

Agricultural Statistics as an Integral Component of the National Statistical System

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Preserving tradition

Agricultural statistics has a long-standing history in Poland. In 1789 the Four Years' Sejm (the lower house of the Polish Parliament) ordained to conduct the first national population and housing census (Główny Urząd Statystyczny, 1993). The results were used to pass a resolution on the tax imposed to collect money for the maintenance of the army. The census included not only the number of population, but also its social and professional structure and the age of registered people. In the 19th century and at the beginning of the 20th century Polish scientists were developing statistical notions, although Poland was absent from the political map of Europe. In 1889 – 1914 Warsaw Statistical Committee published over 40 volumes of studies including the results within the scope of statistics related to population, agriculture, industry and town lists.

Polish Central Statistical Office was established on 13 July 1918 - “in order to collect, compile and publish statistical data related to the Kingdom of Poland...” From the very beginning the statistical office was a separate office being directly subordinated to the Presidium of the Council of Ministers.

Nowadays, Polish statistical office is also of a centralized nature with its regional offices located throughout the country.

Methodological and organizational concepts for statistical surveys are prepared in the Central Statistical Office, and the actual surveys are carried out by 16 local offices. At the same time, several regional statistical offices perform some of the central tasks in cooperation with competent departments.

Principles of the functioning of Polish statistics

Polish Statistical Law of 29 June 1995 (with later amendments) is the legal basis for statistics in Poland. Polish Statistical Law specifies the basis for reliable, objective and independent statistical surveys, results of which become official statistical data. It also determines the organization and procedure for conducting these surveys and the scope of related responsibilities (Ustawa ... , 1995).

Polish Statistical Law says that statistical surveys are conducted on the basis of the programme of statistical surveys adopted every year by the Council of Ministers and determines the scope of the theme and subject of statistical surveys and related responsibilities.

It also regulates that the individual data obtained as a result of conducted statistical surveys is subject to statistical confidentiality and is used only for the purposes of statistical analyses and preparation of aggregates. It is also very important that the statistical information is disseminated in compliance with the principle which guarantees that the statistical information is available for everyone at the same time and on equal terms.

Statistical Law also specifies the composition of the Statistical Council which is a consultative and advisory body for the Prime Minister, as well as many other issues important for the functioning of statistics in a democratic country.

The tasks of the Central Statistical Office which, as mentioned earlier, is a centralized office, include not only the preparation of annual programme of statistical surveys, but also concept and methodological works related to the preparation and realization of statistical surveys - virtually in all fields of statistics. The Central Statistical Office is responsible for the maintenance of official registers (of enterprises and territorial division) and statistical registers that serve as sample frames for statistical surveys. One of the registers is the Statistical Farm Register comprising over 2 million of agricultural holdings.

The Central Statistical Office is responsible for approximately 80% of statistical surveys in Poland. The remaining 20% of surveys constitute the surveys conducted by the government administration units – ministries, central offices and the National Bank of Poland. Statistical surveys conducted by those units are also included in the programme of statistical surveys of public statistics and their results constitute official statistical data.

16 statistical offices are located in the provincial capitals and usually they have their local departments to facilitate their work. Statistical offices are responsible for carrying out the statistical surveys in the local area, recruitment of interviewers and preparation of training courses within the scope of agricultural statistical surveys, supervision of conducted surveys and incoming survey forms, logical and accounting control and analyses. Some statistical offices realize central tasks, which means that they cooperate with competent departments of the Central Statistical Office on the development of the methodology of surveys and undertake new initiatives. Within the scope of agricultural statistics – the Central Statistical Office cooperates with 2 regional offices: one of them is responsible for the Statistical Farm Register, and the other for the compilation of the information concerning rural areas.

