

Report to the 34<sup>th</sup> General Assembly  
FIG Working Week 2011 in Marrakech, Morocco

**FIG Commission 3 – Spatial Information Management**

**End of Term Report 2007–2010**

**1. General**

This report summarizes the activity of Commission 3 during the period 2007-2010.

Since 2007, FIG Commission 3 has focused on the phenomenon of rapid urbanization, its impacts and the need for *spatial information for sustainable urban development*. FIG Commission 3 delegates had agreed to:

- Activate the national delegate, the correspondent and the academic member network in order to work together, identify the needs in our common fields of interest, and exchange experience and knowledge for the common benefit
- Organize Commission 3 annual meetings and workshops focused on the specifically identified needs and topics
- Provide and certify optional peer review for authors of focused papers submitted for Commission 3 Workshops. Papers of authors not wishing peer review are equally welcome in the proceedings.

In particular, FIG Commission 3 has coordinated international research through:

- The FIG Working Weeks and Regional Conferences
- Four specific annual Workshops focused on the following topics: “*Spatial Information Management toward Legalizing Informal Urban Development*” March, 2007, Athens, Greece; “*Spatial Information Management toward Environmental Management of Mega Cities*” February 2008, Valencia, Spain; “*Spatial Information for Management of Sustainable Urban Areas*” February 2009, Mainz, Germany; “*Land and Information Management. A Decade after the Millennium*” November 2010, Sofia, Bulgaria
- Two Expert Group Meetings:
  - In Athens, in Nov 2008, organized by the Technical Chamber of Greece, for the purposes of the FIG/UNHABITAT/GLTN in depth research on “*Tools for Legal Integration and Provision of Environmental Improvements in Informal Settlements in Europe*”, [http://www.fig.net/news/news\\_2008/athens\\_november\\_2008.htm](http://www.fig.net/news/news_2008/athens_november_2008.htm)
  - In Paris, in Dec 2009, organized by the French Order of Surveyors, for the purposes of the FIG research on “*Mega city management*”.
- Three Working Groups to systematically support the international research: WG 3.1 e Government for e Citizens, WG 3.2 Spatial Data Infrastructure, WG 3.3 Multidimensional Aspects in Spatial Information Management

## 2. Annual Workshops

- **“Spatial Information Management toward Legalizing Informal Urban Development”** March, 2007, Athens, Greece  
This joint FIG Commission 3 and UN/ECE Working Party on Land Administration (WPLA) and Committee on Housing and Land Management (CHLM) workshop was organized by the Technical Chamber of Greece (TCG) and the Hellenic Association of Rural and Surveying Engineers (HARSE). The urgent social, technical and legal aspects related to the emerging informal settlements as a result of rapid urban growth were addressed. It was agreed that access to land, legal and social integration of informal settlers is a fundamental legal right. Legalization and land privatization and affordable housing provision for low and middle income families were among the main tools suggested during the workshop. The resolutions of this workshop have been published in the SaLIS journal. The peer reviewed papers have been published in Technika Chronika, the scientific journal of the TCG. Read more at: [http://www.fig.net/news/news\\_2007/wpla\\_march\\_2007.htm](http://www.fig.net/news/news_2007/wpla_march_2007.htm)
- **“Spatial Information Management toward Environmental Management of Mega Cities”** February 2008, Valencia, Spain  
This Workshop was organized by the Colegio Oficial de Ingenieros Tecnicos en Topografia, the Universitat Politecnica de Valencia, and the Royal Academia de Cultura Valenciana. It was also supported by the General Direction of the Spanish Cadastre, ISPRS, EARSeL, INSPIRE, EuroSDR, UN/ECE CHLM and the WPLA, and FIG Commission 2. The workshop was part of the *Spanish IX National Congress of Surveying Engineers TOP-CART 2008*. The important subject of environmental protection was added in our agenda. It was agreed that regulations on private rights in the use of land in terms of air, soil, and water pollution must be accepted and applied by all market participants through participatory democratic procedures. All must share the costs of the natural resources they consume, through a flexible and market-oriented planning tool. Current technical developments allow for automatic procedures in environmental monitoring and informal development detection. Peer reviewed papers were published in the SaLIS journal. Read more at: [http://www.fig.net/news/news\\_2008/valencia\\_february\\_2008.htm](http://www.fig.net/news/news_2008/valencia_february_2008.htm)
- **“Spatial Information for Management of Sustainable Urban Areas”** February 2009, Mainz, Germany  
The Workshop was organized and sponsored by the German Association of Surveyors (DVW) and the Institute for Spatial Information and Surveying Technology of the Mainz University of Applied Sciences, and was under the aegis of EARSeL, UNECE WPLA, Lantmateriet, and the Appraisal Institute, USA. With a global economy facing its worst recession in decades, new aspects related to restricted credit-financed economic activity, increased unemployment and shortage of affordable housing were introduced. It was identified that the difference from past economic crises was that this one was a global and created an emergency situation for humanity. However, as more reliable spatial information related to social, legal, environmental and economic aspects exists, humanity may deal with problems more efficiently. It was identified though that many of the surveying 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. It seems that the biggest challenge today is finding effective solutions to the informal explosion in our cities. Peer reviewed papers were published in the Nordic Journal of surveying and real estate research. Read more at: [http://www.fig.net/news/news\\_2009/mainz\\_february\\_2009.htm](http://www.fig.net/news/news_2009/mainz_february_2009.htm)

