מדינת ישראל
State of Israel

אגף בכיר תשתית-כלכלה
תחום חקלאות, סביבה ואנרגיה
Senior Department of
Infrastructure-Economic Statistics
Agriculture, Environment, and Energy Sector

הלשכה המרכזית לסטטיסטיקה
Central Bureau of Statistics
دائرة الإحصاء المركزية

Israel – Agricultural Census 2017 – Metadata Review

1. Historical outline

History of the previous agricultural censuses (ACs), when they were taken.

Agricultural censuses in Israel were taken in ,1950 ,1971 1981, 1995 (comprehensive survey), and 2017.

2. Legal basis and organization

Legal framework

- Existence of an agricultural census law (may be a part of a general statistics law), whether it establishes a periodicity of agricultural census taking (e.g., five yearly, decennial) and responsible agencies.

  There is no specific law concerning agricultural census in Israel. The censuses were conducted by the CBS based on the statistical ordinance, as the CBS operates by the power of the Statistics Ordinance (New Version), 5732–1972. The Statistics Ordinance defines the mission of the Central Bureau of Statistics, the manner in which it works, the public's obligation to provide information to the CBS, the CBS's obligation regarding the safeguarding of the confidentiality of information received, and the CBS's obligation to publish the results of its activities.

- Existence of specific decree on the present census.

  The conduction of the 2017 Census was approved by the prime minister on 2/2/2012, based on clauses 5a and 5c (1978 amendment) of the Statistical Ordinance.

Institutional framework and international collaboration

- Agency (ies) responsible for the census, any AC Committee (composition and representation of key ministries/institutions) and sub-committees.

  The CBS was responsible for the planning and performing of the census in collaboration with the Ministry of Agriculture. The work was accompanied by the 2017 Census steering committee. The committee was headed by. Ayal Kimhi, Prof of Agricultural Economics at the Hebrew University of Jerusalem. The committee included members from the CBS, Ministry of Agriculture, Ministry of Finance, agricultural organizations and the National Economic Council. An internal follow up committee continuously tracked the progress of the census along its course.

- International collaboration/assistance: funds and technical assistance from partners (no need of amount; only sources of funds and shares, if available).

  The census was funded by the CBS with no external funds. However, before the 2017 census, The CBS included a census component within the Twining Project which took place with Statistics Denmark. The component included, inter alia, workshops and study visits in Statistics Denmark and in the Italian National Institute of Statistics.

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Census staff
- Number of staff involved in the census operation (Census office staff, enumerators, supervisors, cartographers, IT and data processing specialists, communication specialists, subject matter specialists, etc.).

The census office staff included 32 persons, among them, the thematic unit included 4 persons and the Enumeration staff included 8 supervisors and managers and 101 enumerators. The staff also included IT experts, a communication expert, who ran an Internet campaign for the census, methodological experts and others. The census staff was given the National Statistician Awarded for 2019 for its achievements.

3. Reference date and period

It should be specified:
1. The census **reference day** for stock/inventory items (e.g., location of agricultural holding, livestock numbers, etc.), measured at one specific time, such as a specified date or the date of enumeration;

   31.12.2017

2. the **reference period** for other items (e.g., main purpose of production, area of holding according to land use types, use of irrigation and other inputs on the holding, etc.), which are measured over an interval of time, such as the calendar year or agricultural year.

   2017

4. Enumeration period

One go or in parts (could be in two seasons, at different time in different parts of the country or in phases, e.g., for different modules).

One go on a national basis – from June 2018 to March 2019.

5. Scope of the census and definition of the statistical unit

Scope of the census and community survey

It should be specified if the census covered:

a) Only agricultural activities (those units engaged in the production of crop and/or livestock products);

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b) Agricultural activities and other activities outside the agricultural production industry (such as aquaculture, capture fisheries and/or forestry).

For case "b)" it should be specified if all units performing other activities outside the agricultural production industry (such as aquaculture, capture fisheries and/or forestry) were covered by the census, or just those associated with an agricultural holding.

The census covered agricultural farms with <u>production</u> activities, including aquaculture. These farms were asked about their accompanied and non-agricultural activities. Forestry and capture fisheries were not covered.

Statistical unit

Definition of the statistical unit (particularly to bring out differences with FAO definition of the agricultural holding, if any).

If it exists any particular distinction in the categories/types of agricultural holdings (e.g. family/non-family holdings or holdings operated by civil persons/juridical persons), please specify.

An agricultural farm was defined as an economic unit that produces crops or animal products (excluding hunting) and is known to the authorities or to the farmer organizations.

