

The **Fit- for-Purpose** Concept

Building Spatial Frameworks for
Sustainable Land Governance
in Sub-Sahara Africa

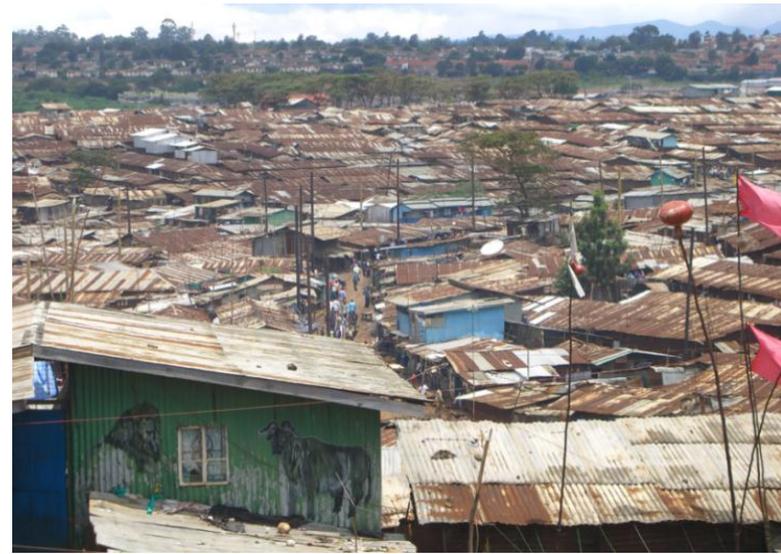
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Key message

- In most developing countries the cadastral coverage is less than 30 per cent and serving only the elite.
- Western systems do not serve the millions of people whose tenure are predominantly social rather than legal
- There is a need for building a country-wide land administration system Including a country-wide cadastre
- Such a country-wide system should be build based on a spatial framework – using a **fit-for-purpose** approach.





