



ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT
STATE COMMITTEE OF THE RUSSIAN FEDERATION ON STATISTICS
GOVERNMENT OF ST. PETERSBURG AND LENINGRAD REGION
with the participation of FAO, UN/ECE, EUROSTAT



Sixth IWG.AGRI Seminar on Agricultural Statistics

Russian Federation, St.Petersburg, 29 June - 3 July 1998

CHANGES IN AGRICULTURAL STATISTICS TO ADAPT TO MARKET ECONOMY CONDITIONS: METHODOLOGICAL AND ORGANIZATIONAL ISSUES

(Paper prepared by the Department for Statistics of Lithuania)

CHANGES IN AGRICULTURAL STATISTICS TO ADAPT TO MARKET ECONOMY
CONDITIONS: METHODOLOGICAL AND ORGANIZATIONAL ISSUES

Paper prepared by the Department for Statistics of Lithuania

1. Statistical inquiries in Lithuania are conducted almost exclusively by the statistical bodies and only in a few cases, such as with geodesic recording of land use, are the accounting data of agricultural enterprises and private farms supplemented with data from information sources outside the statistical system (Ministry of Agriculture, advisory services, local government authorities, enterprises, etc.).
2. The transition to a market economy necessitated a restructuring of agricultural statistics, which had begun in 1989. The basic aim of this process was to develop and improve statistical methods, which must be consonant with market economy principles and provide for the changeover to use of a system of national accounts. This meant undertaking reforms, beginning in agriculture and covering all related issues (resurgence of private land ownership, dismantling of previous structures in agriculture, establishment of private farms, etc.) and also converting to international standards while ensuring comparability of the data of statistical series.

Change in the number of holdings and land area by category

	1989	1990	1991	1992	1993	1994	1995	1996	1997
Private farms									
Number, thousands	1.2	2.9	5.1	25.9	26.1	53.0	56.4	67.7	58.6
Land area, thousand hectares	20	49	86	273	288	499	570	792	690
Average size of holding, hectares	17.0	16.9	17.0	10.5	11.0	9.4	10.1	11.7	11.8
Agricultural enterprises									
Number, thousands	1 186	1 212	1 219	4 279	3 483	2 880	2 611	2 328	...
Land area, thousand hectares	3 076	3 019	2 487	1 705	1 342	962	704	769	...
Average size of holding, hectares	2 594	2 491	2 040	398	385	334	270	330	...
Subsidiary holdings of the population									
Number, thousands	...	...	...	413	404	396	378	343	328
Land area, thousand hectares	298	310	892	854	862	840	820	753	718
Average size of holdings, hectares	...	...	...	2.1	2.1	2.1	2.2	2.2	2.2

3. All these changes called for a review of the methodology of statistical inquiry and a changeover from full surveys to sample surveys, expert estimates, etc., designed to provide users with reliable and up-to-date information. At the same time, regular statistical information on the situation in this sector of the economy was also essential during the transitional period.

4. The main issues which arose in connection with the conversion to new methodologies involved:
- Defining the population to be studied, as well as its characteristics, since the accuracy of sampling depends on the stability of the statistical population;
 - Organizing information flows relating to private farms, State and cooperative enterprises and other structures;
 - Selecting the most appropriate type of statistical inquiry to obtain exhaustive data on the population studied.
5. In making these changes, we had to envisage the following stages of work:
- (1) Compilation of a register of private farms that would make it possible to take full account of all such holdings in the context of an unstable economic situation and the fact that a large number of farms had ceased their activities. Here we carried out the following work:
 - (a) A juridical farm register was established in the Department for Statistics using the farm registration data available in local agricultural bodies;
 - (b) The farm register was supplemented with statistical data on areas sown to individual crops, numbers of cattle and poultry, agricultural buildings and technical facilities on the basis of information obtained during a full survey of registered farms. The information was made available in machine-readable form to facilitate maintenance and updating of the register.
 - (2) Methodological and organizational preparation of sample statistical surveys. In circumstances where agricultural structures were not yet fully consolidated, it was necessary to use unconventional methods and make wider use of expert estimates.
 - (3) Dealing with problems associated with equipping the section of agricultural and environmental statistics, as well as district statistical offices and organizations, with facilities for electronic transmission and processing of the information obtained from the various statistical surveys.
 - (4) Enhancement of the skills of staff through their participation in national and international conferences and seminars and exchange of experience with specialists from other countries.

