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Summary

This document reports on the activities of the project "Modernization of agricultural statistics in Bulgaria - development of a statistical questionnaire and a list of agricultural holdings as part of the preparation for the census of agricultural holdings in 2020 in implementation of the Regulation on integrated agricultural statistics (IFS)", Agreement N 2018.0209, which were carried out for the period from July 2018 to July 2020.

Within the project, in order to support the activities for the census of agricultural holdings in 2020, activities have been undertaken to update the list, upgrade the information system for agrostatistics and develop a draft statistical questionnaire.

- In connection with the activities on the update of the holdings list for the survey during the census of agricultural holdings in 2020, the work started in March 2019. Administrative data was received from the Integrated Administration and Control System (IACS) for the claimed SAPS areas, the information system of the Bulgarian Food Safety Agency - VetIS, the vineyard register, the farm register maintained under Ordinance № 3/1999, the register of statistical units of the NSI. The available records from the statistical farm register were exported from the information system for agrostatistics. With the data available outside the information system a consolidated list of 515 561 records was drawn up. The list of data on natural persons was sent to the General Directorate for Civil Registration and Administrative Services (DG CRAS) at the Ministry of Regional Development and Public Works in order to obtain up-to-date information on the status of natural persons and their addresses. In the information system for agrostatistics (ISAS) were imported data of farms from administrative sources - IACS (SAPS), VetIS, the vineyard register, the farm register, maintained under Ordinance № 3/1999. In ISAS a reference with data on the system of holdings and a subsystem was created, in which the available agricultural holdings were imported in the statistical register of ISAS (507 887 unique records). In it, at the regional level, after meetings with the local authorities, the experts from the regional offices introduced data on the agricultural activity of some of the farms.
- The software update of the information system for agrostatistics intended for the statistical register and for farm location started at the beginning of 2019 with the establishment of a working group for the preparation of terms of reference and documentation for public procurement. The work on the update of the system continued with the announcement of a public procurement and selection of a Contractor. In August 2019, the Contractor selected after a procedure under the Public Procurement Act began work with an analysis of the needs for optimization of functionalities and business processes and construction of a new geolocation software module. The development continued on schedule. A farm module geolocation and several modifications related to the statistical register was developed. The developments were tested and accepted. The activities envisaged under the contract with the contractor were completed in March 2020. Warranty support is underway for the next 12 months.

The work on the implementation of the second goal of the project started in early 2019 after the adoption of the Agricultural Holdings Census Law in the Republic of Bulgaria in 2020 by defining the variables that will be observed during the census and should be included in the draft statistical questionnaire. The variables list is in line with Annexes III and IV to Regulation (EU) 2018/1091 of the European Parliament and of the Council on integrated statistics on agricultural holdings and repealing Regulations (EC) № 1166/2008 and (EU) №1337 / 2011, as well as with the national legislation - list of the basic data (variables), described in appendix № 1 of the Law. The needs of data of national importance for the Farm accountancy data network (FADN) to meet the requirements of product statistical surveys in the field of crop and livestock production in accordance with the requirements of the regulations in the field of statistics, as well as from data necessary for the NSI for the implementation of statistical activity, especially in the field of agricultural statistics were taken into account. The developed draft questionnaire was tested. Working meetings were held with representatives of the interested directorates of the Ministry of Agriculture, Food and Forestry (MAFF) and with the regional offices of Agriculture (RO), where the draft statistical questionnaire was discussed. Relevant comments were taken into account and the proposed changes got reflected in the document. Due to the complicated situation related to the coronavirus pandemic, no other meetings and seminars were held to discuss the questionnaire.

Introduction

The aim of this project is to modernize the agricultural statistics as part of the preparations for the 2020 census.

The specific goals are:

- 1. Preparation of a list of agricultural holdings for survey by improving the existing statistical register of agricultural holdings;
- 2. Preparation of a draft statistical questionnaire for the census of agricultural holdings in 2020 in accordance with the requirements of the IFS regulation;
- 3. Preparation of a methodology for geolocation of the agricultural holdings.

Project status

In order to achieve the general and specific objectives, the following activities were foreseen in Annex II to the Agreement

- 1. Update of the existing statistical farm register;
 - 1.1. Analysis of the register functionality with the existing ID and development of a proposal to establish a unique farm identification number;
 - 1.2. Comparison of the definitions of the registered units from external administrative sources with the IFS Regulation definition of an agricultural holding and the identification of the need for new functionalities;
 - 1.3. Review and comparison of the records available in the agricultural farm register and records for the last crop year of the registers of the used external administrative sources by districts and elimination of incorrect records;
 - 1.4. On-the-spot checks in some of the farms with insufficient data in the statistical register;
 - 1.5. Determining new features to create demography of farms newly created, suspended, inactive, etc;
 - 1.6. Description of the new statistical register functions and register maintenance requirements to be implemented by software;
 - 1.7. Description of additional reports to be generated automatically;
 - 1.8. Software update of the statistical register with a unique farm ID and of the functions and references identified above, while complying with the requirements of the Personal Data Protection Regulation.
- 2. Draft of the statistical questionnaire for data collection during the agricultural census 2020 in accordance with the requirements of the IFS Regulation;
 - 2.1. Development of a concept for a statistical questionnaire for the agricultural census 2020;
 - 2.2. Determining the variables to be collected during the census;

- 2.3. Preparation of the draft questionnaire;
- 2.4. Coordination of the elaborated draft statistical questionnaire with the competent national authorities and users of statistical information;
- 2.5. Testing of the draft questionnaire by experts from the regional offices and MAFF;
- 3. Geographical location of holdings in accordance with the requirements of the IFS Regulation. The process of structural transformations in the country is intense and the location of farms is often changing. A way to maintain the farm location will be sought to meet the requirements of the IFS Regulation;
 - 3.1. Review of the available information on the issue;
 - 3.2. Study of the possibilities for setting the farm coordinates from the register in the GIS environment according to the requirements of the national and European legislation (Inspire);
 - 3.3. Preparation of a methodology for determining the geographical location of the farms;
 - 3.4. Preparation of an additional module in the agro-statistical information system to determine the geolocation of farms;
 - 3.5. Testing the methodology for geo-location of the farms.

