



## HUNGARY – AGRICULTURAL CENSUS 2020 – METADATA REVIEW

### 1. Historical outline

The first agricultural census (AC) was conducted in Hungary in 1895, followed by the second one in 1935. Starting from 1972, ACs were conducted regularly, in line with the ten-year rounds of the WCA, in 1972, 1981, 1991, 2000 and 2010. The AC 2020 was the eighth Census of Agriculture in Hungary.

### 2. Legal basis and organization

#### *Legal framework*

The legal framework of the AC 2020 included:

- Act CLV of 2016 on Official Statistics and the implementing Government Decree No. 184/2017, that provided the general regulatory framework of surveys implemented in Hungary;
- Regulation (EU) No. 2018/1091 of the European Parliament and of the Council on integrated agricultural statistics;
- Commission Implementing Regulation (EU) No. 2018/1874 on integrated agricultural statistics.

All the necessary legal issues were covered by the Act CLV of 2016 on Official Statistics including using administrative data sources for statistical purposes. In accordance with Sections 24 and 26 of Act CLV of 2016 on Official Statistics the provision of data was mandatory for those selected for the purpose of the census.

#### *Institutional framework and international collaboration*

The Hungarian Central Statistical Office (HCSO) was responsible for the implementation of the AC 2020. To reduce the burden on respondents and to permanently improve the quality of data, the HCSO was authorized to use administrative data sources listed in Act CLV of 2016 on Official Statistics (Statistics Act).

#### *Census staff*

The AC 2020 fieldwork involved 12 project coordinators, 20 IT staff, five communication staff, 30 staff regarding dissemination, budget and finance, coordination and legal affairs, 4059 enumerators, 225 supervisors, and 12 field coordinators who organized and assisted the work of supervisors, and examined the quality of the work performed.

### 3. Reference date and period

**Reference day:** 1 June 2020 for land use and stock/inventory items.

**Reference period:** from 1 June 2019 to 31 May 2020 for livestock buildings, nutrient use and fertilization on the farm, other economic activities and agricultural workforce.

### 4. Enumeration period

The AC 2020 was conducted between 5 June and 22 November 2020. The data collection was divided into two phases: CAWI from 5 to 30 June, and CAPI from 19 September to 22 November in the designated addresses. Redesign of the periods was necessary due to the Covid19 pandemic. Originally CAWI was planned for the period from 15 to 31 May, while CAPI was planned for the period from 1 to 30 June. Farmers increased their preference for the CAWI method more than estimated prior to data collection, adopting this method by 23.5 percent.

### 5. Scope of the census and community survey

The **census scope** covered agricultural activities related to the production of crop and livestock products.

The **statistical unit** was the agricultural holding, defined as a single unit, both technically and economically, that has a single management and that undertakes economic activities in agriculture in

accordance with Regulation (EC) No 1893/2006 belonging to groups A.01.1, A.01.2, A.01.3, A.01.4, A.01.5 or to the “maintenance of agricultural land in good agricultural and environmental condition” of group A.01.6 within the economic territory of the Union, either as its primary or secondary activity, as it is stated in the Regulation (EU) No. 2018/1091 of the European Parliament and of the Council on integrated agricultural statistics. Two main types of agricultural holding were distinguished: “private holdings” and “agricultural enterprises”. The former were households engaged in agricultural activities which met the thresholds stated in section six, at the reference time of the survey; the latter were legal entities engaged in any kind of agricultural activities or classified as agricultural producer by the Statistical classification of economic activities in the European Community (NACE), regardless of its size.

### ***Community-level data***

There were no community-level data collected along with the census

## **6. Census coverage**

### ***Geographic coverage***

The AC 2020 covered the entire country.

### ***Cut-off threshold and other exclusions***

In the AC 2020, the following physical thresholds<sup>1</sup> were applied for private holdings:

- the holding uses at least: (i) 1 ha of productive land area (including, jointly or severally, arable land, kitchen garden, orchard, vineyards, lawn (meadow + pasture), forest, fishpond, reeds); (ii) 0.25 ha of area of potatoes or vegetables or strawberries; (iii) 0.2 ha of seeds and seedlings, nurseries, essential oil plants, medicinal and spice plants, flowers and ornamental plants; (iv) 0.25 ha of outdoors area under fruit trees, berries, citrus trees, other permanent crops, excluding nurseries, vineyards and olive trees; (v) 0.1 ha area under vines; or (vi) 100 m<sup>2</sup> of land area under protective cover, or of mushroom area;
- the holding has at least: (i) one head of cattle; (ii) ten head of sheep or goats; (iii) 30 head of pigs under 20 kg; (iv) 2 head of pigs with 20 kg or more; (v) 50 head of hens or geese; (vi) 30 head of turkeys; (vii) 100 head of ducks; (viii) three head of ostriches; or (ix) 50 head of rabbits;
- provides agricultural services.