Integrating the knowledge about agriculture

First attempts to integrate knowledge about agriculture were undertaken in the 1970s. Easy access to information was necessary for efficient organization of supplies in agriculture and for successful management. The integration of knowledge was also needed for the development of the economy and increasing pace of progress and the scope of information about agriculture. Agricultural statistics was perceived then as a primary source of information for Agricultural Information System. The system had the following main aims: a) informing the authorities and society about the situation in agriculture, b) making decisions at different levels of agricultural economy management, c) controlling and evaluating the tasks of agricultural plan, and d) carrying out scientific research activities (Czerniewski K., 1974).

The increasing needs for information within the scope of agriculture at the beginning of this century indicated the necessity for close cooperation between the Ministry of Agriculture and Rural Development and the Central Statistical Office.

In 2002 an Inter-Departmental Team of Experts for Reorganization of Agricultural Information System was created as a result of the talks between the Ministry of Agriculture and Rural Development and the Central Statistical Office (Raport z prac ..., 2004).

Its main aim was to specify the directions and the way of reorganization of agricultural information system, which would satisfy the needs of both domestic and foreign users. Domestic and Eurostat's needs for information were reviewed and examined, characteristics collected and to be collected by the Central Statistical Office, Ministry of Agriculture and Rural Development, Agricultural Market Agency and Institute of Agricultural and Food Economics were catalogued. The degree of fulfillment of information needs was established and the necessity to eliminate information doubling was indicated in order to reduce the costs of collecting information. The above evaluations also indicated examined characteristics which – after complete introduction of registers created by

government administration units - can be replaced with data from those registers (data concerning livestock and areas of some crops).

Undoubtedly, agricultural surveys conducted by public statistics will be the main element (source of supply) of agricultural information system. Statistics covers the most important fields of agriculture, has thematic and methodological continuity, which ensures the comparability of information in time and long-term monitoring of changes in agriculture. This thesis was already proven during the negotiations concerning Poland's membership in the EU, but it is also used in other negotiation processes in international organizations and bilateral relations with other countries (Matenko K., 2003).

Partners of the Central Statistical Office in the scope of agricultural statistics

The Ministry of Agriculture and Rural Development – as the institution responsible for agricultural policy and strategy for rural development - is the main user of statistical data. Therefore, the cooperation with this institutions is very significant for statistics, especially when creating the programme of statistical surveys of public statistics. The Ministry of Agriculture and Rural Development conducts statistical surveys concerning some elements of price statistics, milk statistics, statistics of plant protection chemicals and aquaculture statistics. Moreover, the Ministry created its own Integrated System of Market Agricultural Information for the purposes of common agricultural policy. It contains market information about prices and procurement.

The cooperation between the Central Statistical Office and the Institute of Agricultural and Food Economics is also very important. This cooperation concerns not only the system of collecting and using data from agricultural holdings (Polish FADN), but also from other areas. Agricultural statisticians take actively part in discussions with scientists concerning agricultural markets, forecasts for plant and animal production and other aspects of agricultural production or rural areas, which enables a deeper analysis of phenomena observed in statistical surveys.

The Agency for Restructuring and Modernization of Agriculture and the Agricultural Market Agency in terms of statistics are the most important agencies cooperating with the Central Statistical Office on agricultural statistics. They are both subordinated to the Ministry of Agriculture and Rural Development and they handle the mechanisms of the Common Agricultural Policy. The Agricultural Market Agency gathers information concerning the market of milk and sugar, external trade administration and some elements of market intervention. The Agency for Restructuring and Modernization of Agriculture – being a paying agency – keeps a register of agricultural producers and livestock register. Information from both agencies is used by statisticians in analyses and statements and as a helpful element to update statistical farm register. They are not yet used as the source of data that could replace statistical data.

Complexity of agricultural surveys

Agricultural statistical surveys are extremely difficult and require specialist knowledge – even in the case of seemingly easy evaluation – because they concern individual elements of production “in progress”. Therefore, for example surveys and estimates concerning plant production are conducted at different stages of plants development, starting with the vegetation stage, when plants are in early growth stages of development and the individual yielding elements are not fully formed. Apart from the estimates concerning plant production made by the experts, the Central Statistical Office also conducts a range of sample surveys in agricultural holdings, based on random samples. Those surveys cover the land use, sown area, livestock and the number of other subjects that are of some interest to the recipients of statistical data and are included in the program of statistical surveys. Till 1988, there had been annual agricultural censuses, which were abandoned due to the high costs and now they are conducted according to the calendar and recommendations of international organizations.

