



## THE REPUBLIC OF KOREA – CENSUS OF AGRICULTURE, FORESTRY AND FISHERIES 2020 – METADATA REVIEW

### 1. Historical outline

The Republic of Korea participated in the decennial WCA, with agricultural censuses being conducted every ten years from 1960 to 1990 (in 1960, 1970, 1980 and 1990). Starting in 1995, agricultural censuses in Korea are undertaken every five years.<sup>1</sup> Starting in 2010, three censuses were consolidated into a single census, the Census of Agriculture, Forestry and Fisheries (CAFF), with a periodicity of five years. In addition, the Rural Community Survey, implemented since 1980, was carried out concurrently with the Census of Agriculture, Forestry and Fisheries 2020 (CAFF). The CAFF 2020 is the census to which the present metadata review and data refer.

### 2. Legal basis and organization

#### *Legal framework*

The CAFF 2020 was carried out according to:

- the Statistics Act, wholly amended by Act No. 14839 of 9 June 2020, with further amendments;
- Designated statistics (Approval No. 101041);
- the Regulation for the Census of Agriculture, Fishery and Forestry (Ordinance No. 804 of the Ministry of Strategy and Finance); and
- the Statistics Act (Article 5-3), on conducting the survey; according to Article 32, every citizen is required to answer the questions to the best of their knowledge.

#### *Institutional framework and international collaboration*

The CAFF 2020 was undertaken under the authority of Statistics Korea (SK) and was conducted in close cooperation with local governments. The National Statistics Committee, the official statistical advisory body, reviewed and deliberated the entire process.

#### *Census staff*

The CAFF fieldwork was carried out by approximately 16 000 temporarily recruited staff, including 300 general managers for each province, city and county, 1 600 investigators who were in charge of investigation guidance and support, and 14 000 enumerators.

### 3. Reference date and period

**Reference day:** 1 December 2020 (“zero hour”), for items such as household members, possession of land, livestock numbers, animal housing facilities, machinery, fishing vessels, and aquaculture methods and area.

#### **Reference periods:**

- the year preceding the census (from 1 December 2019 to 30 November 2020), for items on forestry and fishing activities, crops, sales amounts, labour, use of IT devices, fishing-related items, existence of aquaculture, etc.
- the preceding five years (from 1 December 2015 to 30 November 2020), for forestation.

### 4. Enumeration period

The field data collection took place from 1 to 18 December 2020. Data collection through the CAWI method was extended from 23 November to 18 December 2020 to prevent the spread of the COVID-19 pandemic.

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<sup>1</sup> Since 2000, the Agricultural Census was integrated with the Fisheries Census (and conducted simultaneously). Since 2005, the Agricultural Census was integrated with the Fisheries Census and the Forestry Census (conducted simultaneously).

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

The **census scope** covered agricultural activities (crop and animal production), forestry and fisheries (aquaculture and capture fisheries activities).

The following **statistical units** were distinguished in the CAFF: (i) the “agricultural household”; (ii) the “forestry household”; (iii) the “marine fisheries household”; and (iv) the “inland water fisheries household”. Each type of household was defined as a household directly engaged in activities corresponding to each sector, that meets the established thresholds, as specified in section 6.

### **Community-level data**

A community survey was carried out together with the CAFF 2020. The questionnaire was designed to collect rural village (*n*) level data.

## 6. Census coverage

### **Geographic coverage**

The CAFF 2020 covered the entire country.

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

The following thresholds were applied for the agricultural households:

- a household directly cultivating an area of at least 0.1 ha of arable land, or land under permanent crops, at the time of enumeration (1 December 2020);
- a household of which sales of produced agricultural (crop or livestock) products amounted to at least KRW<sup>2</sup> 1.2 million during the reference year (1 December 2019 to 30 November 2020); or
- a household raising livestock worth at least KRW 1.2 million at the time of enumeration (1 December 2020).

The following thresholds were applied for the forestry households:

- a household that owns three ha of forest land at the time of enumeration, and was engaged in forestation during the past five years (1 December 2019 to 30 November 2020);
- a household engaged in logging or nursery (cultivating seedlings for forestation) during the reference year (1 December 2019 to 30 November 2020); or
- a household of which sales of directly produced forestry products including forest product picking amounted to at least KRW 1.2 million during the reference year (1 December 2019 to 30 November 2020).

The following thresholds were applied for the marine fisheries households:

- a household engaged in boat fishing, fishing without gear, skin diving fisheries, other fisheries methods, or aquaculture for at least 1 month for the purpose of sales during the reference year (1 December 2019 to 30 November 2020);
- a household of which sales of directly caught or cultured fisheries products amounted to at least KRW 1.2 million during the reference year (1 December 2019 to 30 November 2020); or
- a household of which value of aquaculture products was at least KRW 1.2 million at the time of enumeration (1 December 2020).

The following households were excluded: (i) households engaged in deep-sea fisheries only; (ii) households that were not directly engaged in fisheries but only had wage earners in fisheries; and (iii) households engaged in river, reservoir, dam and lake fisheries (a mixture of seawater and freshwater).

