Mongolia - Agricultural Census 2022

National Statistical Office of Mongolia

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Identification

SURVEY ID NUMBER
MNG_2022_AC_v01_M_v01_A_ESS

TITLE
Agricultural Census 2022

TRANSLATED TITLE
XAAT 2022

COUNTRY

Name	Country code
Mongolia	MNG

STUDY TYPE
Agricultural Census [ag/census]

SERIES INFORMATION
The Agricultural Census 2022 was the second census to be conducted in the country, while the first was conducted in 2011.

ABSTRACT
The Agricultural Census 2022 collected detailed information on the agricultural sector at the household and enterprise level, covering among other information: the agricultural labor force, livestock and crop machinery and equipment, buildings and structures, land use, etc. This census created a source of statistical information as it created a detailed database necessary for evaluating policy implementation. By measuring the sector's key indicators, it has become possible to formulate policies for developing the agricultural sector.

KIND OF DATA
Census/enumeration data [cen]

UNIT OF ANALYSIS
Agricultural holdings

Scope

NOTES
The census scope covered agricultural activities (crops and livestock) as well as forestry, fishery and hunting activities.

A community survey was conducted alongside the Agricultural Census 2022 to collect district-level information on geographical, environmental, and socio-economic conditions, the development of infrastructure and service sectors, and the extent of exposure to natural disasters over time.

KEYWORDS

Keyword
Structure of Agriculture
Land use
Crops
Livestock and Poultry
Labour in the Agricultural Sector
Food Insecurity
Forestry

Fishery
Hunting

Coverage

GEOGRAPHIC COVERAGE

The Agricultural Census 2022 covered the entire country.

UNIVERSE

The statistical unit was the agricultural holding defined as a household or a business entity engaged in agricultural activities under single management. Accordingly, two types of agricultural holdings were identified in the Agricultural Census 2022:
- Households engaged in agricultural activities
- Business entities engaged in agricultural activities

Producers and sponsors

PRIMARY INVESTIGATORS

Name
National Statistical Office of Mongolia (Үндэсний Статистикийн Хороо)

FUNDING AGENCY/SPONSOR

Name	Role
Government of Mongolia state budget	Funding

Sampling

SAMPLING PROCEDURE

To define the population frame for the complete enumeration of the Agricultural Census 2022, the lists of households, enterprises, and organizations engaged in agricultural activities were compiled, using the administrative and statistical sources, by the National Statistical Office in 2021. Depending on the sector different sources were used:
- For the livestock sector, the list of households and enterprises with livestock was obtained from the End-year Livestock Census 2021
- For the crop sector, the list of households and enterprises engaged in crop production was compiled from the End-year Crop Statistics 2021 (Form A-Agri-7). In addition, households, enterprises, and organizations identified in the livestock frame that had also carried out crop production activities in 2021 but were not included in the crop frame were added
- For the forestry sector, the list of enterprises and organizations engaged in forestry activities was compiled from the End-year Forestry Statistics 2021. Additional lists of forest user groups, cooperatives, and professional organizations were provided by the Ministry of Environment and Tourism and the Forest Research and Development Centre and were cross-checked against the existing statistical frame. Enterprises and organizations not included in the frame were verified by the provincial and capital city statistical departments, and those confirmed to be engaged in forestry activities in 2021 were incorporated into the census frame
- For fishery and hunting activities, the frame was developed using the list of enterprises and organizations included in the End-year Fishery and Hunting Statistics 2021, supplemented by lists of households engaged in these activities provided by the provincial and capital city statistical departments

The Agricultural Census 2022 used a combination of complete and sample enumeration. Complete enumeration was used for enterprises and organizations engaged in crop, forestry, fishery and hunting activities, as well as to the relevant units covered under the census scope. For the household livestock sector, sample enumeration was used.

Among the 246 302 households with livestock recorded in the End-year Livestock Census 2021, 188 605 were herder households. The sample size selected amounted to approximately 74 400 households, representing 30.2 percent of all households with livestock. The sample size was determined using the standard formula for estimating sample size using proportions. The calculation was based on a 95 percent confidence level. The key indicator used for the sample size

calculation was the share of adult livestock losses out of the total number of livestock at the beginning of the year, based on the average of the last three years. This proportion was estimated at 0.03. The acceptable relative error was set at 4.1 percent, corresponding to an absolute error of approximately 0.0012.

The total sample size was allocated to provinces using proportional allocation. To support the production of estimates at the district level, the target population was stratified within each province. The stratification was based on the livestock size of households, using the number of the five main types of livestock owned by households. For each province, 5 to 6 sampling strata were formed. Within each stratum, sample households were selected using systematic sampling.