- **“Land and Information Management. A Decade after the Millennium”** November 2010, Sofia, Bulgaria  
The Workshop was organized by FIG Commissions 3 and 7 and the Chamber of Graduated Surveyors of Bulgaria. Interesting aspects such as land management in a passive and/or purposive manner; the need for fast infrastructure construction and compulsory purchase of land and compensation; the need for speeding up all land reforms and improving traditional land tools (e.g., land consolidation); the need for efficient state land management, for creating a favourable environment for investment on land and real estate, for voluntary/participatory planning procedures; automated environmental monitoring; open source cadastre; GIS and crowd sourcing techniques for urban management; and the need for harmonization of land administration institutions and legislation to facilitate cross boarder finance and property loans in the digital era were addressed. It was also mentioned that the World Bank has supported the largest land reform program the world has ever seen in the ECA countries (40 projects, US\$1.1 billion in loans and grants). Radical land changes have happened in this region. Currently countries of ECA are requesting World Bank support in two key-areas: improving the quality of services and reducing corruption through e-government initiatives, and SDI and meeting the requirements of the INSPIRE Directive. Thus the WB support for the next ten years will include five objectives: completion of property registers and cadastres, development of a more integrated approach to land management, encouraging innovation and the use of SDI, improving the management of the organization and use of space data, supporting governance and quality and method of services provided. The peer reviewed papers of this workshop will be published in the Survey Review journal. Read more at: [http://www.fig.net/news/news\\_2010/sofia\\_november\\_2010.htm](http://www.fig.net/news/news_2010/sofia_november_2010.htm)

### 3. Working Groups

#### **Working Group 3.1 – eGovernment for eCitizens**

Chair: Kari Strande (Norway)

Co-Chair: Peter Laarakker (the Netherlands)

Active WG members: (Rob Mahoney (UK), Robin A. McLaren (UK), Daniel Roberge, (Canada), Uzo Okafur (also vice chair of WG3.3), Jes Ryttersgaard (Denmark), Jens Hollænder (Denmark), Tarja Myllymäki (Finland), Jan Bares (Czech Republic), Bela Markus (Hungary), Bo Lauri (Sweden), Gerhard Muggenhuber (Austria), and Khaled Nabbout (Lebanon).

