

The Evolving Role of Cadastral Systems in Support of Good Land Governance

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THE DIGITAL CADASTRAL MAP
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A beautiful setting

Setting the scene

The people to land relationship is dynamic and reflects the cultural and institutional setting of the country or jurisdiction

Evolution of the land administration discipline

	Feudalism ~ 1000	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

Evolution of Western Land Administration Systems

The FIG Agenda ...

1996
FIG Statement on the Cadastre Concepts and standards

1996
Bogor Declaration FIG/UN initiative on the role of cadastral infrastructures

1998
Cadastre 2014 A FIG vision in six statements for future cadastre systems .

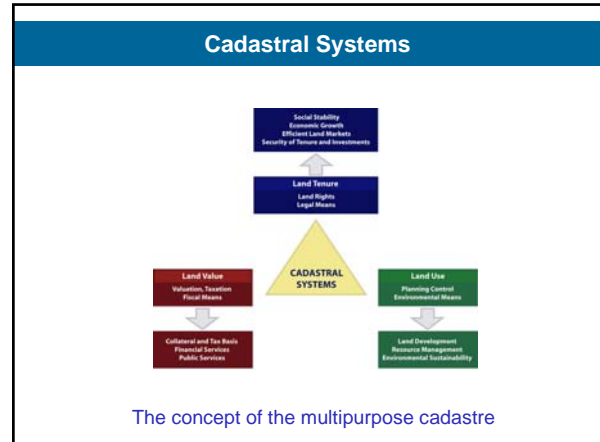
1999
Bathurst Declaration FIG/UN initiative on land administration in support of sustainable development

Land Registration Systems around the World

Deeds System (French/Latin/USA style): A register of owners; the transaction is recorded – not the title.
Title System (German, Torrens/English style): A register of properties; the title is recorded and guaranteed.

TABLE 2.3 - GENERAL RELATIONSHIPS BETWEEN LAND REGISTRIES AND CADASTRES		
STYLE OF SYSTEM	LAND REGISTRATION	CADASTRE
French/Latin/U.S. style	Deeds system Registration of the transaction Titles are not guaranteed Notaries, registrars, lawyers, and insurance companies (U.S.) hold central positions Ministry of Justice Interest in the deed is described in a description of metes and bounds and sometimes a sketch, which is not necessarily the same as in the cadastre	Land taxation purposes Spatial reference or map is used for taxation purposes only. It does not necessarily involve surveyors. Cadastral registration is normally a follow-up process after land registration of at all Ministry of finance or a tax authority
German style	Title system Land book maintained at local district courts Titles based on the cadastral identification Registered titles guaranteed by the state Neither boundaries nor areas guaranteed	Land and property identification Fixed boundaries determined by cadastral surveys carried out by licensed surveyors or government officers Cadastral registration is prior to land registration. Ministry of environment or similar
Torrens/English style	Title system Land records maintained at the land registration office Registered titles usually guaranteed as to ownership Neither boundaries nor areas guaranteed	Property identification is an annex to the title <ul style="list-style-type: none"> Fixed boundaries determined by cadastral surveys carried out by licensed surveyors (Torrens) English system uses general boundaries identified in large-scale topographic maps Cadastral registration integrated in the land registration process

Williamson, Enemark, Wallace, Rajabifard.



The Digital Cadastral Map

- The approach of digitisation vary for the three different style of systems
- There is a tension between relative accuracy (cadastral graphics) and absolute accuracy (topo data).
- No matter the origin of the system the digitising process serves the same purpose of combining the cadastral graphics with the topo information.
- Survey accurate cadastral data is normally not an option. Therefore, in most systems successful use of the digital cadastral database depends on the degree of educated use of the map.

From an Analogue to a Digital Cadastral Map

An analogue cadastral map from 1983 updated over about 100 years. The map is an "island map" and is not linked to the national grid.

The same area as a print of the digital cadastral map 1993. The map is linked to the national grid and shows only the current cadastral situation. The boundary points shown by circles are established in the map using control points and legal survey measurements.

The Digital Cadastral Map

- a legal map tailored for integrated land administration

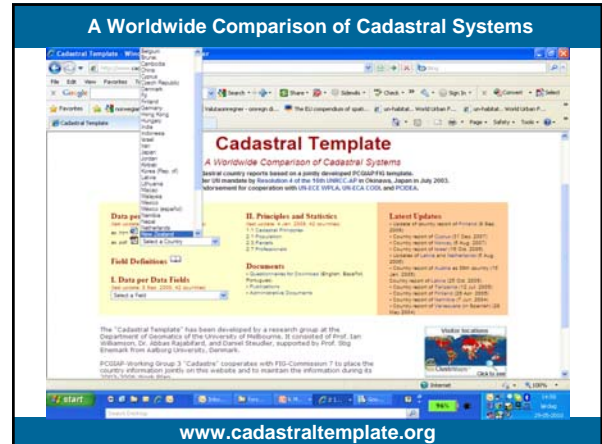
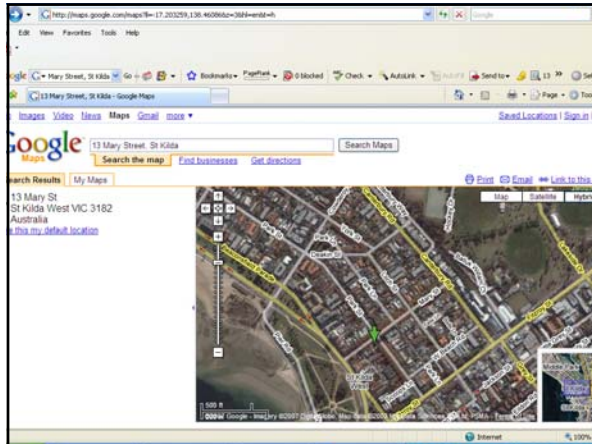
Strengths:

- Countrywide; based on the national grid
- Metadata
- Dynamic updating and upgrading

Weaknesses:

- Accuracy varies
- Tension between the (legal) cadastral map and the (physical) topographic map
- Demand for an educated use
 - understanding the nature and the origin of the cadastral map

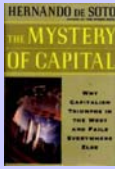
The Web-Cadastre



Limitations of formal cadastral systems

"Civilised living in market Economies is not simply due to greater prosperity but to the order that formalised property rights bring"


Hernando de Soto – 1993



Formal land rights can be recorded in traditional cadastral systems

Continuum of rights (GLTN-agenda)

From: illegal or informal rights
To: legal or formal rights



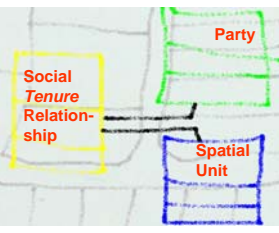
Informal rights cannot be recorded in traditional cadastral systems


Limitations of Cadastral Systems

- More than 70 per cent of the land in many developing countries are outside the formal systems of land registration and administration
- This relates especially to informal settlements and areas governed by customary tenure
- Traditional cadastral systems do not provide for security of tenure in these areas.



The Social Tenure Domain Model: Closing the Gap






Modeling the relation between Parties – Spatial unit – Social Tenure

Parties ("who"): Not only a (legal) person – but a range of subjects such as person, couple, groups of people, unidentified groups, authority, etc.

Spatial Unit ("where"): Not only an identified (measured) parcel – but a range of objects such land parcels, buildings, etc and identified in various ways – such as one point, street axes, photos, etc.

Social tenure ("what"): Not only ownership and formal legal rights – but also range of informal, indigenous and customary rights as well as financial issues such group loans and micro credit.

Land Administration Systems



Land Administration is about:
"the processes of determining, recording, and disseminating information about the ownership, value, and use of land, when implementing land management policies"

The focus on information remains, but modern land administration systems should act as
"an enabling infrastructure for implementing land policies and land management strategies in support of sustainable development"

1996
Land Administration Guidelines, UN-ECE

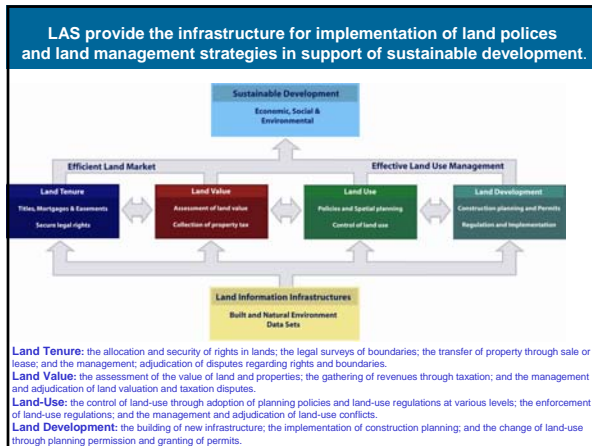


TABLE 1.1 – TRADITIONAL BENEFITS OF LAS

Support for governance and rule of law	The formalization of processes used by land management engages the public and business, and, in turn, this engagement leads to their support for the activities of government.
Alleviation of poverty	A primary means of alleviating poverty lies in recognizing the homes and workplaces of the poor and their agricultural land as assets worthy of protection.
Security of tenure	This is the method of protecting people's associations with land. It is the fundamental benefit of formal land administration. Ensuring security throughout the range of tenure used in a country helps provide access, equity and incentives for sustainable land use. Conversion of some of the rights into property is the core process of formalization of land needed for effective markets.
Support for formal land markets	Security and regularity in land arrangements are essential for successful, organized land markets. LAS manage the transactions processes that ensure land exchange and capital out of land.
Security for assets	International financing norms and banking practices require secure ownership of land and robust title systems that, in turn, which support security interests in land that can only exist if formal LAS.
Support for land and property taxation	Land taxation takes many forms, including tax on passive land holding, on land-based activities, and on transactions. Through all taxation systems, including personal and company taxation, benefit from formal LAS.
Protection of state lands	The coherence of national LAS is dependent on its coverage of all land. Thus, management of public land is assisted by LAS.
Management of land disputes	Stability in access to land requires defined boundaries, titles, and interests. If LAS provide simple, efficient processes for achieving these outcomes, land disputes are reduced. The systems also reveal additional dispute management processes to cover breakdowns caused by administrative failure, corruption, fraud, forgery or transaction flaws.
Improvement of land planning	Land planning is the key to land management, whether the planning is institutionalized within government or achieved by some other means. Impacts of modern rural and urban land use affect adjoining land and beyond. These impacts need to be understood and managed by effective land planning assisted by LAS.

