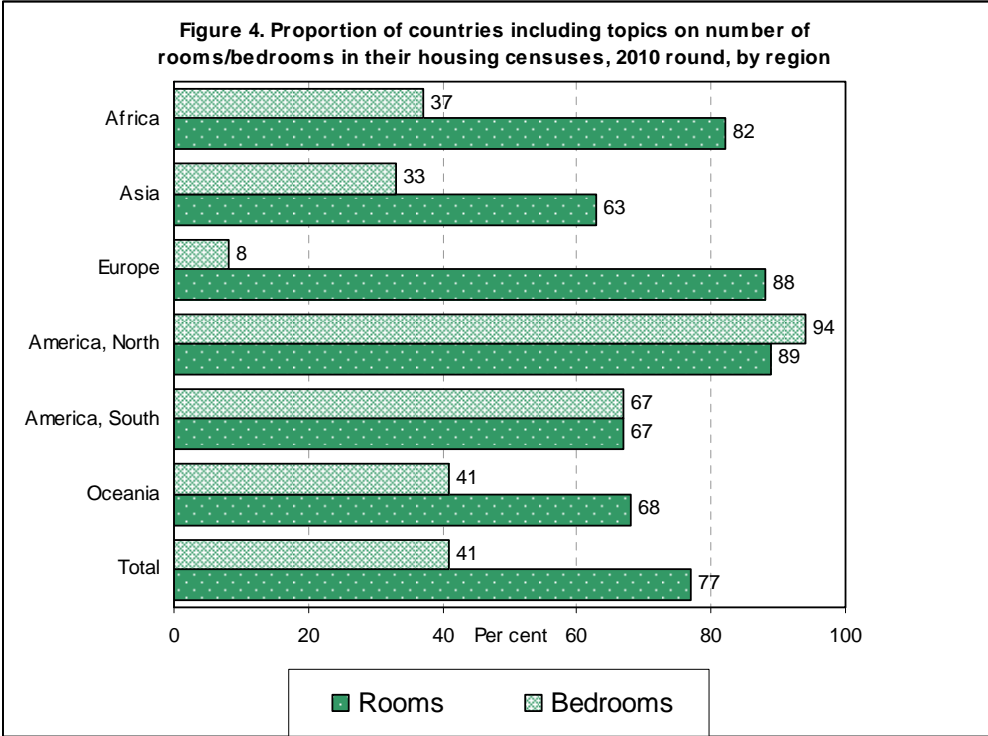
d. Rooms-number of (core topic)

39. Number of rooms¹¹ is collected for housing units to measure overcrowding of the units. This topic is covered by around 80 per cent of countries all over the world. This proportion slightly differs from one region to another with proportionally more countries in Africa, Europe and North America including it in the housing census than in other regions. Based on the formulation of the question in the census questionnaire, it appears that almost half of the countries such as Bermuda, Israel, Hungary and Palau provided explanation about the definition of room in the questionnaire in line with the international recommendations.

e. Bedrooms-number

¹¹ Room is defined as separate place with at least two meters of a height and four square meters of an area. Total numbers of rooms should include bedrooms, dining rooms, living rooms, kitchens, rooms used for professional or business purposes and other separate places as long as they meet the criteria concerning walls and floor spaces (paragraph 2.472 of the P&R).

40. In addition to collecting data on number of rooms, countries were also advised, depending on their circumstances, to consider that the number of bedrooms may provide a more accurate indicator of overcrowding; the *UN Principles and Recommendations for Population and Housing Censuses* suggests the number of bedrooms as non-core topic.



41. The figure 4 presents that 51 countries (41 per cent) collected data on number of bedrooms in the census. Among the regions, North and South America expressed very high interest in statistics on this topic, compared to other regions. Around 94 per cent of countries in North America and 67 per cent of countries in South America covered this topic in their censuses.

42. Based on this overview and national practices in the 2010 round of censuses, it appears that the majority of countries prefer to collect data only on the number of rooms rather than collecting data on both topics-rooms and bedrooms- at the global level. However, North and South American countries illustrate different pattern compared to the pattern in other regions - the majority of countries collected information for both topics in their censuses. At the same time, European countries’ main interest was registered only for the number of rooms (only 4 countries out of 24 collected data on bedrooms). Similarly, Africa, Asia and Oceania are more interested in covering the number of rooms compared to the bedrooms.

f. Useful floor space

43. Useful floor space is defined as the floor space measured inside the outer walls excluding non-habitable cellars and attics and, in multi-dwelling buildings, all common spaces (paragraph 2.476 of the

UN Principles and Recommendations for Population and Housing Censuses). National census practices indicate that this topic is assessed as extremely relevant in most of the countries in Europe, as 75 per cent of the countries included it in their housing censuses. In other regions, this percentage was very low with less than 10 per cent with exception of Asia in which around 37 per cent of the counties collected information about this topic.

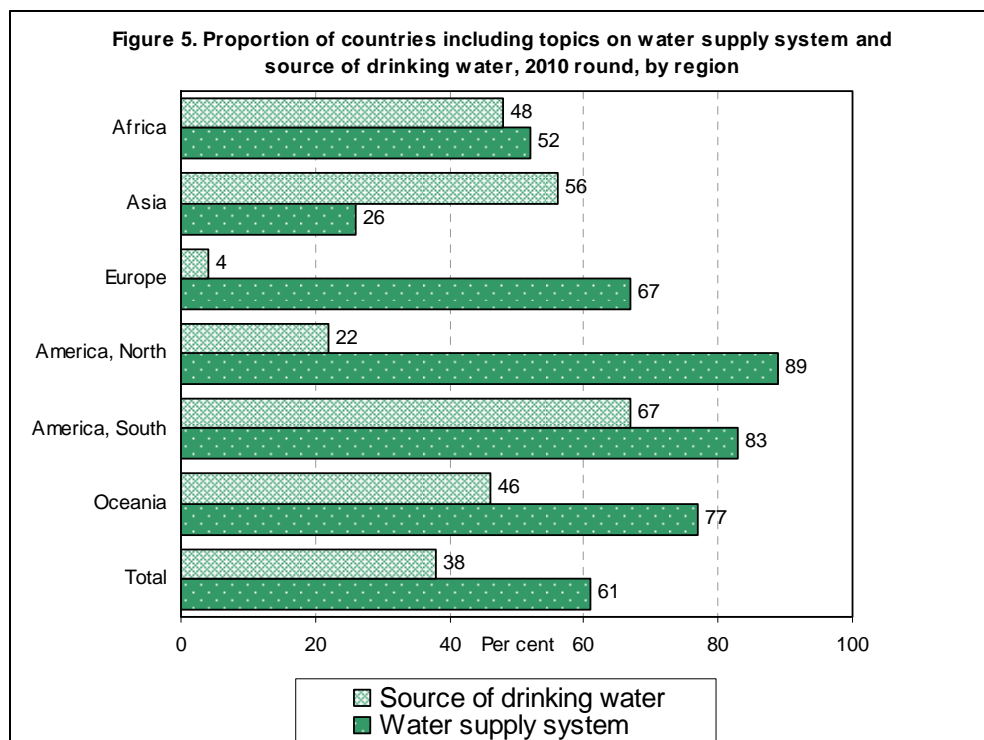
44. It should be noted that useful floor space and number of rooms are both used for measuring overcrowding of the housing units. Because of certain limitations of collecting reliable information about the area of useful floor space of housing unit, it is clear from country experience that countries prefer to collect data on number of rooms instead of useful floor space to improve the quality of data.

