DERIVING TERRITORIAL INDICATORS BASED ON THE INTEGRATION OF GEOSPATIAL AND STATISTICAL DATA - CHALLENGES AND OPPORTUNITIES

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Abstract

The territorial dimension of social, economical and environmental processes has been gaining relevance as a key aspect in order to disentangle the conceptual and spatial complexity associated to cross-cutting issues that have been put forward in the European and global agenda (Europe 2020 agenda, UN Sustainable Development Goals). Therefore, there is a growing demand to have indicators that are able to grasp territory-based dimensions associated to well-being and quality of life monitoring, namely accessibility to services (OECD, 2014), to environmental sustainability, and to climate change and spatial planning.

The surrounding global and European agenda places challenges to National Statistical Institutes (NSI) regarding specific and increasing needs of territorial based information to assess, monitor and evaluate results of strategies, targets and public policies. The need for territorial information is not limited to a greater segmentation, but it extends to the need of having new indicators that result from the integration of geographic and statistical information and that make use of geospatial analysis and modelling.

At the national level, these challenges call for strategies to promote a greater interoperability between spatial and statistical data to support statistical production and to promote spatial and statistical integration to produce new statistical indicators, which can be better achieved by promoting synergies and a greater cooperation between NSI and National Cadastre and Mapping Agencies (NMCA).

In this vein, the areas of cooperation that are being developed with the Directorate-General for Territory (DGT) – the Portuguese National Mapping and Cadastral Agency (NMCA) –, under the scope of a Memorandum of Understanding (MoU), are an important step towards achieving a greater integration and interoperability between geospatial and statistical information.

The purpose of this paper is to present some of the activities that have been carried out at Statistics Portugal by focusing on both the advantages for greater efficiency and modernization of statistical production methods, and for the possibilities of deriving new relevant statistical information based on the integration of statistical and geospatial information. Therefore, the paper will present specific examples of territorial indicators produced based on different approaches, such as areas extraction, spatial modelling, spatial analysis and spatial metrics.

Finally, the paper will try to address the challenges and opportunities that arise from a greater articulation between geographical and statistical information, having in mind the need to have coherent and integrated geospatial and statistical information, but also to comply with quality standards for statistical production.