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AGENDA ITEM 6

Overview of Volume 2 of the WCA 2020: Operational Guidelines

Eloi OUEDRAOGO

Statistician

Agricultural Census and Survey Team

FAO Statistics Division



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Background about the WCA

- FAO is the leading UN agency for providing technical guidelines and support to member countries for the conduct of national censuses of agriculture.
- Since 1948, FAO has developed a dedicated World Programme that helps countries carry out their national censuses on agriculture.
- The *World Programme for the Census of Agriculture (WCA)* is updated every 10 years to build countries' capacities in the use of the most recent standards and methods to gather agriculture-related statistics.

Background (cont'd)

- In 2015, FAO published its 10th decennial WCA 2020 “*Programme, concepts and definitions*”. The new Programme provides guidelines to agricultural censuses to be undertaken between 2016 and 2025.
- Two volumes:
 - *Vol I: The Programme (2015)* – concepts, definitions and methodologies
 - *Vol II: Operational Guidelines (2018)* – practical aspects

Background (cont'd)

- Volume 2 *Operational Guidelines* complements the WCA 2020. It provides practical guidance to national census practitioners on the stages/steps involved in census preparation and implementation.
- The 49th session of the United Nations Statistical Commission (UNSC, New York, March 2018) encouraged member countries to use the new *Operational Guidelines* as a census reference.
- The *Operational Guidelines* takes into account the substantial changes in the census technological environment over the last decades.
- The publication is user-friendly and practical. It provides cross-references between sections and chapters, links to country practices, and hyperlinks to relevant specialized and detailed methodological publications and Web-based resources.
- A USB version of the *Operational Guidelines*, including resources, is enclosed in the front cover pocket of the book. Available in six languages. The English version is available at <http://www.fao.org/3/CA1963EN/ca1963en.pdf>

Steps in planning & conducting a CA

Design and Planning

Field Work

Processing, Analysis, Publication

Identify the role of the census of agriculture as a component of the system of integrated agricultural censuses and surveys

Determine the objectives of the census of agriculture and its overall strategy

Define the methodology and data collection method (paper, mobile device, etc.)

Develop a work plan and establish the budget to carry out the census

Develop the field system (including monitoring system); recruit and train field staff

Process and archive data, and prepare tabulation

Prepare census legislation, if required

Establish the institutional framework, create the Agricultural Census Office and recruit the necessary staff

Develop and implement the census publicity campaign

Design data quality assurance framework

Census enumeration

Analyse data and prepare census reports, disseminate and publicize results

Prepare frames and mapping

Develop the tabulation plan

Design and test questionnaires; prepare field instruction manuals

Design and test the computer processing system, including data capture, editing and tabulation

Post-Enumeration Survey (PES)

Reconcile the data from the system of current statistics with the census data

1. Identify the role of the AC as a component of the system of integrated agricultural censuses and surveys

- The census of agriculture must not be carried out in isolation but as a component of an integrated system of agricultural censuses and surveys
- Development of the system of agricultural censuses and surveys within the National Statistical System (NSS), in line with the National Strategy for the Development of Statistics (NSDS)
- A comprehensive multi-year census-survey programme ensures efficient use of available resources, standard definitions/classifications and avoids duplication of data collection or releasing conflicting statistics.

2A. Define the specific objectives of the AC

Specific objectives - to provide key data (mainly on the structure of agriculture):

- At the national level and for small administrative units/geographic areas; and at community level if needed.
- As benchmarks for and reconciliation of current agricultural statistics
- To provide frames for agricultural sampling surveys and data needed for registers of agricultural holders
- To collect some additional data on non-agricultural production households (in a widened AC).

