

PUBLIC STATISTICS FOR PROGRAMMING AND MONITORING COHESION POLICY – POLISH EXPERIENCE WITH THE STRATEG SYSTEM

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Introduction

In recent years there has been a significant increase interest in the measurement and assessment of the regional development level. This issue is inseparably connected to availability of statistical information. Public statistics (i.e. the Central Statistical Office (CSO) and regional statistical offices) plays an important role in the information system. By statistical surveys, data collection, processing and dissemination, statistics supports evaluation of regional development level. Regional statistics is an integral part of a modern information system, both in terms of organization and the content.

One of the objectives of regional statistics in the European Union is monitoring the cohesion policy. Regional statistics enables to measure the impact of policy decisions on people living in a given territory. Its role is to provide reliable data, among others, to build mechanisms for policy based on facts (i.e. evidence-based policy), or redistribution in accordance with the principle of subsidiary.

As the experience of recent years shows, with the evolution of strategic development system and stronger focus of public policies on territorial dimension, qualitative changes in expectations for public statistics is observed. Official statistics, also regional, is seen not only as the main source of high-quality official data, but also as a partner that has expert, institutional, infrastructure potential and experience. It is very important to create conditions for the development of analytical work, building evaluation and monitoring system, as well as the development of human resources in public administration, engaged in particular in the

preparation of implementation and monitoring strategies and public policies, both at national and regional levels.

These were the reasons determined the inclusion of the CSO in a project of the former Ministry of Infrastructure and Development (MIR; previously the Ministry of Regional Development) called. *Strategic management of development - improving the quality of governance in Poland*. CSO's task was to develop the system of key indicators for monitoring and programming development policy. The project, implemented by the CSO under an agreement with the MIR, was aimed at improving the process of monitoring and programming of development policy by providing an integrated information system for the new perspective of the cohesion policy for 2014-2020 as well as for monitoring, trend analyses and development processes in territorial dimension.

The basis for cooperation in this respect were obligations imposed on the President of the CSO arising from the provisions of the policy documents, in particular of the *National Regional Development Strategy: Regions, Cities, Rural Areas 2010-2020 (NRDS* and the *National Spatial Development Concept until 2030*). The records of the document called *Action Plan NRDS* (adopted by the Council of Ministers on 2 November 2010.) clearly indicated the need to develop the database on territorial socio-economic issues to monitor phenomena and trends of development as well as the effects of implemented public policies. It was pointed out that this task should be carried out by the Ministry of Regional Development in cooperation with the President of the Central Statistical Office.

As a result of the work *STRATEG – System for monitoring development policy* was created. Construction of the System lasted approx. 10 months (IX 2012. - IX 2013.). STRATEG as one of the information systems of Polish public statistics was made available online for public use on 30th September 2013 and should be maintained at least until 2022.

1. The purpose of the STRATEG system

STRATEG system was built based on sets of various strategic documents. The scope of the system includes annual data for monitoring implementation: at European level - *Europe 2020 Strategy*, at national level - strategic documents, that are basis for development policy such as:

- *Long-term National Development Strategy Poland 2030;*
- *National Development Strategy 2020;*

- Development strategies (so called Integrated strategies): *Strategy for Innovation and Efficiency of the Economy; Human Capital Development Strategy; Transport Development Strategy; Strategy for Energy Security and the Environment; Efficient State Strategy; Social Capital Development Strategy; National Strategy of Regional Development; Strategy for Sustainable Development of Rural Areas, Agriculture and Fisheries; Strategy for Development of the National Security System;*
- *Partnership Agreement;*
- National operational programs - *Operational Programme Infrastructure and the Environment, Operational Programme Smart Development, Operational Programme Digital Poland, Operational Programme Knowledge, Education, Development; Operational Programme Eastern Poland, Technical Assistance Operational Programme.*

At the regional level System has been supplemented by supra-regional strategies monitoring indicators (ie. *Strategy for Development of Eastern Poland, Strategy for Development Southern Poland, Strategy for Development of Western Poland, Strategies for Development of Central Poland*), regional strategies and regional operational programmes. In addition, as part of a complete database, a separate set of key indicators for monitoring the objectives of the strategies for the new cohesion policy perspective. They are presented in four thematic blocks, i.e.: Sustainable development, Smart development, Inclusive growth, Strengthening the potential and improving the efficiency of public administration.