Kibera, Nairobi, 250 ha, 1 mill+ people



Duouala suburbs. Cameroun

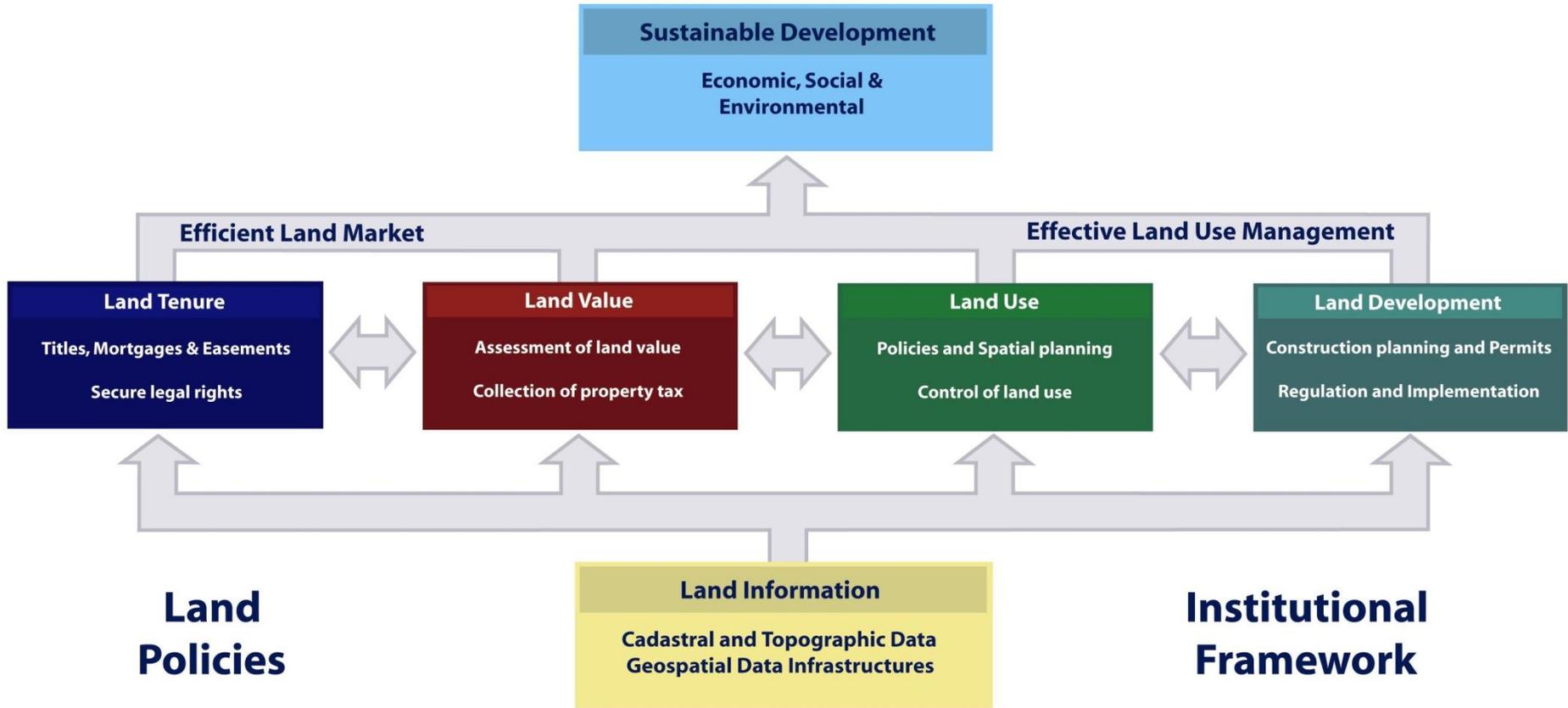


Lagos – peri-urban development



Mozambique customary tenure

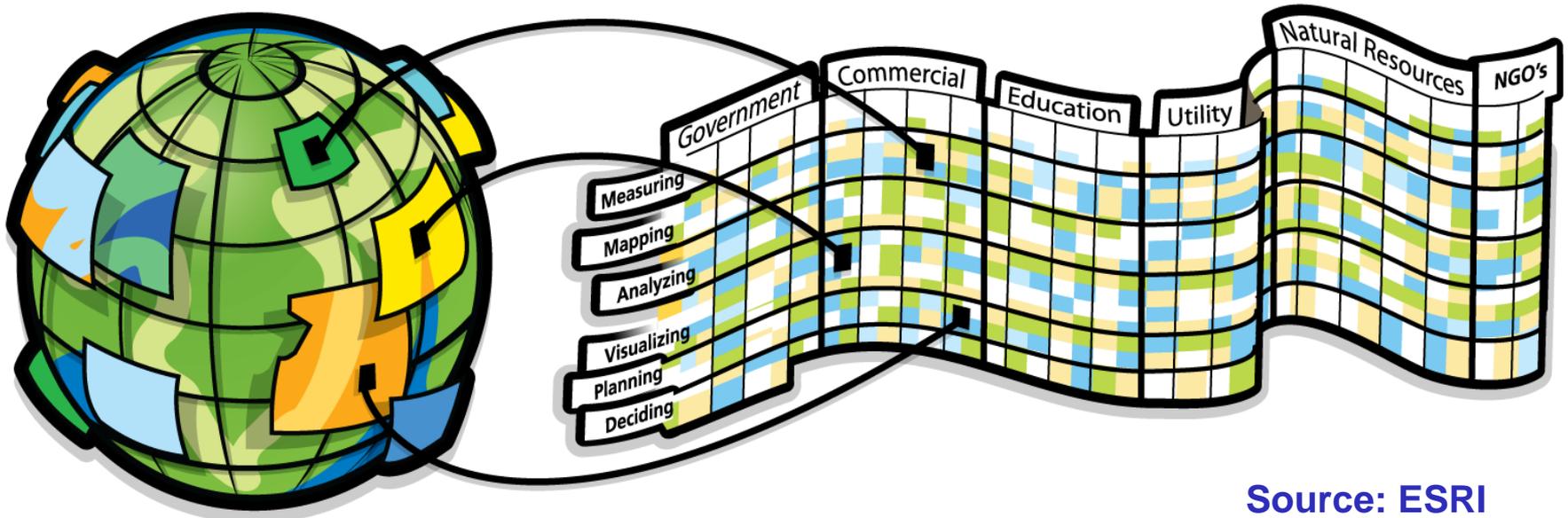
Land Administration Systems



- Land Tenure:** Allocation and security of rights in lands; legal surveys of boundaries; transfer of property;
- Land Value:** Assessment of the value of land and properties; gathering of revenues through taxation;
- Land-Use:** Control of land-use through adoption of planning policies and land-use regulations at various levels;
- Land Develop:** Building of new infrastructure; implementation of construction works and the change of land-use

Geo-information management

...creates a strong foundation for sustainable action



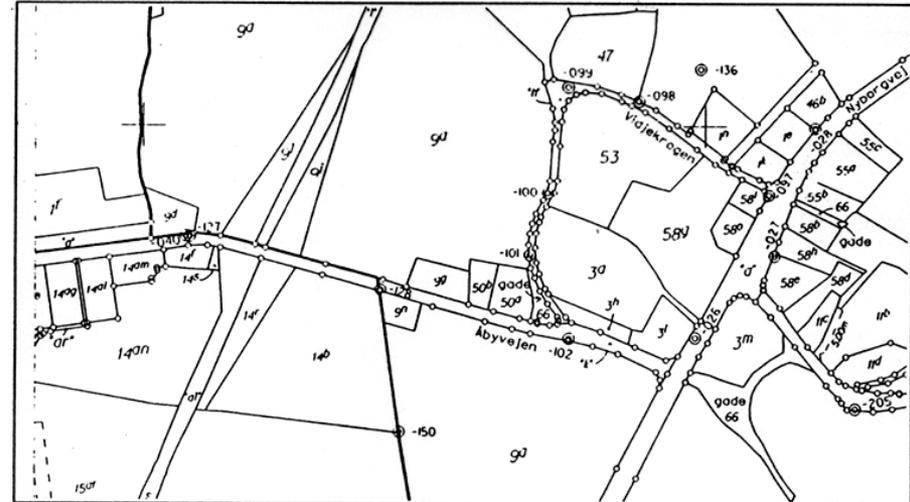
Land administration systems
need a spatial framework to operate

The Spatial Framework

Showing the way land is divided into parcels and plots for specific use and possession.



Analogue cadastral map maintained over 200 years



Digital cadastral map – same area

	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

Evolution of Western land administration systems

Fit-for-purpose

- Fit-for-purpose means that the spatial framework should be designed for the purpose of managing current land issues – rather than being guided by high tech solutions and costly/time consuming field survey procedures.
- Scale and accuracy relate to geography, density of development, and the budgetary capacity that the system is intended to serve.
- Western style technical standards may well be seen as the end target but not as the point of entry.



Fit-for purpose – Key principles

■ General boundaries rather than fixed boundaries

- General boundaries will be sufficient for most LA purposes in rural and semi-urban areas.
- Fixed boundaries may be used where relevant or necessary for any specific purposes.

■ Satellite images/orthophotos rather than field surveys

- Satellite images (50 cm resolution) or orthophotos (1:2000) will be sufficient for most LA purposes.
- 3-5 times cheaper than field surveys and less capacity demanding.
- Providing also topography that is fundamental for a range of LA functions.

■ Accuracy relates the purpose rather than technical standards

- Accuracy should be seen as a relative term related to the use of the information.
- Accuracy should be determined by the purpose. Rural/urban, titling, planning ...
- High accuracy should only be provided when needed and paid for by the beneficiaries.