2B. Define the overall strategy to implement the AC

- **Relationship to other censuses:** linked to or jointly with population or economic censuses
- **Census scope:**
 - Crop and livestock;
 - Aquaculture, and/or Forestry, and/or capture fisheries
- **Census coverage:**
 - Holdings in the household sector
 - Holdings in the non-household sector
 - Non-agricultural production households in rural areas
 - National or regional geographic coverage
 - Minimum thresholds
- **Way to implement the census:**
 - Methodology (see next slide)

3. Define the methodology and collection method

- Define the statistical unit (e.g. agric. holding)
- Reference period (census reference year)
- Approach: classical, modular, integrated census-surveys, use of registers
- Enumeration period(s) and number of phases
- Design collection:
 - Establishment of census frame (including listing operation)
 - Use of maps
 - Data collection method (e.g. PAPI, CAPI, etc.)
 - Sample design (if relevant)
 - Fine-tuning of methodology based on pilot census results
- Design of Post-enumeration Survey (PES)

4. Develop work plan and budget



- Elaboration of **detailed work plan** with the different stages of implementation clearly established.
- Development of **detailed budget** where different components of spending are estimated and **time-table** of expenditures and funding.
- **All census operations** including planning, cartography, enumeration, processing, PES, analysis and dissemination carefully budgeted from the **beginning** and efforts made to mobilize the required funds.
- Establishment of a **monitoring system** and periodic review of work plan, budget and **expenditure control**.
- **Outsourcing** of some activities under Census Office's (CO) supervision:
 - Layout and printing of questionnaires, other census material; reports and other printed census dissemination products
 - Packing and delivery of census materials and equipment
 - Census mapping
 - Publicity campaign
 - Data collection, processing and dissemination systems

5. Preparation of census legislation



- One of the first aspects to be considered when starting to plan the AC. One of the most important instruments for facilitating the census work.
- If a country lacks an appropriate legal framework for taking periodic censuses, it is important to act early to establish it.

6. Census Office & Institutional framework



- The census agency should be specified in the census legislation.
- Ensure strong political support and efficient coordination with other agencies.
- This involves creating the AC Office and establishing census committees.

7. Develop and implement the census publicity campaign



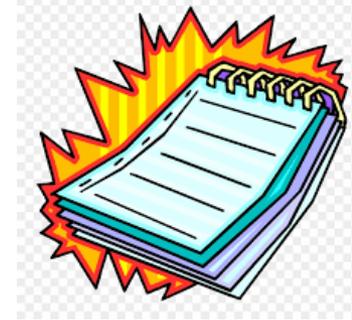
- A well-planned census **communication** and **publicity** is essential to sensitize the public about the purpose of the census of agriculture and, ultimately, to ensure the cooperation of holders to provide complete and accurate data.
- A communication and publicity **strategy** involves:
 - Situation analysis to identify opportunities or issues that need to be taken into account
 - Definition of the target audiences (**who**)
 - Messages to be communicated, logos & slogans (**what**)
 - Communication channels and promotional tools (**how**)
 - Implementing the strategy (**when**)

8. Design data quality assurance framework



- The main goal of quality assurance for the CA is to prevent and minimize potential errors at design stage and detect errors as soon as possible so that timely remedial actions can be taken even as the census operations continue.
- Quality management of a census of agriculture should be comprehensive and should cover all activities including planning, development, data collection, processing, evaluation and dissemination of census results.

9. Prepare the AC frames



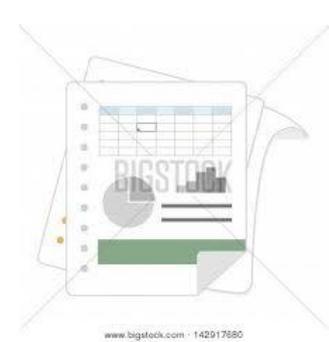
Sources of information for the construction of frames

- The most recent **PHC**, the latest **AC** and statistical farm registers
- a **listing operation** (prior to enumeration).

Preparation of maps for census field operations

- **Cartographic work** should start early, starting with an inventory
- **GIS** provides computer-based design of EAs and significant automation of map production tasks.

10. Develop the tabulation plan



- **The tabulation plan** is a set of prototypes of statistical tables (dummy tables) prepared to present the main census results, based on users' primary needs.
- It should be based on **user consultation**.
- To be undertaken **at early stages** to define census content and developing the census questionnaires.
- Its preparation is an **iterative process**: census questionnaire and methodology are conditioned by the data to be tabulated, and *vice-versa*.