g. Water supply system (core topic)

45. The *UN Principles and Recommendations for Population and Housing Censuses* suggests two core topics involving potable water: the first regarding the water supply system and the second the main source of drinking/potable water for all types of housing units. The water supply system topic refers to source of water in the housing units, i.e. whether housing units have or do not have a piped water installation - whether or not water is provided to the housing unit by pipes from a community-wide system or a private installation, such as a pressure tank or pump.¹²

46. Figure 5 indicates that, of 124 countries, around 60 per cent of them included the question on water supply system in their censuses. Regional pattern for inclusion of this topic is quite different from one region to another. The proportion of countries that collected data on this topic is the highest in North America with 89 per cent and lowest in Asia with 26 per cent. In fact, low interest of Asian countries for collecting data on water supply system appears to be the consequence of their interest in collecting data on main source of drinking water instead. On the contrary, countries in all the other regions were interested more in collecting data on water supply system rather than collecting data on main source of drinking water.

¹² It is also suggested to indicate whether the unit has tap water inside or, if not, whether it is within a certain distance from the door. The P&R also gives the recommendation for distance of water supply available outside the housing unit. It is recommended that the distance should be around 200 meters, assuming that access to piped water within that distance allows occupants of the housing unit to obtain water for household needs without being subjected to extreme efforts. Besides the location of the tap water relative to the housing unit, the source of water available to households is also of interest (paragraph 2.479 of the P&R)



47. The results of the review show that there is a strong regional pattern for selecting one of these topics. For example, countries in Europe and North America collected data mostly on water supply system. On the other hand, in Asia, more countries collected data on main source of drinking water. In Africa, the situation is somehow different from the other regions. The countries in Africa collected data either on water supply system or main source of drinking water but no clear preference is observed for selecting one of these two topics.

48. Reviewing the structure of questions indicates that there are some differences in formulating the question at the global perspective but there are strong similarities within the regions. For example in Europe, main concern is on whether the piped water is available inside the housing unit or outside the unit. On the other hand, the countries in Africa focused mostly on sources of water such as tanker supply, well, bore-hole, rain water, river/stream/spring and pond/lake/dam/pool.

49. 51. Moreover, number of countries in North and South America such as El Salvador, Mexico, Panama, Peru and Venezuela asked the question about frequency of accessing water such as assessing to water every day, every two/three days, once a week, etc. in addition to the question of sources of water.

h. Drinking water-main source of (core topic)

50. In addition to water supply system, in order to collect data on the quality of the water, main source of drinking water is included in the core topics. As one of the targets of the Millennium Development Goals is “sustainable access to safe drinking water and basic sanitation”, this topic would provide information for measuring accessibility of an improved water supply source (paragraph 2.483 of the *UN Principles and Recommendations for Population and Housing Censuses*).

51. Main source of drinking water is covered by around 38 per cent of the countries at the global level which is mainly dominated by the countries in Asia, Africa, South Asia and Oceania. Review of the questionnaires shows that the countries, as it is suggested in the *UN Principles and Recommendations for Population and Housing Censuses*, asked main source of drinking with very similar structure. The only exception is that a number of countries in Asia, North America and Oceania included separate categories for source of drinking water referring to special treatments such as boiling, filtering and etc. in addition to the categories given in the *UN Principles and Recommendations for Population and Housing Censuses*.

52. As discussed before, although both topics are core, experience of countries highlights that more countries are interested to collect data on water supply system rather than collecting data on source of drinking water in all regions except Asia. And only 15 per cent of countries -19 countries out of 124 - collected information about both topics in 2010 round at the global level.

i. Toilet-type of (core topic)

53. In elaborating on topic on the availability of toilet facilities, the *UN Principles and Recommendations for Population and Housing Censuses* recommends distinguishing between the toilet facility used exclusively by the occupants of the housing units being enumerated and one shared with the occupants of other housing units (paragraph 2.486 of the *UN Principles and Recommendations for Population and Housing Censuses*). At the global level, 80 percent of the countries collected data on type of toilet in the 2010 round of censuses. All countries in Africa region, covered in this study, implemented this topic with no exception. Countries in South America have the lowest proportion of covering this topic - still 67 per cent of the countries in that region included this topic in their national housing censuses.

