

From Cadastre to Land Governance: a Cadastre 2014 Outlook

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SUMMARY

This short paper provides an outlook from the publication “Cadastre 2014” as launched at the FIG Congress in Brighton, UK, July 1998. The publication has achieved an incredible impact in terms of advocating the importance of cadastral systems and their structure as a kind of backbone in market based societies. This impact can hardly be overestimated. However, an outlook is necessary to adapt the traditional cadastral concept to include more flexible approaches for meeting the global challenges ahead.

The paper facilitates an understanding of how the cadastre has evolved over recent years into the broader concept of Land Administration in support of sound Land Governance. The role of land professionals and FIG is underlined in this regard.

The paper also looks ahead towards the role of the cadastre within the wider concept of concept of spatially enabled society, and, on the other hand, the need for a more flexible approach to cadastral concepts as a basis for building adequate systems of land governance in developing countries with very limited cadastral coverage.

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1. INTRODUCTION

In most countries, the cadastral system is just taken for granted, and the impact of the system in terms of facilitating an efficient land market and supporting effective land-use administration is not fully recognised. The reality is that the impact of a well-functioning cadastral system can hardly be overestimated. A well-tailored cadastral system is in fact acting as a backbone in society. The famous Peruvian economist Hernando de Soto has put it this way: “Civilized living in market economies is not simply due to greater prosperity but to the order that formalized property rights bring” (De Soto, 1993). The point is that the cadastral system provides security of property rights. The cadastral systems thereby paves the way for prosperity – provided that basic land policies are implemented to govern the land issues, and provided that sound institutions are in place to secure good governance of all issues related to land and property.

2. EVOLUTION OF CADASTRAL SYSTEMS

The human kind to land relationship is dynamic and is changing over time as a response to general trends in societal development. In the same way, the role of the cadastral systems is changing over time, as the systems underpin these societal development trends. In the so called Western world this dynamic interaction may be described in four phases as shown in Figure 1.

	Feudalism - 1800	Industrial revolution 1800-1950	Post-war reconstruction 1950-1980	Information revolution 1980-
Human kind to land evolution	Land as wealth	Land as a commodity	Land as a scarce resource	Land as a community scarce resource
Evolution of cadastral applications	Fiscal Cadastre Land valuation and taxation paradigm	Legal Cadastre Land market paradigm	Managerial Cadastre Land management paradigm	Multi-purpose Cadastre Sustainable development paradigm

Figure 1: Evolution of Western Cadastral System (Developed from Williamson et.al. 2010).

Over the last few decades land is increasingly seen as a community scarce resource. The role of the cadastral systems has then evolved to be serving the need for comprehensive information regarding the combination of land-use and property issues. New information technology provides the basis for this evolution. This forms the new role of the cadastral systems: the multi-purpose cadastre.

The international development in the area of Cadastre has been remarkable with FIG taking a leading role. Throughout the last 20 years a number of initiatives have been taken with a focus to explain the importance of sound cadastral and land administration systems as a basis for achieving “the triple bottom line” in terms of economic, social and environmental sustainability. International organizations such as UN, FAO, UN-HABITAT and especially the World Bank have been key partners in this process. A range of publications is presented in Figure 2 below showing the scope of the FIG agenda.

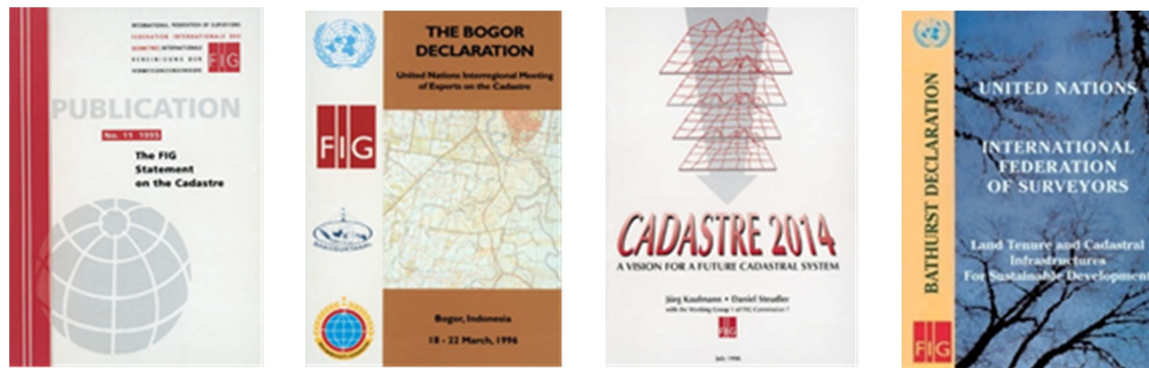


Figure 2. Key FIG publications include the FIG Statement on the Cadastre (1995), The Bogor Declaration (1996), Cadastre 2014 (1998), and The Bathurst Declaration (1999).