11A. Design and test questionnaires



- Design supported by a working group and users-producers consultations (to ensure ownership)
- Design and characteristics of the census questionnaires depends on the census **modality, type of holding and data collection method.**
- Requires pre-test, revision and pilot test.

11B. Prepare instruction manuals



- Manuals establish criteria and procedures for supervisors and enumerators, roles and the work expected to be carried out during the census.
- Purposes: - training - field reference.
- Other manuals: for training, listing operation, data-entry, editing, cleaning, PES, etc.

12. Design and test the computer processing system

- Considerable time is required to design computer programmes for error identification, automatic error correction, tabulation, calculation of sampling errors (when relevant), etc.
- Useful to enter erroneous data to test the full range of error detection
- Data transfer to be tested during the pilot census (for CAPI, CATI, CASI).



13A. Organization of field work and field staff

- This involves the organization of tests, pilot census, listing and census enumeration in the field.
- It includes the **workload** per enumerator and supervisor.
- The set up of a **monitoring mechanism** of field operations.
- The **flow** of questionnaires completed.
- The particularities when **CAPI or CASI** is used.

13B. Training



- Diversity of training programmes/courses: training of **trainers**, training of **supervisors**, **enumerators**, **office staff** (e.g. programmers and system analysts, editors, coders, computer operators).
- Developing proper training material for the training classes: **training manuals**, **aids** (audio-visual aids) and **new multi-media technologies**.
- **Training** usually from top-to-down in a “cascade” manner
- **Assessment of trainees**. Census personnel should be screened and a final selection made.

14. Census enumeration



- **It refers to the actual** census enumeration with clear responsibilities of enumerators, supervisors and other field staff.
- **Monitoring** enumeration coverage on a daily basis.
- Enumerators' **kits** according to data collection method (PAPI, CAPI).

15. Post-enumeration survey (PES)



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Objective: to assess the magnitude of non-sampling errors in terms of i) coverage errors and ii) content errors (quality of census data collected).

Staff: the best supervisors and enumerators assigned to other EAs to ensure the best quality of data.

Design: a sample survey to be conducted independently from the AC enumeration.

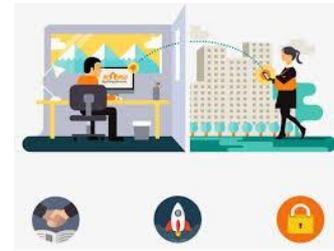
Timing: it should be carried out soon after the census enumeration is completed.

New listing: agricultural holdings must be listed again in sampled areas (e.g. sampled EAs).

Data collection: on key selected census variables.

Reference period: the same as for the census enumeration.

16A. Data processing



- The **ICT strategy** for the census should be part of the overall AC strategy.
- **Hardware** (incl. servers, PCs and mobile devices) **and software** requirements.
- It involves data coding, entry, editing and imputation, validation, tabulation and calculation of sampling error (if any).

16B. Archiving

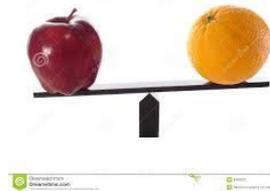


- It is important to physically secure census data. Important for wider use or reuse of census data, time series, historical analysis and justification of the high cost of the census.
- Data types include census microdata, final published aggregate data, transitory data file, documents.

17. Analysis, census reports and dissemination



- **Design** dissemination plan **early**.
- **Census reports:** (e.g. preliminary, final, thematic, technical).
- **Other** census products (e.g. brochures, atlas).
- **Methods of dissemination** (printed, digital, online, social networks).
- Providing **access** to census **microdata**.
- **Dissemination workshops** (national, regional).



18. Reconcile current statistics with census data

- The existence of discrepancies between new census results and the previous estimates from inter-censal agricultural surveys is a common issue (e.g. crop areas).
- Reconciliation of census and surveys data consists in comparing estimates and correcting the discrepancies between them.



Thank you