The schedule for the initiation of activities (part of Annex II to the Agreement):

TIMETABLE TO CARRY OUT EACH STAGE OF THE ACTION SHOWING MAIN DATES AND EXPECTED RESULTS FOR EACH STAGE	
Milestones/ Deliverables / Tasks / Results / Reports	Timetable
Update activities of the statistical register - description of existing and proposals for new functionalities and additional references	M+10
Workshop to discuss the updates of the statistical register with experts from the regional offices and other interested organizations	M+11
Preparation of the statistical questionnaire for the agricultural census 2020	M+12
Seminar discussion on draft statistical questionnaire with the interested stakeholders and national organizations	M + 13 Seminar

Methodology for determining the geographical location of agricultural holdings	M+14
Workshop with experts from the Regional offices after testing the draft statistical questionnaire	M+15
Interim report	M+16
Developed software for updating the statistical register and geolocation of the holdings	M+18
Final technical and methodological report	M + 24
Final performance report and financial statement	60 days after the end date of the activity

Work package 1

Updating of the existing statistical farm register:

Activity 1. Analyze the functionality of the register using the existing ID and develop a proposal to establish a unique farm identification number;

Result: The farm identification numbers currently supported by the information system (before actualization) are 2. Each farm, upon its initial registration in the statistical register of the agrostatistics information system, receives a serial number, which is a link and a farm identifier for all other modules of the system. The information system also maintains a second number for each farm a 12-digit text entry. The number is created with a combination of basic location information on the holdings. The first 2 positions are the code of the administrative region, followed by 5 digits for the UCATTU (Unified Classifier of the Administrative-Territorial and Territorial Units) at the place of residence of the holding and 5 digits serial number of the entry in the respective UCATTU. After analysis of the existing records in the information system a problem with duplicate farm identification numbers (12 digit ID) was identified.

Considering the requirements for data transmission for the census in 2020 and the problems identified in the information system in the terms of reference, it is envisaged to develop an algorithm for generating farm ID.

The system is supposed to maintain a unique ID number for each farm. The identification number must be a maximum of 11 positions long. The identification number must be used for selection, sorting and search in the information system. The identification number must be suitable for inclusion in the data set to be sent to Eurostat and not be altered in different data deliveries for the same holding. This should allow changes to be identified between the different versions of the data supplied.

The results of the development are described in activity 8 (below in this document).

Activity 2. Comparison of definitions of registered units from external administrative sources with the definition of agricultural holding in the IFS Regulation and identification of the need for new functionalities;

The IFS Regulation farm definitions were compared with the registered units in the 4 administrative sources, which largely cover the main assets (area and animals) of agricultural production in the country.:

- Integrated Administration and Control System (IACS), administered by the State Fund Agriculture Paying Agency (SFA-PA);
- Farm Register under Ordinance № 3/1999, administered by the Ministry of Agriculture, Food and Forestry;
- Vineyard Register, administered by EAVW;
- National Information System for Registration, Identification, Tracking of Movements and Control of Animal Health or the Veterinary Information System (VetIS), administered by the Bulgarian Food Safety Agency BFSA.

Comparison with IACS

Individuals and legal entities that produce unprocessed and/or processed plant and/or animal products may be registered in the system for registration of applicants for support. According to the Law for support of the agricultural producers, art. 38b. and 38c. (New, SG No. 12/2015) (1) Direct payments under the schemes shall not be granted to natural and legal persons who, pursuant to Art. 9 of Regulation (EU) № 1307/2013 **are not active** farmers. Not active farmers are natural and legal persons who:

- 1. operate airports, railway services, water facilities, real estate services, sports grounds and recreation areas;
 - 2. are state or municipal administrations or their divisions.

No direct payments are made when the eligible area of the holding is less than 0.5 hectares.

Farmers who own fewer hectares than those specified in para. 1, shall receive coupled support for animals, when the total amount of their direct payments during the respective year is the BGN equivalent of 100 or more euro.

• The minimum size of agricultural plots that can be applied for support is 0.1 ha. There is no requirement for single management in the IACS definition of eligibility of beneficiaries compared to the definition used for the census.

The thresholds for agricultural holdings, determined by the Agricultural Holding Census Law in Bulgaria, are lower than those for support application. Due to the minimum size of the agricultural parcel, part of the used parcels cannot be registered. The registration IACS requires also documents for legal basis for management of the area. Some farmers actually manage the area without having settled their legal relations. The census does not require a legal basis for the land management and these unsettled but managed areas are subject of the research.

The IACS registration is voluntary. It does not register farmers (including large farms) who do not wish to apply for support and/or due to non-compliance with the area eligibility criteria (mainly highland/rough pastures with permanently ineligible elements over the percentage allowed). The Law on Support of Agricultural Producers (LPA) requires all applicants for direct payments to be registered as farmers. The registration is carried out by the order of Ordinance № 3 of January 29, 1999.

Comparison with the Farm Register maintained under Ordinance № 3 of 1999.

According to Art. 3 of Ordinance № 3 of January 29, 1999, legal entities, sole traders and natural persons over 18 years of age, managing agricultural land and/or carry out production of agricultural products, are subject to registration.

There are no restrictions in the legislation on the size of the managed area and the number of kept animals.

The registration in the Farm Register is voluntary. There are farmers who do not register because they do not want to enjoy the rights of registered farmers. Registration is related to compulsory social and health insurance, and for some farmers agriculture is not the main activity and they fail to generate enough income to cover these costs. In order to register the area they need legal documents for the grounds of the cultivation. This implies that there are farms that manage areas without the possibility to prove the legal basis and cannot be registered in the register.

Comparison with the Vineyard Register

According to Art. 29 of the Wine and Spirits Act, the vineyard farm consists of vineyard plots managed by one grape grower. A vineyard farm can be registered by any natural or legal person who:

- 1. acquires or cultivates an area planted with vines of at least 0.1 ha;
- 2. has submitted an application for acquisition of planting right by the National Reserve in accordance to art. 25, para. 2;
 - 3. acquires replanting rights in order to change the vineyards location.

No legal basis for the cultivation of the vineyard area is required for the registration in the vineyard register.

The definition of a wine-growing holding in the Register overlaps with the definition of an agricultural holding in the census. The register includes all holdings that produce grapes for wine production, regardless of the purpose of the grapes - produced for sale or for own consumption. There is a threshold for registration, which is comparable to the threshold set in the Census Act - 0.1 ha.

Comparison with VetIS

Pursuant to Ordinance № 61 of 9 May 2006 on the terms and conditions for the official identification of animals for which no requirements are laid down in a European Union regulation, "owner of a livestock holding" means any natural or legal person who holds documents proving ownership of a livestock farm. "A livestock holding user" means any

natural or legal person who is entitled to use a livestock establishment against payment or for free. The legislation stipulates that a livestock farm is any enterprise, any structure or, in the case of pasture agriculture, any environment located on the territory of the Republic of Bulgaria in which animals are kept, housed or kept permanently or temporarily.

According to Ordinance № 44/2006 on the veterinary requirements for livestock farms, the definition is more general and defines it as a farm for raising animals, which production is used for direct consumption, processing or other economic purposes.

Any establishment where animals reside temporarily or permanently, with the exception of non-commercial pets, is subject to entry in VetIS.

There is also no limit on the number of animals kept on the holding (bovine, sheep and goats, pigs), which means that even if one animal is kept on the holding, it must be registered in the system.