WG3.1. members have encouraged speakers to participate and present papers to FIG and other GI meetings. Examples of e-Government projects and programs can be found on the websites of FIG Workshops and Working Weeks e.g., Commission 3 Workshop Istanbul 2002, Working Week Paris 2003, Regional Conference Morocco 2003, Working Week Athens 2004, Workshop on GeoPortal solutions Warsaw 2004, Workshop on e-Land administration Vienna 2004, Regional Conference Jakarta 2004, Workshop on eGovernment Cairo 2005, 2006 Budapest (Booklet report by Bela Markus), Congress Munich 2006, Comm. 3 Workshop Athens 2007, Working Week Hong Kong 2007, Regional Conference Costa Rica 2007, Comm. 3 Workshop Valencia 2008, Working Week Stockholm 2008, Working Week Eilat 2009, and Congress Sydney 2010.

An attempt is made to provide links to eGovernment web sites where SIM is an important part. (e.g., Links to global/regional assessment sites, UN, WB, EU, Links to some national sites).

### **Working Group 3.2 – Spatial Data Infrastructure (SDI)**

Chair: Paul Kelly (Australia)

Co- chair: Hartmut Mueller (Germany)

For the first time in history, over half of the world's population now live in urban areas. This equates to 1.6 billion people. It is estimated that 500 million people will be urbanised in the next five years and projections indicate that the percentage of the world's population that is urbanised will be 60% by 2030. Urbanisation is a major change that is taking place globally. There are 19 megacities (over 10 million population) now, expected to be 27 by 2020. Thirty percent of urban populations live in slums; providing affordable housing is a major challenge in all cities.

A specific work item that has been selected is the use of SDI in *managing mega cities*. A working group has been set up to identify relevant spatial tools that will support development and use of SDI by city authorities.

Based on cooperation with other working groups this WG has:

- Supported discussion on the role of local and regional SDI in managing mega cities
- Identified institutional, policy and legal frameworks that can be incorporated in SDI to address mega city issues
- Identified specific technical innovations in SIM that can improve management of mega cities

The working group has adopted a pragmatic approach, based on working with administrations in mega cities to identify key problems they face both now and in the future; use an international network of experienced spatial information practitioners to identify potential solutions; and then develop materials that provide a practical guide to international best practice in the use of SDI to better manage our cities. Commission 3 plans to provide a major report on its findings at the FIG Congress in Sydney in 2010.

The methodology adopted by the working group has three stages:

1. Review SDI developments in existing mega cities; identify current problems and issues and use of SDI (by August 2008).

2. Document case studies, including lessons learned about solutions to problems (by April 2009).
3. Develop a toolkit for use of best practices in SDI in managing mega cities, including frameworks for policy, institutions, legal and technical (by April 2010).

The working group has developed a questionnaire on the needs and use of SDI by mega cities. The questionnaire and covering letter signed by the President of FIG have been sent to a shortlist of mega cities, including Delhi, Istanbul, London, Mexico City, Hong Kong and Seoul. The working group has made use of voluntary time of its members and sought to involve administrators in selected mega cities.

WG 3.2. chair Paul Kelly was supported by FIG Commission 3 to participate to 9<sup>th</sup> Congress of Metropolis on “*Trends in Megacities – Metropolis*” Congress 2008, in Sydney, Australia, 22-25 October 2008. The report can be found on: [http://www.fig.net/news/news\\_2008/sydney\\_oct\\_2008.htm](http://www.fig.net/news/news_2008/sydney_oct_2008.htm). You may read more about the Metropolis Congress on: <http://www.metropoliscongress2008.com/>

