

Farm Structure Survey 2007
National Methodological Reports (NMR)

Country: Slovakia

FARM STRUCTURE SURVEY 2007

NATIONAL METHODOLOGICAL REPORT

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SUMMARY

Survey was announced by the Statistical Office of the Slovak Republic in the Program of State Statistical Surveys approved for the period 2006 - 2008. Three working groups coordinated by the Department of Agricultural and Environment Statistics of the SO SR ensured the tasks of the project. Each group fulfilled the tasks within its competencies.

Preparatory work started in September 2006. Prior to this, the results of Farm Structure Census 2001 and Farm Structure Survey 2003 and 2005 were analyzed.

We choose combination of exhaustive and sample survey on the base of results of analysis. Exhaustive survey was conducted among registered units, where the most of agricultural production is concentrated. For unregistered unit was chosen a combination of exhaustive and sample survey. Exhaustive survey was chosen for the group of units with area of agricultural land at least 1 ha, the others were sampled because in spite of their high number, their share on the agricultural production is small. This approach was considered rational in order to save costs.

Reporting population for the purposes of this survey was compiled by the same methodology as in the case of the Farm Structure Survey in 2003 and 2005. Farm was defined as an independent unit as to the technical and economical point of view. It has independent management and produces agricultural products. Along with its agricultural activities, farm could also produce other non-agricultural products and provide services. Agricultural products are crop products and livestock breeding. Units with the following threshold values were included into the group of farms:

- area of utilized agricultural area at least 0,5 hectares, or
- area of intensive crops at least 1500 m², or
- area of vineyards at least 500 m², or
- 1 cattle or 2 pigs or 4 sheep or 4 goats or 50 poultries, or
- 100 fur animals or 100 rabbits or 5 colonies of bees.

Registered reporting population contained 14112 units surveyed exhaustively. 4509 of them were legal persons and 9603 natural persons.

The basic unregistered reporting population were 61435 units. Based on the results of FSC 2001 and FSS 2003 and 2005, 15245 reporting population with area of utilized agricultural land ≥ 1 ha were extracted, on that the exhaustive survey was conducted. From remaining 46190 units was done stratified random choice for this sample survey. Sample file contained 8565 units.

Data recording was carried out at 8 Regional Offices. Data control was performed in two-phases, i.e. at decentralized level and after data storage into central data basis at central level, where data control was conducted according to prescribed control links by Eurostat and also own controls. Comparison and analysis of data were carried out. After data conversion into prescribed structure, data were delivered to Eurostat in figure 29468.

1. INTRODUCTION

1.1 History, scope

Monothematic inventories in agricultural statistics have already a long-standing tradition. Until 1989 inventories of farm animals were conducted halfannually among reporting populations in the same range as the methodology for farm structure survey required. Inventories of fruit trees and bushes were conducted regularly in 10-year interval, and inventories of people permanently active in agriculture in three-year interval. These inventories were conducted exhaustively on all units with agricultural basic industry including population, except inventory of permanently active persons – this was conducted only in enterprises. The data were processed and published as district summaries, and during the period between individual surveys, these were used for imputations of agricultural production on all agriculture, since the regular surveys were performed just in national and cooperative agricultural enterprises.

Political changes in 1989 resulted to transformational and restitution process and great changes has come in ownership and structure of entrepreneur subjects, therefore it was not possible to continue using currently existing system of inventories.

In 1995, the first agricultural census was conducted for the reference period of 1994, included all registered subject in agriculture. Questionnaire applied for this census was not completely harmonized with EU standards. Range of indicators for crop and livestock production was almost identical to current range of indicators. Significant difference within the range of indicators was in the structure of indicators on labour force - these were not prepared in detail. Interviewers carried out census among registered natural persons and census was conducted by postal service among legal persons. This survey cannot be considered as exhaustive, because it was not conducted within households with agricultural activities for the purpose of self-consumption. This period was typical for intensive restitution processes and at the same time it was the first year after separation of Czechoslovakia. During this period of time, we assumed that in this group of population we would not obtain adequate information in relation to expended costs.

In 1998, restitution rights were partially satisfied and therefore a new inventory of livestock, fruit trees and bushes, and area of utilized agricultural land by individual categories were realized. Target group of respondents consisted of households and registered natural person. Survey was carried out by interviewers and processed as district summaries.

In the course of years 1998 and 1999, during negotiating of pre-accession phase of Slovakia to EU, because of high importance of agriculture in EU, the necessity to include into the Program of the State Statistical

Surveys of the SR „Farm Structure Census“ (FSC) has occurred. This census was performed within the National program PHARE 1999 (NPPA) in cooperation with twinning partner – Ministry of Agricultural of Italy, Institute of Study, Research and Information on the Agricultural and Agrofood Market (ISMEA) and National Statistical Institute of Italy (ISTAT). The mission of this twinning project was to ensure legislative harmonization, methodology of indicators, processing the results and publishing the data according to the requests of the EU.

The objective of Farm Structure Census (FSC) was to provide the complex of information on Slovak agriculture that would be compatible to EU conditions. FSC performed within all Slovak municipalities and chosen urban areas, where was a presumption of agricultural basic production. Survey covered 795 207 households and 20 254 registered units relating to economic activities in agriculture. There were created 9 150 counting districts. It was very extensive and complicated project to manage, where 9 150 interviewers were collecting entries to questionnaires. Commissioners visited and interviewed all households and registered units not enrolled in the business register, with economic activity in agriculture (natural persons). Legal persons were addressed via postal service.