After the comparison, a duplication of owners was established (personal ID /Unique identification number according to Bulstat). This shows that a farm can consist of several livestock farms, which are introduced separately in the system. At the same time, there are livestock farms where animals are kept by different farmers, i.e. parts of the livestock farms are leased to other farmers who are independent livestock farms.

Conclusions:

The analysis made after comparing the definition and scope of the agricultural holding from the IFS Regulation (EU) 2018/1091 with the administrative sources shows:

- there is no single definition of agricultural holding and farmer, which applies to all administrative registers and statistics;
- the administrative registers do not cover all agricultural holdings subject to census monitoring. Some holdings have area below or near the threshold for registration in the registers (e.g. IACS). Some farmers have unsettled legal ownership for the cultivated area;
- the registration in some administrative sources aiming farmers'support is voluntary, and not all farmers are interested in registering;
- the main identifier for agricultural holdings identification is personal ID /Foreigner's ID/ Unique identification number according to Unique identification number from the Commercial Register, part of which is the Bulstat Register. The person, registered in the administrative registers does not always coincide with the person defined as a holder in the statistical surveys. Therefore, every year when comparing the administrative registers data and the statistical farm register data there is a large number of unrecognized records. However, the production assets for a large part of them are duplicated with the records available in statistical farm register. The tracking of these connections is very difficult, almost impossible. As a result, a very large number of farms gets accumulated. It is difficult to keep up-to-date information for them in the statistical farm register.

Activity 3. Review and comparison of the available records in the statistical farm register and records for the last crop year of the external administrative registers by districts and elimination of incorrect records;

Result: Initially, a consolidated list of accumulated records from statistical surveys (based on the 2010 census of agricultural holdings) and from administrative sources was prepared outside the information system. A list with 521 995 records from statistical surveys, IACS, the farm register maintained under Ordinance № 3 of 1999, the vineyard register, VetIS was prepared. There are another 2 099 records from the NSI business register, received at a later stage. The data on natural persons were sent to the General Directorate "Civil Registration and Administrative Services" (DG CRAS) at the Ministry of Regional Development and Public Works, that delivered back the necessary information on the status of persons (living or deceased) and current data on addresses and establishment of invalid or inaccurate personal IDs.

In the information system for agrostatistics were imported farms from administrative sources, which were not recognized by identifier - personal ID/Foreigner's ID/ Unique identification number according to Bulstat. IACS added 17 110 new records unique at the NUTS3 level, 16 855 unique at the national level. From the farm register maintained under Ordinance 3 of 1999, a total of 14 953 unique records were added at the national level, of which 6 545 with crops and 8 748 with animals, birds and bees. A total of 24 059 records unique at the NUTS3 level were added from the vineyard register, 23 995 unique at the national level. The following were added from VetIS: 74 buffalo farms; 17 084 cattle farms (17 082 unique at national level); 8 178 goat farms (8 177 unique at national level); 455 pig farms unique at the national level; 24 419 sheep farms unique at the national level. Data on the status of individuals (Alive/Deceased) according to DG CRAS information was imported. A report has been prepared through Report Builder containing information for identification of farms, contact addresses, participation in administrative registers, participation in statistical surveys (in recent years FSS2016, structure on plantations of certain species of fruit trees 2017, annual surveys 2017, 2018, 2019), status (living or dead) of individuals according to the DG CRAS information. 515 561 records were exported from the report (507 887 unique by personal ID / Unique identification number according to Bulstat /Foreigner's ID). The report data were provided to the regional experts in order to determine, if possible whether the holdings are operating/inactive, to update the contact addresses and to determine the farm location.

<u>Activity 4.</u> On-site control of part of the holdings with insufficient data in the statistical farm register;

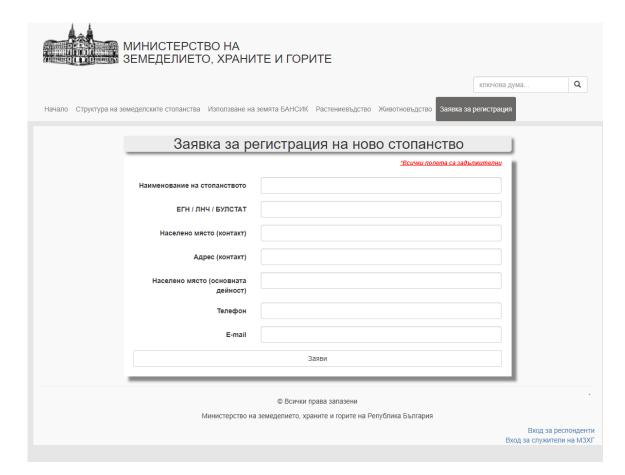
Result: Approximately 31 000 the records included in the 2019 agricultural pilot census tracts have been reviewed by regional agricultural experts with the assistance of officials from the municipal agriculture departments and local authorities. The most visited were small settlements, not of urban type, where the local authorities are able to more easily determine who is a farmer and to provide reliable information. For these settlements, the

lists of inactive holdings, duplicate records accumulated due to the mention of different farmers in the separate administrative and statistical sources, the records with technical errors in the identification data were cleared. Contact addresses were specified, e-mail details, contact phones and IACS URN data were added.

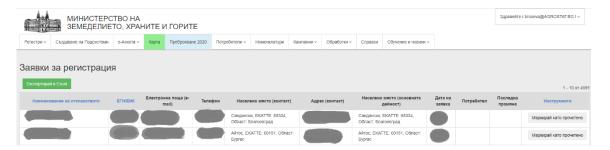
After the pilot census, the updating of the lists continued for the other settlements. Each RO organized its own activities for list updating, in compliance with general guidelines. For most of the RO the Municipal Agricultural Services (MAS) and the local authorities took an active part in the list updating. In order to optimize the visits in some municipalities, the meetings with the local authorities (mayors or deputy mayors/municipality employees by settlement) were held in the municipal centers, according to a pre-prepared schedule and time for visiting the buildings of the municipal offices for agriculture. The holdings lists were provided to the local authority after filling in a declaration of observance of statistical secrecy and before the meetings in order to have the opportunity to get acquainted in advance with the involved holdings. Most of the holdings on the attached lists were discussed with the mayors, determining additionally the geolocation for some of the active farms. For some of the farms for which there is no information and which are unknown to the mayors, an additional inspection was made. In some regions, for the individual holdings with wrong personal ID, which were not recognized by DG CRAS, the assistance of the mayor was requested in order to correct them. Due to the extraordinary epidemiological situation in the country from 14.03.2020 the meetings were suspended and some municipalities remain unvisited. This work method was applicable to smaller settlements. In July, on-the-spot checks were resumed for farms for which it is not clear whether they are engaged in agricultural activity. During the meetings with the local authorities, new farms were identified, which were imported into ISAS, after a check for duplication with the available records (by personal ID / Unique identification number according to Bulstat identifier).

