
ICELAND - Census of Agriculture 2010 – Explanatory notes

1. Historical Outline

In compliance with Regulation (EC) 1166/2008, Statistics Iceland conducted the Farm Structure Survey (including the Survey on Agricultural Production Methods and Other Gainful Activities), covering all national holdings, in 2010. The action is defined as the beginning of a regular collection of agricultural data. This agricultural census was the first one for the National Statistical Institute.

Iceland does not have a business or farm register, or other complete data source with an overview of holdings. Administrative data sources that were utilized, such as tax registers, have units identified through individual identity numbers. In cases where more than one person from the same holding are registered that holding has multiple entries. Linkages between individuals, to establish complete holdings, had to be made after the data collection of the survey, as a part of a data clean-up phase.

2. Legal Basis and Organization

Statistics Iceland operates in accordance with the Icelandic law on Statistics Iceland and official statistics, which is aligned with the United Nations Fundamental Principles of Official Statistics, the European Statistics Code of Practice, and the Icelandic Act on the Protection of Privacy regarding the processing of personal data. Furthermore, Statistics Iceland has laid out its own Rules of Procedure for Treating Confidential Data.

The national regulation that offers the legal basis for this action does not directly address specific matters concerning: scope and coverage, frequency of the census and time reference, responsibility for the census, administrative and financial provisions, obligations of the respondents with respect to census, identification, protection and obligations of enumerators. The national regulation does grant right of access to administrative data.

3. Reference Period or Date

The Census reference date was October 31st, 2010 for all characteristics for livestock and other variables, including labour and machinery where it is meaningful to assign a specific day. Land and crops data refer to the reference year 2010.

4. Enumeration Period

Enumeration began with Introductory letters and personalised log-in information sent out to participants January 17, 2011 and ended June 1, 2011 when telephone interviews made with remaining non-responders were completed

5. Definition of the Statistical Unit

As no register of agricultural holdings exists in Iceland, the Census was individual-based. EC Regulation 1166/2008 defines the statistical unit as an agricultural holding.

“Agricultural holding“ or „holding“ means a single unit, both technically and economically, which has a single management and which undertakes agricultural activities listed in Annex I to the European Parliament and Council Regulation (EC) No 1166/2008 within the economic territory of the European Union, either as its primary or secondary activity. In addition, the EU regulation determines thresholds of size.

6. Geographic Coverage

Covered the entire country.

7. Exclusions and Cut-Off Thresholds

None noted other than those stated as the minimum threshold of agricultural activity in the EU definition of an agricultural holding.

8. Methodology

Use of the FAO Modular Approach

No

Frame

The population frame of the census was constructed using Agricultural Tax Returns, VAT Returns and Annual Livestock Surveillance Reports. The initial Census listing consisted of 3,241 individuals later revised to 2,699 holdings.

Complete or Sample Enumeration Methods

The Census was an enumeration of all known agricultural households and enterprises.

Sample Design

Not applicable.

Collection Method

Data were collected using a mixed mode strategy, starting with the most inexpensive mode first and ending with the most expensive. First a pre-notification letter was sent to all individuals with an agricultural unit informing them that an invitation to a web survey would be sent in a few days. In the invitation letter respondents were provided with a web address for the web questionnaire as well as login name and a password.

For sample units that did not respond through the web, a paper questionnaire was sent, along with a pre-paid return envelope. This was done approximately two weeks after the original invitation to the web questionnaire. Three employees of Statistics Iceland entered in answers from the paper questionnaire to a database. Finally, for those who neither answered the paper questionnaire nor the web questionnaire, a computer assisted telephone interview (CATI) was attempted.

Employees of the survey unit did the data entry for the paper questionnaires.

Blaise survey software was used to create the data files for the data collected by CATI and CAWI.

Questionnaire(s)

The *EU list of characteristics* was followed for this action. No additional information was collected for national purposes.

EU Regulations require information on holding location and geo-coordinates, legal status, ownership and tenancy, land use and crops grown, irrigation, livestock, organic farming, machinery (mandatory in 2013 FSS), renewable energy installations, other gainful activities, socio-economic circumstances (full and part-time farming), labour force (family, non-family, contractors), agricultural and vocational training of the manager, inclusion in rural development support programmes, soil tillage methods, crop rotation, and erosion protection, livestock keeping places and keeping methods, animal grazing, manure application and manure storage and treatment facilities, maintenance and installation of landscape features.

It is not clear from the documentation as to the number of questionnaires. The questionnaire(s) were however available in three formats, a computer assisted web interview (CAWI), a paper assisted personal interview (PAPI), and a computer assisted telephone interview (CATI).

Controls to Minimize Non-Sampling Errors

Completion and correction methods were applied in cases of missing values and implausible values. No follow-up interviews were conducted and no re-weighting was applied. Administrative data were used for compensating for missing values where it was available. The main tool that was used for the data handling was the computer program R. This procedure was done by specialists within the Business Statistics Unit, in co-operation with subject experts.

Innovative Methodologies

The use of a multi-modal collection system of a web based questionnaire, paper based questionnaire for those who do not want to report on the web application and a computer assisted interview procedure to follow-up non-respondents.

9. Data Entry, Edits and Imputations, Estimation and Tabulation

Controls of the data during the process of the filling out of the web-based questionnaire by the respondents involved a summary of land size, as filled out by the respondents, appearing on the screen at the end of the questionnaire and respondents being asked to verify the given information. Control of the data during the data processing phase involved checks that were done by experts within the Business Statistics Unit. The aim of this work was to fill in information for missing or evidently incorrect values, with the lowest possible level of aggregation.

Some of the available fields in the administrative data sources needed to be combined in order for them to match the fields of the Agricultural census. This needed to be done for the case of horses and corn. In other cases, fields in the administrative data sources were already combined beyond the requirements of the Farm Structure Survey and were allocated into their various components. Whenever the Farm Structure Survey asked for subcategories of registered numbers an optimal split was used, based on the sum of squares method. Generally the rule that was applied where administrative data were available, when the absolute deviation from the administrative data were higher than twice the standard error, the administrative data were used instead of data provided by respondents.

10. Data Dissemination and Use

First results have been published in tables on the website of Statistics Iceland as well as in a specific publication. The tables are available on the website, www.statice.is/Statistics/Fisheries-and-agriculture. Publications will contain some brief outlining of meta-data regarding the survey mode and response rates.

11. Census Data Quality

Administrative data were used to assist with the validation of the Census. Administrative data sources were used for the collection of some variables. In other instances administrative data were used for validation and imputation. The sources include the, Address Register, Property Register, Agricultural Tax Returns, VAT Returns, Land Register, Livestock Surveillance Reports, Pay as You Earn Register, Tourism Accommodation Statistics and certified Organic Growers. Identification numbers, which are present both for holders and legal units were used to link data from different data sources. Home addresses and land codes were used to link holders, as holdings in Iceland can have multiple holders.

12. Data Sources

Statistics Iceland:

<http://www.statice.is/Statistics/Fisheries-and-agriculture/Agriculture>

Report:

http://www.fao.org/fileadmin/templates/ess/ess_test_folder/World_Census_Agriculture/Country_info_2010/Reports/Methodology_4/ISL_ENG_MET_2010.pdf

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