For the Inland water fisheries household, the following thresholds were applied:

- a household engaged in boat fishing, other fisheries methods, or aquaculture at least 1 month for the purpose of sale during the reference year (1 December 2019 to 30 November 2020);
- a household of which sales of directly caught or cultured fisheries products amounted to at least KRW 1.2 million during the reference year (1 December 2019 to 30 November 2020); or
- a household of which value of aquaculture products was at least KRW 1.2 million at the time of enumeration (1 December 2020).

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<sup>2</sup> Korean won.

The following households were excluded: (i) households that were not directly engaged in fisheries but only had wage earners in fisheries; (ii) households with only one fishing hole in inland waters; and (iii) households engaged in fisheries activities near the adjacent sea and coastal waters.

Companies, associations and other legal entities were not included in the CAFF.

## **7. Methodology**

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

The classical approach was used for the data collection of the CAFF 2020.

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

The CAFF 2020 shared staff and material infrastructure with the Population and Housing Census 2020 (PHC), i.e., the situation room, recruitment research staff, and IT infrastructure. In addition, CAFF 2020 used the enumeration districts (EDs) of the PHC 2020.

### ***Frames***

The frame used in the CAFF 2020 was a list of holdings engaged in agricultural, forestry and fisheries activities based on the Household Housing Basic Survey 2019, the CAFF 2015, and six surveys including the Agriculture, Forestry and Fisheries Survey 2016-2019) and 17 from the Ministry of Agriculture, Forestry and Fisheries, and fisheries management.

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

The CAFF 2020 was conducted on a complete enumeration basis.

### ***Sample design***

No sampling was used.

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

In the CAFF 2020, data was collected through the CAWI, CATI, PAPI and CAPI methods. Any household that met the thresholds could complete the CAFF questionnaire using the CAWI or CATI methods. Otherwise, an enumerator collected data using the CAPI or PAPI methods. The CAWI method was fostered due to COVID-19 pandemic, and the data collection period was extended until 18 December 2020 for this method.

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

Three questionnaires were used for data collection in households: (i) the agricultural and forestry household questionnaire; (ii) the marine fisheries household questionnaire; and (iii) the inland water fisheries household questionnaire. The questionnaire covered 17 out of 23 essential items recommended in the WCA 2020<sup>3</sup>.

The community questionnaire was designed to collect rural village level data such as characteristics of the villages; mass transportation and living facilities; agriculture, forestry and fisheries facilities; economic activity of agriculture, forestry and fisheries villages; and village communities and waste disposal.

## **8. Use of technology**

The CAWI and CAPI methods were used for field data collection. The CAPI method was implemented using tablets with digitalized maps. Census results were disseminated and are accessible online.

## **9. Data processing**

Direct data capture was ensured by the CAWI and the CAPI methods. During data collection, real-time checks of responses were conducted using a tablet application for the CAPI method and an internet research system for the CAWI method. After data collection period, data was reviewed focusing on securing consistency of data through cross-examination of survey items, survey tables, and registers.

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<sup>3</sup> The following essential items were not covered: (i) 0107 Main purpose of production of the holding; (iii) 0302 Area of land actually irrigated: fully controlled and partially controlled irrigation; (iv) 0407 Number of permanent crop trees in scattered plantings; (v) 0501 Type of livestock system; (vi) 0503 Number of female breeding animals; and (vii) 0601 Use of agricultural pesticides

The Chi-square automatic interaction detection (CHAID) algorithm was used to select the replacement group using data from CAFF 2015, the PHC, and CAFF 2020 when replacing non-response units. Data was analyzed and tabulated using SAS.

#### **10. Quality assurance**

Pilot censuses were conducted in September 2017, April and December 2019 to minimize the occurrence of errors by re-examining possible problems throughout the exercise, such as reorganization of census items, data capture methods, and census management efficiency.

#### **11. Data and metadata archiving**

The main statistical tables of the Census of Agriculture, Forestry and Fisheries are provided in the form of links. More detailed statistical tables can be found on the National Statistics Portal (kosis.kr) operated by SK, and microdata is freely accessible and can be downloaded from the Microdata Integration Service System (MDIS) (<https://mdis.kostat.go.kr/index.do>).

#### **12. Data reconciliation**

There was no reconciliation process of the CAFF 2020 data.

#### **13. Dissemination of census results and microdata**

Provisional results on the basic items were released before the publication of the final results in April 2021. The final report with more detailed census results (for each census item) were released in September 2021. Census results were disseminated online and are available at the Korean Statistical information Service (KOSIS). Access to microdata is provided through the MDIS. Data was published at administrative district as the lowest geographical level.

#### **14. Data sources**

**Statistics Korea (SK).** 2021. Census of Agriculture, Forestry and Fisheries 2020. In: *SK* [online]. Daejeon, The Republic of Korea. [Cited 22 October 2021]. <https://affcensus.go.kr/mainView.do>.

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