## **7. Methodology**

### ***Methodological modality for conducting the census***

The modular approach combined with the use of administrative registers was used in the AC 2020. The AC was composed of a core module and three thematic modules on labour force and other gainful activities, rural development, and animal housing and manure management. Some census data for the core module and all census data related to the thematic module rural development were collected directly from administrative registers.

### ***Relation to other censuses***

No relationship with other censuses. The questions of the June agricultural survey (land use and livestock) were integrated into the AC 2020 questionnaire.

### ***Frames***

The New Farm Register was used as a frame which was built with the following sources:

- Hungarian Chamber of Agriculture (List of members).
- Hungarian State Treasury:
  - SAPS (Single Area Payment Scheme);
  - other income supports scheme.
- National Food Chain Safety Office:
  - animal registers;
  - licensed traditional small-scale producers;

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<sup>1</sup> Threshold has been changed from the previous census. Detailed information can be found at [https://www.ksh.hu/docs/eng/agrar/change\\_of\\_farm\\_threshold\\_from\\_2020.pdf](https://www.ksh.hu/docs/eng/agrar/change_of_farm_threshold_from_2020.pdf).

- family farms.
- Organic farming register.
- Vineyard register.

### ***Complete or/and sample enumeration methods***

The AC 2020 used a combination of complete and sample enumeration. The core module related to the identification of the agricultural holding, land use and type of tenure, characteristics of crop production and livestock existence was collected using complete enumeration, while the two supplementary thematic modules referred to labour force and other gainful activities, and livestock buildings and manure management were collected using sample enumeration. Rural development and organic farming data were sourced from administrative registers using complete enumeration.

### ***Sample design***

In the AC 2020, the agricultural enterprises and the key private farms<sup>2</sup> (4 354 farms with significant agricultural activity regarding key-private farms thresholds) were enumerated on complete enumeration basis. For the private holdings other than the key, a sample of 25 percent were considered to collect data for the supplementary thematic modules. Stratified random sample was used using geographical stratification.

### ***Data collection methods***

Data were collected entirely using CAWI, CATI and CAPI (tablets). From 5 to 30 June 2020, agricultural enterprises and private holdings (key and others) provided data by CAWI. For private holdings other than the key that did not complete the questionnaire in the first phase, an enumerator visited the holding between 19 September to 22 November and collected data using CAPI. The use of CAWI was expanded during the Covid-19 pandemic, while CATI was used to a lesser extent. The HCSO used administrative registers as a source of census data for variables regarding organic farming and rural development subsidies. These data were not collected directly from the farms.

### ***Questionnaire(s) and items covered***

The census questionnaire covered 16 out of 23 core items recommended in the WCA 2020.<sup>3</sup>

## **8. Use of technology**

In the AC 2020, technologies were used for the following purposes: (i) collection of some census data directly from administrative registers, to reduce the response burden; (ii) CAWI, CATI and CAPI for data capture; and (iii) online dissemination of census results.

## **9. Data processing**

In the AC 2020 the data capture methods CAPI, CATI and CAWI allow some preliminary data processing. Data-entry applications were developed by the IT Department in the framework of uniform Data Entry and Validation System run by the HCSO. Validation rules were incorporated, such as logical and arithmetical coherency within and between tables, both in the case of CAPI, CATI and CAWI data collections. Four categories of error levels were handled during the data entry phase as follows: (i) less serious errors, only for information; (ii) errors can be accepted, but justification is needed; (iii) serious errors, only authorized survey administrators can accept them; (iv) unacceptable errors, must be corrected immediately. Data-entry continued when errors were corrected. Data on the number of corrections were not collected during data processing. Control was carried out during the survey period

<sup>2</sup> Key private holdings were those private holdings which fulfil with the following physical thresholds:

- the holding uses at least: (i) 250 ha of arable land; or (ii) 150 ha of meadow and pasture, excluding extensive pasture; or (iii) 15 ha of outdoors area under fruit trees, berries, nuts and citrus trees, excluding the area of vineyards and strawberries; or (iv) 15 ha area under vines;
- the holding has at least: (i) 100 head of cattle; or (ii) 300 head of pigs; or (iii) 500 head of sheep; or (iv) 50 head of goats; or (v) 15 000 head of broilers; or (vi) 2500 head of turkeys; or (vii) 2500 head of ducks; or (viii) 2500 head of goose; or (ix) 50 head of ostriches; or (x) 500 head of rabbits.

