

Georgia - Survey of Agricultural Holdings - Machinery, Equipments and Asset Module, 2022.

National Statistics Office of Georgia (Geostat)

Report generated on: August 27, 2024

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Identification

SURVEY ID NUMBER

GEO_2022_SAH-MEA_v01_EN_M_v01_A_ESS

TITLE

Survey of Agricultural Holdings - Machinery, Equipments and Asset Module, 2022.

COUNTRY

Name	Country code
Georgia	GEO

STUDY TYPE

Agricultural Survey [ag/oth]

ABSTRACT

The sample design of the Machinery, Equipment and Asset module survey is based on the sample of the current Survey of Agricultural Holdings, so firstly given the design of the current Survey. The main purpose of the Survey of Agricultural Holdings as well as Machinery, Equipment and Asset module is to produce official indicators in line with agricultural sector.

The survey allows the compilation of statistics on crops and animal husbandry, of which information annual and permanent crops, sown area, average yield of annual crops, farming practices and their linkages with the natural environment, crop and livestock production methods, access to and use of information services, infrastructure and communal resources and etc. Statistical tables are accessible through the following link: <https://www.geostat.ge/en/modules/categories/196/agriculture>.

Machinery, Equipment and Asset Module is part of main Survey of Agricultural Holdings. One round of the main survey (reference year) includes 5 inquiries: The Inception interview is carried out using the inception questionnaire during the period of January-February of the reference year. During this interview the sampled holdings are identified and situation existing at the holding as of first January is recorded. I, II and III quarter interviews are conducted by means of quarterly questionnaire at the beginning of the following month of the corresponding quarter of the reference year. Based on these surveys, the information about agricultural activities during the corresponding quarter is collected. The final interview is conducted by means of final questionnaire in January of the following year of the reference year. During this interview, the information about agricultural activities at the holding during IV quarter of the reference year and the summery information about agricultural activities at the holding during the whole reference year (from 1 January to 31 December of the previous year) are collected. During all five interviews, the same agricultural holdings (about 12,000) are interviewed which are selected by a two-stage stratified cluster random sampling procedure out of about 642,000 agricultural holdings operated in Georgia. On the first stage, clusters (settlements) are selected. On the second stage, holdings are selected within the selected clusters.

The survey completely covers the territory of Georgia, excluding the occupied territories of Autonomous Republic of Abkhazia and Tskhinvali region. Each year a new sample is selected based on a rotational design (on a 3-year basis). In particular, every year approximately 4,000 holdings out of the 12,000 sampled holdings are replaced by new holdings. Sampled holdings participate in the survey for 3 years. Large agricultural holdings are sampled every year with complete coverage. The statistical unit of the survey is the agricultural holding (family holdings and agricultural enterprises) - which is defined as an economic unit of agricultural production under single management comprising all livestock kept and all land used wholly or partly for agricultural production purposes, without regard to title, legal form or size. Agricultural activities are conducted under the supervision of a holder (in case of households - a member of household, in case of agricultural enterprises - director or authorized person), who is responsible for making decisions and takes all economic risks and expenses related to agricultural activities.

More than 270 interviewers participate in the survey fieldwork. For the Data collection, computer-assisted personal interviewing method (CAPI) is used in the family holdings. In case of agricultural enterprises, the authorized persons of the enterprises (respondent) fill the electronic (online) questionnaires by themselves (CAWI). Coordination of the interviewers and the primary control of the collected data during the field is carried out by coordinators. Their working area covers several municipalities. The function of the coordinators also includes consultation for agricultural enterprises on methodological and technical issues related to the survey.