In addition to data grouped according to strategies and programs and goals of cohesion policy, also a set of indicators not included in the strategic documents but relevant to canalized phenomena (context indicators) was identified.

All indicators are additionally grouped according to the following thematic areas that will be monitored: Environmental protection, Efficiency of the state and public safety, Territorial cohesion, Population, Labor market, Population income; Social integration, Social capital, Infrastructure, Education, Health care, Culture; Tourism; Sport, Research and innovation, Information Society, Agriculture, Production; Retail sales; Prices, Energy, Transport and communication, International exchange; Foreign investment, Entrepreneurship and competitiveness, Public Finance, National accounts.

STRATEG system includes indicators from official statistics and dozens of other sources, such as: scientific institutions, national and regional institutes and offices, database of institutions and international organizations. The update of indicators derived from the

resources of public statistics is made cyclical, not less frequently than once every three months. During the analyses of sources of information, it turned out that some of the data in strategic documents come from non statistical sources. In such situations, institutions responsible for various strategic documents provide access to data and metadata. A comprehensive set of key indicators for monitoring development (mainly with an annual frequency) is available at the country level, as well as, where appropriate and possible, at lower territorial levels (NUTS levels 2-3, LAU 1-2, disaggregated by urban / rural areas). In order to ensure international comparisons, the system collects the basic indicators for the European Union and the member states as well as a set of selected indicators for the NUTS2 regions.

The main challenge ahead of statistics will be the expansion of the System and adding a set of indicators to monitor development of functional areas, as policies implementing the process of achieving territorial cohesion are now turning from intervention in the administrative territorial units into intervention in the functional areas. The transition from administrative (state, region, municipality) or special (metropolitan areas) units of territorial organization for flexible areas of functional connections concerns moving from NUTS 2 and NUTS 3 units as the only areas of EU policy intervention.

2. The basic functionalities of the system

The main part of the STRATEG system is a database created in MS SQL Server. A special application was developed to pull metadata into the system and set the links between different definitions as well as to introduce values for indicators (intermediate and target values) given in strategic documents. Also a special procedures were developed to enable the acquisition and the introduction of datasets. As a result, user has access to data that can be presented in the form of tables (predefined or dynamic), charts and maps.

In order to provide comprehensive information for the user, the system provides a collection of information constituting methodological support in the form of, among others, methodological description of indicators, or a choice of text information (analyses and studies). In addition, all strategies and programs adopted by the Council of Ministers together with reference to the institutions responsible for their implementation are available in the System. Moreover, in order to help the user to work with the system, additional information including Instructions for the user of the system, FAQ etc. was prepared.

Due to the character of the system, a particularly important element of the work was the development of visualization modules (presentation of information in the form of maps and graphs).

2.1. The module of tables

The module supports two types of tables - static and dynamic. Static tables are used for visualization in the form of tabular information for the selected type of ordering, i.e. by:

- strategies and programmes (shows all the indicators defined in the chosen strategy, listed according to the objectives set in the strategy, with base, intermediate and target values);
- cohesion policy (the indicators are grouped according to the defined objectives of cohesion policy);
- thematic areas (indicators are grouped according to established subject areas);
- territorial level (indicators are grouped according to the local government units).

Static tables are defined, non-modifiable. Dynamic tables are used to provide values for any selected indicator. This is the default presentation of data associated with charts and maps modules.

2.2. The module of charts

STRATEG system provides a wide range of graphs and maps. They support the work related to reporting on the implementation of the strategy, as well as data analyses.