Before real survey a Pilot survey was performed on a sample in eight Slovak regions, which included all groups of reporting units. Based on the results of this pilot survey and negotiations with the twinning partner, the final version of questionnaire and methodological instruction for FCS was elaborated. Three months before actual survey, the Statistical Office of the Slovak Republic had organized a media campaign in order to inform the public about planned survey.

The Regional Offices of SO SR provided trainings for 9 150 interviewers, deputies mainly from local administration offices. Collecting of data in the field started on November 2nd. 2001. Since October 22nd. 2001 an informational, free of charge “green line” was introduced. Green line was available for both, public and interviewers.

Decentralized data processing was guaranteed at all eight regional offices by unified software. Decentralized data processing was arranged in several phases. During the first stage, the data on registered units with economic activity in agriculture meeting the criteria for farm were preferably processed. Secondary, households above the farm thresholds were processed. In the third phase, all other respondents that did not comply with the farm criteria but had a minimal agricultural activity were processed. In the fourth phase, all negative questionnaires were processed.

After completion of all individual phases at decentralized level, all data were stored to ZBD (source-database) at the SO SR.

Farm structure survey for 2003 was conducted for the reference period from 1st November 2002 to 31st. October 2003. Questionnaire was reduced in relation to 2001 by some indicators included because of national needs. The indicator on use of production at farms, area of land by categories of lands as to 31st. October 2003 were kept, as well as production of selected animal products.

The reporting population for survey purposes was created in accordance with the same methodology as for Farm structure census 2001, and farm thresholds remain unchanged.

The structure of the reporting population

The registered reporting population was represented by 16 238 units on which the exhaustive survey was conducted. This file was composed of 2 989 legal persons and 13 249 natural persons.

In the file of unregistered reporting units – after analysing the basic file of 63 528 units from Agricultural Census in 2001, 922 reporting units with the area of utilized agricultural land 5 or more ha were extracted and exhaustive survey on them was conducted. Out of the remaining 62 606 units a sample file of 14 708 units was selected by stratified random selection.

Processing technology was identical as in 2001. Completion of the file and the data collection were done at the regional offices of the SO SR. Decentralized processing was also in the competencies of these offices. After typing and first control, the data was stored in the central database of Statistical office, checked again and analysed.

Farm structure survey 2005 is relating to referenced period from 1st. January 2005 to 31st. December 2005. From indicators serving to national needs animal production and home slaughters were included.

The file of reporting units also for this survey was created according to the same methodology as for Farm structure survey 2003. The survey was performed under combined method. Registered units were arranged globally, creating 18 629 ones. Unregistered farms with the area of utilized agricultural land ≥ 1 hectares - total 14 563 – were arranged globally. Out of remaining number of 48 366 units a sample file of 9 385 units was selected by stratified random selection.

Processing technology was identical as in 2001 and 2003. Completion of the file and the data collection were done at the regional offices of the SO SR. Decentralized processing was also in the competencies of these offices. After typing and first control, the data was stored in the central database of Statistical office, checked again and analysed.

1.2 National legislation

The basic Slovak legal norm in the field of state statistics in Slovakia is the Act No. 540/2001 Coll. on State Statistics. This law provides conditions of collecting statistical data needed for evaluating of socio-economic development, position and competencies of bodies executing the State statistics, roles of public bodies in the field of State statistics, rights and obligations of reporting units, protection against misuse of confidential statistical data, providing and publishing statistical data, ensuring

comparability of statistical information, and fulfilment of commitments arising from international treaties or agreements in the field of State statistics mandatory for the Slovak Republic.

The first part of the Act on State statistics contains the definitions of basic notions for the purposes of this Act, for example the definition of reporting unit, reporting duty, and definition of confidential data. In the second part are essential principles and State statistics organization. The Statistical Office of the Slovak Republic (hereafter called "Office") carried out the tasks of state statistics; the Office is a central state administration body. Article No. 8 particularizes Office competences and article No. 12 the Program of State Statistical Surveys. The third part describes the collection of data, possibilities of using the administrative data sources, statistical surveys of natural persons and agricultural censuses. The fourth part contains definitions of statistical codes and registers. The fifth part contains the articles on dissemination of statistical information and on fines for not fulfilling the duties stated by this Act. The sixth part is on temporary and final provisions.

Statistical surveys are conducted on the base of the Program of surveys, which is put together by the Statistical Office of the Slovak Republic in cooperation with ministries and state authorities for three years period; the Program is published in the form of regulation, 60 days before coming into force. Over the years, when new program is not put together, the Statistical Office could issue a regulation on the base of its own decision or ministries' or other state authorities' requirements in order to amend the Program.

The Program is put together to ensure conducting surveys, which are important and needed from social aspect. Each statistical survey is presented in the Program of surveys:

- the purpose and utilization of statistical survey results,
- characteristics of the content and procedures for the implementation of the statistical survey concerned,
- determination of reporting units,
- periodicity and deadlines for providing statistical data,
- authority in charge of the statistical survey concerned in terms of its execution and processing.

