

# Aquaculture

	Concept Name	Representation
<b>1</b>	<b>Contact</b>	
1.1	Contact organisation	National Statistics Office of Georgia (Geostat)
1.2	Contact organisation unit	Agriculture and Environment Statistics Department
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<b>2</b>	<b>Metadata update</b>	
2.1	Metadata last certified	February 18, 2020
2.2	Metadata last posted	February 18, 2020
2.3	Metadata last update	February 18, 2020
<b>3</b>	<b>Statistical presentation</b>	
3.1	Data description	<p>Survey of Aquaculture Holdings is the main source of data on aquaculture. Final outputs of the survey in line to area of waterbodies for aquaculture, fish production, fish in waterbodies by the end of year, farm gate price of fish.</p> <ul style="list-style-type: none"> <li>• Area of waterbodies of aquaculture – implies data on area of waterbodies for aquaculture and it includes as total area (pond, pool, lake/part of lake, part of river, part of sea), as well as by types of waterbodies. Noteworthy, information on ponds and pools can be disaggregated by country and regional level.</li> <li>• Fish production – implies information on fish production both total and by fish family (Salmonidae, Cyprinidae, Sturgeon, Siluridae, etc.). It includes data on large scale production fish species such as rainbow trout, common carp, mirror carp, grass carp, silver carp and bighead carp, etc. Overall information on fish of which salmonidae, cyprinidae, and some of species (rainbow trout, common carp, mirror carp, grass carp, silver carp and bighead carp) can be obtained as country as regional level.</li> <li>• Fish in waterbodies - implies information on amount of fish in waterbodies both total and by fish family (Salmonidae, Cyprinidae, Sturgeon, Siluridae, etc). It includes data on large scale fish species such as rainbow trout, common carp, mirror carp, grass carp, silver carp and bighead carp, etc. Overall information on fish of which rainbow trout, common and mirror carp, grass carp, silver carp and bighead carp can be obtained as country as regional level.</li> <li>• Farm gate price of fish – implies prices per fish species: rainbow trout, common and mirror carp, grass carp, silver carp</li> </ul>

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		and bighead carp, russian sturgeon and siberian sturgeon, wels catfish.
3.2	Classification system	3A Species Codes (ASFIS) <a href="http://www.fao.org/cwp-on-fishery-statistics/handbook/general-concepts/identifiers-for-aquatic-animals-and-plants/en/">http://www.fao.org/cwp-on-fishery-statistics/handbook/general-concepts/identifiers-for-aquatic-animals-and-plants/en/</a>
3.3	Sector coverage	Aquaculture holdings.
3.4	Statistical concepts and definitions	<b>Waterbodies for aquaculture</b> – waterbodies used for breeding of aquatic species. Types of reservoirs are: pool, pond, lake, part of lake, part of reservoir, part of river and part of sea. <b>Pool</b> – water accumulated in constructed trenches or in reservoirs, made with construction materials. <b>Pond</b> – water accumulated in natural trenches. It can be artificial or natural accumulation. <b>Lake</b> – water accumulated in natural reservoir (cavern). <b>Reservoir</b> – water accumulated for distinct reasons as naturally, as artificially (irrigation, hydroenergetic, etc.). <b>Fish production</b> – volume of produced fish extracted from waterbodies intending for sale, feeding, recycling, feeding of domestic animals and poultry, etc.
3.5	Statistical unit	<b>Aquaculture holding</b> – economic entity whose economic activity is related to aquaculture in spite of its size, legal status, ownership type and purpose of production.
3.6	Statistical population	Survey sampling frame includes aquaculture holdings operated in country. Sources of the sampling frame are agriculture census and statistical business register. Sampling frame is updated on a regular basis through the Survey of Agricultural Holdings and administrative sources.
3.7	Reference area	Entire country (Georgia), excluding occupied regions.
3.8	Time coverage	Since 2017.
3.9	Base period	-
4	<b>Unit of measure</b>	Hectare (area of waterbodies for aquaculture); Tons (fish production, fish in waterbodies); Georgian Lari (GEL) (fish prices).
5	<b>Reference period</b>	year.
6	<b>Institutional mandate</b>	
6.1	Legal acts and other agreements	The Law of Georgia on Official Statistics; <a href="https://www.geostat.ge/media/20817/latest-Law-of-Georgia_2018.pdf">https://www.geostat.ge/media/20817/latest-Law-of-Georgia_2018.pdf</a> Statistical Work Programme (annual); <a href="https://www.geostat.ge/en/modules/categories/307/statistical-work-programme">https://www.geostat.ge/en/modules/categories/307/statistical-work-programme</a> Charter of the National Statistics Office of Georgia. <a href="https://www.geostat.ge/media/20845/10%2Csaqstatis-konsolidirebuli-debuleba.pdf">https://www.geostat.ge/media/20845/10%2Csaqstatis-konsolidirebuli-debuleba.pdf</a>
6.2	Data sharing	
7	<b>Confidentiality</b>	