■ Opportunities for updating, upgrading and improvement

- Building the spatial framework is **not** a one stop process
- Opportunities for on-going updating, sporadic upgrading, and incremental improvement whenever relevant or necessary for fulfilling land policy aims and objectives.
- This, in turn, will establish a spatial framework in line with modern and fully integrated LAS



Rwanda

Discussion

- **Why should developing countries not have the same high level spatial framework as is known in developed countries?**
 - The spatial framework in developed countries has been developed over two centuries
 - Developing regions of course can't wait for that.

- **What are the main barriers for adopting a fit-for purpose approach?**
 - Easy response is of course colonial legacy, lack of financial resources, and political will.
 - However, politicians will often rely on advice from professional bodies such as surveyors, lawyers, ..
 - Their professional codes of ethics often support the existing system, and they will resist changes

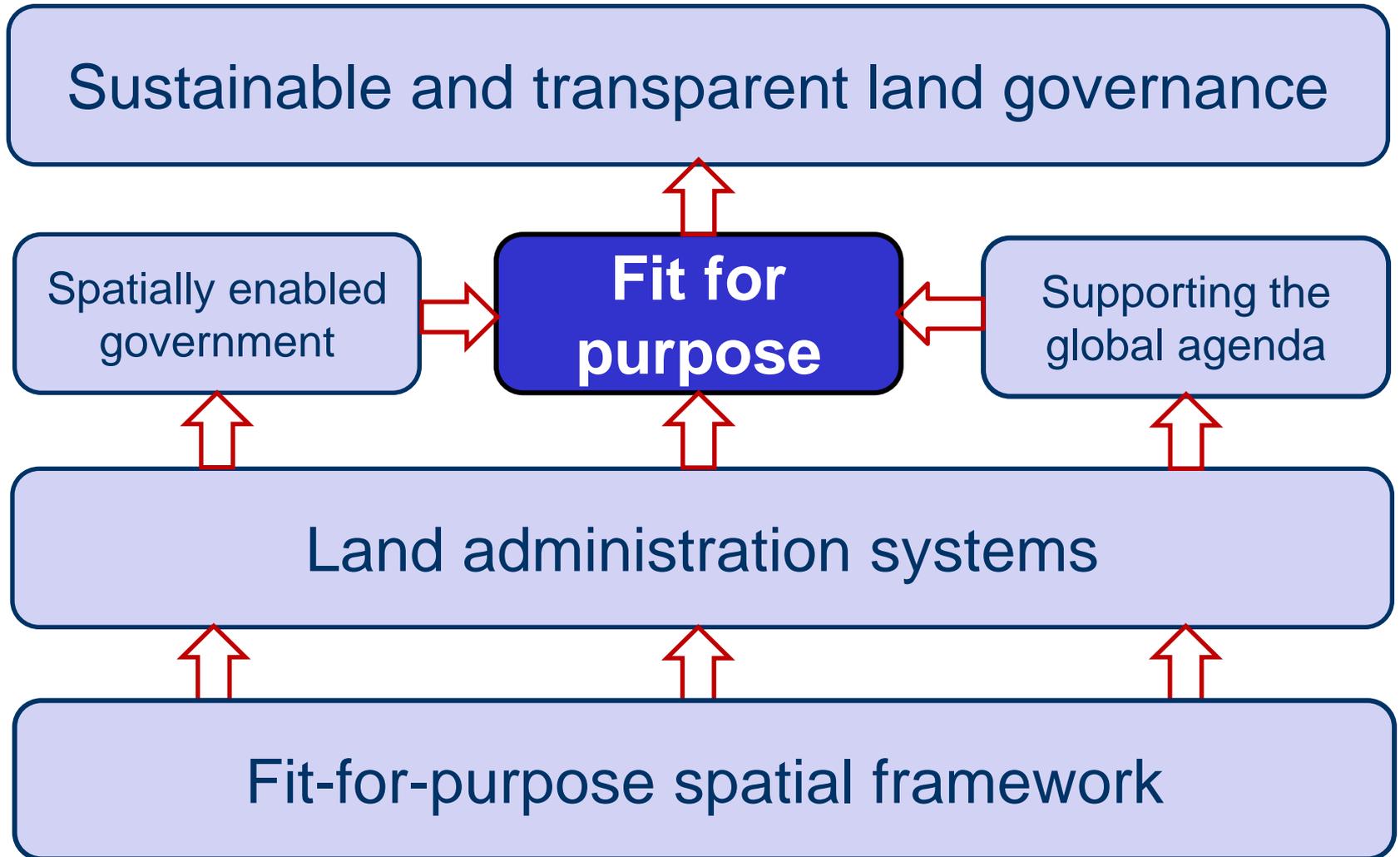
- **What are the main opportunities for providing a fit-for purpose approach?**
 - Political leadership is the main driver.
 - Setting a firm deadline will bypass professional arguments
 - Can only be met by a fit-for-purpose approach..