A very successful additional FIG WG 3.2 activity took place immediately after the Workshop. On 13<sup>th</sup> and 14<sup>th</sup> February 2009 a follow-up meeting took place at the Mainz FIG Commission 3 Workshop’s location. The Local Organising Committee and the co-chair of FIG WG 3.2 Hartmut Mueller provided for a two-day summary of the Workshop to the Nigerian delegation. The follow-up meeting was attended by the Honourable Speaker of the Nigerian Katsina State House of Assembly Mr Yau Umar Gojo-gojo, along with twelve of his Housing and Urban Development Committee members. In the context of summarizing several presentations given by some workshop speakers, the similarities and discrepancies between the African and European land administration and spatial planning systems were thoroughly discussed. In that way, an excellent opportunity was taken to transfer the workshop’s results to a delegation of high-level political representatives of an African developing country. Workshop’s web site: <http://www.i3mainz.fh-mainz.de/FIG-Workshop/>

After the compilation of FIG publication 48, co-authors Paul Kelly chair of FIG WG 3.2, Prof Chryssy Potsiou Chair of FIG Commission 3), co-chair of FIG WG 3.2 Hartmut Mueller and Prof Yerach Doytsher (Chair-Elect of FIG Commission 3) have made a series of presentations with a purpose to promote this research as broadly as possible. These presentations are at the following Conferences:

- Co-chair of FIG WG 3.2 Prof Dr Ing Hartmut Mueller made a workshop presentation on 'Spatial Information Management, an Effective Tool to Support Sustainable Urban Management', 46<sup>th</sup> International ISOCARP Congress, Nairobi, Kenya, 19-23 Sept 2010, Workshop 1: Effective policy-making for sustainable urbanization, 22 Sept 2010
- Co-chair of FIG WG 3.2 Prof Dr Ing Hartmut Mueller made a plenary speech on 'SDI for Cities', Informática 2011 Convergent Technologies: Integration and Independence, 14th International Convention and Fair, 7th International Congress of Geomatics, Havana, Cuba, 7-11 Feb 2011
- Commission Chair Chryssy Potsiou, Co-chair of FIG WG 3.2 Hartmut Mueller, and Chair-Elect Yerach Doytsher made presentations on FIG publication 48 at the SDI 2010 conference in Skopje, Sept 2010, [http://www.fig.net/news/news\\_2010/skopje\\_september\\_2010.htm](http://www.fig.net/news/news_2010/skopje_september_2010.htm)

- Paul Kelly, Chair of FIG WG 3.2, Hartmut Mueller, Co-chair of FIG WG 3.2 and Chair-Elect Yerach Doytsher made a presentation of FIG publication 48, at GSDF'12 in Singapore, Oct. 2010
- Commission Chair Chryssy Potsiou made a presentation at the 2<sup>nd</sup> International Training Course for Surveyors, organized by the Consiglio Nazionale Geometri e Geometri Laureati in cooperation with Geoweb S.p.A., Company providing web services for surveyors, in Rome, 20 Sept-8 Oct 2010.  
[http://www.fig.net/news/news\\_2010/rome\\_september\\_2010.htm](http://www.fig.net/news/news_2010/rome_september_2010.htm)

### **Working Group 3.3 – Multi Dimensional Aspects in Spatial Information Management**

Chair: M. Roic (Croatia)

The Working Group 3.3 was formed in 2006. The goals of the Working Group are:

- Expansion and development of existing data models;
- Increase the involvement of surveyors in development of data models; and
- Disseminate accumulated knowledge and experience.

The WG was structured to include members with technical expertise as well as participants who are familiar with the development of SDI. In pursuit of these goals, the WG has met first time in Athens in early 2007. This meeting has provided an opportunity for the WG not only to analyse issues directly related to mentioned goals, but also to identify a number issues for cooperation with WG2. The members of the WG also participated in Stockholm in 2008 and presented papers covering technical and multidimensional aspects of SDI in order to assure broader dissemination of the WG's work.

## **3. Cooperation**

### **3.1 Cooperation with other FIG commissions**

Good cooperation was established with Commission 2 for the 2008 Commission 3 Workshop in Valencia, and with FIG Commission 7 for the 2010 Commission 3 Workshop in Sofia.