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7.1	Confidentiality - policy	<p>1. The Law of Georgia on Official Statistics:</p> <ul style="list-style-type: none"> <li>• According to the article 4 of the law individual data collected by statistical agencies for statistical compilation, whether they refer to natural or legal persons, are to be strictly confidential and used exclusively for statistical purposes.</li> <li>• According to the article 28 (Observing Confidentiality of Statistical Data) of the law 1. The data collected for the purpose of producing official statistics shall be confidential if it allows for identification of observation unit or r it is possible to identify such data through it. 2. The confidential statistical data shall not be issued or disseminated or used for a non-statistical purpose but for the exceptions envisaged by the Georgian legislation. 3. When producing the 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.</li> <li>• According to the article 29 (The Obligations and Responsibilities of the Employees of the Geostat) 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 units of the Geostat.</li> </ul> <p><a href="https://www.geostat.ge/media/20817/latest-Law-of-Georgia_2018.pdf">https://www.geostat.ge/media/20817/latest-Law-of-Georgia_2018.pdf</a></p> <p>2. Data Confidentiality Policy at Geostat <a href="https://www.geostat.ge/media/20860/Data-Confidentiality-Policy-at-Geostat_En.pdf">https://www.geostat.ge/media/20860/Data-Confidentiality-Policy-at-Geostat_En.pdf</a></p> <p>3. Public Use Microdata Dissemination Policy at Geostat <a href="https://www.geostat.ge/media/20862/Microdata-Dissemination-Policy_Eng.pdf">https://www.geostat.ge/media/20862/Microdata-Dissemination-Policy_Eng.pdf</a></p> <p>4. The Law of Georgia on Personal Data Protection <a href="https://matsne.gov.ge/en/document/view/1561437?publication=9">https://matsne.gov.ge/en/document/view/1561437?publication=9</a></p>
7.2	Confidentiality - data treatment	<ul style="list-style-type: none"> <li>• Confidentiality guidelines.</li> <li>• Written undertakings by an employee of Geostat on ensuring confidentiality of gained/collected data as a result of official duties.</li> </ul>
<b>8</b>	<b>Release policy</b>	
8.1	Release calendar	Data dissemination dates are defined according to the Advance release calendar, which is available on the website of Geostat and publicly accessible.
8.2	Release calendar access	<a href="https://www.geostat.ge/en/calendar">https://www.geostat.ge/en/calendar</a>
8.3	User access	All users have the equal access to the statistical data simultaneously.
<b>9</b>	<b>Frequency of dissemination</b>	Annual.
<b>10</b>	<b>Accessibility and clarity</b>	
10.1	News release	The press releases on statistics data in line to aquaculture are disseminated in accordance to statistical work program: <a href="https://www.geostat.ge/en/single-news/1628./survey-of-aquaculture-holdings-2018">https://www.geostat.ge/en/single-news/1628./survey-of-aquaculture-holdings-2018</a>
10.2	Publications	-

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10.3	On-line database	-
10.4	Micro-data access	-
10.5	Other	Statistical data on livestock additionally are disseminated using social network (Facebook).
10.6	Documentation on methodology	“Guidelines to Enhance Fisheries and Aquaculture Statistics through a Census Framework”. Food and Agriculture Organization of the United Nations. 2015: <a href="http://gsars.org/wp-content/uploads/2015/06/Guidelines-to-Enhance-Fisheries-and-Aquaculture-Statistics-through-a-Census-Framework-WEB.pdf">http://gsars.org/wp-content/uploads/2015/06/Guidelines-to-Enhance-Fisheries-and-Aquaculture-Statistics-through-a-Census-Framework-WEB.pdf</a>
10.7	Quality documentation	-
<b>11</b>	<b>Quality management</b>	
11.1	Quality assurance	To ensure the quality of the statistical processes and products Geostat follows Article 4 - Basic principles of official statistics - of the Law of Georgia on Official Statistics, as well as the European Statistics Code of Practice, the UN Fundamental Principles of Official Statistics and Quality Assurance Framework of the European Statistical System (QAF).
11.2	Quality assessment	Methodology and Quality Management Division of Geostat, along with the sectoral departments, is responsible for the quality of the produced statistical products and processes. The Division carries out quality audit of statistical processes and assesses the risks associated with production of statistical data. Geostat has developed policy documents, guidelines and standard routine descriptions. These documents ensure the standardization of statistical processes and products and the establishment of a unified quality assurance system.
<b>12</b>	<b>Relevance</b>	
12.1	User needs	The main stakeholders of data on aquaculture are: governmental institutions, educational institutions, scientific institutions, different business sector representatives, researchers and students, international organizations, media outlets, etc. They need these data to carry out different types of statistical analysis, to plan a marketing strategy or to evaluate and study the economic situation.
12.2	User satisfaction	In October 2019, user satisfaction survey was conducted, the target of the survey was to analyze the assessment of quality of statistical data by users and explore ways to improve user services. The survey report is available on the website of Geostat (in Georgian): <a href="https://www.geostat.ge/ka/single-news/1746/statistikuri-informatsiis-momkhmarebelta-kmaqofilebis-gamokleva-2019-tseli">https://www.geostat.ge/ka/single-news/1746/statistikuri-informatsiis-momkhmarebelta-kmaqofilebis-gamokleva-2019-tseli</a>
12.3	Completeness	The data are comparable to international standards.
<b>13</b>	<b>Accuracy and reliability</b>	
13.1	Overall accuracy	Data accuracy is ensured by comparability of survey and calculation methods to international methodology.
13.2	Sampling error	Sampling error of main indicators do not exceed 5% for a country level and 10% for a regional level.
13.3	Non-sampling error	Non-sampling error examples during the Survey of Aquaculture holdings are: errors made during a data collection by an interviewer, non-response, under coverage and over coverage, errors during an imputation and data processing.
<b>14</b>	<b>Timeliness and punctuality</b>	