<u>Activity 5.</u> Define new features for creating farm demographics - newly created, discontinued, inactive, etc.;

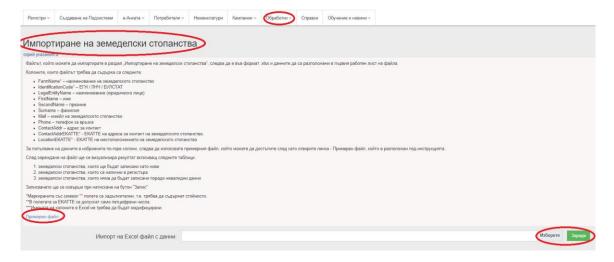
Result: An upgrade of the existing functionalities of the information system was made in connection with the development of an application for registration of a public user. The development was implemented by an external contractor, implemented in operation and tested. The software is available in the public part of the information system. External users can fill in the report with predefined fields.



The data are filled in mandatory fields with set validations. The completed data is stored in the database and can be accessed by experts and exported to an Excel file for verification. The inspections are carried out outside the system by the experts.



Functionality for import of new farms in the statistical farm register (identification data for holdings) was developed in the Processing module, through a pre-structured Excel file.



A subsystem was created for updating the holdings data from statistical farm register, in which 507 887 unique records for the available holdings in the statistical register of the information system were imported. 1 118 new farms were imported, identified after meetings with local authorities. Experts at the district level introduced information on agricultural farms activity (when possible to determine whether the farm is active), updated the contact details for some farms and changes in ownership such as inherited farms. The geolocation was determined and introduced for some farms. The information on the holdings status subsystem is to update the statistical farm register so as to provide a census list in 2020, which is expected to include around 200 000 agricultural holdings with activity above the national threshold.

Work on determining the demographics of farms requires in-depth analysis, a lot of work to establish the links between farms (old farmers / new farmers), identification of farms with discontinued operations. Work in this direction should continue after the completion of this project.

Activity 6. Description of the new functions of the statistical farm register and requirements for maintaining the register to be implemented by software;

Result: There is a need to improve the statistical farm register, maintained in the information system for agrostatistics. The needs have been identified and on their basis within another project a technical assignment has been prepared for upgrading the information system for census of agricultural holdings in 2020. The software implementation is not envisaged as part of this project.

- 1. There is a need to develop new functionalities to improve the monitoring of the farm development over the years through the system interface, such as:
 - Possibility to visualize the basic information about the farm, e.g. created in 20... (year);

- Possibility to visualize the agricultural holding connections to other holdings, e.g. the holding was inherited, from whom it was inherited;
- Possibility to visualize the farm presence in other administrative sources for the respective year.
- 2. There is a need to develop new functionalities related to the register data visualization by years and the possibility to review the farm data for a selected year through the system interface.
- 3. After the 2020 census data collection and validation, there will be a need to update the statistical farm register with the census data 2020. A mapping to the questionnaire has to be built, which on register update start should transfer in the correct order and in well-defined fields the census information to the register, taking into account changes related to activity, new farmers and changed farm location.

Activity 7. Description of additional reports to be generated automatically.

Result: There is a need for further developments in the information system on the calculation of national and European farm thresholds in the statistical register. The terms of reference (the software implementation of which this project is part) include activities related to the development of an automatically generated report, providing an opportunity to calculate the national and European threshold for each farm.

Through the Processing module it is possible to calculate the EU threshold (new development) and BG threshold (existing development, which has been updated according to the new criteria specified in the Law for census of agricultural holdings in the Republic of Bulgaria in 2020).

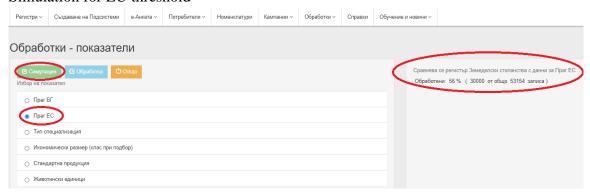
The set rules for calculating the BG threshold were updated. For the purposes of the calculations, new fields have been created in the statistical farm register with information about the variables that participate in the calculations.

The rules for calculating the EU threshold were developed in accordance with the regulation requirements. A new field in the statistical farm register was developed, where the calculated EU threshold is visualized.

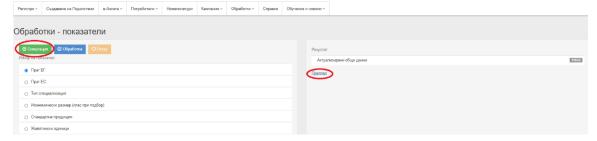
Processing module

The data of the agricultural holdings, at the moment and after the calculations, can be reviewed by simulation. The information is exported to Excel.

Simulation for EU threshold

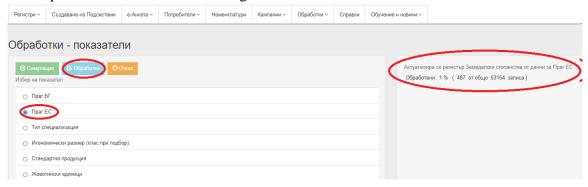


Simulation for BG threshold and possibility for export

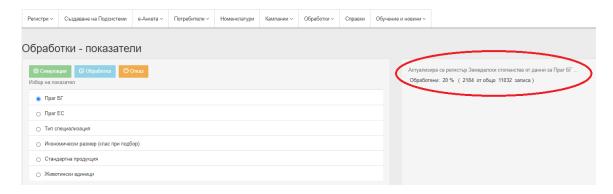


The rights belong to an expert from the Ministry of Agriculture, Food and Forestry, who has the opportunity to apply processing and the data in the register will be updated.

Data update in the statistical farm register for EU threshold



Data update in the statistical farm register for BG threshold



Example of recalculated threshold values:

Module Registers

BG threshold

• Before updating the statistical farm register:

```
Статус на единицата – БГ праг 0 - Не

Статус на единицата – ЕС праг 0 - Не

Лейност на стопанството 1 - Производство на селскостопански продукти
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• After updating the statistical farm register:

EU threshold

• Before updating the statistical farm register:

• After updating the statistical farm register:

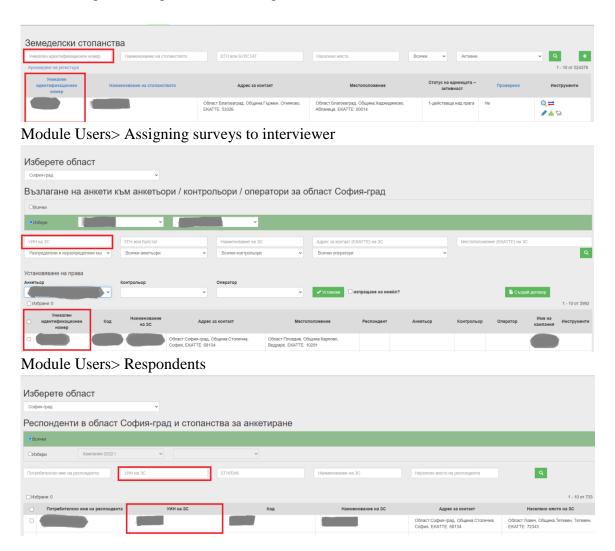
Activity 8. Software update of the statistical farm register with a unique farm ID and the functions and references identified above, while respecting the requirements of the data protection regulation;

Result: The terms of reference for the development of the software module, which is part of the present project, envisage an activity with which the statistical register will be processed. A unique farm identification number (ID) will be inserted in compliance with the requirements of Regulation (EU) 2016/679 on the protection of individuals with regard

to the processing of personal data and on the free movement of such data and the IFS Guidelines.

An algorithm for generating farm IDs was developed within the project. In the database for the statistical farm register a new field was developed storing data for a unique identification number of the agricultural holding. The developed ID is unique, it will be used when searching for an agricultural holding in statistical farm register. The development will be able to limit the use of the personal ID identifier due to the sensitivity of this personal information to individuals. The personal ID is not displayed in the main screen of the statistical register, but can be reached through a detailed overview. The possibility to search for a holdings by ID/Bulstat is available, as this remains the main identifier of the holdings for comparisons with administrative registers data. The developed farm ID is used and visualized when assigning questionnaires to interviewers, providing access to respondents, sending e-mails to respondents and other functionalities of the system.

Module Registers> Agricultural holdings



Work package 2

Preparation of a draft statistical questionnaire for data collection during the census of agricultural holdings in 2020 in accordance with the requirements of the IFS Regulation.

Activity 1. Development of a concept for a statistical questionnaire for the census of agricultural holdings in 2020;

<u>Result:</u> The concept of a statistical questionnaire was developed, on the basis of which the questionnaire was developed, based on the following regulations and requirements:

- Law on Census of Agricultural Holdings in the Republic of Bulgaria in 2020 (State Gazette, issue 22, dated 15.03.2019) list of the basic data (variables) described in Annex 1 of the Act.
- The variables in Annexes III and IV to Regulation (EU) 2018/1091 of the European Parliament and of the Council on integrated agricultural statistics and repealing Regulations (EC) No 1166/2008 and (EU) No 133//2011;
- The variables and definitions of Commission Implementing Regulation (EU) 2018/1874 on data to be provided for 2020 under Regulation (EU) 2018/1091 of the European Parliament and of the Council on integrated agricultural statistics and on repeal of Regulations (EC) No 1166/2008 and (EU) No 1337/2011 as regards the list of variables and their description;
- The needs of data of national importance for the agricultural accounting information system to cover the requirements of product statistical surveys in the field of crop and livestock production as required by the regulations in the field of statistics as well as data required by the NSI for statistical surveys in the field of agriculture.

The information on common land will be collected at the municipal level (LAO 1) as shared land used for grazing by agricultural holdings provided by the municipal administrations and for forest land provided for grazing by state forestry enterprises.

The census will be conducted with one common farm questionnaire, which includes all variables for basic and modular data. A filter questionnaire is also provided – for discontinued holdings, duplicate holdings and holdings below the threshold. Most of the variables are known to the respondents from the previous structural surveys. In the training materials for the surveyors and controllers, attention will be paid to the included new variables. The variables for national needs and the additional specifying variables are minimized in order not to increase the budget and the burden on the respondents.

Activity 2. Determining the variables that will be collected during the census;

Result: During the census, in addition to the variables set out in the regulation, additional variables will be included in response to national needs or to reach the aggregate data required by the regulation – such as the farm identification variables - names, addresses, personal IDs / Unique identification number according to Bulstat / Foreigner's ID number; individualization of certain crops (sorghum, lentils, ripe beans, chickpeas, peanuts, pumpkins for seeds, oil rose, coriander, lavender, silibum and fennel, areas under fruit and

berry species separately); breakdown of nurseries – for vine planting material, for fruit saplings, for ornamental trees and shrubs and for forest saplings; organically grown mushrooms, cattle and buffaloes cattle are included; equidae and used farm equipment, insurance and innovation. Equidae are included because of the need for information to fulfill the requirement for the common land distribution.

Variables identified as non-existent (NE) for the country (olives, citrus fruits, etc.) are excluded from the questionnaire. Eurostat was informed for these variables. Nonsignificant variables will be included for monitoring in the separate items in the questionnaire. Administrative variables will be used for some of the variables.

Activity 3. Drafting the questionnaire;

The questionnaire includes 34 variables needed for farm identification; 308 variables to cover the requirements of EU regulations and 134 variables for national needs under the Census Act.

The variables are covered in 41 questions, structured in 7 sections:

- 1. Administrative and geographical farm identification data;
- 2. Holding area and type of tenure;
- 3. Crop production, incl. organic;
- 4. Agricultural machinery, insurance and innovation;
- 5. Livestock breeding, incl. organic;
- 6. Animal housing and manure management;
- 7. Labour force and other gainful activities of the holding;

With the developed questionnaire, a pilot census of agricultural holdings in 2019 was conducted.

After the pilot census, the draft statistical questionnaire was adjusted in accordance with the conclusions made (the final questionnaire for the census of agricultural holdings in 2020 is not the subject of this project).

See Annex: Draft statistical questionnaire

Activity 4. Coordination of the draft statistical questionnaire developed with the competent national authorities and users of statistical information;

Result: The concept and draft of the questionnaire were presented at a meeting of the Central Census Committee. The draft questionnaire is coordinated with the Regional offices. All proposals submitted by the regional agrostatistical experts were considered and the appropriate changes proposed were reflected. Some of the suggestions for collecting

additional information were not taken into account as this is related to the additional burden on the respondents. At the request of the NSI, new variables were added.

On 20.02.2020 a workshop was held to discuss the statistical questionnaire with representatives of the interested directorates in the Ministry of Agriculture, Food and Forestry. The suggestions made were taken into account and reflected in the questionnaire. The proposals of branch organizations were placed within directorates in the ministry, and reflected in the questionnaire.

Activity 5. Testing of the draft questionnaire by experts from Regional offices and MAFF;

Result: During the pilot census (September-October 2019), part of the holdings designated for the survey were interviewed by agri-statistics experts from the Regional offices. Questionnaire testing is performed during data collection. With the developed draft of the questionnaire for the pilot census (conducting a pilot census is not part of the current project) information was filled in for about 1500 farms (by hired interviewers and experts). The completed questionnaires on paper of some of the farms were reviewed by MAFF experts for mistakes.

After the completion of the pilot census, each Regional office prepared a report and presented the difficulties encountered in completing the questionnaire. Corrective suggestions were made. The draft questionnaire was tested by MAFF experts. Together with the responsible experts at regional level, who organized a meeting with farmers, a crop and animal farm from the control system for organic farming was visited. A paper questionnaire was completed and its location was determined using the geolocation module.

Work package 3

Preparation of methodology for geolocation of the agricultural holdings. Determining the geographical location of farms in accordance with the requirements of the IFS Regulation;

Activity 1. Review available information on the subject;

Result: Contacts have been established with experts working with VetIS. The available data on the location of the holding – coordinates of the livestock holding at VetIS were specified. With a letter to the institution the data was requested and received. Coordinate information is available for part of the animal farms. The data will be provided to the software application developer for evaluation, but many problems with incorrect coordinates were found, so they were not imported into the module. BFSA delivered the VetIS information about the livestock farms coordinates. The tests revealed that this information is not reliable and cannot be used at this stage. Most of the coordinates entered in VetIS have an incorrect format. During the census, this information will not be used to determine the farm geolocation.

For the majority of the holdings, the main agricultural building is envisaged for determining the location. For farms without agricultural building, the largest plot can be taken. For the IACS holdings, information on direct payment areas in a format suitable for GIS application will be required. According to these data, the largest farm plot can be determined locating the center of gravity of the geometric figure of the plot. Due to the lack of our own GIS server software, the developments related to the farm geolocation determinination are installed on the developer's server. For this reason, at the moment it is not planned to import information for IACS areas, which will allow for visualization of agricultural plots by IACS in GIS environment. The lack of our own GIS software server (it is not envisaged for delivery in this project, but actions have been taken to provide it under Agreement № 2019.0191 between the Ministry of Agriculture, Food and Forestry and Eurostat) also prevents the orthophoto images import. In providing our own GIS software server and the development installation related to the farm geolocation, this method can be applied in practice and used to determine the farm location in the 2020 census.

Activity 2. Investigation of the possibilities for determining the farm coordinates from the register in GIS environment in accordance with the requirements of national and European legislation (Inspire);

Result: The task force set up developed a Terms of Reference outlining the required functionalities and requirements for developing a new module to the existing agrostatistics information system for determining farm geolocation. The purpose of developing this module is to provide an opportunity to determine the geographical location of holdings in accordance with the requirements of Regulation (EU) 2018/1091 and the IFS Guide. The Terms of Reference have been developed and agreed by the competent authorities.

After selecting a developer (after a public procurement procedure) the module was developed, tested and integrated into the agrostatistics information system (ISAS).

Activity 3. Preparation of methodology for determining the geographical farm location;