Community-level data

To specify if a community survey was conducted along with the census. To precise at which community (village, municipality, township, commune, etc.) data were collected

No community-level data was gathered.

6. Census coverage

Geographic coverage
Any geographic area of the country left out of census, such as urban areas, remote areas or areas with security problems. How data, for excluded areas, treated in the results are: estimated or ignored?

The census covered the entire national territory, including Israeli localities in Judea and Samaria. The Druze villages in the Golan Heights were enumerated in an aggregated form via their Agricultural Associations.

Cut-off threshold and other exclusions
- Cut-off thresholds, if used. Reasons for fixing this threshold.
- Other types of exclusion and the reason, i.e. of some categories of holdings/statistical units (such as agricultural activities of the military, schools and religious organizations).

No thresholds or exclusions were set.

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7. **Methodology** (comprises the exhaustive list of all elements of the methodology used, it may differ from country to country)

Methodological modality for conducting the census

Whether the census was conducted using classical or modular approach? Describe the approach used. Judgement may have to be used as it may not be called the classical or modular approach, or may be called as such but does not correspond to criteria described in the WCA 2010/2020.
If the census was planned as part of an integrated system with specific follow-up agricultural surveys/modules as stated in the integrated census/survey programme please state.
Use of administrative data as a source of census data should also be specified (if applicable).

The 2017 agricultural census was conducted using the classical approach. Since there was no farm register in Israel before the census and the last census was conducted in 1981, the adopted approach was to gather all available farm lists and merge them into a comprehensive census frame. The sources of information included mostly administrative sources complemented by a preliminary survey of the water associations (2015) and a few lists that were available online. The plan is to use the census results for future surveys, but no specific plan was set yet.

Relation to other censuses

Provide the information regarding the coordination/relationship between the AC and the population and housing census (PHC), economic census and/or other censuses. The relationship between the AC and other censuses can cover: sharing field materials, frame building, collecting agriculture data as additional items in the PHC, economic census or other censuses; joint AC and PHC operations to collect census data from holdings in the household sector, etc.

A series of meetings between the agricultural census and the Population and Housing Census took place in order to co-ordinate the activities and share information. Finally it was decided that the agricultural census will include a few questions regarding the housing of the foreign workers in agriculture. The PHC is currently in progress (2022).

Frames

Method of preparation of the census frames: sources of frames (farm register, population census, administrative records, listing, updating of existing records, etc.). Mechanisms of ensuring the completeness of frame.

The census frame was prepared from various sources: The business register, listings of the Ministry of Agriculture (based on requests of the farmers for foreign workers, water and other production factors), listings of production boards such as the plants board and the milk board. Grower associations such as the poultry and cattle associations and other relevant listings such as agricultural schools. In 2015 a preliminary survey was conducted within the organized farms. The survey checked the administrative listings with the water associations and verified the names of the active farm owners in each association.

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These sources were merged into a comprehensive frame that included many duplications at first, as the identification variable in the various sources was not uniform and in many cases incomplete. This process used several algorithms that took into consideration factors such as similar address, different name spelling, phone numbers and family connections (population register).For the unorganized farms an additional process was conducted for complementing contact information and omitting duplications. The frame included finally 25,671 records of which 21,992 cases were interviewed.

Complete or/and sample enumeration methods
Whether a complete enumeration, sample enumeration method, or a combination of both was used. If a combination was used, please explain how.

A complete enumeration was used.

Sample design (if sampling was used)
Sample design, sample selection, sample size, sampling proportions and inference (weighting).

Data collection methods
Face-to-face interviewing methods used, such as PAPI, CAPI.
Remote data collection methods used such as mail out/mail back, drop-off/ mail back or pick-up by enumerators, CASI/CAWI, CATI, PATI.
Use of administrative data as a census data source; indicate for which census items administrative data were used.

The 2017 agricultural census used a combination of CAWI, CATI, and CAPI methods.
The farmers received a notification letter with a link to fill the questionnaire online confidentially. After a few weeks the CATI was activated in cases that the questionnaires were not filled online. If both methods failed, the CAPI was used as the final step. A group of farms with incomplete contact information were selected directly for CAPI. Administrative data were not used for the data collection in the census.

Questionnaire(s) and items covered
One or more questionnaires were used (e.g. in the modular/ phased or integrated census or if the short-long questionnaire concept in the classical census was used) and which types (subpopulation) of holdings they covered, if applicable.
Questionnaires content (here in the text a brief summary should be given on the 23 core items recommended in the WCA 2020 Programme covered in the census questionnaires).