<sup>3</sup> The following essential items were not covered: (i) 0302 Area of land actually irrigated: fully controlled and partially controlled irrigation; (ii) 0402 Area of temporary crops harvested (for each temporary crop type) (iii) 0407 Number of permanent crop trees in scattered plantings (for each tree crop); (iv) 0501 Type of livestock system; (v) 0601 Use of agricultural pesticides; and (vi) 0801 Household size by sex and age groups. The following essential item was partially covered: (vii) 0203 Area of holding according to land tenure types.

by supervisors, area agents and local staff of HCSO while in data processing period by local and central staff of HCSO. Handling of missing data was based on the nearest neighbour imputation.

## 10. Quality assurance

The HCSO has a quality management system and carried out different procedures to assure and assess quality: training courses, quality guidelines, and compliance monitoring. In the AC 2020, the quality was assured by means of different analyses: (i) outlier detection; (ii) comparison of census data to administrative sources, at farm and aggregated level; (iii) aggregation of data at different levels to detect inconsistencies; (iv) duplicate detection of members of family farms reporting same administrative identification numbers or same data on the same address, or private farms reporting administrative identification number of an agricultural enterprise. Several actions were carried out to minimize non-sampling errors in the AC 2020: pre-testing questionnaire, explanatory notes or handbooks for enumerators or respondents, on-line FAQ or hot-line support for enumerators or respondents, and training of enumerators, to minimise measurement errors; follow-up interviews, reminders, and imputation, to minimise unit non-response.

## 11. Data and metadata archiving

The database was compiled using Oracle database with Sql Developer tool. Anonimisation techniques were applied on the database since it was part of the Eurofarm database that requires anonymised data.

## 12. Data reconciliation

Previous Farm Structure Survey data (for the years 2013 and 2016), and Agricultural Census data for 2010 were recalculated since the threshold had been changed.

## 13. Dissemination of census results and microdata

The AC 2020 Preliminary Data report was released on 8 April 2021. Final results were published on 3 February 2022 in Hungarian and English and are available online at [https://www.ksh.hu/agrarcenzusok\\_agrarium\\_2020](https://www.ksh.hu/agrarcenzusok_agrarium_2020). Also, analytical reports on land use and livestock, land ownership and renting, typology, and labour force were published. Results were also disseminated through a podcast (<https://anchor.fm/ksh-podcast/episodes/KSH-Podcast-9--rsz-Az-Agrarcenzus-elzetes-eredmnyei---beszlgets-Tth-Pterrel-eunp08>) and a dashboard (<https://www.ksh.hu/ac2020db/2022/index.html>). Data providers can indicate on the questionnaire if they would like to receive immediate notice of the publication of data and analyses via email.

## 14. Data sources

**Eurostat.** 2022. *Integrated Farm Statistics - National quality reports 2020: Hungary* [online]. Luxembourg. [Cited 16 November 2022]. [https://ec.europa.eu/eurostat/cache/metadata/en/ef\\_simsif\\_hu.htm](https://ec.europa.eu/eurostat/cache/metadata/en/ef_simsif_hu.htm)

**Hungarian Central Statistical Office (HCSO).** 2021. *Agricultural Census*. In: *HCSO* [online]. Hungary. [Cited 28 June 2021]. [http://www.ksh.hu/agricultural\\_census\\_fss](http://www.ksh.hu/agricultural_census_fss).

**Hungarian Central Statistical Office (HCSO).** 2021. *Agrárceuszok*. In: *HCSO* [online]. Hungary. [Cited 28 June 2021]. [https://www.ksh.hu/agrarcenzusok\\_agrarium\\_2020](https://www.ksh.hu/agrarcenzusok_agrarium_2020).

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