Farm structure survey 2007 was implemented with reference to Decree on Statistical Office of the Slovak Republic, Act No. 482/2005 Collection on Program of statistical surveys for the period of years from 2006 to 2008.

The act on statistics is determining responsibilities of respondents concerning surveys and access to administrative sources in relevant articles.

Decree is determining a range, coverage and periodicity of the survey.

Rights and duties of interviewers are described in methodological instructions and is also a subject of matter of an agreement on providing work, concluded in accordance with the Labour Code of the SR for a particular activity.

2. CONTENT

2.1 Characteristics and reference period

National characteristics:

a/ detailed breakdown of livestock categories - with the purpose to meet requirements of Ministry of Agriculture of the Slovak Republic and to preserve compatibility with national conventions,

b/ structure of education of people working at farms

c/ dividing of agricultural land by the type of less favoured areas

- Different characteristics from EU: we did not use different definitions
- Missing characteristics could be divided into 2 groups. Into the first one fall those not applicable, into the second one those not relevant for the Slovak Republic.
 1. Characteristics, which are not applicable: agricultural area utilised for share farming or other (CC03) and vineyards producing raisins (G04D).
 2. Characteristic, which are not relevant for Slovakia: rice (D07), market gardening (D14B), cotton (D25), other textiles crops (D33), fruit and berry species of sub-tropical climate zones (G01B), citrus plantations (G02), olive plantations (G03).
- Reference period was determined: from 1st. January 2007 to 31st. December 2007, status indicators of number of livestock were dated as of 31st. December 2007.
- Changes in definition of characteristics: definitions were not changed, just specified based on latest experiences from survey in 2005.

2.2 Questionnaire

We used one form/questionnaire for all groups of reporting units in Farm Structure Survey 2007. When addressed unit did not meet the criteria of a farm, it filled out only designated parts of the questionnaire: identification, land area as of 31st. December 2007 and number of farm animals as of 31st. December 2007.

General Module description in questionnaire:

Module 000 – Farm identification, date and signature of farmer

Module 810 – Information about farm – farm addresses, phone, E-mail,

Information about registration of natural persons, agricultural land area as of 31st. December 2007

Module 833 – Cultivation of mushrooms

- Module 861 – Type of farm: legal status, location of predominant place of activities
- Module 811 – Objective of farm economic activity
- Module 852 – Organic farming: area of organic farming land, area of organic farming land under conversion, breeding of animals
- Module 849 – Other gainful activities
- Module 859 – Area set aside of arable land
- Module 813 – Members of farm of natural persons: age, gender, education, number of worked hours, other gainful activities
- Module 862 – Information regarding head of the farm : age, gender, education, number of worked hours
- Module 816 – Annual fond of working hours and employees according to gender and age groups
- Module 815 – Agriculture education
- Module 857 – Number of worked hours by the seasonal workers
- Module 814 – Number of worked hours of contractual work
- Module 824 – Land use from 1st. January 2007 to 31st. December 2007
- Module 863 – Land dividing by natural conditions
- Module 855 – Irrigation
- Module 825 – Secondary plants from 1st. January 2007 to 31st. December 2007
- Module 834 – Poultry as of 31st. December 2007
- Module 835 – Cattle as of 31st. December 2007
- Module 836 – Goats and sheep as of 31st. December 2007
- Module 837 – Other animals as of as of 31st. December 2007
- Module 838 – Pigs as of 31st. December 2007
- Module 839 – Horses as of 31st. December 2007
- Module 854 – Farm meet the criteria based on:

In questionnaire, flowing indicators were surveyed for the reference period from 1st. January 2007 to 31st. December 2007 and state indicators were referenced as of 31st. December 2007.

A copy of questionnaire is attached to this report.

3. SURVEY METHODOLOGY

3.1 Survey organization

The survey was announced by Statistical Office of the Slovak Republic in the Program of State Statistical Surveys approved for the period

2006 - 2008. Three working groups, which activities were coordinated by the Department of Agricultural and Environment Statistics of the SO SR, guaranteed the aim of this project. Each individual group was responsible for specified range of tasks, provided under their competence.

1/ group – was established at the Statistical Office of the Slovak Republic and was composed of employees from the Department of Agricultural and Environment Statistics of the SO SR. The head of this working group was the general director of the Business Statistics Section and by the director of the Department of Agricultural and Environment Statistics of the SO SR. The objective of this group was to solve following tasks:

- to elaborate the timetable of the project,
- to ensure financial resources,
- to set up working groups and to assign them with their competencies,
- to design a questionnaire and methodological instructions,
- to prepare final version of questionnaire and methodological instructions, to provide printing,
- to elaborate proposal of methodology of survey,
- to elaborate a technical documentation of data processing,
- training of staff and attending interviewers trainings,
- testing of program equipment,
- monitoring of data collection,
- data analysis,
- publishing,
- coordination of working groups activities,
- preparation of data file and other supporting documents for Eurostat,
- providing selection procedure for individual parts of project.

2/ group – was established at the Statistical Office of the SR and was composed of the employees of the Department automatized data processing and programming, leaded by the director of this department. The group had following competencies:

- to provide technical conditions on central and also decentralized level of data processing,
- to prepare technical documentation of data collection,
- to provide program facilities of data recording on a decentralized level,
- to ensure data storing to source databank,

- to ensure access to data analysis and data processing on central level.

