

## Guest Editorial

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### **Urban, regional and small area statistics is collaborative work**

It gives me great pleasure to invite you to read this special issue of the Statistical Journal of the International Association for Official Statistics focussing on an important and topical theme, namely *urban, regional and small area statistics*.

There are altogether fifteen papers dealing with various aspects, challenges and practices of urban, regional and small area statistics. The first section is composed of eight papers derived from the SCORUS Lisbon Conference 2016. The selected papers address significant gaps in the information requested for evidence-based sub-national and sub-regional policy making. Importantly, the papers share experiences on how new methods and new sources might be used in the production of small area statistics. New tools for monitoring impact of public policies on the territorial level are also presented. The definition and delineation of territorial units are discussed. Klaus Trutzel and Teodora Brandmüller pay attention to the key messages of these papers in their editorial article.

The second section on small area statistics is composed of eight contributed papers. The papers deal with small area estimation and connected methodological issues in different operating environments. Marshall, Christison and Simpson evaluate small area population estimates of the Office for National Statistics in England and Wales. The paper helps us understand the accuracy of official age-specific population estimates over place and time. Wuyts, Vercruyssen and Loosveldt explain the nonresponse behaviour in the two latest waves of the European Social Survey (ESS) in Belgium. The authors utilise municipality level administrative data in their research. How to find a new tailored way of estimating small area parameters in the case of the Viet Nam Living Standards Surveys is

dealt with in the contribution by Nguyen, Houghton, Hudson and Boland. An interdisciplinary statistical approach augmenting census and sample survey records in order to estimate information communications technology penetration rates at the lowest administrative level is presented in a case study from Malaysia by Ramachandran.

Himelein, Eckman, Murray and Bauer investigate alternatives to full listing for second stage sampling in a context where specific security constraints are encountered in the planning phase of a survey in Mogadishu, Somalia. Simulations are used to explore several alternatives, including common probabilistic methods, non-probabilistic designs and more novel GIS-based approaches. Keto and Pahkinen from Finland addresses an important topic area of optimizing survey designs considering both model-based and design-based methods. The topic area has currently grown in importance in applications of official statistics, because small area methods are more and more often applied in established surveys to gain information also for smaller sub-populations than originally designed for in the survey process.

The use of county-level administrative data in counting marriages on local level in the United States is explored and the findings suggest the federal and state governments should continue to invest in the collection of marriage and divorce statistics (Manning, Payne and Stykes). Finally, experiences of and future prospects for the methodology of the official quantification of the indigenous population in Brazil is discussed targeted at the demographic census 2020 (Souza, Damasco, Medeiros and Barbuda).

Geocoded data provide great opportunities for producing various small area statistics. Geocoding of statistics is a cross-cutting process requesting stakeholder cooperation, and cooperation between statistical and geospatial authorities. The experiences pre-

sented in this special issue show that cooperation between national statistical authorities and municipalities are beneficial. A powerful and sustainable solution to the growing demand for geographical breakdowns of official statistics is the integration of statistical and geospatial data. Actually, the topic of integration of statistical and geospatial information was comprehensively dealt with in an earlier issue of this very journal (the *Statistical Journal of the IAOS* 32, 2016).

This special issue shows that the work on urban, regional and small area statistics is multidimensional, because the demand for these statistics is growing. I express my thanks to the authors who made this special issue of the *Statistical Journal of the IAOS* possible by sharing their work.

I suggest that this topic be pursued in future special issues. There are many urgent topics to cover in this area. For example comparative small area statistics are requested by many user groups. Comparative statistics contribute significantly to an understanding of the dynamics and challenges that explain or inform development in cities and regions across time, countries and cultures. Comparative small area statistics contribute to capacity building of a territory. Thus, it would be

desirable that we in the future would have articles on comparative urban, regional and small area statistics. Similarly, a follow-up of the progress in integrating statistical and geospatial data would be a rewarding topic for a future issue. Many countries and also international organisations, for example Eurostat, have ongoing projects and plans for fostering geocoded statistics such as a geocoded census 2021.

I would also like to add that many of the major trends shaping our world, such as urbanisation, globalisation, the international migration, digitalisation and climate change, request special attention on cities and regions, simply because cities and regions are the prime scene of these trends and also key actors for delivery of the UN Sustainable Development Goals (SDGs). In the process of translating the SDGs into statistical information territorialisation of relevant SDG indicators will be a key action. And, there will be new phenomena in cities and regions calling for the attention of statisticians and researchers.

Hoping you will find this special issue of the *Statistical Journal of the IAOS* interesting and useful, and hoping you will contribute to future issues on urban, regional and small area statistics.