FIG Commissions 3 and 7 have supported the Conference on “*Citizens Rights to Real Property*” held from 30<sup>th</sup> November to 1<sup>st</sup> of December in Chisinau, in Moldova, organized by the Agency for Land Relations and Cadastre of Republic of Moldova. The objectives of the workshop included the following: increase awareness of the role of the donor/lender in emerging economies; direct attention to the impact of the real property issues on the local economy; discuss how local political situations affect land administration projects and how negative effects can be minimised; review the best types of project from the point of view of the donor/lenders and of the clients, and examine the key factors controlling success and failure from both points of view; review how future projects in the land administration sector might be better organised. Proceedings can be found at the following address:

<http://www.4cli.org/moldova/>

### **3.2 Cooperation with UN agencies**

- Commission 3 is closely cooperating with UNECE Working Party on Land Administration especially on the issue of informal settlements and managing unplanned

urban development in Europe. Through this cooperation Commission 3 has contributed to compilation of the publication *“Self-Made Cities, In search of sustainable solutions for informal settlements in the United Nations Economic Commission for Europe Region”*. Commission 3 also supported the UNECE WPLA Workshop on *“Experiences with Data Management to Improve Land Administration in ECE Countries”*, held in Sofia, Bulgaria, 23-24 April 2009. The main objective of the workshop was the presentation and discussion on the Land Administration Review of Bulgaria, <http://www.cadastre.bg/presentations.html>

- Commission 3 has supported the UNECE WPLA workshop on *“Spatial Planning to improve Security of Tenure in the UNECE Region”*, in Antalya, Turkey, Oct 2010, and presented the study on *“Informal Development in Europe: Experiences from Albania and Greece”*
- Commission 3 is in close cooperation with UN-HABITAT. The result of this cooperation is the publication on *“Informal Urban Development in Europe. Experiences from Albania and Greece”*.

### 3.3. Cooperation with FIG member associations

- Commission 3 has established a close co-operation with the Technical Chamber of Greece, the Spanish Colegio Oficial de Ingenieros Técnicos en Topografía, and the DVW - Deutscher Verein für Vermessungswesen - Gesellschaft für Geodäsie, Geoinformation und Landmanagement, and the Chamber of Graduated Surveyors of Bulgaria for the organization of the workshops of 2007, 2008, 2009 and 2010.
- Commission 3, through the organization of the expert group meeting in Paris, has established a close cooperation with the Ordre des Geometres Experts and has agreed to continue a joint research in future on specific issues of broad interest in the European region. The possibility of organization of the FIG Commission 3 annual Workshop in Paris in 2011 is under consideration.
- Commission 3 supported the 2<sup>nd</sup> Turkish GIS Congress "GIS 2009" organized by the Turkish Chamber of Engineers and Architects (TMMOB). The theme of the congress was *“NSDI and working cooperatively for a livable future”*. One of the main goals was to identify the issues of “real world GIS applications” and specifically the problems caused by the lack of interoperability among different parties. The resolutions of the congress show that there is an urgent need to initiate an NSDI of Turkey. The transformations of the major institutions like General Command of Mapping acting as the national mapping agency and Land Registry and Cadastre of Turkey are major tasks. The legal basis of NSDI in Turkey is in the “e-Turkey action plan”, which has been set aside by the government. [http://www.fig.net/news/news\\_2009/turkey\\_november\\_2009.htm](http://www.fig.net/news/news_2009/turkey_november_2009.htm)
- Commission 3 has supported the SDI 2010 conference in Skopje, Sept 2010, organized by Geo-SEE (South-East Europe Research Association on Geo Sciences) and supported by six co-organisers (FIG, EUROGI, Chamber of Authorized Surveyors of Macedonia, FON University, ITC, and Geography Department of SUT). [http://www.fig.net/news/news\\_2010/skopje\\_september\\_2010.htm](http://www.fig.net/news/news_2010/skopje_september_2010.htm)
- Commission 3 has supported the 2<sup>nd</sup> International Training Course for Surveyors, organized by the Consiglio Nazionale Geometri and Geometri Laureati in cooperation with Geoweb S.p.A., Company providing web services for surveyors, in Rome, 20 Sept-8 Oct 2010. [http://www.fig.net/news/news\\_2010/rome\\_september\\_2010.htm](http://www.fig.net/news/news_2010/rome_september_2010.htm)