The statistical results were calculated using sampling weights. The base weight for each sampling stratum was calculated as the inverse of the selection probability, or as the ratio of the total number of households in the stratum to the number of sampled households in that stratum. The results from sampled households were then expanded to represent the total population of households with livestock in the corresponding stratum and administrative unit.

Although the initial sample allocation was made at the provincial level, the relatively large sample size and high sampling fraction, together with stratification by livestock size and systematic sampling, ensured that households with different livestock sizes were represented across districts. District-level estimates were produced by applying the sampling weights to the sampled households belonging to each district. As a result, the sample design was considered sufficient to produce estimates with an acceptable level of accuracy at the district level.

Data collection

DATES OF DATA COLLECTION

Start	End	Cycle
2022-05-01	2022-05-21	Data collection in region 1
2022-06-06	2022-06-19	Data collection in region 2
2022-06-24	2022-07-08	Data collection in region 3

DATA COLLECTION MODE
Computer Assisted Personal Interview [capi]

DATA COLLECTION NOTES
The Agricultural Census 2022 involved 760 enumerators, 345 supervisors and 93 trainers. Additional staff included 1 programmer; 3 contractual staff responsible for data checking, processing and compiling results; 7 staff from information technology, software development and hardware support also contributed to developing the census data collection software and ensuring the security of tablets and other technical equipment.

Data was collected using the CAPI method using tablets with the CSPro application. Satellite image GIS and GPS were also used for data collection. An electronic mapping application was used during data collection to record information on the cultivated areas of households, enterprises and organizations engaged in crop production covered by the census. In addition, the location coordinates of enterprises and organizations engaged in livestock activities and herder households were recorded in the database. The use of the electronic mapping application supported the geolocation of agricultural holdings, the mapping of crop areas and the improvement of data quality through location-based checks.

Administrative data supplemented the census data collection, mainly for frame preparation, unit identification and verification, and consistency and completeness checks.

The Government's Resolution No. 74 of 2022 approved the schedule for data collection of the regular census to be conducted from May to July 2022. The census operation was organized in different phases: in region 1 from 21 May to 3 June 2022, in region 2 from 6 to 19 June 2022, and from 24 June to 8 July 2022 in region 3.

QUALITY ASSURANCE
An electronic monitoring page was developed to oversee data collection. Data quality was ensured primarily through built-in validation rules in the CAPI application, consistency checks during collection, content validation, and comparisons with relevant statistical sources, including the End-year Livestock Census 2021 and End-year Crop Statistics 2021.

Questionnaires

QUESTIONNAIRES

In Agricultural Census 2022, seven questionnaires were used to collect data on:
1. Households engaged in crop farming
2. Households engaged in livestock activities
3. Business entities engaged in forestry
4. Business entities engaged in hunting
5. Business entities engaged in fishery
6. Business entities engaged in crop farming
7. Business entities engaged in livestock activities

The questionnaires covered 21 out of the 23 essential items recommended in the WCA 2020.

The community survey questionnaire collected data at the district level on geography and environment, social and economic situation, service sector, projects and programmes in agriculture, soil degradation, live weight and carcass weight of main livestock types.

Data Processing

DATA EDITING

CAPI ensured direct data capture using tablets with CSPro. During data collection, consistency checks between census questions and indicators were carried out, along with necessary corrections and content validation, to build the census database. The coherence of agricultural census indicators was verified against the end-year Livestock Census 2021 and the end-year Crop Statistics 2021. For the cartographic component of the census, high-resolution ZY satellite images were processed using ArcGIS software. STATA was used for data aggregation, validation, tabulation and statistical analysis. No statistical imputation was carried out for the Agricultural Census 2022 data.

Access policy

CONTACTS

Name	Email	URL
National Statistical Office of Mongolia (Үндэсний Статистикийн Хороо)	information@nso.mn	www.nso.mn

ACCESS CONDITIONS

For additional information on data access and use, please contact the National Statistical Office of Mongolia.
E-mail: information@nso.mn
Website: www.nso.mn

Metadata production

DDI DOCUMENT ID

DDI_MNG_2022_AC_v01_M_v01_A_ESS_FAO

PRODUCERS

Name	Abbreviation	Affiliation	Role
National Statistical Office of Mongolia (Үндэсний Статистикийн Хороо)			Metadata producer
Statistics Division	ESS	Food and Agriculture Organization of the United Nations	Metadata adapted for FAM

Data Dictionary

Data file	Cases	Variables