- **What are the benefits of adopting a fit-for-purpose approach?**
 - including all land and all rights in a reasonable short time and at low costs.
 - Flexible framework for meeting the current demands and can easily be incrementally improved
 - Leap frog many of the steps that developed countries have been through.

A continuum of accuracy ...

- Land administration systems and good land governance need a spatial framework to operate.
- In developed regions such a framework has been developed over centuries.
- In developing countries it should be developed using a **fit-for-purpose** approach – while accuracy can be incrementally improved over time.
- A fit-for-purpose approach includes the concept of “**continuum of accuracy**”.

Fit for purpose



GIM International – July Issue

BUILDING SUSTAINABLE AND TRANSPARENT SPATIAL FRAMEWORKS

Fit-for-purpose Land Administration

There is an urgent need for a flexible approach to building the spatial framework in terms of technology and investment choices. Building such a spatial framework is not primarily about accuracy. Instead it is about adequate identification and representation of the spatial objects and parcels, completeness to cover the total jurisdiction, and credibility in terms of reliable data that is trusted by users.

Most developing countries have cadastral coverage of less than

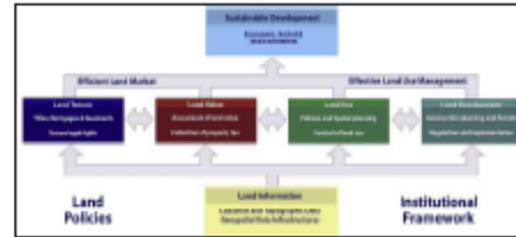
30 percent of the country. These cadastral systems normally operate in line with procedures for cadastral surveys and land registration as introduced (mainly for the elite) by Western societies in colonial times, and the systems do not recognise the range of more informal, social or customary types of tenure. This means that over 70 percent of the land in many developing countries, such as the sub-Saharan region, is generally outside the formal land administration system. This has caused enormous problems with regard to food security and rural land management issues in cities with an increasing population of slum dwellers, for example, and in rural areas. Building spatial frameworks in developing countries is a major challenge, but one that is fundamental for building systems in support of sustainable and transparent land governance.

GLOBAL PERSPECTIVE

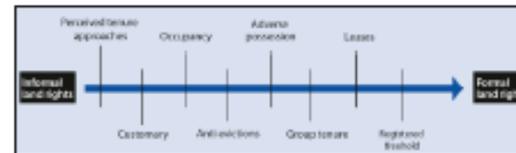
A land administration system (LAS) provides a country with the infrastructure to implement land-related policies and management strategies. It is not a new discipline

but has evolved out of the cadastre and land registration areas with specific focus on security of land rights. The need to address land management issues systematically pushes the design of a LAS towards an enabling infrastructure for implementing land policies. Such a global land administration perspective is presented in Figure 1.