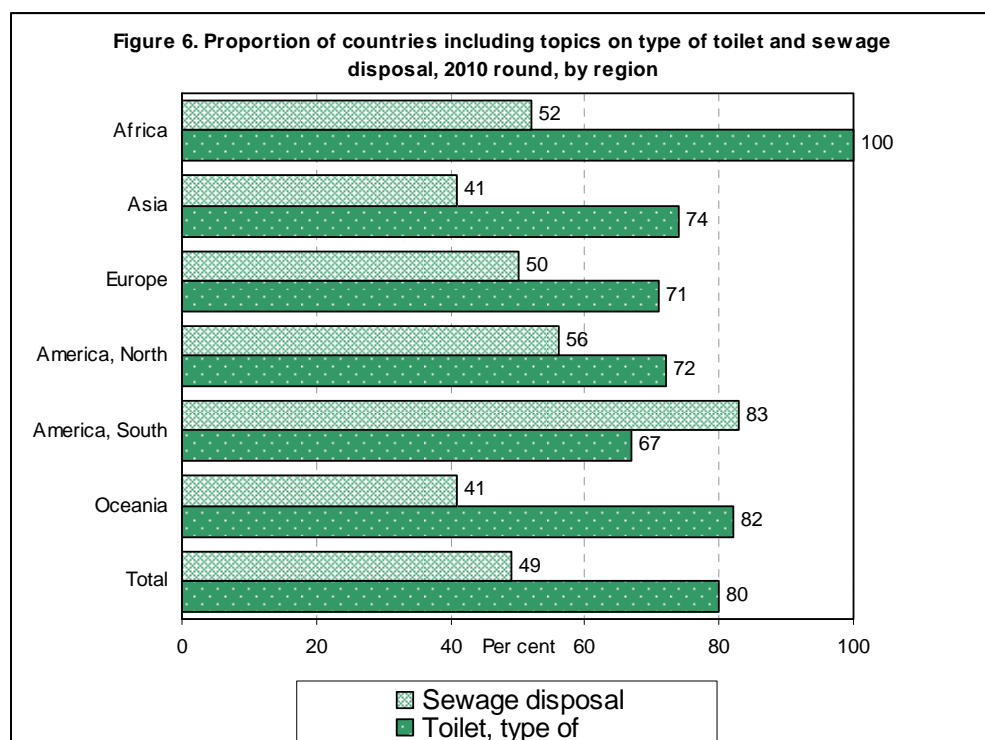
54. Reviewing the census questionnaires shows different approaches in formulating the classification of type of toilet compared to the recommendations. Some countries such as Czech Republic, Lithuania, US Virgin islands, French Guinea and Russia asked question only for flush toilet – if it is inside the dwelling, outside the dwelling or not available. The other group of countries such as Italy, Qatar, Hungary, Aruba and Monaco asked the question for the number of toilets available in the housing unit.

55. Number of countries particularly in Africa region collected this information with detail categories of type of toilet facilities for the households. For example, Liberia, Ethiopia, Malawi, Namibia, South Africa, Nigeria, Zambia and Sudan collected detail information about the type of toilet including availability of flush toilet and if it is exclusive use or shared, as per the recommendations. Country experience indicates that this topic is implemented with different approaches based on national circumstances and needs.

j. Sewage disposal (core topic)

56. The *UN Principles and Recommendations for Population and Housing Censuses* suggests that information on toilets should be combined with the information about sewage disposal system to which they are connected in order to determine the adequacy of sanitation facilities of the housing unit (paragraph 2.489 of the *UN Principles and Recommendations for Population and Housing Censuses*).

57. Half of the countries collected data on the system for sewage disposal. Similar regional pattern is observed in all regions as the countries are more interested in inclusion of only type of toilet rather than including both topics in the census. Only South America illustrates different pattern as the countries in this region collected data on both topics as it is recommended by the *UN Principles and Recommendations for Population and Housing Censuses* (with exception of Venezuela which covered only sewage disposal).



60. In general, 42 per cent of the countries (52 countries) collected information about sewage disposal system together with type of toilet (or availability of toilet facility in the housing unit). Eleven countries such as Norfolk Island, Ireland, Faeroe Island, Venezuela and Belarus collected data only on sewage disposal but type of toilet is not included in the census questionnaire.

k. Bathing facilities (core topic)

58. The *UN Principles and Recommendations for Population and Housing Censuses* suggests that information should be obtained on whether or not there is a fixed bath or shower installation within the premises of each set of housing units¹³. At the global level, around 50 per cent of the countries compiled data on bathing facilities (see Table 1). Prevalence of countries to include this topic significantly differs from one region to another – countries in Europe and South America displayed the highest interest in this topics, with around 83 per cent of the countries including it in their national housing censuses,

¹³ Additional information may be collected to show whether or not the facilities are for the exclusive use of the occupants of the living quarters (paragraph 2.490 of the P&R.).

respectively, while in North America, Africa and Asia, this proportion ranged from 30 per cent to 40 per cent..

59. Countries that included this topic collected data particularly on availability of bathing facility in the housing unit. Moreover, number of countries such as Monaco, Hungary, Italy, Israel, Qatar, Hong Kong-SAR, Aruba, Cayman Island, Venezuela, Colombia and Norfolk Island also asked number of baths available in the housing unit.

l. Kitchen-availability of (core topic)

60. This topic refers to the availability of kitchen or some other space set aside for cooking, such as a kitchenette, within the housing unit (paragraph 2.492 of the *UN Principles and Recommendations for Population and Housing Censuses*).

61. Of 124 countries, 46 countries (37 per cent) covered this topic in the census. Most of countries, for example Maldives, Mongolia, Qatar, Cayman Islands, Jamaica, American Samoa, Cook Island, Guam, collected this data only for the availability of a kitchen in the housing unit. On the other hand, countries such as Bulgaria, Turkey, Czech Republic, Estonia, and Italy have collected data about the availability of kitchen and its type as recommended.

m. Fuel used for cooking (core topic)

62. The proportion of households using solid fuels is one of the indicators for monitoring the Millennium Development Goals¹⁴. The *UN Principles and Recommendations for Population and Housing Censuses* recommends collecting data on this topic for main fuel used for cooking with classification depending on national circumstance (for example gas, electricity, kerosene, oil, coal and others). On the global level, around 61 per cent of countries compiled information about the fuel used for cooking. Selection of this topic is reflecting strong regional pattern with very low interest of the European countries. On the other hand, the countries in African region have shown a significant interest with covering this topic by 93 per cent of national housing censuses. In Africa, only Reunion and Togo did not collect data about fuel used for cooking.

n. Lighting and/or electricity-type of (core topic)

63. *UN Principles and Recommendations for Population and Housing Censuses* recommends obtaining information about the type of lighting in the housing unit, such as electricity, gas, oil lamp and so forth. It also recommends that if the source of energy for lighting is electricity, the data showing whether the electricity mainly comes from a community supply, private generating plant or some other source (industrial plant, mine and so on) may be collected (paragraph 2.497 of the *UN Principles and Recommendations for Population and Housing Censuses*).

¹⁴ There are important linkages between household solid fuel use, indoor air pollution, deforestation and soil erosion and greenhouse gas emissions. The type of fuel and participation in cooking tasks are important predictors of exposure to indoor air pollution (paragraph 2.496 of the P&R).