The impact of these publications has been remarkable by setting the course for the FIG journey from the original European focused organisation specialising in cadastral surveying and mapping to an organisation with a broad international vision. In this vision the cadastre was seen as a major infrastructural tool for national governments in their efforts to deliver sustainability. This new understanding also transformed the discipline of surveying from a primarily measurement science activity into a foundation for sound land management. The booklet “Cadastre 2014” has played a key role in this process by providing a visionary but easily accessible guidance on cadastral development to be followed by countries throughout the world – as proven by translation into more than 25 languages.

3. TOWARDS LAND GOVERNANCE

The UN-ECE Guidelines on Land Administration (UN-ECE 1996) was sensitive to there being too many strongly hold views in Europe of what constituted a cadastre. Another term was needed to describe these land-related activities. It was recognized that initiatives that primarily focused on improving the operation of land markets had to take a broader perspective to include land-use planning as well as land tax and valuation issues. As a result, the publication replaced “cadastre” with the term “land administration”. An updated version of the guidelines was published in 2005: “Land administration in the UNECE region: Development trends and main principles”.

“For the first time, efforts to reform developing countries, to assist countries in economic

transition from a command to a market-driven economy, and to help developed countries improve LAS could all be approached from a single disciplinary standpoint, at least in theory. That is, to manage land and resources “from a broad perspective rather than to deal with the tenure, value, and use of land in isolation” (Dale and McLaughlin 1999, preface).

UN-ECE viewed land administration as referring to “the processes of determining, recording, and disseminating information about the ownership, value, and use of land, when implementing land management policies” (UN-ECE 1996). The emphasis on information management served to focus land administration systems on information for policy makers, reflecting the computerization of land administration agencies after the 1970s. The focus on information remains in the 2000s but the need to address land management issues systematically and more holistically pushes the design of land administration systems toward “an enabling infrastructure for implementing land policies and land management strategies in support of sustainable development” (Williamson, et.al. 2010).

The term Land Governance emerged in the late 2000s as a more holistic term covering the policies, processes and institutions by which land, property and natural resources are managed e.g. in support of the global agenda such as the Millennium development Goals (see: FIG/WB, 2010). Land governance covers all activities associated with the management of land and natural resources that are required to fulfil political objectives and achieve sustainable development. This includes decisions on access to land, land rights, land use, and land development.

4. FUTURE DIRECTIONS

In the Western cultures it would be hard to imagine a society without having property rights as a basic driver for development and economic growth. Property is not only an economic asset. Secure property rights provide a sense of identity and belonging that goes far beyond and underpins the values of democracy and human freedom. Therefore, property rights are normally managed well in modern economies where cadastral information provides the basic layer of interactive systems in support of building spatially enabled societies.

In contrast, most developing countries have a cadastral coverage of less than 30 per cent of the country. The cadastral systems normally operate with western procedures for cadastral surveys and land registration as introduced (mainly for the elite) in colonial times, and the systems do not recognise the range of more informal or customary types of tenure. This means that over 70 per cent of the land in many developing countries, such as the sub-Sahara region, is generally outside the formal land administration system. In these countries there is a the need for a more flexible and fit-for-purpose approach to building cadastral concepts as a basis for building adequate systems of land governance in developing countries with very limited cadastral coverage.

Furthermore, the spatial information revolution, through platforms such as Google Earth, has raised discussion around the use of crowd-sourcing for data collection (McLaren, 2013) and,

on the other hand discussions about the need for data to be Accurate, Assured, Authoritative (AAA) Land Information (Williamson et.al. 2013). These discussions are driven by technology development that enables push-button access to a variety of data from various sources. These future directions are shown in Figure 3 below.

