

## Editorial

This issue includes the peer reviewed papers that were presented at the FIG Commission 3 (Spatial Information Management) Workshop, on “Spatial Information for Management of Sustainable Urban Areas”. The Workshop took place in Mainz, Germany, from 2nd to 4th February 2009. An optional double-blind peer review -by authors’ request- is offered for papers that are submitted for specific Commission 3 annual workshops. This year, only 5 papers have successfully passed the double-blind peer review and are published in this special issue of the Nordic Journal of Surveying and Real Estate Research journal.

Significant improvements in technology and science and globalization combined with the major social and economic changes have rendered rapid urbanization as the phenomenon of our times. Current urbanization rates have often caused several managerial problems which are related to unplanned development, often squatting on private or public land, and the lack of basic services such as fresh water and energy supply, transportation, waste treatment and management, environmental pollution, and crime. However, it can be also seen as an indicator of economic growth.

FIG Commission 3, with an acknowledgement of its responsibility to serve society, follows major social changes and has developed its four year work plan and has focused annual workshops on investigating the problems that are related to the current urban population growth and on identifying the appropriate land tools for good governance. In the 2007 scoping Workshop in Sounio, we first addressed the urgent social and accompanying technical and legal aspects related to the emerging informal settlements, as a result of rapid urban growth, while in the 2008 Workshop in Valencia, we added to our agenda the important subject of environmental protection.

In the 2009 Workshop in Mainz, with a global economy facing its worst recession in decades, new aspects related to a restricted credit-financed economic activity, increased unemployment and a shortage of affordable housing are introduced into urban management. We realized that we live in economically challenging times and an upturn may only occur in a 3 to 4 year timeframe. The difference from past economic crises is that the current one is global and this is an emergency situation for humanity. However, today more reliable spatial information related to social/legal, environmental and economic aspects exists, and advanced tools are provided for urban information capturing and integration (various types of sensors, geoportals, etc) that allow us to deal with the emerging problems more efficiently. That is

an optimistic conclusion derived from several presentations in the Workshop. It was identified, though, that many of the surveying, development and building regulations in countries are too rigid, expensive and outdated. This leads to the suppression of innovation in approaches, products and services, and it hinders the activity of the private sector. It also adds a considerable and often unnecessary financial overhead to the administration and raises the question of how appropriate the government institutional arrangements are in this modern age, especially since such arrangements were designed 60 years ago and have not fundamentally changed.

This issue begins with the paper 'Current use of Spatial Information Technology in megacity management' by Boos and Müller, which discusses the results of an internet search investigating the use of Spatial Information Technology in the world's currently existing mega cities. Starting from a nationwide view on the execution and the progression status of SDI's in the home countries of mega cities and zooming in to the specific aspects of spatial data management in the metropolitan areas of special interest the current SDI development status turns out to cover the whole range from first stage conceptual ideas up to an almost complete operational SDI availability.

Another paper 'Informal Development Due to Market Pressure - A Case Study on Cyprus and the Role of Land Administration' by Potsiou, Theodorou and Elikkos, presents the results of a detailed two-year research conducted by the authors. It is shown that, among other reasons, informal constructions also appear in several attractive European areas due to increased market pressure combined with inefficient land administration and/or permitting and controlling procedures. An in-depth research on Cyprus, a country which had never experienced informal development until recently, is presented.

The paper 'Cadastral Triangulation: A Block Adjustment Approach for Joining Numerous Cadastral Blocks' by Klebanov and Doytsher, deals with the implementation on a nationwide level of an accurate coordinate based legal cadastre. In order to combine a numerous separate cadastral blocks and parcellations into a cadastral continuity while maintaining rigid topological compatibility, a new adjustment method (defined as "Cadastral Triangulation") based on the classic Adjustment of Indirect Observations combined with the Chained Similarity Transformation is suggested. It is shown that the suggested method enables obtaining both optimal transformation parameters of all the separate parcellations, as well as optimal coordinates of the cadastral boundary turning points.

The next paper 'Effect of Physical Constraints on Spatial Connectivity in Urban Areas' by Filin and Vered study measures that enable quantifying obstacle effect on proximity, connectivity, and organization of spatial data. Most research has focused on how spatial data "responds" to the presence of obstacles, but not to the more fundamental question of how data is affected by

their presence. Their paper proposes measures for obstacle influence via their impact on connectivity and aggregation of data.

Finally, the paper 'A 10 years Review and Classification of the Geographic Information Systems Impact Literature (1998-2008)' by Akingbade, Navarra and Georgiadou, reviews the literature on the impact of geographic information systems (GIS) in governmental and non-governmental organizations by analyzing articles published between 1998 and 2008. The impacts of GIS are categorized in a taxonomy which designates GIS contributions to efficiency, effectiveness and societal well-being, and the focus of GIS impact research efforts in terms of research philosophies, methodologies and geographic focus is presented.

Special Issue Guest Editors,

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