Concept Note

Asia-Pacific Regional Workshop on the Use of Technology in Population and Housing Censuses

24 – 26 January, 2018
Bangkok, Thailand

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Background information

This three-day workshop is part of the implementation of the UN Development Account 10th tranche Programme that brings together the collective efforts of six entities (UNSD, ECA ECE, ECLAC, ESCAP and ESCWA) for strengthening the capacity of national statistical offices, which includes a component on making efficient use of technology in carrying out a census. Population and housing censuses provide fundamental information for monitoring the 2030 Agenda for Sustainable Development on a wide range of statistical areas related to population and housing by allowing disaggregation by small geographic areas and small population groups. As the population and housing census is a fundamental source for producing statistics on small areas, timely dissemination of high-quality census data is crucial for monitoring the SDG indicators at a detailed level. Population and housing census can also be combined with data from surveys and other sources for augmented production of disaggregated data.

Population and housing censuses are one of the most complex and costly statistical operations undertaken by statistical offices due to the involvement of a huge number of field workers, requiring a long time for preparation and post-enumeration activities. Therefore, there is an ongoing effort to improve the use of alternative approaches and technologies as a means of increasing resource efficiency, data quality, and timeliness of census results while considering increasing costs of carrying out the census.

In this context, the project on the use of technology aims to strengthen the capacity of national statistical offices to efficiently use technology as a means of improving data quality and timely dissemination of census results. Through this project, countries would have a better understanding of the pros and cons of the adoption of technologies in conducting censuses, as well as optimal decision-making strategies when considering the most efficient and appropriate uses of technologies in census data collection. For this objective, the guide document is being as a reference document for use by

national statistical offices or census authorities. The project also covers regional and national workshops to build a capacity for efficient use of technology in conducting population and housing censuses.

To initiate the process of drafting the guidelines, a global technical meeting was organized in Amman/Jordan in 28 November-1 December 2016 in collaboration with UN Regional Commissions.   The meeting reviewed country practices on the use of electronic data collection technologies (such as tablets, PDAs, laptops, the Internet, GPS and other technologies) for enumeration of population and documented challenges and advantages of adoption of new technologies in censuses. The meeting also gave an opportunity to discuss the content of the guidelines on the use of technology. Following the meeting, a Task Force consisting of members from countries having good experience in the adoption of these technologies was set up in February 2017 for drafting the guidelines. The guidelines aim to help countries especially: (i) to develop an appropriate strategy for using technology in census enumeration and (ii) to build capacity for effective adoption of the selected technology and to maximize the benefits of this investment.

As a second activity of this project, a series of regional workshops will be organized by the respective regional commissions in collaboration with UNSD to introduce the draft guidelines on the use of data collection technologies.

Purpose and expected outcomes of the Asia-Pacific regional workshop

The regional workshop aims to introduce the draft guidelines on the use of electronic data collection technologies in censuses and engage countries in an interactive dialogue regarding the potential experiences, opportunities and challenges in operationalizing the guidelines within national circumstances. Using the draft guidelines as a reference document, the workshop will introduce the main requirements for making sound decisions and common approaches in designing census processes utilizing handheld electronic devices and/or Internet for data collection and monitoring purposes. A critical component of the regional workshop will be to provide a platform to discuss good country practices at the regional level and potential challenges and risks that have to be taken into consideration for the successful adoption of these technologies.

The workshop will help in achieving a common and improved understanding of the process of adopting new technologies in conducting population and housing censuses and the importance of efficient use of these technologies in maximizing the benefits from this investment. In particular it is expected that the workshop will provide additional inputs for describing best practices in modernization of census operations with the use of new technologies.

Target participants

The target participants for the workshop are census managers in national statistical agencies which intend to use electronic data collection technologies in the 2020 round of censuses. Also, international and regional organizations and other regional partners that would contribute to the drafting of the

guidelines and/or would support to the implementation of censuses with the use of technology will be invited.