3/ group – was established at eight regional offices of the SO SR, led by their directors and two supervisors at each workplace. The group had following competencies:

- cooperation for the creation of questionnaire and methodological instructions,
- communication with local administration,
- ensuring interviewers, signing contracts on work,
- training of interviewers,
- distribution of questionnaires,
- program equipment testing,
- supervising interviewers activities,
- questionnaires collecting,
- questionnaires recording,
- primary data checking,
- put together final protocols about data processing.

Municipal authorities were asked to delegate the interviewers or their representatives for collection of questionnaires from natural persons. Interviewers should meet following criteria: full secondary education, basic knowledge of agriculture, knowledge of counting district, probity, responsibility and good communication skills.

Municipal authorities performed also information and advertising campaign.

Local self-governments delegated 1211 interviewers. Generally, the group of people was the same as it used to be at Farm structure survey in 2005. This selection increased efficiency of trainings and quality of work.

Number of interviewers by districts:

| District code | Number of interviewers |
|---------------|------------------------|
| SK010 | 54 |
| SK021 | 71 |
| SK022 | 53 |
| SK023 | 276 |
| SK031 | 112 |
| SK032 | 313 |
| SK041 | 162 |
| SK042 | 170 |

Duties and entitlement of interviewers during the survey were following:

- to be familiar with questionnaire and methodological instructions for its completing, attending trainings organized by the Statistical Office,
- to study list of counting district,
- to visit selected households in order to acquire data needed for questionnaire completion,
- to perform survey, respecting methodological instructions in the whole district,
- to fill out questionnaire based on the interview with the head of farm or with the farmer or other authorized person for providing information about farm,
- to submit documents documents after ending the survey (completed questionnaires, incorrectly filled out questionnaires, authorization of interviewer) to relevant regional office, following deadline determined in program schedule,
- to keep appropriate conditions laid down in contract on work,
- to avoid any other advertising activity that is not related to survey.

3.2 Calendar (overview of work progress)

| No. | Task | From | To |
|-----|---|---------|---------|
| 1 | Inclusion of FSS into Program of statistical surveys | 10/2005 | |
| 2 | Preparation of questionnaire | 9/2006 | 12/2006 |
| 3 | Preparation of methodological instructions | 12/2006 | 3/2007 |
| 4 | 1 st . training of supervisors at regional workplaces | | 4/2007 |
| 5 | 2 nd . training of supervisors at regional workplaces | | 6/2007 |
| 6 | Preparation of technical documentation for decentralized processing | 6/2007 | 8/2007 |
| 7 | Preparation of questionnaire and methodological instructions for printing | | 9/2007 |
| 8 | 3 rd . training of supervisors at regional workplaces | | 9/2007 |
| 9 | Interviewers recruitment | | 9/2007 |
| 10 | Training of interviewers according to project schedule | 10/2007 | 11/2007 |
| 11 | Debug of program equipment (software) | 10/2007 | 11/2007 |
| 12 | Distribution of questionnaires | | 12/2007 |
| 13 | Collection of questionnaires | 1/2008 | 2/2008 |
| 14 | Recording and control of the questionnaires | 1/2008 | 5/2008 |
| 15 | Preparation of technical documentation for publishing | 2/2008 | 4/2008 |
| 16 | Continuous checking of regional databases | 2/2008 | 4/2008 |
| 17 | Preparation of documentation for creation of EU file | 5/2008 | 6/2008 |
| 18 | Saving data to central database | | 5/2008 |
| 19 | Control and verification of data in centre | 5/2008 | 6/2008 |
| 20 | Calculation SGM and typology | | 7/2008 |
| 21 | Preparation data for Eurostat | 7/2008 | 9/2008 |
| 22 | Preparation of national report | 8/2008 | 9/2008 |
| 23 | Data dissemination | | 10/2008 |

3.3 Preparing the survey operations ('Planning the survey')

Preparatory activities related to Farm structure survey had started in September 2006. After evaluating results of Farm structure survey 2005 we

came to conclusion that we conduct exhaustive survey as for registered units and sample survey as for unregistered units.

We took into consideration inclusion of declared and approved indicators during the preparation a questionnaire. We re-evaluated legitimacy of national indicators from previous survey of 2005 and adjusted it accordingly. Methodical explanations and definitions were prepared to each indicator. We incorporated experiences form previous survey to methodological instructions. After preparation of drafts of questionnaire and methodological instructions, the consultation on the drafts has begun. We involved all regional workplaces of the SO SR in consultation on the drafts, Ministry of Agriculture, agricultural research institutes, and some of the interest associations. Consequently we evaluated the consultation, and accepted comments were incorporated into document. Comments were useful recommendations, suggestions for extending or supplementing the methodological explanations.

Employees of the headquarters trained the supervisors at the regional workplaces in three phases. Trainings of supervisors were focused on changes in questionnaire and definitions and on new indicators. All supervisors at the regional workplaces already performed FSC 2001 and FSS 2003 and 2005, therefore trainings were used to exchange precious experiences and information from previous surveys.

To successfully conduct the survey, we consider recruitment of interviewers as very demanding task, which was in competence of supervisors at the regional workplaces of the SO SR. It was required to make a contact with 1801 local authorities from the total number of 2 891, and it was substantial to guarantee those interviewers that in previous survey performed their work on high professional level, accurately according to given methodology and in determined deadlines.