- Commission 3 was invited to the International Land Management Symposium, Hannover, Germany, May 2010, organized by "Federal German Assembly Rural Development" and the Working Committee of the Surveying Authorities of the States of the Federal Republic of Germany, for a presentation of the FIG/UNHABITAT/GLTN publication on "Informal Urban Development in Europe. Experiences from Albania and Greece".

#### 4. Events

##### 2007

- FIG Com3 Workshop, Sounio, Greece, March
- FIG WW 2007, Hong Kong, SAR, May
- 6<sup>th</sup> FIG Regional Conference, San Jose, Costa Rica, November

##### 2008

- Commission 3 Annual Meeting and Workshop "Spatial Information Management – Toward Environmental Management of Mega Cities", Valencia, Spain, 18-21 February 2008
- UNECE WPLA Workshop in Bergen, Norway, April 2008
- FIG Working Week 2008, Stockholm Sweden, 14-19 June 2008.
- VSMM 2008, 14th International Conference on Virtual Systems and Multimedia, dedicated on "Digital Heritage: our HI-tech STORY for future", 20-26 October 2008, Cyprus
- FIG/UN-HABITAT Expert Group Meeting in Athens, Greece, 27-28 November 2008

##### 2009

- *Commission 3 Annual Meeting and Workshop on "Spatial Information for Management of Sustainable Urban Areas" in Mainz, Germany, 2-4 February 2009*
- FIG WG 3.2 follow-up meeting, Mainz, Germany, 13-14 February 2009
- *FIG/ World Bank Conference "Land Governance in Support of the Millennium Development Goals: Responding to New Challenges" - Washington DC, USA 9-10 March 2009*
- *UNECE WPLA Workshop on "Experiences with Data Management to Improve Land Administration in ECE Countries", Sofia, Bulgaria, 23-24 April 2009*
- *FIG Working Week 2009, Eilat, 3-8 May 2009*
- *7th FIG Regional Conference - Spatial Data Serving People - Land Governance and the Environment - Building the Capacity, Hanoi, Vietnam, 19-22 October 2009*
- *2<sup>nd</sup> GIS National Congress in Turkey, Izmir, Turkey, 2-6 November 2009*
- *Expert Group Meeting on "Rapid Urbanization and Megacities: The need for Spatial Information Management", 19-22 November, Paris, France*
- *Conference on "Citizens Rights to Real Property" 30<sup>th</sup> November -1<sup>st</sup> of December, Chisinau, Moldova*

##### 2010

- *UNECE WPLA Workshop on "Efficient and Transparent Land Management in ECE Countries", Baku, Azerbaijan, 4-5 March 2010*

- *FIG Congress 2010*, Sydney, Australia 11-16 April, 2010
- *International Land Management Symposium on “Strategies for Improving Urban – Rural Inter-Relationships, Best Practice and Regional Solutions”*, Hannover, Lower Saxony, Germany, 10-11 May 2010
- *Joint FIG Com3 and Com7 Annual Meeting and Workshop on: “Information and Land Management. A Decade after the Millennium”*, Sofia, Bulgaria, 14-17 November 2010
- *SDI 2010 conference in Skopje, Sept 2010, organized by Geo-SEE*
- *2<sup>nd</sup> International Training Course for Surveyors, Rome, 20 Sept-8 Oct 2010*
- *International Experience on Land Consolidation, Cyprus, “Conference for the 100 years of Land Consolidation in Cyprus”*, 2010
- *International Forum: Property Registration in the Digital Age. Duisburg, Germany, Oct 2010*
- *UNECE WPLA workshop on “Spatial Planning to improve Security of Tenure in the UNECE Region”*, Antalya, Turkey, Oct 2010