64. Proportion of the countries that collected data the type of lighting or source of electricity in the census is around 69 per cent at the global level. While this proportion is the highest in Africa and South America with around 96 per cent and 100 per cent, respectively, it is the lowest in Europe with 38 per cent. Phrasing the question for capturing this information varied among regions. African countries compiled this information with the question of “What type of energy/fuel used for lighting?” including one category for electricity and another for other sources for lighting. European countries collected data only on the availability of electricity in the housing unit. In other regions, there is no unique approach but most of the countries obtained this information to measure availability of the electricity in the housing unit. In addition, source of electricity is not covered by many countries. Only few countries collected data on source of electricity such as Niue, Cook Island, Venezuela and Indonesia have compiled this information by the question of “main source of electricity”.

o. Solid waste disposal-main type of (core topic)

65. This topic refers to the usual manner of collection and disposal of solid waste/garbage generated by occupants of the housing unit. The unit of enumeration is a housing unit (paragraph 2.500 of the *UN Principles and Recommendations for Population and Housing Censuses*). Main type of solid waste disposal is included in the census questionnaires of 46 countries (37 per cent). Among the regions, this topic is mostly represented in Africa (59 per cent), North America (61 per cent) and South America (50 per cent). The European countries showed very low interest for collecting data on solid waste disposal. Eight percent of the countries in Europe – Russia and Spain - collected data on this topic in the census.

66. More importantly, a number of countries attempted to collect additional information about this topic. Number of countries such as Bermuda, Costa Rica and Trinidad and Tobacco in North America collected information about whether a household has a system for recycling of specific type of garbage. They asked additional question if the housing unit has separate disposal system for; a) plastic, glass, aluminum, b) papers and c) leftovers (fruits, vegetables, etc.).

p. Heating-type and energy used for

67. This topic refers to the type of heating of housing units and the energy used for that purpose. This topic is irrelevant for a number of countries where, owing to their geographical position and climate, there is no need to provide heating. Type of heating refers to the kind of system used to provide heating for most of the space in the housing unit¹⁵. As expected, few countries in North America (2 countries) and Oceania (2 countries) and no country in South America included this topic in the census. From other regions, Europe has the highest percentage of asking question on this topic with 83 per cent of the countries. Asia and Africa have similar level with 26 per cent and 19 per cent of the countries, respectively.

¹⁵ It may be central heating serving all the sets of living quarters or serving a set of living quarters, or it may not be central in which case the heating will be provided separately within the living quarters by a stove, fireplace or some other heating body. As for the energy used for heating, it is closely related to the type of heating and refers to the predominant source of energy, such as solid fuels (coal, lignite and products of coal and lignite, wood), oils, gaseous fuels (natural or liquefied gas), electricity and so forth (Paragraph 2.501 of the P&R).

68. Regarding the structure of the question, it is noteworthy that most of European countries collected data on type of heating and also type of energy used for heating as recommended by the *UN Principles and Recommendations for Population and Housing Censuses*. However some countries such as Mongolia, Iran, Montenegro, New Zealand and Estonia collected data only on type of energy used for heating but without information on the type of heating system.

q. Hot water-availability of

69. Availability of hot water in the housing unit is suggested as non-core topic¹⁶. Of 124 countries, 23 countries (19 per cent) covered this topic in the census. There is no significant regional pattern in covering this topic; countries in Oceania and Europe have slightly higher interest in collecting these data.

r. Piped gas-availability of

70. Availability of piped gas in the housing units is also of interest to just a few countries (only 9 countries)¹⁷. Countries in Europe were most likely to include this topics in their censuses, as 6 countries did so, compared to one country in Asia and 2 in South America.

s. Use of housing unit

71. Use of housing unit refers to whether the housing unit is being used wholly for habitation (residential) purposes or not. The housing unit can be used for habitation and for commercial, manufacturing or some other purposes. This topic is covered by 18 per cent of countries (22 countries) at the global level. Information about the use of housing unit was requested with similar type of question in all countries - focusing on if the housing unit were used only for habitation or for both habitation and economic purposes. The highest interest is observed in Europe in which 33 per cent of the countries collected this information followed by 28 per cent of countries in North America, and 23 per cent of countries in Oceania.

2. Topics related to buildings

a. Building-type of (core topic)

72. The *UN Principles and Recommendations for Population and Housing Censuses* recommends collecting information about types of buildings in which some space is used for residential purposes¹⁸. As

¹⁶ Availability of hot water refers to the availability of hot water in housing units. Hot water denotes water heated to a certain temperature and conducted through pipes and tap to occupants. The information collected may indicate whether there is hot water available within the housing units, or outside the living quarters for exclusive or shared use, or not at all (Paragraph 2.502

¹⁷ This topic refers to whether piped gas is available in the housing unit or not. Piped gas is usually defined as natural or manufactured gas that is distributed by pipeline and whose consumption is recorded. This topic may be irrelevant for a number of countries where there is either a lack of sources of natural gas or no developed pipeline system (Paragraph 2.503 of the P&R).

discussed in the section of type of living quarters of this report, it is very common to collect information about type of living with the same question of type of living quarters.

73. Of 124 countries, 55 countries (44 per cent) covered the question about type of building in their censuses. Information about this topic is collected by 71 per cent of countries in Europe and 59 per cent of countries in Oceania. No country in South America collected data on type of the buildings while in other regions around 30 per cent of the countries covered this topic in the census. Although this is one of core topics, majority of countries in Asia, Africa and North and South America are not interested to collect data on type of buildings.

74. According to countries' practices, it seems that there is a need to revise classification of the type of building (one category of the classification is "buildings for persons living in institutions" that is also covered in the classification of type of living quarters). Also there is a need to elaborate on how type of building is different from type of housing units and/or type of living quarters to make clear distinction between these topics in the next round of the recommendations.