Result: A methodology for determining the farm location was developed on the basis of the IFS Handbook. The rules described by Eurostat were followed. It is also envisaged to use, as far as possible, pre-imported data from external sources for the agricultural holdings coordinates and to allow for correction. As a result, a pair of coordinates - latitude and longitude - must be assigned to each holding. The data will then be transformed to the corresponding Inspire grid cell.

The methodology testing in a real environment by determining the coordinates of the location of part of the agricultural holdings included in the pilot census was fulfilled for a

limited number of holdings, by indicating the holding location on a map or by entering a pair of coordinates established by another software application external to the system.

Activity 4. Preparation of an additional module in the agrostatistics information system for determining the farm geolocation;

Result: After selecting a contractor and contracting in early August 2019, design and software development began. Within the period, the needs regarding the module for location of agricultural holdings were studied and defined. It was specified that the location module would be closely integrated with the Register module, Subsystems module and e-Survey module in ISAS. The farm location will be determined through an online GIS map, where users will be able to indicate the location of the farm directly on the map or enter a pair of coordinates. The development was implemented and tested.

Development related to the Register module:

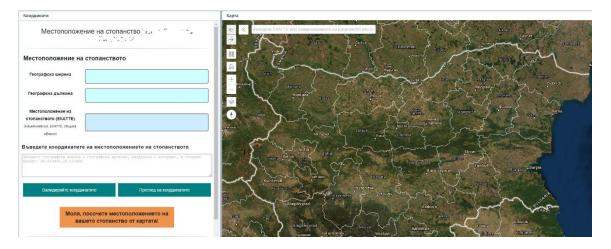
In the *Registers* module, the location of the agricultural holding is selected after selecting the *Edit* button. The GIS map is opened after selecting a button for entering coordinates for a selected farm. In a new section of the Internet browser that is used, a panel for entering a location opens. Coordinates through this functionality can be entered by a limited number of users with access to statistical farm register (MAFF experts).

Step 1

Access the statistical farm register of the ISAS, select the farm, select a button for data editing from the tools, select a button for entering a location.

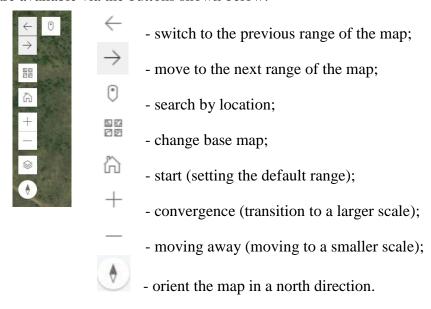


A new section of the Internet browser opens, where a panel for entering a location opens.

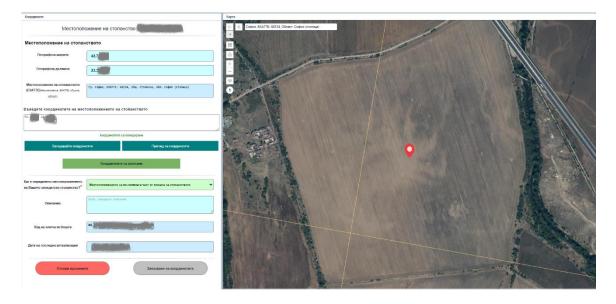


Step 2

The system provides the possibility to navigate the map, and the following functionalities are available via the buttons shown below:



In the system there is an option to search by location by selecting a button as a result of which a dialog box for entering the name or UCATTU of a specific locality is displayed:



Step 3

After determining the geolocation using the Update button, the data is loaded in the fields of the statistical farm register.



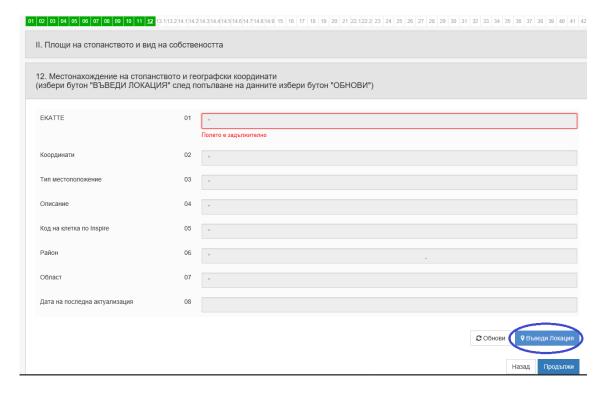
Development related to the Subsystems and e-Survey modules:

A specialized question was created for the integration of the location module with the *Subsystems* module and the *e-Survey* module. The MAFF experts have the opportunity to include the specialized question in any statistical survey they develop.

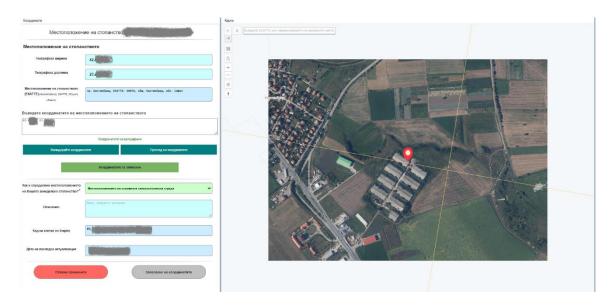
Step 1. A user with rights to create subsystems, design a new subsystem that includes the GIS question.



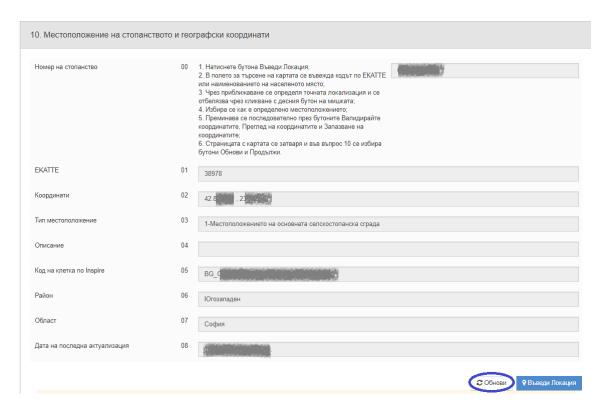
Step 2. At the GIS question, the users who fill in the questionnaires must select the *Enter location* button, then a GIS map opens in a new window and in it they must indicate the farm location on the map or enter a pair of coordinates.



Step 3. Enter a location by specifying the map or entering coordinates



Step 4. Filling in the fields from the questionnaire with location data. In the questionnaire, after selecting the *Refresh* button, the information is transferred to the appropriate fields.

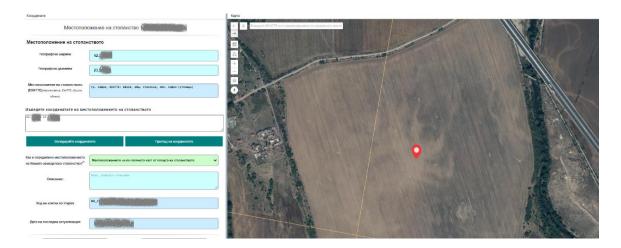


An integration was built for the geolocation data between the statistical farm register and the GIS question of the subsystem. For each holding with available latitude and longitude data from the statistical farm register, the information is transferred as pre-loaded in the GIS map of the question from the subsystem.

Example:

1. The coordinates (latitude and longitude) of the holding shall be determined by indicating the GIS map in the statistical farm register. The system recalculates the

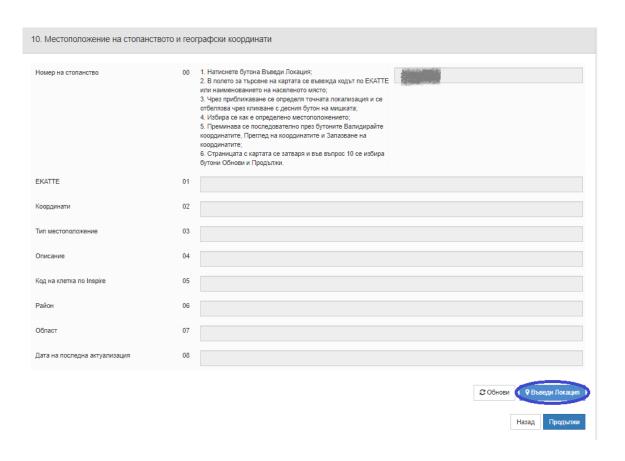
data and determines the cell code according to Inspire and loads data for UCATTU, as well as the date of the last update.

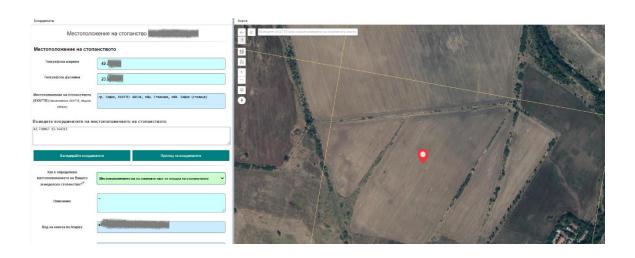


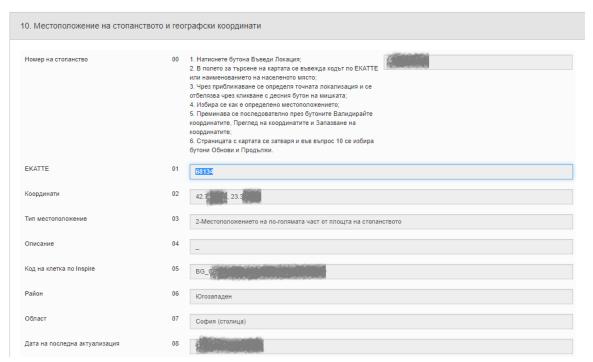
2. The data is updated and stored in the statistical farm register database for the respective holding.



3. In the subsystem with GIS question initially there is no data about the coordinates of the farm, but after data entry in the statistical farm register and when selecting the button *Enter location*, the data is loaded into the GIS map. If necessary, they can be corrected and saved, then with the button *Update* (in the GIS question of the subsystem) they are loaded in the respective fields of the subsystem.





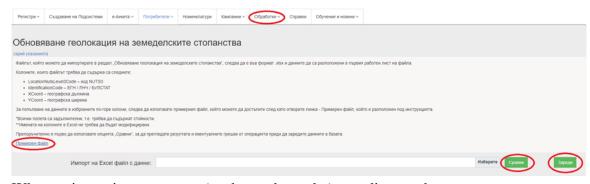


In the presence of correct data for latitude and longitude, functionality for import into the statistical farm register has been developed. The data is imported through a predefined structure of an Excel file that can be exported by the system. The coordinates data is validated, the result is compared, after which there is a possibility for loading in the statistical farm register.

Example:

Processing module

A file is exported, filled in with the holding identification data, latitude and longitude. Data gets compared and validated.



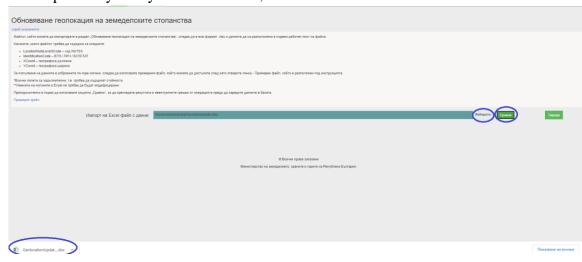
When trying to import wrong (exchanged x and y) coordinates, the system exports a file with a specified problem.

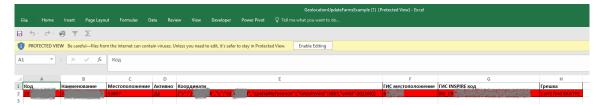
Example:

1. Attempt to import the following data

LocationNutsLevel3Code	IdentificationCode	XCoord	YCoord
23		42.7	23.3
	and the second state (MI)	California	(Alcoholys)

2. File exported by the system with errors, after validation