## 5. Communication and Publications

- **Technika Chronika**, the peer-reviewed scientific journal of the Technical Chamber of Greece published, in its May-December version of 2008, vol 28(2-3) the peer reviewed papers of Sounio 2007 workshop.  
[http://portal.tee.gr/portal/page/portal/PUBLICATIONS/SCIENTIFIC\\_PUBLICATIONS/SEIRA\\_I/ETOS\\_2008/tefhosB](http://portal.tee.gr/portal/page/portal/PUBLICATIONS/SCIENTIFIC_PUBLICATIONS/SEIRA_I/ETOS_2008/tefhosB)
- **SaLIS** journal has published a special issue, June 2008, vol 68, No 2, with some of the peer-reviewed papers of the Valencia 2008 Workshop. The rest peer reviewed papers of that workshop are also been published in following SaLIS issues
- **Nordic Journal of Surveying and Real Estate**, has published a special issue vol 4 (2009) with the peer reviewed papers of Mainz 2009 Workshop.  
<http://ojs.tsv.fi/index.php/njs/issue/view/473>
- **FIG publication 48. “Rapid Urbanization and Mega Cities: The Need for Spatial Information Management”**, *FIG 2010*, ISBN 978-87-90907-78-5 (authors: Doytsher, Y., Kelly, P., Khouri, R., McLaren, R., Mueller, H., Potsiou, C.)  
<http://www.fig.net/pub/figpub/pub48/figpub48.htm>  
As cities get larger spatial information is becoming a key resource in efficient delivery of e-government services, public safety, national security and asset management. In this FIG research study, it is proposed that a city-wide spatial data infrastructure linked to similar structures in other levels of government, can provide a sustainable solution to many problems of mega cities. The goal of this research is to investigate the emerging needs, the current trends and the extent of using SDIs in selected mega cities, but also to identify the emerging possibilities for using new technical tools for the governance of sustainable large urban areas applied by the surveying- mapping- data processing community.
- **UNECE “Self-made Cities. In search for Sustainable Solutions for the Informal; Settlements in the United Nations Economic Commission for Europe Region”**, *United Nations Economic Commission for Europe (UNECE), United Nations Publications*, ISBN 978-92-1-117005-4, Geneva, p. 113. (authors: Tsenkova, S., Potsiou, C., Badyina, A.)  
<http://www.unece.org/hlm/documents/Publications/SelfMadeCities.pdf>

This book describes how more than 50 million people in the UNECE region have come to live in informal settlements and examines the main characteristics of the phenomenon. The book is published by the UNECE Committee on Housing and Land Management and its Working Party on Land Administration, based on the research initiated by the joint FIG Com3 and UNECE Workshop on informal settlements (“Spatial Information Management: Towards Legalizing Informal Urban Development, 2007). The papers presented at the workshop were used for highlighting the different approaches in the region.

- **FIG/UN HABITAT/ GLTN study on “Informal Development in Europe: Experiences from Albania and Greece”**, GLTN, FIG, UN HABITAT, Technical Chamber of Greece, ISBN: 978-92-1-132266-8, UN HABITAT Nairobi, p 36 (summary version) (author: Chryssy Potsiou) <http://www.fig.net/pub/figpub/pub48/figpub48.pdf>, Politicians may say “It’s informal, so it doesn’t exist”. But it is there. Informal settlers need to be able to enter the economic cycle. Informal settlements are the product of complex socio-political processes that differ significantly from country to country. Research on informal development therefore deals with complex issues that can only be addressed through in-depth studies. This study, which is a joint FIG/UNHABITAT, GLTN publication covers the problem of informal development in Albania and Greece at a detailed level, engaging with all the many complexities and variables associated with the issues and the different systems and institutions.

Dr. Chryssy Potsiou  
Chair, FIG Commission 3, 2007-2010

March 2011