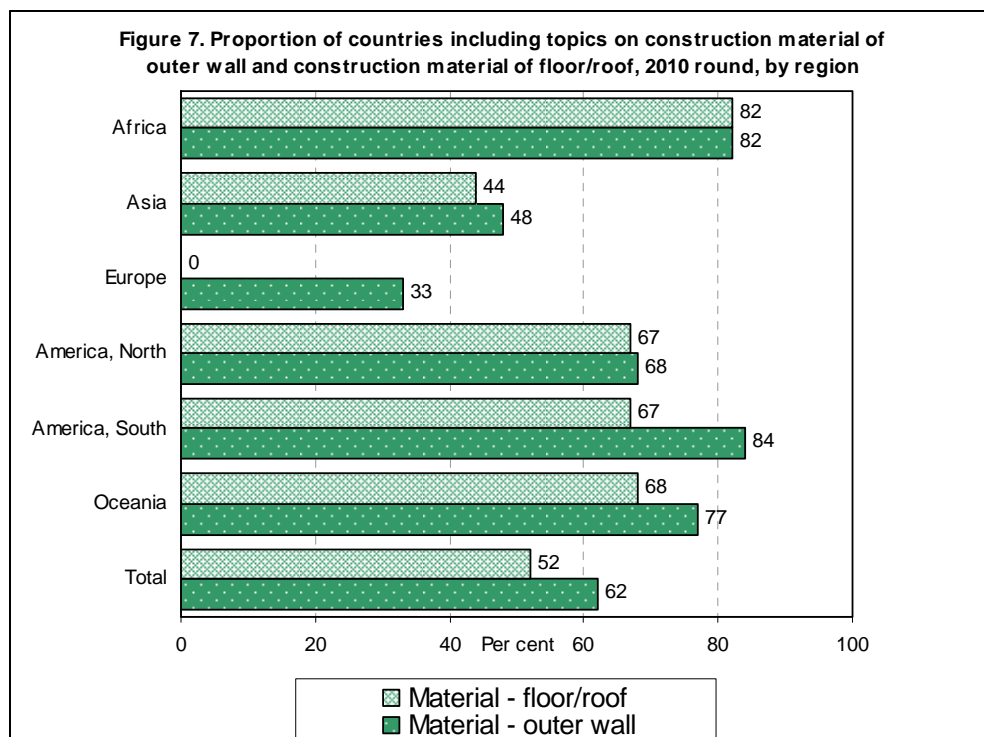
b. Construction material of outer walls (core topic)

75. This topic refers to the construction material of external (outer) walls of the building in which the sets of living quarters are located¹⁹. Information about this topic is collected by 62 per cent of countries and mainly of interest in Africa, South America and Oceania. Among regions, Europe has the lowest interest in which 33 per cent of the countries collected this data followed by Asia in which 48 per cent of the countries collected.

76. The overview of the census questionnaires covered in this report indicates that although material of outer walls is core and material of roof/floor is non-core topic, these two topics are included together in most of the censuses. Figure 7 presents proportion of countries collecting data on construction materials of outer wall and/or floor/roof. Reviewing the questionnaires shows that the regions have more or less similar interest of covering the construction materials of walls, floor and roof of housing unit.

¹⁸ In addition, it suggests collecting this topic with main three categories: a) building containing a single housing unit (detached or attached), b) building containing more than one housing units (with number of floors) and c) buildings for persons living in institutions (Paragraph 2.514 of the P&R).

¹⁹ The type of materials (brick, concrete, wood, adobe and so on) can be decided depending on the materials most frequently used in the country (Paragraph 2.525 of the P&R).



c. Construction material of floor, roof

77. At the global level, 52 per cent of the countries (65 countries) covered the question about materials of floor and/or roof. As presented above, this topic is collected together with construction material of walls of housing unit. In Africa and North America, all countries which collected data on materials of walls also collected data on materials of floor/roof. In other regions, the countries which cover the materials for walls are slightly more numerous than the countries covering materials for roof/ floor. Countries in Europe display completely different pattern than countries in the other regions - no country in Europe collected data on materials of roof/floor while 33 per cent of the countries in this region collected data on construction materials of outer wall.

d. Year or period of construction

78. This topic refers to the age of the building in which the set of housing units are located. In other words, it refers to the period of construction starting from the date of the building was completed (Paragraph 2.519 of the *UN Principles and Recommendations for Population and Housing Censuses*). Around 46 per cent of the countries collected the information about this topic. The highest percentage of covering this topic in the census was recorded in Europe with 75 per cent of countries including it in their national censuses, followed by North America, while the lowest percentage was recorded in Africa with 22 per cent of countries including this topic. Looking at the structure of the question, it is observed that countries used similar type of question to collect data about this topic which is fully in line with the recommendations of the *UN Principles and Recommendations for Population and Housing Censuses*.

e. Dwellings in the building

79. The *UN Principles and Recommendations for Population and Housing Censuses* suggests collecting data on the number of dwellings in the building. This topic is covered by few countries mostly in Europe. In total, this topic is covered by 11 countries (8 countries in Europe, 2 countries in North America and 1 country in Africa).

f. Elevator –availability of

80. Availability of elevator in the building is suggested as non-core topic. This topic is also covered by only 8 countries in the census (5 countries in Europe, 1 country in South America, North America and Africa, respectively).

g. Farm buildings

81. This topic refers to a farm building which is a part of agricultural holding and used for agricultural and/or housing purposes. Based on the experience of 124 countries, no country asked question about if the building is used for agricultural and/or housing purposes. However, a number of countries included questions on household's agricultural activities. This topic is elaborated in the section of "Agriculture" of this report.

82. As no country covered a specified topic in the census to collect data on if the building is used for agricultural purposes or not, it is necessary to review this recommendation to clarify its definition.

h. State of repair

83. This topic²⁰ has been covered by eight countries (Seychelles, Aruba, Belize, Ecuador, India, Malta, Marshal Island and Nauru) with no regional pattern. Most of these countries asked this question for general condition of housing unit (good, moderate, poor, and dilapidated). Nauru and Aruba collected this data for specific part of the housing unit such as the state of repair of roof, wall, floor, and window.

3. Topics related to households

a. Occupancy by one or more households (core topic)

84. The *UN Principles and Recommendations for Population and Housing Censuses* recommends this topic for assessing the current housing situation and measuring the need for housing²¹. Twenty five

²⁰ This topic refers to whether the building is in need of repair and to the kind of repair needed. This topic is applicable in cases where there is a possibility to have a unique identifier for the building itself. If a census established such an identifier (building number, for example, linked to the address) then it would be possible to introduce this topic. The classification of buildings according to the state of repair may include: repair not needed, in need of minor, moderate or serious repair and irreparable.

²¹ In case of relying on housekeeping concepts, the number of households living in a certain housing unit will yield this information. On the other hand, if the dwelling unit concept of households is used, there is no need to cover this topic as the household is equivalent to the dwelling unit (Paragraph 2.507 of the P&R).

countries (20 per cent) collected information about the number of households living in the same housing unit. There is no significant regional pattern observed except South America in which 5 countries out of 6 collected this information. Based on the census questionnaires, it is not possible to conclude what extent the countries followed this recommendation as no information about definition of the household is available in the questionnaire.

b. Tenure (core topic)

85. The topic of tenure status²² of households occupying the housing unit is highly relevant for all the countries and was covered by 86 per cent of the countries (107 countries). In all regions, at least 80 percent of the countries collected this information. In fact, this topic is the most implemented topic among the housing core topics in all regions. The figure 3 presents proportion of the countries collecting data on tenure and/or ownership status by regions. More information and comparison of implementation of tenure and ownership status are given in the section of “ownership status” of this report.

c. Information and communication technology (ICT) devices-availability of (core topic)

86. According to the countries’ practices, this topic²³ has been covered by 75 per cent of the countries (93 countries out of 124). Most of the countries in all regions covered this topic in their censuses. Among the regions, Africa and Oceania have the highest interest of covering this topic in the census. Around 90 per cent of the countries in these regions collected this information while 83 per cent of the countries in South and North America covered this topic. This proportion is slightly lower in Europe and Asia with 50 per cent and 63 per cent respectively.

