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# GREECE - Census of Agriculture 2009 – Explanatory notes

## 1. Historical Outline

The Agricultural Census or the basic Farm Structure Survey (FSS) is carried out every ten years as an exhaustive survey. The Agricultural Census is a survey of national interest and collects objective quantitative information relating to the structure of the farming sector.

The first Agricultural Census was conducted in 1950, after the Second World War. Since 1950 five censuses of agriculture and livestock farming have been held, in 1961, 1971, 1981, 1991 and 1999/2000. From 1961 to 1991 the agricultural censuses were conducted simultaneously with the General Population and Housing Census. The Agricultural Censuses of 1999/2000 and 2009/2010 were carried out before the General Population Censuses of 2001 and 2011, respectively. The 2010 Agricultural census had two components, the Farm Structure Survey carried out as a census and the Survey of Agricultural Production Methods (SAPM) undertaken as a sample survey.

## 2. Legal Basis and Organization

The National Statistical Service of Greece (Hellenic Statistical Authority ELSTAT) is the responsible body for statistics and statistical surveys. The Central Office responsibilities are survey organization and preparation, the tabulation and data dissemination. Data collection and processing are carried out by the Regional Statistical Offices for the 51 Districts. Data collection is carried out by interviewers, selected by the Regional Statistical Offices and recommended to ELSTAT for appointment.

The main national legislative document concerning statistics is Law 3832/09-03-10. Surveys and statistical operations are however a joint decision of ELSTAT and the Ministers of Economic Affairs and Finance and the appropriate sector specific co-responsible Ministers.

## 3. Reference Period or Date

The reference period for the 2009 Farm Structure Survey data for crops, labour force and other items, as well as for the 2009 Survey of Agricultural Production Methods, was the cultivation period from 1 October 2008 to 30 September 2009. The reference date for livestock, was 1 November 2009, and the reference period for Rural Development characteristics, the last three 3 years (2007, 2008, and 2009).

## 4. Enumeration Period

The enumeration period for the Farm Structure Survey 2009 and the Survey of Agricultural Production Methods 2009 was from July to October 2010.

## 5. Definition of the Statistical Unit

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. Greece did however establish a significantly lower minimum threshold (0.1 hectares) for the utilized agricultural area of agricultural holdings and consequently included smaller farms in its 2009 Agricultural census.

The statistical unit is an agricultural holding with:

- (1) at least one stremma or 0.1 ha of utilized agricultural area or at least half a stremma (0.05 ha) of greenhouses, regardless of the crop, the ownership of the land or the location, or
- (2) one (1) or more cows or two (2) or more other "large animals" of any type and age (oxen, horses, donkeys, mules), or
- (3) five (5) or more "small animals" (sheep, goats, pigs) of any age and type, or
- (4) fifty (50) or more poultry birds, or
- (5) twenty (20) or more hives of "domestic" or "European" bees or
- (6) five (5) or more ostriches.

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## 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 national definition of an agricultural holding.

## 8. Methodology

### ***Use of the FAO Modular Approach***

No

### ***Frame***

The frame of the 2010 Census of Agriculture was the updated Register of Agricultural Holdings of ELSTAT, composed of all agricultural holdings that meet the minimum specified thresholds for agricultural activity, which in 2010 totalled approximately 843,000 holdings.

### ***Complete or Sample Enumeration Methods***

The Agricultural census 2009 was a complete enumeration. The Survey of Agricultural Production Methods was a sample survey.

### ***Sample Design***

The sampling method that ELSTAT used to conduct the Survey of Agricultural Production Methods 2009 (SAPM) was a one-stage stratified random sample with sampling units being the agricultural, livestock or mixed holdings of the target population.

The initial sample size totalled 59,967 holdings (sampling fraction of 7,3%). The decision for determining the sample size was based on financial criteria and on several precision criteria:

- (1) At the Regional level, the standard error of the size of the arable land of a certain crop characteristic should be less than 10%, when the size greater than 10% of the Region's utilized agricultural area.
- (2) At the regional level, the standard error of livestock should be less than 10% when that type of livestock exceed 10% of the total in the region, under the condition that the capital livestock units in the Region exceeds 5% of the total number at the country level.