However, in modern world it turned out that data concerning agricultural production – amount or quality – are not always sufficient. Rural areas in Poland – and in other countries – have been changing very dynamically in recent years. Farmers' lifestyle and needs are changing, which is connected with better education and mass access to the information – not only through professional press, radio and television, but also the internet. Therefore, agricultural holdings are run in a more modern way, using modern agricultural machines and devices. Farmers are looking for and using effective methods of farming and animal breeding, which increases farm profits. It can be also observed that people from the cities tend to move to the rural areas outside the city and settle down in peaceful and quiet areas surrounded by nature. Social aspect of those migrations is also very important – people move from urban anonymity to open and friendly world of rural population.

Therefore, agricultural statistics is no longer only data concerning plant and animal production, but also spatial characteristics of rural areas in combination with the environment and natural values.

Thus, statistics has to find the answer for all those needs of external recipients - which are signaled not only by politicians and policy-makers, but also by local government activists and scientists – and undertake further activities aimed at the integration of knowledge.

Due to the scale of the problem, statisticians are not always able to face such deep and interdisciplinary analyses. The Central Statistical Office in cooperation with the Institute of Agricultural and Food Economics undertakes efforts to integrate knowledge – either by direct analyses or at least by indicating the sources of statistical information. Censuses are the biggest and the widest sources of statistical information. Poland had a great opportunity and in 2002 there were both Agricultural Census and National Population and Housing Census carried out at the same time. Therefore, issues such as local communities and their social and professional situation, their access to service outlets, education and culture centers were described in the range of statistical and scientific publications.

Integration of various fields of statistics

Agricultural statistics in Poland constantly and regularly tries to increase the knowledge on agriculture and rural population, thereby satisfying the demands of society – not only those who make decisions, but also scientific environment that conduct their own analyses based on statistical data. It is necessary to continue the integration of knowledge from different sources – not only from statistical surveys on agriculture, but also from surveys on social statistics and administration. Therefore, agricultural statistics becomes an interdisciplinary field.

Two censuses of 2002 were a rich source of information on agriculture and local communities: Population and Housing Census and Agricultural Census. Preparing these two censuses at the same time allowed for further analyses carried out not only by statisticians from the Central Statistical Office, but also by scientists from research institutes dealing with the issue of rural areas – which, as we all know, means both agricultural production and whole environment and local community.

In the 2002 agricultural census, except for the issues of agricultural production, farmers were asked a number of questions - for example about education level of a person running an agricultural holding, their sex and age, elements of infrastructure of an agricultural holding - for the purposes of the analyses of rural development. These questions, in connection with the National Census and information on living, family, economic and health conditions, constituted a rich source of information for analysts.

Information collected in 2002 censuses, apart from “standard” publications that present the results of the censuses in tabular form, enabled to conduct detailed analyses in cooperation with scientists (research and scientific publications). It was possible to describe social and professional situation of rural population, rural labour market, agricultural production, evolution of agricultural holdings in 1996-2002, or regional diversity of Poland's agriculture. A study describing rural areas in Poland was also prepared, based on the results of the two censuses.

A very important issue in the integration of statistics within the national statistical system is **food safety**. In the process of globalization, free trade and highly developed food industry, this issue is

now becoming more important, and the process of monitoring and control of safe food starts already in the fields and inside livestock buildings (from farm to fork).

Although this is a small part of a bigger machine that only starts the whole process, it undoubtedly serves as a basis, because without healthy animals and plants all further processes may threaten people's health. This explains why organic products that guarantee long and healthy life arose interest among people from a richer social class.

