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Surveyors Facing the Global Agenda

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1. THE GLOBAL AGENDA

The eight Millennium Development Goals (MDGs) that form a blueprint agreed to by all the world's countries and the world's leading development institutions. The first seven goals are mutually reinforcing and are directed at reducing poverty in all its forms. The last goal - global partnership for development - is about the means to achieve the first seven. These goals are now placed at the heart of the global agenda. To track the progress in achieving the MDGs a framework of targets and indicators is developed. This framework includes 18 targets and 48 indicators enabling the ongoing monitoring of the progress that is reported on annually (UN, 2000).

The MDGs represent a wider concept or a vision for the future, where the contribution of the global surveying community is central and vital. This relates to the areas of providing the relevant geographic information in terms of mapping and databases of the built and natural environment, and also providing secure tenure systems, systems for land valuation, land use management and land development. The work of the surveyors forms a kind of "backbone" in society that supports social justice, economic growth, and environmental sustainability. These aspects are all key components within the MDGs.

Goal 1: Eradicate extreme poverty and hunger

Goal 2: Achieve universal primary education

Goal 3: Promote gender equality and empower women

Goal 4: Reduce child mortality

Goal 5: Improve maternal health

Goal 6: Combat HIV/AIDS, malaria and other diseases

Goal 7: Ensure environmental sustainability

Goal 8: Develop a Global Partnership for Development

Fig. 1. The Eight Millennium Development Goals

"*Do surveyors have a role to play in the global agenda?"* - from a FIG point of view the answer to this question is clearly a "Yes"! The surveyors play a key role in supporting an efficient land market and also effective land-use management. These functions underpin development and innovation for social justice, economic growth, and environmental sustainability. Simply, no development will take place without having a spatial dimension, and no development will happen without the footprint of surveyors – the land professionals.

In a global perspective the areas of surveying and land administration are basically about *people*, *politics***,** and *places*. It is about *people* in terms human rights, engagement and dignity; it is about *politics* in terms of land policies and good government; and it is about *places* in terms of shelter, land and natural resources.

In facing the global agenda the role of FIG – the global surveying community - is threefold: (i) to explain the role of the surveying profession and the surveying disciplines in terms of their contribution to the MDGs. Such statements should also make the importance of the surveying profession disciplines better understood in a wider political context; (ii) to develop and disseminate knowledge, policies and methods towards achieving and implementing the MDGs - a number of FIG publications have already made significant contributions in this regard; and (iii) to work closely with the UN agencies and the World Bank in contributing to the implementation of the MDGs.

An outcome of these efforts relates to cooperation with UN-Habitat in developing a model for providing secure social tenure for the poorest (Augustinus et.al. 2006). Another outcome is the recent joint conference between FIG and the World Bank focusing on "Land Governance in Support of the MDGs – Facing the New Challenges", see http://www.fig.net/news/news_2009/fig_wb_march_2009.htm

2. FROM MEASUREMENT TO MANAGEMENT

"Is the role of the surveyors changing?" – in a global perspective the answer will be "Yes"! There is a big swing that could be entitled "From Measurement to Management". This does not imply that measurement is no longer a relevant discipline to surveying. The change is mainly in response to technology development. Collection of data is now easier, while assessment, interpretation and management of data still require highly skilled professionals. The role is changing into managing the measurements. There is wisdom in the saying that "All good coordination begins with good coordinates" and the surveyors are the key providers.

In the more technical and natural science area of surveying this move can be illustrated by the evolution from the concept of Geodetic Datums to Positioning Infrastructures. A geodetic datum is a (multi level) geodetic reference framework describing positions in three dimensions. It supports the traditional functions of surveying and mapping and underpins all of what we now call geo-spatial information. The concept of a Positioning Infrastructure is based on Global Navigation Satellite Systems (GNSS) such as GPS and extends to the ground infrastructure used to improve the accuracy and reliability of GNSS positioning for users. It widens the functions to enable the monitoring of global processes such as those associated with climate change and disaster risk management and also real time positioning for e.g. agricultural farming purposes (Higgins, 2009).

The concept of a modern Positioning Infrastructure (combining satellites and reference stations on the ground) still supports the activities traditionally associated with a geodetic datum but extends toward much broader roles on the global scale. It can be argued that GNSS could be considered one of the only true global infrastructures in that the base level of quality and accessibility is constant across the globe (Higgins, 2009). Such a Positioning Infrastructure moves the focus from measurement of framework points to management of the data received from the positioning system.