The sample of holdings was selected from the ELSTAT Register for agriculture of reference year 2008.

The strata were created by the following stratification criteria:

- (1) Administrative geography 54 areas in Greece (50 Departments and of Attiki, which is divided into 4 areas),
- (2) Economic size of holdings (6 classes). The Economic Size has been defined by the Standard Gross Margin (calculated in ESU's (1 ESU=1.200 Euro),
- (3) General type of farming, (2 classes),
- (4) Cropland area (9 classes) but this stratification is only for new farms to the Register

### ***Collection Method***

The data collection of the FSS and SAPM was carried out through personal interviews with the farm holders. The Regional Statistical Offices were responsible for the data collection. The head of each Office was in charge of organizing and coordinating the work of the survey in their particular prefecture. A team of officials of the regional statistical offices (assistant supervisors) assisted the supervisor. The supervisor and the assistant supervisors trained the interviewers, assigned the units to them (approximately 100 units per interviewer) and supervised their work.

Prior to the interview date, whenever possible, the interviewers had a first contact with the farmers in order to arrange the interview date. The interviews generally took place at the holder's residence, although some interviews were conducted at municipality offices. The interviewer conducted the interviews and completed the questionnaires with data supplied by the holder. The completion time per questionnaire was approximately 30 minutes.

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### **Questionnaire(s)**

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. No additional information was collected for national purposes.

There were three questionnaires, one for the Census (Farm Structure Survey), one for the Survey of Agricultural Production Methods, and one for the Survey of Common Land.

### **Controls to Minimize Non-Sampling Errors**

The primary effort to control non-sampling errors was clear and concise field collection manuals and reference document. Good training procedures and well trained and well supervised interviewers. Good training and support for experienced and knowledgeable supervisors.

### **Innovative Methodologies**

The data entry operation was based on a scanning of questionnaires and Optical Character Recognition to create a computerized record from each questionnaire.

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

ELSTAT's personnel carried out the scanning of the questionnaires for the OCR (Optical Character Recognition), as well as the processing and correction phase.

ELSTAT carried out the quality controls. Edits and imputations were applied to estimate data values resulting from edit failures, missing data, and total non-response. A 'hot deck' imputation was approach was used. The auxiliary variables, used to define the imputation classes for holdings, were municipality/commune, type of farming, and economic size.

## **10. Data Dissemination and Use**

The purpose of Census is to determine the basic structural features of the agricultural and livestock holdings, which capture an image of the agricultural sector at a specific point in time. Preliminary results were published on the web site of the National Statistical Service of Greece and are available free of charge at [www.statistics.gr/](http://www.statistics.gr/). The final results of agricultural Census 2009, at national level, were available in the second half of 2012 in the form of: (1) Detailed tables (national series of tables), (2) An electronic and a hard copy publication containing statistics and related analyses, together with maps showing the geographical distribution of the various survey characteristics (not free of charge). All publications contain meta-data.

## **11. Census Data Quality**

The estimates from the Census were compared with data coming from previous Farm Structure Surveys as well as data coming from other sources such as, special annual agricultural surveys, and administrative data etc.

Administrative sources were used for the validation as none of the data from the Census questionnaires, were collected through the taken from administrative files. For instance, data such as "equipment used for renewable energy production" were collected from the Census and not from administrative sources.

## **12. Data Sources**

Eurostat:

[http://ec.europa.eu/eurostat/statistics-explained/index.php/Agricultural\\_census\\_2010](http://ec.europa.eu/eurostat/statistics-explained/index.php/Agricultural_census_2010)

Final report:

[http://ec.europa.eu/eurostat/documents/749240/749313/EL\\_NMR\\_FSS\\_2010.pdf/offaade3-04a1-4000-a5b6-903b532c6d7f](http://ec.europa.eu/eurostat/documents/749240/749313/EL_NMR_FSS_2010.pdf/offaade3-04a1-4000-a5b6-903b532c6d7f)

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### 13. Contact

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#### **Website**

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