Such observations and descriptions are also within the interest of statistics; however, a complete analysis of this phenomenon requires the cooperation with external institutions and their participation should be significant. The last change of the name of a department dealing with agricultural statistics to the Department of Agriculture and Food Economy is a proof of the Central Statistical Office's interest to expand the issue. It is expected that the number of agricultural surveys aimed at the integration of all available sources of information on food economy, both from statistical and non-statistical sources, will be increased.

The same refers to **agricultural and environmental statistics**. A scope of indices describing agriculture itself is only a few indices from a full range. Therefore, the cooperation between various fields of statistics and other institutions having knowledge about the environment is a high priority task.

Both examples show that agricultural statistics slowly becomes an interdisciplinary knowledge. Keeping simple quantity registers of what and how much was sowed, what and how many animals were born, how many animals are in a barn and how many are slaughtered is not enough. It is also important to know what is their condition. A question arises whether it is still agricultural statistics? Should not we define once again what is agricultural statistics if more and more is expected from it?

Should statistics – as a part of economy statistics – only deal with a quantitative part of agricultural production or should have more of the character of social statistics and focus more on rural population? There are lots of opinions on agriculture, sometimes completely contradictory. The reason for this is that in the case of Poland all postwar rural and agricultural development strategies had to look for a compromise between economic and social goals (Zagadnienia ..., 2007).

The future of agricultural statistics is certainly that of an interdisciplinary field joining information from various fields.

This task – rather at long intervals, but on a large scale – can be supported by censuses. The UN guideline for national census includes a clear recommendation for collecting basic information on agricultural holdings and their users. A professional combination of information from two censuses made at 1-year interval by individual codes (IDs) may contribute to multi sectional analyses. A possibility to add some more information from administration sources is truly a dream of every analyst.

In creating such agricultural statistics we are supported by different institutions. The Institute of Agriculture and Food Economics started working on a concept of research on **socially balanced agriculture**, which means agriculture that fulfills certain threshold values within the economic, environmental and social criteria (Koncepcja badan ..., 2005). This concept will be developed by observing and analyzing empirical data and theoretical studies. Nevertheless, for the time being, income categories were included into the economic characteristics, and the categories being a part of the code of good agricultural practices were included to the environmental characteristics, however legal and administrative criteria will also be taken into account in the case of support from public resources. Social characteristics will include: the value of environmental services created within agriculture, the use of agricultural work resources, contribution to the development or maintenance of economic and social viability of rural areas as well as cultural values.

Selected criteria show that it is necessary to integrate different statistical surveys and information from non-statistical sources as well as – which is obvious – to ensure cooperation between national statistical system and scientific environment.

Conclusions

Bearing in mind the discussion mentioned above the following questions arise:

- can present statistical surveys on agriculture answer all the questions? Is it still agricultural statistics?
- is it necessary to re-define agricultural statistics in a way that it could present interdisciplinary problems including more fields, in a broader way?
- in relation to other perspectives on agricultural statistics – more as statistics of rural areas – does it lose its significance as traditional production statistics?

It is difficult to answer these questions and it requires lots of discussion both within statistical offices when preparing next survey programs in cooperation with statistical data recipients as well as within international institutions related to agriculture – those which establish agricultural policy and those, such as the Food and Agriculture Organization or Eurostat, which create statistical needs for the future. However, one should remember that it is necessary to define very precisely both the needs submitted by the users of statistical data and capacity of statistical offices to accept new challenges. Statistics plays a very important but ancillary role in relation to a wide range of recipients of information. It is also necessary to constantly monitor the general situation in agriculture not only in one's own country, but also worldwide and to describe it in relation to the results of statistical surveys. Moreover, it is essential to cooperate with institutions interested in statistical surveys in the field of agriculture – both with government administration and scientific environment. Only through wide cooperation it is possible to integrate and describe agriculture in an exhaustive and interesting way – not only in terms of production, but also in terms of any changes taking place on rural areas, including the social aspect of this issue. Agriculture plays a significant role in rural development, but also the other way around – well-developed rural areas have influence on the increase of agricultural production within the region.

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