Trainings of interviewers guaranteed supervisors of the regional workplaces according to project schedule. Trainings were monitored and controlled by employees at the headquarters. Training places were chosen to meet requirements of distance as much as possible.

Creation of the reporting populations was similar as in the survey in 2005.

Reporting populations consisted of 2 main populations:

A/ registered units – represented by entrepreneur subjects with clear identification number assigned. This group was divided into 2 subgroups:

- legal persons registered in Companies register (for example agricultural cooperatives, limited liability companies, joint-stock companies, etc.)
- natural persons not registered in Companies register.

The base for compilation of this group of reporting population was the Farm register, but included were also those units from Statistical business register

that at the moment of registration reported their interest to perform also some kind of agricultural activities. Completeness of this part of the register was confronted with all available administrative data sources.

B/ unregistered units – a basic file of this group is represented by households reaching the size of a farm according to the national thresholds used in FSS 2001 and adjustments based on results in the years 2003 and 2005. These units have no identification number and their production is used mostly for self-consumption.

Based on results of FSS 2005, the smallest group consisted of legal persons (1805), but they represented 81.8% of the total area of the utilized agricultural land and average area per farm reached 851.7 ha.

Natural persons (7172) represented the second most important group, cultivating 15.5 % of total agricultural land with the average area 40.6 ha per farm.

The most numerous group consisted of unregistered units (59 514), but their share of total utilized agricultural land represented just 2.7% and average area per farm was 0,86 ha.

Similar proportions were found in the breeding of livestock.

From the importance on agricultural production, we had chosen an exhaustive type of survey for registered units. From the minor importance on agricultural production and at the same time for their high number, the second group, which consisted of unregistered units, choose a sample survey in order to decrease costs.

3.3.1 Population and frame

For the survey purpose, reporting population was created based on the same methodology as for the Farm structure survey in 2005. Farm was defined as an independent unit as to the technical and economical point of view. It has independent management and produces agricultural products. Besides agricultural production, farm could produce also other non-agricultural products and provide services. Agricultural products are crop products and livestock breeding. Units with following thresholds values were included into group of farms:

- area of utilized agricultural area at least 0,5 hectares, or
- area of intensive crops at least 1500 m², or
- area of vineyards at least 500 m², or
- 1 cattle or 2 pigs or 4 sheep or 4 goats or 50 poultries, or
- 100 fur animals or 100 rabbits or 5 colonies of bees.

Structure of reporting population for the year 2007

Registered reporting population contained 14 112 units surveyed exhaustively. There were 4 509 legal persons and 9603 natural persons. To create reporting population the following sources were used:

- ❖ Farm register
- ❖ Statistical register of Statistical Office of the Slovak Republic
- ❖ External registers
 - register of orchards
 - register of vineyards
 - register of bovine animals
 - register of pigs
 - register of sheep
 - register of goats
 - register of organic farms
 - register of claimant of direct payment on land (SAPS)

Except of Farm register, other registers served only for the supplementation of the reporting population because the existing structure of these registers does not give possibilities for their full use.

Administrative sources of the data were not used in structural survey because of their incompleteness and incompatibility.

The unregistered reporting population – after analysis of a basic file of 61 435 units, reporting units of area of utilized agricultural land ≥ 1 ha were removed, in total of 15 245 ones, exhaustive survey was performed for this group. From remaining 46 190 units was done stratified random choice for this sample survey. Sample file contained 8 565 units.

3.3.2 Survey design

Combination of exhaustive and sample survey was chosen. Exhaustive survey was conducted among registered units where the most of agricultural production is concentrated. For unregistered unit was chosen a combination of exhaustive and sample survey. Exhaustive survey was chosen for the group of units with area of agricultural land at least 1 ha. These farms are receiving different kinds of grants and are cultivating major part of area of agricultural land of unregistered units. After selecting of farms with more than 1 ha of agricultural land, the others were sampled because in spite of their high number, their share on the agricultural production is small. We considered this approach as rational in order to decrease costs.

We applied stratified random sample survey, where stratum is the region, basic file – Slovakia - is then divided into 8 strata.

Size of the sample file is about 19% in each region. Districts with stronger agricultural production had wider selection.

3.3.3 Pilot Survey

Pilot project was not conducted for the reason that either the new questionnaire or the method of survey did not contain any changes significant enough to call for the testing before the survey.

3.3.4 Informing and training the staff and respondents

Municipalities were informed about the event in writing form about half a year before our demand to delegate the interviewers. In order to inform the respondents about planned survey, to all villages were distributed the posters on planned event, local radio and local printing media were used as well. Registered units were informed via website of the Statistical Office within the Program of State Statistical Surveys, and via personal letter of directors of regional workplaces together with delivered questionnaire.

Staff of SOSR trained the regional supervisors of Farm structure survey 2007 at the regional workplaces of the Statistical office of the Slovak Republic.

Trainings of interviewers were performed by supervisors at all 8 regional workplaces of SO SR during the period October - November 2007. There was a time schedule and place of trainings, taking into consideration the best accessibility of interviewers. Interviewers were enabled to personally discuss some unclearness with relevant supervisor.