87. Reviewing census questionnaires shows that countries applied different types of questions to collect data on ICT devices. In general, they applied two approaches. The first approach consisting of a set of questions on availability/ownership of specific categories of ICT devices. For example, Aruba, Burundi, Congo, Djibouti, Ghana, Belize, Jamaica, Saint Lucia and Sri Lanka asked two questions: One question is for collecting data on information including radio, television, PC, internet and the other question is for communication devices including mobile telephone and land line. Other group of countries such as Bermuda, Ireland, Croatia, Czech Republic, and US Virgin Islands collected data only on the number of PCs and access to internet with specific question for this topic.

88. In the second approach, information on the availability of ICT is derived from the question on the availability of durable household appliance. For example, Bulgaria, Malta, Brazil, Kenya, Lesotho, Mauritius, Swaziland, Costa Rica, Maldives, Nepal, Fiji, Marshal Islands, Micronesia, Solomon Islands

22. Tenure refers to the arrangements under which the household occupies all or part of a housing unit. The unit of enumeration is a household occupying a housing unit (paragraph 2.536 of the P&R).

23 The housing census can provide information about the availability of ICT devices for use of the household. The P&R suggests classifying the ICT devices in three main groups: a) having radio and television set, b) having fixed-line telephone and mobile cellular telephone(s) and c) having personal computer and accessing the internet from home and/or from elsewhere other than home (such as school, university, public access centers, work place, etc.).

and Albania collected this information through the list of durable household appliances available for use of the household.

89. In general, ICT topic is highly relevant to the majority of countries. However, the recommendations of the *UN Principles and Recommendations for Population and Housing Censuses* regarding collection of data on “access to the internet from outside the home” are implemented by just few countries such as Sri Lanka, Cook Islands, South Africa and Cambodia. These countries collected data on places for accessing the internet such as internet access at home, work, school, café and friends at the household level.

d. Rental and owner-occupied housing costs

90. The *UN Principles and Recommendations for Population and Housing Censuses* suggests collecting data on the amount paid periodically for the space occupied by a household. In addition to the rent, it is also suggested to collect information on the housing costs of the owner-occupied households such as the costs of monthly mortgage payments, taxes and cost of utilities.

91. Of 124 countries, 29 countries have collected data on the rent and/of the costs of owner-occupied housing units. Among the regions, the highest percentage was recorded in North America with 56 per cent followed by Oceania and South America and the lowest percentage was reported in Africa with just 7 per cent of national censuses including this topic. Among the countries which covered this topic, about half of them collected data only on the amount of rent and the other half collected data on amount of the rent and housing costs particularly monthly payment for the mortgage as well. For example Canada, US, Hong-Kong SAR, Panama, Bahamas, American Samoa and Guam collected detail information about the mortgage, taxes and insurance.

e. Furnished/unfurnished

92. The *UN Principles and Recommendations for Population and Housing Censuses* recommends collecting additional information on whether the housing unit was rented furnished or unfurnished and whether utilities such as gas, electricity, heat and water are included in the rent or not. This information was covered by 13 countries (10 per cent) in housing censuses in the 2010 round. There is no regional pattern in collecting this information. Around 10 per cent of the countries in each region covered this topic with exception of Africa in which only Reunion covered this topic.

93. Most of the countries which covered this topic collected this data by adding relevant categories to the question on tenure status - rented with furniture and rented without furniture. Among these countries, few of them such as US, American Samoa and Guam collected data also on the costs of electricity, gas and other utilities as recommended in the *UN Principles and Recommendations for Population and Housing Censuses*.

f. Cars-number of

94. This topic refers to the number of cars and vans available for use of members of the households. In the process of reviewing census questionnaires for this report, it was noted that countries collected this information by asking either about the numbers of cars or the availability of a car for use by members of the household. Although the recommended topic refers to the number of cars, this review considers the information about availability of car as being also in line with the recommendations.

95. The topic for the number of cars or availability of a car is covered by 75 countries (60 per cent) of the total of 124 countries. Proportion of the countries which cover this topic is the highest in Africa, North America and Oceania. The lowest proportion was recorded in Europe with 33 per cent followed by Asia in which 41 per cent of the countries collected this data.

96. Collecting data on the availability of a car is particularly common in Africa. In this region, around half of the countries asked the question about the availability of a car and the other half collected this data with the question of the number of cars. Most of countries in other regions collected this topic by asking about the number of cars in line with the recommendations.

97. Regarding the structure of the question, there are several approaches. The countries which covered availability of the car usually collected this data as one category of durable household appliances. The countries which collected data on number of cars usually collected this information with separate question on number of vehicles including cars, motorbike, bicycles, van, boat and etc.

g. Durable household appliances-availability of

98. The *UN Principles and Recommendations for Population and Housing Censuses* suggests including a non-core topic on the availability of durable appliances in the housing unit such as washing machines, dishwashing machines, refrigerators, freezers and so forth which can be identified depending on national circumstances.

99. Based on the countries' practices in the 2010 round, the list of durable appliances is significantly different from one region to another and sometimes from one country to another within the region. Some countries only collected data for the availability of a refrigerator (for example Samoa, Guam, Burkina Faso, Nepal and Kenya) while some countries (such as Niue, Algeria, Reunion, Malta, Trinidad and Tobago) collected this data for a variety of appliances.

100. Although this is non-core topic, the majority of the countries collected data on this topic in the census. Among the regions, countries in Africa, North America and Oceania found this topic highly relevant, with the coverage around 73 per cent of the countries, while just 17 per cent of countries in Europe included this topic in their respective housing censuses.

