New spatial dimension and applicability of old census and administrative data

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Abstract

A wide range of applicability of spatial statistical data for managing and planning various human activities in the environment or monitoring the trends of different phenomena in space and time requires an adequate response from data providers. Long time series and register-oriented databases managed by the Statistical Office of the Republic of Slovenia (SORS) or other authorities were recognised as a valuable support for these tasks and many enable their managing and dissemination on grids which offers a new dimension to the existing administrative territorial division.

Grid-based statistics at SORS are derived both from polygons (e.g. enumeration areas) and from point located data. Register-oriented statistics in Slovenia expectedly offered a good foundation for creating grid statistics of high resolution. The Register of Spatial Units – initiated by SORS and now managed by the Surveying and Mapping Authority of the Republic of Slovenia – was the first step towards a sound territorial division which enabled first georeferencing (point locating) of statistical data (1971 Population and Housing Census) in Slovenia. These 1971 Census data were used for the establishment of the Central Population Register (CPR) and for the very first time personal identification numbers were assigned to the people residing in Slovenia[1], which is important for easier later joining of the data from some registers. Although these data could be stored only in tables and not really managed graphically as they can be today by means of GIS, it was decided to permanently preserve the spatial references of the highest possible (or acceptable) positional accuracy.

This far-sighted decision became very relevant when the graphical part of the Register of Spatial Units was completed in 1995. The data stored in tables did have their spatial reference but before that it was very difficult or even impossible to analyse them by means of GIS on the entire national territory. Practically this means that from 1995 on e.g. population data captured in the 1971 Census could be graphically presented for each person on a map as accurately as to their house of permanent residence or to the corresponding enumeration area. When SORS started to handle spatial statistical data on grids, mostly the point located data from various registers were considered as applicable, but recently some methods are being tested on how to improve the positional accuracy of polygon data while point locating them and aggregating them to grids. Statistical data from the 1971, 1981, 1991 and 2002 censuses together with the data from the CPR thus offer an important historical picture on how various spatial phenomena changed over the last forty years.

[1] Oblak Flander, A.: Opportunities and Challenges of a Register-Based Census of Population and Housing – the Case in Slovenia. Seminar on Registers in Statistics – methodology and quality, Helsinki, 2007.