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14.1	Timeliness	Data is disseminated in July after the reference year.
14.2	Punctuality	The data is published according to the date specified in the statistical work program. There has not been any violation of publication dates.
<b>15</b>	<b>Coherence and comparability</b>	
15.1	Comparability - geographical	The same methodological approaches are used for all regions of Georgia and they are comparable to international standards.
15.2	Comparability - over time	Data are comparable.
15.3	Coherence - cross domain	Coherent.
	Coherence - internal	Coherent.
<b>16</b>	<b>Cost and burden</b>	The total budget of the Survey of Aquaculture holdings has been amounted 7 575 in 2018. Survey data are collected using android based tablets, via CAPI method. Adaptation this method significantly shorts time spent for the filling of questionnaire and decreases respondent burden.
<b>17</b>	<b>Data revision</b>	
17.1	Data revision - policy	Statistical data revision policy is available on the website of Geostat: <a href="https://www.geostat.ge/media/20863/Revision-policy_Geostat_Eng.pdf">https://www.geostat.ge/media/20863/Revision-policy_Geostat_Eng.pdf</a>
17.2	Data revision - practice	The statistical data revisions and adjustments are made on a regular basis rely on relevant sources. In addition, a large-scale revision is performed once a year to obtain verified data. Main purpose of this procedures to obtain statistically valid data.
<b>18</b>	<b>Statistical processing</b>	
18.1	Source data	Primary data are obtained from the Survey of Aquaculture Holdings.
18.2	Frequency of data collection	Annual.
18.3	Data collection	Since 2017 survey data are collected via tablet based computer-assisted personal interviewing (CAPI) methods. Such method is used both household and enterprise surveying.
18.4	Data validation	The primary logical controls are made by algorithms implemented in android based tablets, which notifies an interviewer on logical errors or mismatching of obtained information. Questionnaires filled by interviewers are sent to field work supervisors in order to retrieve and check data errors or arithmetical mistakes. If such cases will be occurred, field supervisors send the questionnaires back to interviewers for farther correction or adjustment. The final data cleaning and harmonization are made by staff of Agriculture and Environment Statistics department of GEOSTAT. During this process the dubious data and outliers are retrieved, checked and adjusted. For the data validation strongly used comparison of obtained data to previous time series on a micro data level or other valid sources. In case of significant outliers, the main reason of it should be detected and analyzed.
18.5	Data compilation	After data cleaning and statistical weight calculation, indicators are calculated using weighted data. For the calculation of area of water bodies for aquaculture, fish production, fish in water bodies at the end of year, the following formula is used:

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		$\sum_{i=1}^n W_i \cdot X_i$ <p>Where, <math>n</math> is number of surveyed holdings, <math>W_i</math> - <math>i</math>- holding weight, while <math>X_i</math> - area of waterbodies operated by holding/fish production/fish in waterbodies within <math>i</math> aquaculture holding.</p> <p>Fish price is calculated using following formula:</p> $\frac{\sum_{i=1}^n W_i \cdot I_i}{\sum_{i=1}^n W_i \cdot P_i}$ <p>where, <math>n</math> is number of surveyed holdings, <math>W_i</math> - <math>i</math>- holding weight, <math>I_i</math> - income obtained from sale fish by <math>i</math> holding, while <math>P_i</math> - volume of fish sold by <math>i</math> holding.</p>
18.6	Adjustment	Not applicable.
19	<b>Comment</b>	-