101. This topic may provide qualitative information for an assessment of living condition at the household level particularly in case of the absence of reliable information about poverty level for small geographical areas. *UN Principles and Recommendations for Population and Housing Censuses* might be reviewed as to elaborate on uses and importance of this topic based on the experiences of the countries which collected information about this topic.

h. Outdoor space

102. This topic refers to the availability of outdoor space intended for the recreational activities of the members of a household occupying a housing unit. This space can be a part of housing unit (such as backyard) or can be available adjacent to the building or as part of common recreational areas within 10 minutes walk from the housing unit (such as parks, sports centers). For more information, see the paragraph 2.553 in the *UN Principles and Recommendations for Population and Housing Censuses*.

103. Of the 124 countries, with exception of several countries that inquired about the availability of outdoor garden for growing fruits and vegetables, it appears that none included this question in their housing census.

4. Other topics included in the censuses

104. Not surprisingly, almost all countries collected data on additional housing topics in the census according to national needs. These topics are evaluated and summarized in this section to offer a basis for discussion regarding potential new topics for the next round of censuses. The following topics are covered by a number of countries:

- **Availability of space for car parking:** Information about availability of parking space for use by household was covered by significant number of countries such as Reunion, Macao, Faeroes, Italy, Malta, Luxemburg, French Guiana and Monaco.
- **Position of dwelling in the building:** This information is collected by some European countries such as Czech Republic, Romania and Serbia as indicator of accessibility to dwellings.
- **Availability of recycling system for disposing garbage:** Number of countries such as Bermuda, Costa Rica and Trinidad and Tobacco collected additional data on the system for disposing recycling materials such as the system for disposal of paper, glass, plastic, aluminum and etc.
- **Year of moving in the housing unit:** Few countries such as Reunion and French Guiana collected data on year of moving in the housing unit.
- **Sources of income:** Number of countries such as Vanuatu, Tokelau, Solomon Islands, Samoa, Marshal Islands, Albania and Botswana collected data on main –or first three sources- of income of the household.
- **Ownership of secondary/other housing unit:** Algeria, Belarus and Malta covered additional topic in the census if any member of household is owner of secondary or holiday dwelling or owner of another dwelling.

C. Main findings on implementation of recommendations in respect to topics on agriculture

105. In order to facilitate the preparation of the frame of agricultural holdings in the household sector, two non-core topics are suggested by the *UN Principles and Recommendations for Population and Housing Censuses*. With the first topic, at the household level, information is collected at the household level on whether any member of the household is engaged in own-account agricultural production activities at their place of usual residence or elsewhere. With the second topic, at the individual level,

information is collected to identify persons involved in agricultural activities during a longer period, such as a year (Paragraph 2.382 in the *UN Principles and Recommendations for Population and Housing Censuses*).

106. This report discusses country experience in implementing the first non-core topic aiming to collect data at the household level. Of 124 countries, 42 countries (34 per cent) collected data on any household's member agricultural production activities. Interest of collecting this information varies significantly from one region to another. Many countries in Africa (60 per cent) collected data on this topic, followed by Oceania with 46 per cent and North America with 40 per cent. Countries in Europe and Asia did not consider this topic particularly relevant and few countries included it in their censuses.

107. Countries applied different approaches to collect this data. For example, Burkina Faso applied first phase of the census of agriculture simultaneously with the population and housing census to establish the frame for the next phase and collected detailed information about own-account agricultural activities by type of production and number of farming animals. Ghana and Armenia included several questions in the agricultural section of the census questionnaire and collected detailed information about type of agricultural activities – crop farming, tree growing, livestock and fish farming- and the size of farm/the number of livestock.

108. Nepal covered this topic in the form of household listing and collected detailed information about the land area under crops and number of livestock and poultry. Other countries such as Belize, South Africa, Iran and Timor-Leste asked specific question(s) in the questionnaire of housing characteristics and collected data on crops and livestock.

IV. CONCLUSIONS AND RECOMMENDATIONS

109. The results of reviewing national census questionnaires used in the 2010 round of censuses are presented for the global level and by six geographical regions in this report. In general, this review shows that the countries implemented housing topics in compliance with the recommendations of the *UN Principles and Recommendations for Population and Housing Censuses*. Moreover, this report indicates strong regional patterns in selecting housing topics which in turn would provide comparable data particularly from the regional perspective.

110. One of the notable results of this review is that many countries are implementing most of the core topics, in general, even though some topics are more pertinent and represented in different regions. In addition to core topics, some of the non-core topics, especially number of cars, durable household appliance, and year of construction and construction materials of roof/floor are significantly implemented by majority of the countries, so these topics should be put for discussion and possible inclusion in the revised set of the *UN Principles and Recommendations for Population and Housing Censuses* as core topics.

111. The findings in this report indicate that certain concepts and classifications might be considered for thorough review and possible updating; these are listed below:

- 1) The classification for the topic “**type of buildings**” includes one category for “*buildings for persons living in institutions*” which is not directly related with the type of buildings; in fact it is more related to the living arrangements of people. Therefore it is suggested to delete this category from the classification of type of buildings.
- 2) “**Occupancy status**” of dwellings is one of most important topics in housing censuses to ensure that all dwellings -occupied, seasonally used or vacant - are covered by the census. Complete coverage of the dwellings is one of important topics for developing housing policies based on distribution and characteristics of dwellings in a country. This information is also needed to support administrative data for construction statistics as only housing census can provide stock information for the dwellings particularly for the countries which do not have reliable administrative sources on construction statistics. It might be necessary to revisit classification of occupancy status and elaborate on importance and utilization of this information in the context of housing statistics.
- 3) “**Availability of information and communication technology (ICT) devices**” is one of the core topics and almost 80 per cent of the countries collected this information. However, content of data widely differs from one country to another. In this regards, there might be a need for revising this topic in a way of improving the concepts. For example, ICT can be separated in various topics such as “availability of internet connection and PC” and “availability of telephone line” to collect comparable data and maybe to improve the quality of data. Also, in the current *UN Principles and Recommendations for Population and Housing Censuses*, some categories of this topic such as “household accessing the internet from home”, “household accessing the internet from elsewhere other than home” might be revised considering that this information in fact can be collected more reliable through individual questionnaire.
- 4) “**Heating - type and energy used**” as non-core topics are mainly relevant to the countries where heating is a necessity. This topic includes two different concepts related to “heating system” and “sources of energy used”. This topic might be more meaningful and applicable in the field if the topic is separated in two parts as “type of heating system” and “type of energy used for heating”.
- 5) The results of this review showed that, out of 124 countries covered in this report, not one country included the topics related to the “**Farm building**” and “**Available outdoor space**” in their housing censuses. These two topics might be revisited to elaborate on importance and uses of these topics for housing policies and also there might be a discussion if these topics should be deleted from the *UN Principles and Recommendations for Population and Housing Censuses*.