Machinery, Equipment and Asset module field work was carried out from April 18 to May 25 of 2023. 215 field staff were participated in the survey 22 of which were field supervisors. In total 6,010 agricultural holdings were selected for the MEA survey Since in the MEA survey we collect information about the condition of the farms in 2022, therefore, those farms

currently in the selection and which were under observation in 2022 as well, should be selected. Such are the farms of rotation 2 and rotation 3. All extra-large farms will participate in the survey. Currently 702 extra-large farms and 7232 second and third rotations farms are participating in the survey who were interviewed in the third quarter of the 2022. All holdings of the third rotation clusters were selected. Besides that, using simple random sampling approximately 50% of the working clusters of the second rotation were selected in each stratum. All holdings from selected clusters were involved in the sampling. A total of about 6,010 farms were selected.

KIND OF DATA

Sample survey data [ssd]

UNIT OF ANALYSIS

Agricultural holding – economic unit of agricultural production under single management comprising all livestock kept and all land used wholly or partly for agricultural production purposes, without regard to title, legal form or size in which agricultural activities are conducted under the supervision of a holder, who is responsible for making decisions and takes all economic risks and expenses related to agricultural activities.

Scope

NOTES

Statistical information on sheep and goats, as well as the production of melons, and watermelons is collected separately based on the special questionnaire. The source of these statistics is the administrative units of the Municipalities of Georgia. Information on tea leaf production is obtained from the legal entities specialized in crude tea leaf processing.

KEYWORDS

Keyword
Temporary crop-a crop with complete growing cycle less than one year. Sown perennial grasses (alfalfa, trefoil, sainfoin, etc.) also belong to this category;
Permanent crop-a crop with complete growing cycle more than one year;
Sown area-area of arable land where temporary crops were sown during a reference year;
Harvested area-the part of the sown area which has been harvested during the reference year (the difference between the sown area and the lost area);
Production of annual and permanent crops-production obtained from arable land, as well as permanent crops during the reference year;
Average yield-crop production per hectare. Calculated as the ratio of the harvest and the harvested area;
Number of livestock-number of heads of livestock of all kinds and age groups as of a definite moment of time;
Livestock productivity-average volume of appropriate products, obtained from one dairy cow and buffalo, one laying chicken, one goat and sheep during a year;
Milk production-total milk obtained from dairy cows, dairy buffaloes, sheep and goats. Milk consumed by sucking calves, kids and lambs is excluded from the total milk production;
Meat production-the total weight of the meat obtained as a result of slaughter of both domestically raised and imported livestock;
Average yield of dairy cows-annual milk production divided by the average number of dairy cows during the year;
Average clip per sheep-annual total wool production during the reference year divided by the number of shaven sheep during the year;
Average litter-number of born animal during the reference year divided by the average number of female animals during the year;

Coverage

GEOGRAPHIC COVERAGE

Entire country (Georgia), excluding occupied regions (Abkhazia and Tskhinvali region)

UNIVERSE

Survey sampling frame includes about 642,000 agriculture holdings (households and agricultural enterprises) operated in country. The Agricultural Census 2014 is the main source of the sample frame. Sampling frame is updated on a permanent basis in according to the results of survey of agricultural holdings, business register and different administrative sources.

Producers and sponsors

PRIMARY INVESTIGATORS

Name
National Statistics Office of Georgia (Geostat)

PRODUCERS

Name	Role
Food and Agriculture Organization of the United Nations	Technical Support

FUNDING AGENCY/SPONSOR

Name	Abbreviation	Role
National Statistics Office of Georgia	Geostat	Funding
50x2030 Initiative (www.50x2030.org)	50x2030	Technical and Financial Assistance

Sampling

SAMPLING PROCEDURE

The sample design of the Machinery, Equipment and Asset module survey is based on the sample of the current Survey of Agricultural Holdings, so firstly given the design of the current Survey.