3.4 Sampling, data collection and data entry

3.4.1 Drawing the sample

The headquarters ensured a selection of registered statistical units based on the Farm register. Farms from external registers supplemented the number of registered units. Survey included all registered farms, which since 2001 declared any agricultural activity in whichever year of survey. Farms that had no agricultural activity during the implementation of structural surveys and were not in any other external source were firstly not included into the reporting populations. Those reporting populations were verified in the place of their registration and in case of finding their possible agricultural activity were included in the second step.

Sample file of the unregistered units was created by professionals. Interviewers obtained the list with addresses of concrete units to be surveyed.

3.4.2 Data collection and entry

Registered units received questionnaires via postal service in advance, make them available on time during the survey. They were informed about the time schedule of sending completed questionnaires back to the relevant regional workplace of the SO SR in instructional letter.

During the trainings, interviewers obtained questionnaires for unregistered units. Data collection was carried out following time schedule before ending of February 2008. Interviewers personally visited respondents and the filled out questionnaires were also personally submitted to the regional workplaces of the SO SR.

The following forms of the data collection were used in this survey: interview, telephone, e-mail.

Time needed for filling out the questionnaire was about 30 minutes.

Data from questionnaires was entered (hand-typed) at regional workplaces using the software on ORACLE as a network application interconnected with database subsystems.

The questionnaires were typed into 3 following separate files:

- farms (units fulfilling at least one of the thresholds),
- non farms (unit with minimal agricultural production, not achieving thresholds),
- negative – units without any agricultural activity.

Data entering and processing is specified in technical projects.

Part A of technical project for decentralized processing contains following chapters:

- methodological definitions - verbal description of a purpose (what was observed) and methods (how it was executed),
- integrating tools – registers, codes, pre-codes,
- file of reporting units – description of creating the register,
- scope of the items – minimal scope for each value was given,
- control – definition and description of control relations.

Part B of technical project - this document is analyzing technical organisation of the processing:

- technical data on the data collection,
- description of the data file,
- timetable of software preparation and verification,
- timetable of data processing,
- transmission of the data to the central database and tabulation of the data files from the regional offices.

Part C of technical project – contains the models of the output tables and the level of their sorting.

While entering the data, the programme allows two stages of control:

- control of errors during data typing (control duplicity in the identification part, control of the classifications used),

- control after the typing of data that could be common over all typed questionnaires, or within just one typed questionnaire.

After control and correcting of data at the regional workplaces of the SO SR, the files of the data were created and saved in the regional databases and then they were extracted to the source database at the SO SR.

3.4.3 Utilization of administrative data sources

No data sources were used from administrative data sources.

3.4.4 Control of the data

Description of the control relations is a component of a technical project – part A. There are control relations as to the questionnaire and to the module. The questionnaire control relations are controls focused on the relations and connections between the modules, the module control is within one module only. Both types may be further broken down to mandatory and informatively. Mandatory errors must be eliminated at decentralized level. Informational errors are verified and after evaluation at decentralized level, some of them are eliminated, some of them remain and they are sign of anomaly of the observed phenomena. These are again verified and evaluated at the central level. After elimination of errors, the final protocols are produced:

- number and share of the responding populations,
- number and share of the non-responding units,
- summary of the not-submitted questionnaires,
- registration daybook of the processing,
- protocol on the number of errors by category,
- list of the released errors,
- number of NULL values in data files,
- number of zero values in the sentences of data files,
- sum sentence of the output data files by items,
- statistics of the typed questionnaires.

The persons carrying out the processing at the regional workplaces of the SO SR were charged with corrections, the supervisors were responsible for the correctness of an output file.

Transmission of data to the centre.

During data processing at decentralized level, the Statistical office of the Slovak Republic had a possibility to have connection with the regional database, he could monitor the course of typing, check the quality of the typed data, and, if needed, to rectify the processing.

After finishing the control and correcting the data at the workplaces of the SO SR, a data file that was saved in a regional bank of the data was compiled. Then, they were extracted to the source database of the Statistical Office of the Slovak Republic.

In the course of June, data control was realized at central level, completeness of file was verified, data in data file were analyzed and anomalies again verified and if possible compared with external sources.

3.4.5 Non-response

1/ non - response - unit

We monitored data collection since 02/19/2008. Since that date, workplaces of the SOSR informed once a week about collection process.

At the end of February 2008, return rate of questionnaires from registered units (legal and natural persons) was evaluated and the measures were taken to inquire missing questionnaires. The regional workplaces searched for the reasons of non-submitting the questionnaire, cooperating with the regional districts of payment agency of the SR and the Slovak Agricultural and Food Chamber. After evaluation of this information, the units received again the demand in writing or they were visited personally by the employees of the regional workplaces.

Registered natural persons were surveyed additionally only if employee of the municipal self-government, responsible for the agenda of natural persons undertaking in agriculture, confirmed that particular person is active in agriculture.

We did not succeed in contacting of 46 units in the aggregate of registered units, because they changed their address from the period of assigning the identification number and were not reachable via external sources. 29 units refused to provide information. Local municipalities informed that these units did not perform agricultural activities during reference period. We did not solve the problem of non-response in this aggregate.

In non-registered units, collection was provided by interviewers, and was successfully completed in all units. Based on survey results, 22% of farms did not reach thresholds needed for inclusion among farms, because of reduction of their production scale or closing activities without successor. We assume that this process would deepen. Older farmers of small farms, with self-consumption production, are ceasing their production from ageing or health reasons. Young generation has much less interest to continue in this activity.