The questionnaire included three versions:
- *A general farm*
- *Kibbutz (unique for Israel)*
- *Firms/ Institutions/ schools*

The questionnaire included the following themes:
- *Respondent Information*
- *Identification of the farm*

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- *Information about the farm activities*
- *Workers on the farm*
- *Plant crops characteristics*
- *Marketing channels*
- *Cultivation Methods, Irrigation, Pest Control, Fertilization, and Land Preservation*
- *Livestock*
- *Aquaculture*
- *Share of Income from Agriculture*
- *Associated Activities on the farm*
- *Miscellaneous*

- *The full questionnaire is available online:https://www.cbs.gov.il/en/publications/Pages/2021/Data-from-Agricultural-Census-2017.aspx*

Item covered should also indicate if some of them were derived from administrative sources and other census censuses.

No administrative data were used.

To specify if a community survey questionnaire was used along with the census questionnaires and the main themes for which data were collected.

No community survey was conducted.

8. Use of technology

Use of technology for:
- Cartography, frame building and support to field work (GPS, Maps, EA maps from PHC, aerial photos, satellite imagery and remote sensing, enumerator field work monitoring *tools)*

No such tools were used. The Ministry of Agriculture conducted in parallel a GIS mapping of the crops and tried to match them with the filed owner/cultivator. The results were used to check and verify the census data.

- Data capture tool used (such as CAPI, CATI, PATI, CASI/CAWI, optical scanning). To specify the devices and complementary tools used (PDA, notebooks, tablets, smartphones, GPS, GIS, SMS)

The field enumerators used tablets in order to collect the data.

- Dissemination tools used (such as GIS products, online data dissemination, social media).

Data were disseminated via the census webpage, which included instructions and information on the census process at first, and gradually results were added when available into the webpage as a

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mini-publication that included tables, graphs, and maps. Several press releases were also made accompanied by posts in social media.

9. Data processing

Data capture methods used: manual data entry, handheld devices (CAPI), Internet (CASI/CAWI), PATI, CATI, optical scanning of forms (OCR/OMR/ICR).
Data editing, imputation, validation, tabulation and archiving.
Sources used for imputation. Software used for data capture, processing, analysis and tabulations (such as CSPro, SAS, SPSS).

A dedicated IT system was constructed in order to manage the census process and to capture the data. Then the data were exported into various excel formats and were analyzed separately. Imputation used statistical methods such as the near neighbour approach. In some limited cases administrative data were used to complete missing data. SAS was used for the statistical imputation.

10. Quality assurance

- Mechanisms for ensuring quality in procedures for frames, mapping, tabulation, questionnaire(s), manuals, data processing, hiring and training of staff

Various checks were used in order to prevent duplications in the frame (see the frame section). The questionnaire included an automatic direction and some logical checks were incorporated into the computerized questionnaire. For open questions a range of values was defined. Several questions were set as critical in order to finalize the interview. Staff training took place before the enumeration started and in later phases incorporating the accumulated knowledge. A session of concluding lessons took place at the end of the process.

- Mechanisms for ensuring quality of census data: mechanisms to minimize non-sampling errors, consistency both internally and with external sources

Consistency between variables and within records was checked along with comparison with administrative data at aggregated levels. If gaps were found a thorough check was performed in order to track the specific differences and correct mistakes.

- Estimation of sampling errors (if applicable)

Not applicable

- Conduct of a Post-enumeration Survey (PES).

Not applicable

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11. Data and metadata archiving

Indicate metadata archiving and data storage (microdata anonymization and archiving) in place and the tools used.

Not available yet.

12. Data reconciliation

If data reconciliation was part of the census activities. Indicate if previous data revised, validated and published as results of reconciliation process of the census and other sources of data.

Not applicable.

13. Dissemination of census results and microdata

Dissemination methods: websites, public database with census data, metadata and results; CDs, printed publications; dissemination workshops/seminars, data and report selling system.
Microdata policy in place for census microdata dissemination, method used, if applicable.
Lowest geographical level for which data is in public domain.
Technical report published and content
Thematic (analytical) reports (crop, livestock, gender, land use, agricultural inputs, etc.).
Any other specific analysis of census data reported.

The available results are published on the census website as to microdata- not available yet.

14. Data sources

Name of the publications used and/or website address.
https://www.cbs.gov.il/en/publications/Pages/2021/Data-from-Agricultural-Census-2017.aspx

15. Contact

National institution responsible for the conduct of the agricultural census.
Address: *Central Bureau of Statistics, 66 Kanfe Nesharim, Jerusalem*
Telephone: *972-2-6592666*
E-mail: *info@cbs.gov.il*
Website: https://www.cbs.gov.il/en/Pages/default.aspx