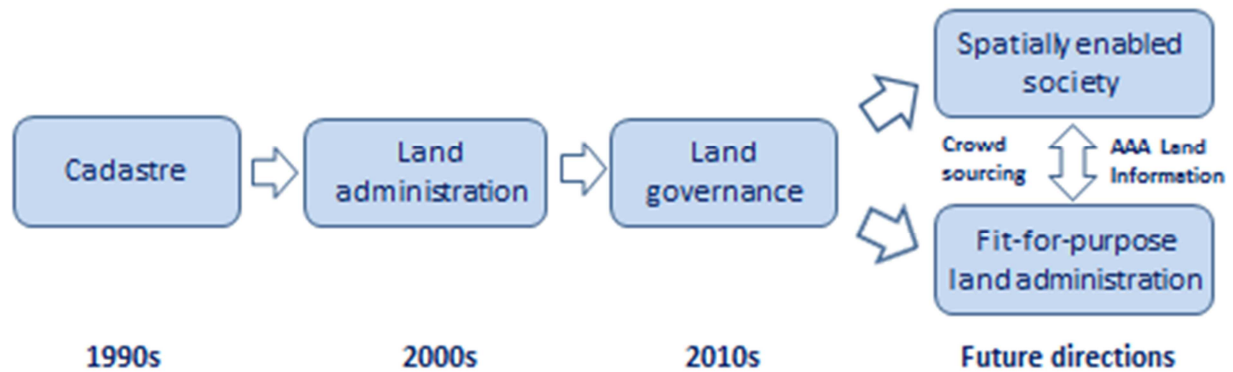


Figure 3. A cadastre 2014 Outlook

4.1 Spatially enabled society

“Place matters! Everything happens somewhere. If we can understand more about the nature of “place” where things happen, and the impact on the people and assets on that location, we can plan better, manage risk better, and use our resources better.” (Communities and Local Government, 2008). This statement can be seen as a justification of spatially enabled government that is achieved when governments use **place** as the key means of organising their activities in addition to information, and when location and spatial information are available to citizens and businesses to encourage creativity.

New web-based distribution concepts such as Google Earth provide user friendly information in a very accessible way. We should consider the option where spatial data from such concepts are merged with “hard-core” built and natural environment data. This unleashes the power of both technologies in relation to emergency response, taxation assessment, environmental monitoring and conservation, economic planning and assessment, social services planning, infrastructure planning, etc. This also include design and implementation of a suitable service oriented IT-architecture for organising spatial information that can improve the communication between administrative systems and also establish more reliable data based on the use of the original data instead of copies (Enemark, 2010).

It is important to acknowledge that spatial enablement cannot emerge without a supporting infrastructure. The understated, non-visible nature of this infrastructure often means it is taken for granted. Spatial enablement cannot hope to be achieved without some form of coordinated spatial data infrastructures (SDIs) and reformed land administration system. These managing metadata, building complete national digital cadastres, modelling and building blocks, established over decades, make possible spatially enabled societies. The importance of promoting these building blocks is a challenge for the international spatial community. In

particular the Global Spatial Data Infrastructure (GSDI) association and the International Federation of Surveyors (FIG) are undertaking work programs to meet this challenge (Rajabifard, et. al. 2010; FIG, 2012).

4.2 Fit-for-purpose land administration

This concept “fit-for-purpose” indicates that land administration should be designed to meet the needs of people and their relationship to land, rather than being guided by requirements imposed through rigid regulations, demands for spatial accuracy and systems that may be unsustainable for developing countries dependent on donor funding. When considering the resources and capacities required for building such systems in developing countries the western concepts may well be seen as the end target but not as the point of entry. When assessing the technology and investment choices the focus should be on building a fit-for-purpose system that will meet the needs of society today and that can be incrementally improved over time.

Land administration systems - whether highly advanced or very basic – require a large scale spatial framework to operate. This framework, or large scale mapping, should identify the spatial units such as land parcels as a basis for dealing with the land administration functions such as recordation of legal and social tenure; assessment of land value and taxation; identification of current land use; planning for future land use and development; delivery of utility services; and administration and protection of natural resources.

In many developed countries this countrywide spatial framework has been developed over centuries as large scale cadastral mapping and maintained through property boundary surveys conducted to a high accuracy according to long standing regulations and procedures. In developing countries with very limited cadastral coverage there is an urgent need to build cost effective and sustainable systems to identify the way land is occupied and used. Using a flexible, affordable, and inclusive approach to building such systems should enable security of tenure for all and sustainable management of land-use and natural resources. This challenge of building fit-for-purpose land administration systems in developing countries is now being addressed by FIG and the World Bank (FIG/WB 2014).

5. CONCLUDING REMARKS

The impact of “Cadastre 2014” can hardly be overestimated and the authors Jürg Kaufmann and Daniel Steudler should be congratulated on making the modern cadastral concept and its outreach understandable and accessible at a global scale.

Cadastral systems are normally understood as a parcel based and up-to-date land information system containing identification of the individual land parcels and a record of interests in land such as land ownership. Land governance is a broader term that relates to policies, processes and institutions by which land, property and natural resources are managed. This includes decisions on access to land, land rights, land use, and land development.

The evolution of cadastral systems and their role in society has been remarkable over recent

decades with FIG taking a leading role in cooperation with UN-agencies, including the World Bank. This evolution now points at two different future directions towards building spatially enabled societies (developed countries) and towards building basic fit-for-purpose land administration systems (developing countries). Importantly, the role of the cadastral systems is seen as the core component within both directions and they are both impacted by the discussions around crowd sourcing as well the quest for AAA land Information.

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BIOGRAPHICAL NOTES

Stig Enemark is Honorary President of the International Federation of Surveyors, FIG (President 2007-2010) and Past President and Honorary Member of the Danish Association of Chartered Surveyors (DdL). He is Professor of Land Management at Aalborg University,

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