Envisioned Pre-Workshop Preparation

To facilitate the review of the draft guidelines considering current practices, participants should review the draft guidelines (to be circulated to confirmed participants) and submit in advance of the workshop a two-page brief providing an overview state of technologies that are planned for use in the 2020 round of censuses. **Confirmed participants will be given additional guidance on this component at a later date.**

Proposed structure of the workshop

The 3-day workshop will tentatively consist of the following substantive sessions corresponding to the parts of the draft guidelines on the use of electronic data collection technologies, outlined in the paragraphs below.

Each substantive session of the workshop will start with a presentation by the UNSD and/or ESCAP to introduce the related part of the guidelines which will be followed by selected country presentations, and concluded by a moderated plenary session. To get inputs from participants on the draft guidelines, substantial time will be allocated during the plenary session for interactive discussions.

Opening Session: Overview of data collection methods

This session will review data collection methods for censuses focusing on methods that are applied with the use of a technology (hand-held devices, Internet and telephone) including multi-mode data collection approaches. This session would also provide information on country experiences in the 2010 round and plans for the 2020 round of population and housing censuses for data collection methods with or without the use of a technology.

Session 1: Use of technologies in conducting censuses: A global and regional overview

This session will review data collection methods for censuses focusing on methods that are applied with the use of a technology (hand-held devices, Internet and telephone) including multi-mode data collection approaches. This session would also provide information on country experiences in the 2010 round and plans for the 2020 round of population and housing censuses for data collection methods with or without the use of a technology.

Session 2: Decision making process for adoption of electronic data collection

This session will discuss key issues that have to be taken into consideration before making a decision for the adoption of new technology for census data collection and monitoring. Key issues may include: (i) Determinants of technology adoption affecting the use of electronic data collection (institutional, technological economic and other social and cultural factors), (ii) Information required for decision making (such as information on national concepts, operational aspects, stakeholders` requirements, resources, cost estimates, potential risks, timetable, success criteria, etc.), (iii) Processes of decision

making (establishment of responsible bodies such as evaluation team, management group and process of analyzing, making a decision and documentation of processes).

Session 3: Considerations for planning census operations with the use of electronic data collection

This session will discuss important issues that have to be considered in planning, management and designing census operations with the use of electronic data collection technologies, focusing on preparatory activities that are necessary for successful implementation of field enumeration. The following topics would be covered: (i) Management of technology adoption, (ii) Institutional capacity development, (iii) IT acquisition, (iv) Development of technological infrastructure, (v) Uses of geospatial technology for census mapping and supporting to field enumeration, (vi) Considerations for multi-mode data collection approaches, (vii) Testing IT systems and software applications, (viii) Information and system security, (ix) Contingency planning.

Session 4: Developing electronic data collection applications

Electronic data collection is a relatively new phenomena in conducting population and housing censuses. It has many advantages in improving data quality and consistency between variables. However, the design of electronic data collection systems plays an important role in ensuring the quality of data collected during the interview. Designing the questionnaire includes deciding on the format (of the form itself and the questions), the use of skip patterns or additional routing questions, validation messages and other functions of the application. This session will discuss essential features of data collection applications and its design considerations. The session will also extensively discuss the importance of testing data collection applications.

Session 5: Data collection with handheld electronic devices

a. Preparatory activities: This session will focus on preparatory activities that have to be undertaken before field enumeration. The following topics would be covered in this session: (i) important features of hand-held devices, (iii) device acquisition, (iv) means of data transmission and technical considerations, (v) data and system security, (v) testing data collection application and field operation including pre-field tests and field tests, (vi) challenges and potential risks.