The basis for the creation of the chart are the indicators:

- presented in a static tables of individual strategies - the user receives the default graph showing data for the first indicator from a chosen strategy. Apart from the time series for the chosen indicator it is also possible to present its basic, intermediate, and target values, as well as to change the color or type of a chart.
- presented in a dynamic tables - the System generates a default graph. The settings can be modified by changing the chart type, years, territorial units, colors. In some cases it is also possible to choose an extra dimensions for example: age groups, urban-rural dimension and gender. The values of available time series can be presented in the form of dynamic

graphs. Some charting capabilities have been blocked due to methodological limitations. Graphs can be exported to the following formats: JPG, PNG, EMF, SVG or PDF.

The STRATEG system generates several types of charts. In order to support the current user's work the certain restrictions for the presentation of data on the graph were established, i.e.: number of years, the number of indicators, the number of units of presentation (for the selected indicators, the number of selected dimensions (age group, gender, urban / rural).

2.3. The module of maps

The cartographic visualization module of STRATEG system allows users to present data on choropleth maps and cartodiagrams. Base maps have been developed on the maps from the State Register of Borders. For the purpose of presentation on the Internet all borders on the maps were generalized. Each year, maps will be verified and changed for the effective year for which the latest data appear.

The basis for the creation of the map are the indicators presented in the dynamic table. In the map module users can view the data in the form of thematic maps - choropleth maps (for data relative) and cartodiagrams (for absolute data). Presentation on the maps includes the following territorial levels: EU countries and EU NUTS 2; for Poland: NUTS 3, LAU 1, LAU 2 and defined functional areas (for example Eastern Poland). It is possible to present data for several years using the timeline. The module allows you to customize the display of maps, for example, zoom in and out the presented area, hiding some elements (for example legend), marking the selected unit, application of units names, display contours, change the method of data classification. It is also possible to select the color of palette. Created map can be exported to the following formats: JPG, PNG, EMF, SVG or PDF.

2.4. Other modules

Module "Metadata and Analyses" contains methodological information on indicators and analyses of phenomena, both on the national level and in the regional sections. The users will find in this tab, among others, information on the indicators in the form of indicator profiles, including detailed descriptions of the methodology of individual indicator - for each indicator is available separate profile. In addition to the definition of the indicator and the

description of the methodology user can find information on frequency of updates, the availability of data on a specific territorial level, in which strategic documents it was included and what goals in these documents it monitors. Definitions of terms used in the STRATEG system are also available in the form of short information, which enable the user to clarify the meaning of terms.

In the "Analyses and publications" user can find basic information showing the situation and trends in the area and publications and other studies (information notes, messages), which have been grouped according to thematic areas. Publications were grouped into nationwide and regional. Those, which refer to many subjects, were assigned to the additional position of "multidisciplinary information." In addition, under the list of areas are the links: "Reports and evaluation" and "International reports". After clicking on "Reports and evaluation" user will be redirected to the government page dedicated to evaluation, containing documents relating to the monitoring and assessment of the degree of achieved results. Under the heading "International Reports" a drop-down list of publications of international organizations such as the OECD, the World Bank or the UN is placed. The titles of publications have direct links to sites where these publications are included.

Summary

The paper shows which direction public statistics should follow to adapt to the changes set in the debate on cohesion policy. Extremely rapid rate of change taking place in the modern world requires an appropriate response from the those who are planning statistical research (changes in methodology and scope of existing research and introduction of new ones).

Public statistics faces the necessity of change of some elements of the data collection and presentation in order to meet the new information needs. The development of a comprehensive information system with the participation of public statistics, based on the quality of statistical data obtained from various public sources (statistical and non-statistical), determines the creation of a coherent and widely available source data.

The challenges faced by the regional statistics are determined not by the socio-economic and political transformation, but also new technology. Proposed solutions in a number of thematic areas could be significantly enriched by the interaction of the scientists

with statisticians - particularly with regard to methodological problems, a better understanding of information needs and, what perhaps is the most difficult, broadly defined analytical work.

Developed by CSO STRATEG system allows to obtain the statistical information necessary to monitor implementation of development strategies, the effects of development policy as well as to analyze trends of changes, especially in the territorial dimension.