- Main Source of the sample frame since 2016 - Agricultural Census 2014;
 - Sample frame contained 642 000 holding - sample size 12 000 (1.9%);
 - Sample Design: two-stage stratified cluster random sampling;
 - First stage - selection of cluster (Settlement);
 - Second stage - Selection of holdings within the selected clusters;
 - Each year a new sample is selected based on a rotational design;
 - Every year 1/3 of holdings (4 000) selected a year before are replaced (Sampled holdings participate in the survey during 3 years);
 - Extremely large agricultural holdings are sampled every year with complete coverage;
 - Additional Sources for updating sample frame: Sample Survey of Agricultural Holdings, Statistical Business Register, Administrative data existing in MEPA (large agricultural holdings);
- Sampling error of main indicators do not exceed 5% for a country level and 10% for a regional level;
- The sample design of the Machinery, Equipment and Asset module survey:
- Sample Design: Two-stage cluster sampling was used for the survey.
 - Sample is formed separately in each stratum. At first, clusters are selected in every stratum, and then holdings from selected clusters are selected for survey.
 - Extra-large holdings will be in the sample by probability 1. That is, all clusters of extra-large holdings and all extra-large holdings from these clusters fall into sample.
 - Primary sampling unit in the rest of the strata is the cluster. The same number of holdings will be interviewed in all the selected clusters of a stratum. Specifically, in small holding strata, 12 holdings will be interviewed in each selected cluster. This number is 8 for medium-sized strata and 4 for large strata.
 - In each stratum the number of clusters that have to be selected is calculated by dividing the number of holdings to be selected in the stratum by the number of holdings to be interviewed in each cluster of the stratum.
 - In each stratum selection of clusters is done by the PPS method (Probability Proportionally to Size).
 - The selection of holdings in each selected cluster is made using a random systematic sample.
 - Rotational design: Survey has a panel design. Holdings, which will get into the sample, will stay there for three years. After this, they will be substituted by holdings from the same stratum.
 - The database lists 943 extra-large holdings. All of them will constantly participate in the survey. Their rotation group number will be "0". Of the remaining holdings each of them will belong to one of the three rotation groups. Holdings selected

from the same cluster will fall in the same rotation group. Each rotation group will have more or less the same number of holdings. Each rotation group represents an independent random sample.

-When holdings change by rotation, holding from the sample will be substituted by the new one from the same cluster. If the cluster does not have enough holdings to make the full rotation, then the cluster is deemed exhausted and is substituted by a randomly selected cluster from the same stratum.

-Newly introduced holdings will belong to the same rotation group which its predecessor belonged to.

RESPONSE RATE

In the MEA survey 194 holdings were not surveyed due to the holding refusing to be interviewed or not found during the fieldwork despite its existence. This is about 3.2% of the total sampled holdings of 6010 holdings involved in the sample.

WEIGHTING

Weighting is performed on stratum level. All the interviewed holdings of the stratum have the same weight.

- At First, initial weights of selected holdings from s-th stratum will be calculated: $W_{s,0} = N_s/n_s$

Where N_s is the number of holdings, and n_s - number of selected holdings in s-th stratum.

In the strata of small, medium and large holdings, all the interviewed holdings of s-th stratum will have the following weight assigned: $W_{s,1} = (N_s - u_s * W_{s,0}) * r_s$

Where r_s is the number of responses in s-th stratum, and u_s is the number of selected holdings in the stratum that do not exist.

Data Collection

DATES OF DATA COLLECTION

Start	End
2023-04-18	2023-05-25

DATA COLLECTION MODE

Computer Assisted Personal Interview [capi]

DATA COLLECTION NOTES

Data are collected tablet-based computer-assisted personal interviewing (CAPI) methods. In case of agricultural enterprises data are collected via online questionnaires CAWI- Computer Assisted Web-interviewing).

Questionnaires

QUESTIONNAIRES

Detailed information on structure, and sections of questionnaires used in the survey of agricultural holdings are available in following link: <https://www.geostat.ge/en/modules/categories/686/agriculture-holdings-surveys>

Data Processing

DATA EDITING

After the field work, cleaning and harmonization of all inquiries are established at the Geostat head office - logical and arithmetical inconsistencies, as well as non-typical and suspicious data are detected, checked and corrected. Verification of the data is performed by contacting the respondents by phone. If verification with respondent is impossible, different imputation methods are used. Finally, indicators are calculated using weighted data. The obtained results are compared with corresponding results of the previous periods. In case of significant differences, the possible causes are identified and analyzed.