We distinguish 2 basic terms as for questionnaires collection – return rate and result of survey.

1/Return rate – total return rate was great 99,7% and we can note that the requested units fulfilled the obligation as is provided by act.

2/ Result of survey – questionnaires were divided into three groups.

A/ farms – meet the criterion for the farm

B/ non-farms – they perform some farming, but data did not reach national thresholds

C/ negative – without activities.

| Type of farm | Number of requested | farms | Non-farms | negative | Without contact |
|---|---------------------|-------|-----------|----------|-----------------|
| A/ Registered | 14112 | 8934 | 379 | 4751 | 48 |
| % | | 63,3 | 2,7 | 33,7 | 0,3 |
| B/Non-registered with the area more than 1 ha | 15245 | 13865 | 296 | 1084 | - |
| % | | 91,0 | 1,9 | 7,1 | |
| C/Non-registered with the area less than 1 ha | 8565 | 6669 | 1551 | 257 | 88 |
| % | | 77,9 | 18,1 | 3,0 | 1,0 |

A/ we conducted exhaustive survey in registered units and all units with the primary or secondary agricultural activity were included into the survey. The result of survey reflects a difference between the registration and the real activity in agriculture. 49,2 % of the total number of negative questionnaires (4751) reported the agricultural activity as secondary in registration.

This result is not surprising, each change in registration as a change of activity, termination or incorporation of company are charged and require spending time at offices, therefore we do not expect a change in the future.

B/ Non-registered units (households) with the agricultural area more than 1 ha – exhaustive survey and the population was compiled on the base of FSS 2005, on the base of external sources changes in the period of 2005 – 2007 were incorporated.

Relatively high number of negative questionnaires (1084) can be explain in this way:

1/ duplicate inclusion – these farms are households and they have not clear identification. Each organization registers these households in different way and assign them internal registration number and these numbers are not mutually compatible. The problem is that there are households that have not typical management as farmer or farmer/manager, but this post can be realized by anyone of the family members.

2/ not accepted request on single payment

3/ he stopped its agricultural activity, but successors were interviewed.

C/ Non-registered units (households) with the agricultural area less than 1 ha – exhaustive survey. It is the population that includes farms-households and their production is used only for self-consumption.

Together 1896 farms did not fulfil the national criterion for farm, of which 345 were negative. This group of farms is the most frequent and also has the smallest percentage of the total results of farms (the share of the

agricultural area of the total area is 1,6 %). Most of these farms was classified as a farm on the base of livestock (mostly pigs and poultry) in 2001 or 2003. The problem is that reference period in 2001 and 2003 was in the period of 1st November – 31st October and the reference period in 2005 and 2007 was changed to following period of 1st January – 31st December. The reason for a change of the reference period was mostly complaints of large farms to indicators on labour forces.

A change of the reference period has negative influence on numbers of livestock and it will be reflected more considerably in this group of farms that plans household pig slaughtering for the period of Christmas. We can not disregard the fact that if the survey would be organized in earlier date, the number of farms under threshold (did not meet the threshold) will be minimized and they were included among farms.

For these reasons, method of new calculation of weights for individual stratum was selected.

2/ non – response - items

Non-response items discovered during data control, or while data were compared with external sources, these were consulted with reporting unit by phone and incorporated into questionnaire. Item imputation was not applied.

3.5 Data processing, analysis and estimation

3.5.1 Methods for handling missing or incorrect data items

On decentralized level, the regional workplaces' supervisors of Farm structure survey 2007 were charged to execute corrections. During the correction, the units were contacted by telephone and the corrections were done after the consultations. In case of the major errors, the units were visited personally and consequently the errors were removed.

After control at the centre, the incorrect sentences were returned to the relevant workplaces of the SO SR for further examination. The method of correction was same as in previous case.

The control of the completeness of the file vis-à-vis the given register was provided by software according to the statements on typed and un-typed forms.

3.5.2 Estimation and sampling errors

Proposal of the sample file

Sample file was drawn out from the basic file of the subjects meeting at least one of the farm thresholds, but not registered in the Companies register

(hereafter called „farms“). Farms are such subjects that met at least one of 14 following thresholds:

1. area of utilized agricultural land at least 0.5000 ha
2. area of intensive crops
 - a. orchards at least 1500m²
 - b. vegetable at least 1500m²
 - c. flowers at least 1500m²
3. vineyards
 - a. area at least 500m²
 - b. at least 300 roots of continuous plantation
4. the number of farm animals at least
 - a. 1 head of cattle
 - b. 2 heads of pigs
 - c. 4 heads of sheep
 - d. 4 heads of goats
 - e. 50 heads of poultry
5. others at least
 - a. 100 heads of fur animals
 - b. 100 heads of rabbits
 - c. 5 bee colonies.

Among them, the most important are thresholds on the land area, particularly the area of utilized agricultural land, because these are more stable compared to the other thresholds (as for example livestock thresholds). File represents 61 435 farms.

Description of drawing the sample file

For drawing the sample file for Farm structure survey 2007 was applied the identical method as in 2005. Firstly, we selected farms with 1 or more hectares area of utilized agricultural land. Secondly, sample file was created from this selected group. Simple stratified random sampling, using Sampler program, created sample file. It is a stratified random sampling, where stratum is a region. Basic file – Slovakia – is therefore divided into 8 strata. Sampler program is a part of program package for complex program equipment of sample survey 123KIT. Package is providing data processing from creation of support of sample file, data entry, imputation and prevailing. Size of requested sample could be a percentage or size of sample file.