Williamson, Enamark, Wallace, Rajabifard, 2010

The FIG Agenda ...

2005 Aguascalientes Statement on development of land information policies in the Americas. Joint FIG/UN initiative

2006 FIG Contribution to Disaster Risk Management.

2008 Costa Rica Declaration on pro-poor CZM

2010 Land Governance in support of the MDGs. FIG/WB initiative.

2010 Land Governance WB/GLTN/FIG/FAO

The FIG Agenda from Cadastre to Land Governance

- Holding of rights to land
- Economic aspects of land
- Control of land use and development

Administering the people-land relationship through

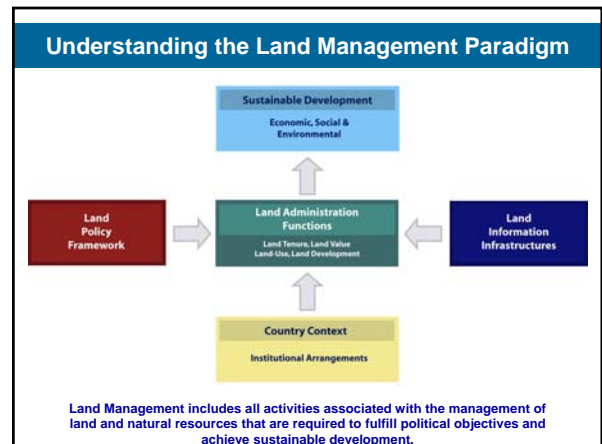
- Land Policy
- Land Management
- Good Governance and
- Building the capacity to deal with this

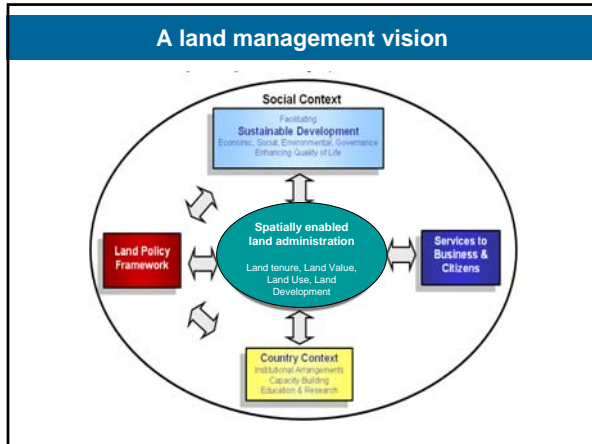
Land governance

Land governance is about the 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.

Land governance is about determining and implementing sustainable land policies.

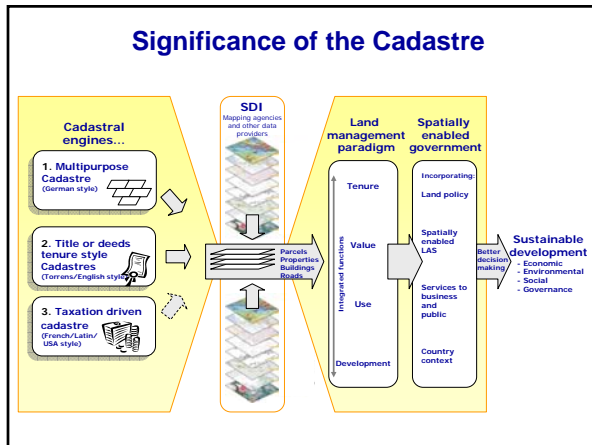




Spatially Enabled Government

A spatially enabled government organises its business and processes around “place” based technologies, as distinct from using maps, visuals, and web-enablement.

The technical core of Spatially Enabling Government is the **spatially enabled cadastre**.



The FIG Agenda

Flying High

- Global partnership with the UN-agencies incl. the World Bank in support of the global agenda such as the MDGs

Keeping the feet on the ground

- Professional and institutional development at regional, national, and local level in support of the needs of our member associations and individual surveyors.

The role of FIG

FIG intend to play a strong role in building capacity to design, build and manage Land Governance systems in response to Climate Change and in support of the Millennium Development Goals

“Building the capacity for taking the land policy agenda forward in a partnership with the UN agencies and the WB”

Key message

Simply put, sustainable development requires sustainable land administration systems

Land professionals play a key role



Thank you for your attention