Global Challenges and the Surveying Profession (I)

Certain challenges characterize our era, such as:

- **Democratization of nations & transition** from centrally driven economies to the **free market** and the need for **privatization of land, business, housing, enterprise** and for **property registration**

- **Political + climate migration**, **rapid urbanization**, **informal development** and the need for **e-governance & formalization**

- **Climate change** and the need for **adaptation** and **mitigation** measures (e.g., compact cities)
Global Challenges and the Surveying Profession (II)

- Economic globalization & the Economic crisis and the urgent need for development & reforms

- The hope for more democracy, transparency and peace and the need for citizen awareness, citizen participation

In order to address these challenges we need maps

- Reliable Geospatial data, Spatial Data Infrastructures, reliable Cadastral Systems/ Land Administration Systems

Development, SDI, Cadastre

Development projects, infrastructure, land-use & planning reforms require land takings and rearrangement of property rights

Huge reforms have huge impact
The International Federation of Surveyors

FIG Commission 3 on “Spatial Information Management (SIM)” is focused on:

- collection, analysis, visualization, standardization, dissemination of geospatial information about land and property;
- spatial data infrastructures and support of good governance;
- knowledge management for SIM; and more.

In 2010, FIG addressed the emerging problems due to the rapid urbanization and the need for the surveying community to take into consideration the use of “urban sensing” tools and techniques in order to speed up the collection of the necessary spatial information to support the creation of a public infrastructure for good government. The great potential of the available tools but also the risks of their misuse were then briefly investigated.

The economic crisis & the need for development

- property registration
- Computerization
- Reducing bureaucratic procedures
- Easing access
- NSDIs
- Reducing labor costs
39 WB funded LAM projects in Europe and Central Asia:
The largest program of land reform the world has ever seen! 30 countries -
US$ 1.1 billion in loans and grants

Population: ~900M  Land area: 27,381,300 km²  Properties: ~300M

- High technical education
- Be pragmatic & flexible
- Meet the needs of society
- Be confident, not conservative

However: 49 % suffer budget overruns
50 million people live in informal settlements
Rise or Fall of the cadastre empire??

World Bank, 2011:
- Embrace social media & crowd sourced technology to provide transparent land administration in places where corruption & inefficiency is endemic
- With an understanding of errors, accuracies & usefulness of various forms of spatial information

Where we are

- Comprehensive LAS exist in only 50 countries and only for the 25% of the world’s 6 billion land parcels.
- The rest of the world: reduced security of tenure; poverty.
- There is a need for establishing cooperation between professionals & citizens; citizens direct involvement in capturing and maintaining information about property rights.
- However: crowdsourcing is considered as a particular threat by involved professionals (conservative mapping & cadastral agencies, surveyors & lawyers, those who benefit from the existing chaos)
Fit for Purpose approach

**FIG:** Highly qualified professional surveyors’ interest is gradually moving from measurement to requirement determination for data collection and to data evaluation and management.

What needs to be done

There is a need for:

- Better investigation of the capacity of governmental agencies to monitor, evaluate and interpret the volumes of collected data through crowdsourcing methods
- Raising public awareness about the benefits citizens will enjoy
- Raising public trust
- Establishing policy frameworks legally for the appropriate use of VGI, OpenStreetMap and OpenCadastreMap techniques.
**Direct citizen contribution to LA?**

As the land administration activity on the one hand deals with huge amounts of data, which moreover are of a very dynamic nature, and on the other hand requires a continuous maintenance process, the role of information technology is of strategic importance.

**Technical and the socio-organizational concerns**

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**FIG Proposal**

- **Bottom-up pilot projects** are expected to challenge formal systems, their constraints and inadequacies.
- **Action plan for pilot projects** to communicate the benefits to the local authorities & citizens; to investigate the appropriate tools & methods; to cooperate with the local authorities; to activate community leaders and citizens; to identify the type of information that should be collected for the various LASs; to do basic training.
Integration of community-based LASs into cadastral systems

- **Type of information:** land parcel centroid or parcel boundaries, building outline, building characteristics, floors, property rights, property rights holders’ data, photos of the property, photos of supporting documents. Depending on the availability of other topographic information, other base mapping and socio-economic data should be collected as well. Pilot projects should build on the infrastructure and capacity of existing projects-if possible.

- **Next step:** investigate how this will be done; a hybrid approach is proposed.

- **Land surveyors should undertake a minor but important role** in the pilot projects to increase capacity and provide guidance and training of trusted para-professionals, community leaders, citizens and land right holders.

- Compilation or completion/correction of **draft cadastral maps** (in countries that run implementation cadastral projects; in regions where cadastral maps are problematic or not updated; in regions where no cadastre or formal property rights exist- in such cases basic technical guidelines are needed; such guidelines should be provided by the authorities in cooperation with land surveyors)

- Publishing the results as a protection against errors and abuse

- Demonstration of feasibility of crowdsourcing to LA organizations and surveyors.

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The publication will be finalized and presented in June at the FIG Conference.

THANK YOU