Modern LAS deliver an essential infrastructure and encourage integration of the processes related to land tenure (securing and transferring land rights), land value (valuation and taxation of land), land use (planning and control of the use of land), and land development (implementing utilities, infrastructure and construction planning). The four functions interact to deliver overall policy objectives, and they are facilitated by appropriate land information infrastructures that include cadastral and topographic datasets linking the built and natural environments. Ultimately, the design of adequate systems of land tenure and value should support efficient land markets



▲ Figure 1, A global land administration perspective (Enemark, 2004; Williams et al., 2010).



▲ Figure 2, Continuum of land rights (UN-Habitat).

capable of facilitating trading in simple and complex commodities.

SPATIAL FRAMEWORK

The spatial framework is basic large-scale mapping showing the way land is divided into parcels and plots for specific use and ownership purposes. It provides the basis for dealing with land administration functions such as: recordation and management of legal and social tenure; assessment of land and property value and taxation; identification and management of current land use; planning for future land use and land development; delivery of utility services; and administration and protection of natural resources. The framework should be linked to the country's National Grid point reference system through a positioning infrastructure based on Global Navigation Satellite Systems (GNSS) so that maintenance, updating and upgrading can take place whenever needed. Also, the framework may well include volunteered information provided by citizens (crowdsourcing) where authoritative data is not required or available. When considering the resources and capacities

required for building such spatial frameworks in developing countries, the Western concepts may well be seen as the end target but not as the point of entry.

SOCIAL TENURE

The legal or formal Western systems do not serve the millions of people whose tenures are predominantly social rather than legal. The Social Tenure Domain Model (STDM) recognises land rights as a continuum ranging from informal to more formalised stages as shown in Figure 2, even though this process does not mean that all societies will or should necessarily develop into freehold tenure systems.

The STDM concept focuses on the relationship between the parties (tribes, people, villages, co-operations, organisations or governments), social tenure relations (people-land relationships, which can be formal, informal, customary or may even conflict) and spatial units (a sketch-based, point-based, line-based or polygon-based representation of the real situation in which the social tenure occurs).

The FAO voluntary guidelines on 'Responsible Governance of Tenure' place tenure rights in the context of human rights such as the rights to adequate food and adequate housing. With the help of the Guidelines, a variety of actors can determine whether their proposed actions and the actions of others constitute acceptable practices.

CONTINUUM OF ACCURACY

The spatial framework should be developed using a flexible and fit-for-purpose approach rather than being guided by high-tech solutions and costly field survey procedures. Accuracy can then be incrementally improved over time when relevant and justified by serving the needs of citizens and society. In relation to UN Habitat's concept of the continuum of land rights, such a fit-for-purpose approach could be referred to as a 'continuum of accuracy'. The key focus should be on providing secure land rights for all, and managing the use of land and natural resources for the benefit of local communities and society as a whole.

FIT FOR PURPOSE

'Fit for purpose' means that the framework should be designed for the purpose of managing current land issues within a specific country or region, rather than following more advanced technical standards. The land administration functions may place different requirements on accuracy, which again may vary depending on the geography and density of the use of land. Security of tenure does not in itself require accurate boundary surveys when the important aspect is identification of the land object with its legal or social right. Also, the accuracy required for the purpose of planning and management of the use of land varies considerably. The scale of the framework depends on topography and density of development, and may vary from large-scale mapping in dense urban areas to minor-scale images in rural and remote



Steg Enemark, professor of land management at Aalborg University, Denmark, is honorary president of the International Federation of Surveyors (FIG), of which he was president from 2007 to 2010. He is also past president and honorary member of the Danish Association of Chartered Surveyors.

Professor Enemark is a well-known international expert in the areas of land administration systems, land management, spatial planning and related educational and capacity-building issues, and he has published widely in these areas.

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Thank you for your attention