The number of farms by regions surveyed exhaustively, the number of farms in a basic file N_h , in drawn sample file n'_h and in returned responses n_h are shown in the following table:

| Region | Basic file | Land >=1ha exhaustively | Basic file | Selection | Responded |
|--------|------------|-------------------------------|----------------|-----------------|----------------|
| h | N | | N _h | n' _h | n _h |
| 1 | 1835 | 266 | 1569 | 309 | 233 |
| 2 | 7223 | 2133 | 5090 | 861 | 587 |
| 3 | 2606 | 633 | 1973 | 379 | 256 |
| 4 | 15121 | 3124 | 11997 | 2184 | 1879 |
| 5 | 7640 | 2324 | 5316 | 945 | 749 |
| 6 | 10299 | 2498 | 7801 | 1500 | 1209 |
| 7 | 7537 | 1786 | 5751 | 1027 | 648 |
| 8 | 9174 | 2481 | 6693 | 1360 | 1108 |
| SR | 61435 | 15245 | 46190 | 8565 | 6669 |

Total of farms was 61 435, and sample file consisted of 8 565 farms. Survey of all farms with utilized agricultural land at least of 1 ha was performed exhaustively (15 245 farms for the Slovakia as a whole). Total range of basic file was 46 190 farms, 8565 farms were chosen for sample file and 6669 farms responded.

Non-responses were mathematically completed, for each stratum was calculated a new weight w'_h using coefficient called „non-response rate“ $r = n_h/n'_h$ where n_h is real number of farm responses and n'_h is number of farms in sample file.

Method of estimates of the stratified random sampling

In the processing of a sample survey, based on the stratified random sampling, the individual observed attributes - averages, sums, variances, standard errors and intervals of reliability, were estimated as for individual strata – in this case regions, as for the total estimates – in this case the SR.

Estimates were done in ORACLE and results were saved to EXCEL.

3.5.3 Non sampling errors

Coverage errors at non-registered units.

This error was caused by the method of compilation of the reporting populations. The reporting population was compiled based on several sources. Used sources, listed in the chapter 3.3.1, in the time of drawing up the register provided information on activity of selected units at different level. One part of the units was included into the population based on precise information, for example units in the Register of farms or in Register of

livestock, etc. On the other hand, another part of the populations was chosen by parametrical delimitation from the Register of organizations (NACE). Support of selection was by 36,4 % higher than the target group. The most common errors occurred during the data collection were:

| | |
|---|------|
| a/ active units not meeting the national thresholds | 379 |
| b/ non-active units total | 3791 |
| - interrupted agricultural activity | 334 |
| - not active in agriculture | 3221 |
| - unit in bankruptcy | 108 |
| - farm owner passed away | 128 |

51 % of the number of negative questionnaires (3791) was included on the base of information, that they perform agricultural activity as a secondary activity. This method was chosen purposely to check all of the registered units with agricultural activity. To ease the burden on regional workplaces of the SO SR in data collection, to each unit was assigned the code representing available source of information (occurrence of unit in internal and external sources).

Non response errors

We did not succeed in collection information from 960 units because of refusal (121), change of the address (648) and because of downfall of fam during the reference period (191)

Measurement errors

In compilation of the questionnaire, all information from FSS 2005 were used, indicators in the questionnaire were reduced, and attention was paid to adjustment of modules in questionnaire in order to eliminate involuntary non-provision of data. Special attention was paid to selection and training of interviewers.

3.5.4 Evaluation of results

Results were compared within internal and external data. As to internal data, we compared the utilization of land with data from the regular statistical survey the Inventory of areas sowed with agricultural crops as of 20th. May 2007. The main categories of the total livestock and poultry, total cattle, sheep total, and pigs total, were compared with the results of annual survey on inventory of livestock as of 31st. December 2007.

We compared the list and the data on organic farms with the records kept by the Central Control and Testing Institute of Agriculture that is obliged by law to register these organic farms.

Other external registers like register of orchards, vineyards and livestock were used to control an entireness of Farm Structure Survey 2007.

4. PUBLICATION AND DISSEMINATION

Survey results will be published during the November in two parts and will be displayed at the website of the Statistical Office of the SR. The first part will contain the results of observed characteristics and the second one will contain typology of farms.

Data will be published in aggregated form at NUTS3 level (according to 8 regions of Slovakia). Typology data will be published at NUTS2 level (Bratislava – Bratislava region, Western Slovakia – Trnava, Trencin and Nitra regions, Central Slovakia – Zilina and Banska Bystrica regions, Eastern Slovakia – Presov and Kosice region).

The Act on state statistics does not allow the access to confidential data to the common users. For scientific reasons, the Statistical Office can provide the confidential data to legal persons when their main function is a scientific research, and they will assure the conditions for protection of these data. Data will be provided in the form that does not allow a direct identification of a legal or natural person concerned. Confidential data could be provided abroad only if it is stated in the international agreements, and the side (person) taking the data can provide the at least same protection as used in the Slovak Republic.

REFERENCES

ANNEXES

1/ QUESTIONNAIRE