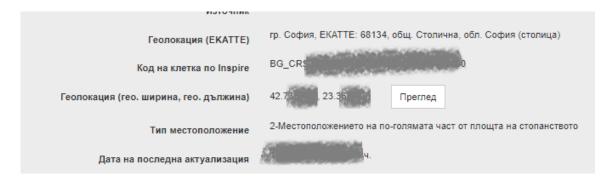




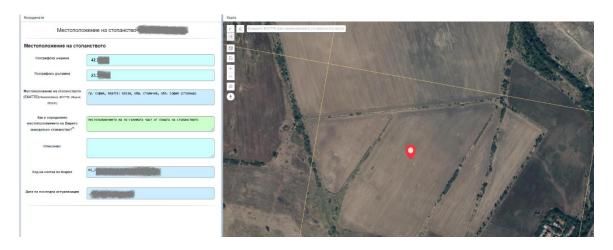
3. The import file is corrected, after the comparison the system exports a file in which there is no indication of an error. Data loading follows.



4. It is necessary to check whether the coordinates for the selected farm in the statistical farm register have changed.



5. Result: Coordinates have changed, Inspire cell code got recalculated. It is possible to view the new coordinates on a GIS map.



Activity 5. Testing the methodology for farm geolocation

<u>Result:</u> Tests were conducted by experts at the Ministry of Agriculture, Food and Forestry, regional experts, and internal tests by software developers.

A Module Geolocation Management and Control Committee was formed, comprising representatives of three MAFF Directorates. The Commission is obliged to manage and control the implementation of the contract between MAFF and the Contractor, providing the necessary assistance to the Contractor in carrying out its activities and providing the information necessary for the complete, accurate and qualitative performance of the service. It is also responsible for reviewing the interim and final reports, as well as approving / declining payment to the Contractor. Acceptance tests were conducted, with which the developments were accepted. The Contractor developed and submitted manuals for the user and the administrator. Training has been conducted and the warranty support period is currently underway.

Deliverables

Not applicable

Deliverable	Delivery date	Description
WP1.1	YYYY.MM.DD	

Subcontracting

Between the Ministry of Agriculture, Food and Forestry (MAFF) as Contracting Authority and "Esri-Bulgaria" Ltd. as Contractor, a contract was signed on 09.08.2019 with the subject: "Software update of the information system for agrostatistics in the part for the statistical register and for location of farms within the framework of a project for modernization of agricultural statistics in Bulgaria".

https://www.mzh.government.bg/bg/profil-na-kupuvacha/obyavi/

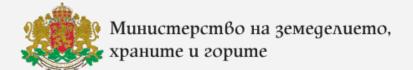
Преписка: 9089125 (Затворена)

Наименование: "Софтуерна актуализация на информационна система за агростатистика в частта за статистическия регистър и за локализация на стопанствата в рамките на проект за модернизиране на земеделската статистика в България"

Публикувана на: 12.06.2019

Възложител: Министерство на земеделието, храните и горите

Процедура: Обява Към документи >>



Профил на купувач

Пресцентър Министерство ОСП 2021-2027 г. Политики и програми Услуг

Обяви

Начало > Профил на купувача

<< Назад

ОБЩЕСТВЕНА ПОРЪЧКА С ПРЕДМЕТ: "Софтуерна актуализация на информационна система за агростатистика в частта за статистическия регистър и за локализация на стопанствата в рамките на проект за модернизиране на земеделската статистика в България"

Преписка: 9089125 **Статус:** Затворена

Краен срок за подаване на оферти: 27.06.2019

Документ	Дата на публикуване	Размер
1 ДОКУМЕНТАЦИЯ И ОБРАЗЦИ	12.06.2019	1689 kb
Информация за удължаване на първоначалния срок за получаване на оферти	25.06.2019	80 kb
Љ Протокол по чл. 97, ал. 4 от ППЗОП	09.07.2019	257 kb
Д договор	15.08.2019	2031 kb

Findings

So far, a draft statistical questionnaire was developed, a contractor for the planned software developments was selected. The developments were tested and accepted by a commission. Progress is being made in preparing an up-to-date list of agricultural holdings to be surveyed during the 2020 census. The work on the list continues outside the scope of this project due to the accumulation of a large number of units from different sources and the lack of up-to-date information on their status. Updating the list takes a lot of resources - staff, time and financial resources.

Action list of future activities

The activities for preparation of the census of agricultural holdings continue with the implementation of Agreement $N \ge 2019,0191$ between the Ministry of Agriculture, Food and Forestry and Eurostat.

Conclusions

The implemented project for modernization of agricultural statistics made it possible to carry out the planned activities in a timely manner, which supported the preparation of the census of agricultural holdings in 2020 in Bulgaria.

The developed new functionalities in the existing statistical register of agricultural holdings contribute greatly to the preparation of a list of agricultural holdings for survey.

The new 11-digit identification number developed and applied in the information system meets the requirements of Regulation (EU) 2018/1091 for universal farm number.

The project has developed a draft statistical questionnaire for the census of agricultural holdings in 2020 in accordance with the requirements of the IFS Regulation, which was used during the pilot census.

For the new requirements for determining the agricultural holdings location introduced by the regulation, a new module for geolocation has been prepared for quick and easy determination of the necessary coordinates.

Abbreviations

Acronym	Description
BFSA	Bulgarian Food Safety Agency
GD CRAS	Directorate General for Civil Registration and Administrative Services
GIS	Geographic information system
ID	Identification number
UCATTU	Unified classifier of administrative-territorial and territorial units
EU	European Union
UAA	Utilized agricultural area
EAVW	Executive Agency on Vine and Wine
ISAC	Integrated administration and control system
ISAS	Agrostatistics information system
Foreigner's ID	Personal number of a foreigner
MAFF	Ministry of Agriculture, Food and Forestry
NSI	National Statistical Institute
SFR	Statistical farm register
RO	Regional Office
SFA - RA	State Fund "Agriculture" - Paying Agency
URN	Unique registration number for IACS
IFS	Integrated farm statistics
FADN	Farm accountancy data network

Bibliography

[Table of references]

List of tables

No attached data tables.

List of figures

No data figures attached.

Annex

1. Draft statistical questionnaire, variant 1, used during the pilot census conducted on 01/09/2019.



BG_StatisticalQuesti onnairePilotCensus2



BG_StatisticalQuesti onnairePilotCensus2

2. Methodology for determining the geographical farm location



BG_Metodika_GeoLoction_Modernisazia