b. Field enumeration: This session will discuss all aspects of effective use of handheld devices for the purposes of enumeration of population and monitoring the field enumeration. The following topics can be covered: (i) field management structure, (ii) recruitment of field staff and training, (iii) logistics for storage and distribution of devices, (iv) concerns for device damage, lost or other issues affecting performance of enumeration, (v) Features and functions of management and monitoring system, (vi) use of GPS information and digital maps to support to field enumeration, (vii) duties of census actors for data collection, monitoring and decision making for field enumeration, (viii) quality assurance mechanisms for ensuring fully data transfer to headquarters and data integration, (viii) strategies for ensuring reuse of devices, (ix) challenges and risks during enumerations

Session 6: Data collection with Internet

This session will focus on main aspects of the use of Internet for self-enumeration of population emphasizing common areas in planning census operation with other data collection methods/ technologies. The session would cover: (i) Requirements for data collection with Internet, (ii) Development of data collection application and portal, (iii) methods of implementing Internet-based self-enumeration, (iv) approaches for identification/authentication of respondents, (v) Strategies to motivate Internet response, (vi) Management and monitoring system, (vii) Security of Interne data collection, (viii) Challenges and risks of Internet data collection.

Session 7: Considerations for multi-mode data collection methods

Multi-mode data collection approach which is not a new phenomenon in conducting the census is usually preferred to improve coverage and decrease census costs. The adoption of electronic data collection technologies increases the possibility of the use of multi-mode approaches (two or more of the following methods: CAPI, CAWI, CATI, PAPI and PASI), due to the limitations of a specific technology which may have a difficulty for widely adoption of this technology in every part of a country or for all population groups. This session will discuss management of multi-mode data collection approach in conducting censuses and its mode effect on census data quality.

Session 8: Use of GIS/GPS for supporting to the field enumeration

This session is devoted to discussion on how GIS system and other geospatial advancement such as GPS can be efficiently used for modernization of census enumeration activities. The importance of collecting georeferenced data for field management and monitoring will be covered in the session. Country presentations will also provide an opportunity to discuss the benefits of establishing GIS for monitoring the field enumeration.

Session 9:   Functions and features of Management Information System (MIS)

Establishing a management information system (MIS) is necessary for management of the field enumeration and monitoring the progress of the enumeration. Establishing such a system will not be very complicated in case of using electronic data collection technologies as the necessary IT infrastructure and skills will be readily available. The MIS has several important functions including: (i) providing up-to-date information needed by different levels of field staff from headquarters to supervisors, (ii) establishing easy communication among field staff and (iii) providing reporting tools for real-time monitoring the field. Such a system is fundamental for identifying problems and taking appropriate actions during the field enumeration.

This session will discuss the importance of establishing MIS as an integral part of electronic data collection system and its main roles and functions for supporting to the field enumeration.

Session 10: Establishing a Call Center: Its roles, main features and challenges

A call center has become a fundamental system for any type of census operation to inform public about enumeration and support to the field staff during the field work. The roles of this system will be more critical in case of the use of electronic data collection to provide immediate support to (i) the field staff

about the technology used and other methodological issues and (ii) the respondents to complete online questionnaire. This center can also serve as a data collection mode for enumerating population especially during the time of the follow-up non-response.

Group discussion

The group discussions would broadly cover two or three topics that would be important from a regional perspective. The objective of this session is to discuss challenges and identify potential solutions considering good practices in adoption of electronic data collection technologies in a country context. Based on topics selected for group discussions, leading questions will be provided to participants to achieve expected outcomes of group discussions. For each topic, there will be a presentation on the main outcomes of the discussion that will be commented by participants.

Proposed Agenda

Opening

Session 1: Use of technologies in conducting censuses: A global and regional overview

Session 2: Decision making process for adoption of electronic data collection

Session 3: Considerations for planning census operations with the use of electronic data collection

Session 4: Developing electronic data collection application

Session 5: Data collection with handheld electronic devices

Session 6: Data collection with Internet

Session 7: Multi-mode data collection approach

Session 8: Use of GIS/GPS for supporting to the field enumeration

 Session 9: Functions and features of Management Information System (MIS)

Session10 : Establishing a Call Center: Its roles, main features and challenges

Group discussions and reporting

Conclusions and closing