Access policy

CONTACTS

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CONFIDENTIALITY

1. The Law of Georgia on Official Statistics: ---o According to the article 5 of the law individual data collected or received by the producer of official statistics, relating to natural or legal persons, must be strictly confidential and used only for statistical purposes. ---o According to the article 34 (Observing Confidentiality of Statistical Data) of the law. -----1. Data collected, processed, and stored to produce official statistics are confidential if they enable the direct or indirect identification of a statistical unit. In addition, aggregated data are subject to statistical confidentiality: -----a) Aggregates composed of 1 to 3 units, when the unit is a natural or legal person if one of these units could be identified indirectly, thereby disclosing individual data about this unit. Aggregates composed of more than 3 units may be declared confidential by the Executive Director if required to ensure statistical confidentiality -----b) Information declares as a state secret on the basis of the "Law of Georgia on State Secrets". -----2. Statistical data about the administrative body cannot be considered confidential information, except for the information determined by the Law of Georgia "On State Secrets". -----3. For official statistics, it is obligatory to destroy or store separately the identity data including the questionnaires containing such data and used for statistical surveys according to the rules defined in the Georgian legislation. -----4. Individual data obtained from publicly available sources, which are defined as public information in accordance with the legislation of Georgia, shall not be considered confidential information. -----5. Confidential (individual) data may be published if there is written consent from the statistical unit regarding the publication of such data. -----6. It is not allowed to disseminate and distribute confidential data or use it for non-statistical purposes. ---o According to the article 38 (Confidentiality commitments) of the law the confidential statistical data collected and processed for the purpose of statistical survey shall not be used or disseminated by the employees of the producers of Official Statistics.

<https://www.geostat.ge/media/56202/The-Law-of-Georgia-on-Official-Statistics.pdf> 2. Data Confidentiality Policy at Geostat

3. Rule on Access to Confidential Data for Scientific and Research Purposes

<https://geostat.ge/media/61533/Rule-on-Access-to-Confidential-Data-for-Scientific-and-Research-Purposes....pdf>

https://geostat.ge/media/61535/Annex-1_Registration-application_Geostat_En.docx 4. The Law of Georgia on Personal Data Protection <https://matsne.gov.ge/en/document/view/1561437?publication=9>

ACCESS CONDITIONS

Data Confidentiality Policy at Geostat

https://www.geostat.ge/media/20860/Data-Confidentiality-Policy-at-Geostat_En.pdf

Rule on Access to Confidential Data for Scientific and Research Purposes

<https://geostat.ge/media/61533/Rule-on-Access-to-Confidential-Data-for-Scientific-and-Research-Purposes....pdf>

https://geostat.ge/media/61535/Annex-1_Registration-application_Geostat_En.docx

Metadata production

DDI DOCUMENT ID

DDI_GEO_2022_SAH-MEA_v01_EN_M_v01_A_ESS_FAO

PRODUCERS

Name	Abbreviation	Affiliation	Role
National Statistics of Georgia	GEOSTAT		Metadata producer
Dissemination and Outreach Team, Statistics Division		Food and Agriculture Organization	Metadata adapted for FAM

DDI DOCUMENT VERSION

GEO_2022_SAH-MEA_v01_EN_M_v01_A_ESS_v01

Data Dictionary

Data file	Cases	Variables
MEA	5664	11
MEA_1_1_2	2968	7
MEA_1_2_2	229	8
MEA_1_3_1_2	1160	11
MEA_1_3_2_2	3043	11
MEA_1_3_3_2	1315	11
MEA_1_3_4_2	511	11
MEA_1_3_5_2	1202	11
MEA_1_3_6_2	26	11
MEA_1_3_7_2	269	11
MEA_1_3_8_2	728	7
MEA_2_1_2	2553	8
MEA_2_1_5	654	8
MEA_2_2_2	6090	8
MEA_4_1	13371	7
MEA_4_4	12859	16