Methodology of data collection

6. As regards the scope and method of statistical inquiry, with respect to the specific categories of farms data collection is effected in a differentiated way:
- A full survey is carried out for large farms, from which we obtain detailed information;
 - Private farms are covered by the sampling method to obtain the same range of data as for large farms;
 - For smallholdings data are gathered by the sampling method to obtain information on selected types of activity.
7. Data collection from large agricultural enterprises is done by post. Information on private farms and on smallholdings included in the sample is collected by local survey staff.
8. Annual surveys are conducted in the Republic to estimate the use of pastureland and numbers of cattle and poultry. Annual crop production is estimated on the basis of full data from the land register concerning the use of agricultural land and sample surveys on the structure of sown areas and crop yields. The sample covers all agricultural enterprises and communes, about

5% of private farms (of which there are about 60,000, with an average size of 11.8 hectares) and 1% of smallholdings (of which there are more than 300,000, with an average size of 2 hectares).

9. Stratification of the sample of private farms is done according to farm size. Farms are divided by size of holding into 8 groups: land area of up to 3 hectares; 3.1-5.0 hectares; 5.1-10.0 hectares; 10.1-20.0 hectares; 20.1-30.0 hectares; 30.1-40.0 hectares; 40.1-50.0 hectares; and 50.1 and more hectares.

10. Statistical data on cattle and poultry numbers and on output of livestock products are gathered from large agricultural enterprises quarterly and from private farms twice a year. The same sample is used here as for the survey of the pattern of use of pastureland. In addition, information on cattle and poultry numbers is obtained from rural municipalities, enabling us to make estimates using sampling data.

11. Consolidated figures for agricultural production, which are the final stage in the gathering of statistical data on agriculture and relate the total harvests of crops and output of livestock products to a common denominator (i.e. total value, intermediate consumption, gross value added) have been compiled in accordance with the SNA/ESA method since 1992 on the basis of the European classification of economic activities. Agricultural production is valued as an integral part of the gross domestic product at current and constant prices.

12. Agricultural balances are compiled from information on harvests of crops and output of livestock products using data on exports and imports and on the processing of agricultural products. The balances of agricultural production are calculated annually for the calendar year as follows:

- + stocks at beginning of year
- + production
- + imports
- exports
- expenditure on feed
- expenditure on seeds
- industrial processing
- losses
- stocks at end of year
- = consumption by the population

Balances are compiled for grain crops (total), potatoes, vegetables, fruit, meat (total), milk and eggs in physical units.

System for collecting data on the volume of sales and prices for agricultural products

13. The volume of sales and prices of agricultural products are monitored through surveys.

14. Data on the monthly volume of sales and quarterly value of agricultural products marketed are obtained from procurement enterprises. The data are used for calculating and publishing information on the monthly and annual volume of procurement, as well as quarterly and annual procurement prices and price indices.

Collection of data on the volume and prices of industrial materials needed for agricultural production

15. The major agricultural enterprises provide data in their consolidated annual reporting on expenses for the production of certain types of crops and livestock products, i.e. on the value of the mineral and organic fertilizers, plant protection chemicals and feed used for production, as

well as on expenditures of a material character and specific materials. The data are used for calculating the gross domestic product.

16. In addition, prices for the industrial materials needed for agricultural production are monitored on a monthly basis in the selected 10% of agricultural enterprises acquiring industrial materials for agricultural use (mineral fertilizers, plant protection chemicals, mixed feed, foodstuffs, veterinary supplies, industrial goods for agricultural use).

17. These sets of data are used for calculating the price index for industrial materials employed in agricultural production and this index, when compared with the index of procurement prices for agricultural products, gives information on changes in the farm “price scissors”.

Further tasks in agricultural statistics

18. An urgent task at the conceptual and methodological level is to ensure the integration, connection and utilization of the information systems of other organizations and institutions (Ministry of Agriculture, Department for Geodesy and Cartography, Department of Land Management, etc.). Reference should also be made to the wide use of the agriculture database of rural municipalities. This involves the keeping of individual farm records with annual full surveys of all farms in a rural area based on a specific list of questions. From such records the statistical bodies obtain demographic information about the rural population, as well as agricultural statistics: data on plots of land owned by the rural population, numbers of cattle and poultry by type, and production facilities. This information is used to determine agricultural output from holdings belonging to the population. Data on machinery owned by farmers and other population groups are obtained once a year from the State vehicle inspection authorities.

19. To meet the need for studies of long-term changes in agriculture it is also necessary to improve methods of forecasting in the various sectors of agricultural production by type of product. The methods currently being used for short-term forecasting of yields and gross agricultural production are still inadequate.

20. There is a need for an agricultural census covering all agricultural producers. Such a census may be scheduled for no earlier than 2000-2001. In the immediate future we will have to resolve the methodological, organizational and technical problems associated with carrying out the census. It will be extremely useful in this regard to exchange information and study the experience gained with such activities in countries in transition.