- 6) Among the non-core topics, “**year or period of construction**” has been included in housing censuses of about half of the countries in the 2010 round. Considering its importance for assessing the age of buildings and supporting administrative registers for construction statistics, this topic might be considered for upgrade to a core topic in the revised *UN Principles and Recommendations for Population and Housing Censuses*. In addition, the designation of two other non-core topics which were included in significant number of the countries, namely the **number of cars**, and **availability of durable household appliance(s)** might be revisited.
- 7) Many countries collected data on **number of toilet and bathing facilities in the housing units**. In this regard, classification of type of toilet and bathing facilities should be revised to cover number of toilets and bathing facilities in the housing unit.
- 8) Several topics that are not listed in the current version of the *UN Principles and Recommendations for Population and Housing Censuses* yet were often incorporated in a number of national censuses in the 2010 round deserve a particular consideration. For example, availability of parking place, recycling system for disposal of garbage, ownership of secondary/other housing units are emerging as potential points for consideration.

Annex 1: List of countries reviewed and census year

Region and Country	Census year	Region and Country	Census year
<u>Africa</u>		<u>Asia</u>	
Algeria	2008	Armenia	2011
Botswana	2011	Bangladesh	2011
Burkina Faso	2006	Bhutan	2005
Burundi	2008	Cambodia	2008
Cameroon	2005	Cyprus	2011
Congo	2007	Democratic People's Republic of Korea	2008
Djibouti	2009	Hong Kong SAR of China	2006
Egypt	2006	India	2011
Ethiopia	2007	Indonesia	2010
Ghana	2010	Iran (Islamic Republic of)	2006
Kenya	2009	Israel	2008
Lesotho	2006	Japan	2005
Liberia	2008	Lao People`s Democratic Republic	2005
Malawi	2008	Macao SAR of China	2006
Mali	2009	Maldives	2006
Mauritius	2011	Mongolia	2010
Mayotte	2007	Nepal	2011
Namibia	2011	State of Palestine	2007
Nigeria	2006	Philippines	2007
Réunion	2006	Qatar	2010
Saint Helena	2008	Republic of Korea	2005
Seychelles	2010	Singapore	2010
South Africa	2011	Sri Lanka	2012
Sudan	2008	Thailand	2010
Swaziland	2007	Timor-Leste	2010
Togo	2010	Turkey	2011
Zambia	2010	Viet Nam	2009
<u>America, North</u>		<u>Europe</u>	
Aruba	2010	Albania	2011
Bahamas	2010	Belarus	2009
Barbados	2010	Bulgaria	2011
Belize	2010	Croatia	2011
Bermuda	2010	Czech Republic	2011
Canada	2011	Estonia	2012
Cayman Island	2010	Faeroe Island	2011
Costa Rica	2011	France	2008
Dominican Republic	2010	Hungary	2011
El Salvador	2007	Ireland	2006
Jamaica	2010	Isle of Man	2006
Mexico	2005	Italy	2012
Nicaragua	2005	Latvia	2011
Panama	2010	Lithuania	2011
Saint Lucia	2010	Luxembourg	2011
Trinidad and Tobago	2011	Malta	2011
United States of America	2010	Monaco	2008
United States Virgin Islands	2010	Montenegro	2011
		Romania	2011
		Russia	2010
<u>America, South</u>			

Brazil	2010	Serbia	2011
Colombia	2005	Spain	2011
Ecuador	2010	Switzerland	2010
French Guiana	2006	United Kingdom	2011
Peru	2007		
Venezuela	2011		
<u>Oceania</u>		<u>Oceania</u>	
American Samoa	2010	New Zealand	2006
Australia	2006	Niue	2006
Cook Islands	2006	Norfolk Island	2006
Fiji	2007	Northern Mariana Islands	2010
French Polynesia	2007	Palau	2005
Guam	2010	Samoa	2006
Kiribati	2005	Solomon Islands	2009
Marshal Island	2011	Tokelau	2006
Micronesia	2010	Tonga	2009
Nauru	2011	Vanuatu	2009
New Caledonia	2009	Wallis and Futuna Islands	2008

Annex 2: Number of countries implemented housing topics by regions

Housing Topics	Africa	Asia	Europe	North America	South America	Oceania	Total
<i>Core</i>							
Living quarters-type of	21	20	17	14	5	15	92
Occupancy status	8	3	12	9	5	5	42
Ownership-type of	8	8	19	4	1	3	43
Rooms-number of	22	17	21	16	4	15	95
Water supply system	14	7	16	16	5	17	75
Drinking water-main source of	13	15	1	4	4	10	47
Toilet-type of	27	20	17	13	4	18	99
Sewage disposal	14	11	12	10	5	9	61
Bathing facilities	9	10	20	7	5	13	64
Kitchen-availability of	8	10	10	5	4	9	46
Fuel used for cooking	25	17	2	14	4	13	75
Lighting and/or electricity-type of	26	15	9	13	6	16	85
Solid waste disposal-main type of	16	6	2	11	3	8	46
Occupancy by one or more households	3	7	6	5	4	0	25
Building-type of	9	10	17	6	0	13	55
Construction material of outer walls	22	13	8	12	5	17	77
Tenure	24	23	19	16	6	19	107
Information and communication technology (ICT) devices-availability of	24	17	12	15	5	20	93
<i>Non-core</i>							
Bedrooms-number of	10	9	2	17	4	9	51
Useful floor space	1	10	18	2	1	2	34
Heating-type and energy used for	5	7	20	2	0	2	36
Hot water-availability of	1	4	7	3	0	8	23
Piped gas-availability of	0	1	6	0	2	0	9
Use of housing unit	1	3	8	5	0	5	22
Year or period of construction	6	9	18	11	2	11	57
Dwellings in the building-number of	1	0	8	2	0	0	11
Construction material of floors, roof	22	12	0	12	4	15	65
Elevator-availability of	1	0	5	1	1	0	8
Farm building	0	0	0	0	0	0	0
State of repair	1	1	1	2	1	2	8
Rental and owner-occupied housing costs	2	3	4	10	2	8	29
Furnished/unfurnished	1	2	3	3	1	3	13
Cars-number of	21	11	8	14	4	17	75
Durable household appliances-availability of	20	9	4	13	4	16	66
Available outdoor space	0	0	1	0	0	1	2
<i>Number of countries</i>	27	27	24	18	6	22	124