The change from measurement to management also means that surveyors increasingly contribute to building sustainable societies as experts in managing land and properties. The surveyors play a key role in supporting an efficient land market and also effective land-use management. These functions underpin development and innovation for social justice, economic growth, and environmental sustainability.

Today the accepted theoretical framework for all land administration systems is delivery of sustainable development. – The triple bottom line of economic, social, and environmental development, together with the fourth requirement of good governance. Land Administration Systems are the basis for conceptualizing rights, restrictions and responsibilities related to people, policies and places.

3. LAND GOVERNANCE

Arguably sound land governance is the key to achieve sustainable development and to support the global agenda set by adoption of the Millennium Development Goals (MDGs).

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 basically about determining and implementing sustainable land policies. Such a global perspective for Land Governance or Land Management is shown in Fig 2.

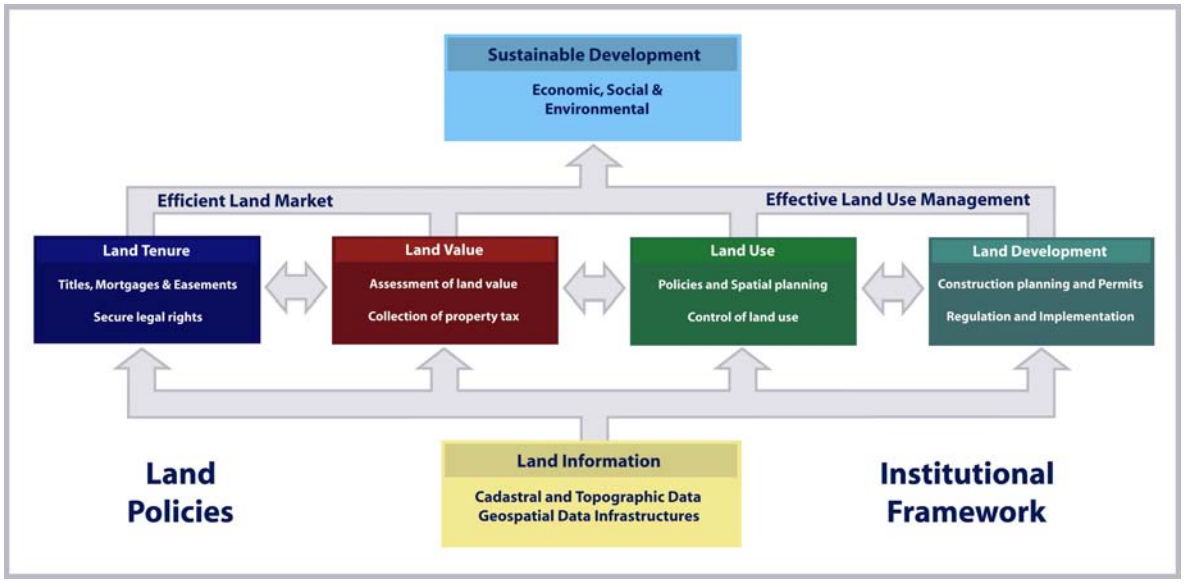

Fig. 2. A Global Land Management Perspective (Enemark, 2004).

Land governance covers all activities associated with the management of land and natural resources that are required to fulfil political and social objectives and achieve sustainable development. Land management requires inter-disciplinary skills that include technical, natural, and social sciences. The operational component of the land management concept is the range of land administration functions that include the areas of land tenure (securing and transferring rights in land and natural resources); land value (valuation and taxation of land and properties); land use (planning and control of the use of land and natural resources); and land development (implementing utilities, infrastructure, construction planning, and schemes for renewal and change of existing land use).

Land administration systems are the basis for conceptualizing rights, restrictions and responsibilities related to land and property. Property rights are normally concerned with ownership and tenure whereas restrictions usually control use and activities on land. Responsibilities relate more to a social, ethical commitment or attitude to environmental sustainability and good husbandry. In more generic terms, land administration is about

managing the relations between people, policies and places in support of sustainability and the global agenda set by the MDGs.

3.1 Property Rights

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. Historically, however, land rights evolved to give incentives for maintaining soil fertility, making land-related investments, and managing natural resources sustainably. Therefore, property rights are normally managed well in modern economies. The main rights are ownership and long term leasehold. These rights are typically managed through the cadastral/land registration systems developed over centuries. Other rights such as easements and mortgage are often included in the registration systems.

The formalized western land registration systems are basically concerned with identification of legal rights in support of an efficient land market, while the systems do not adequately address the more informal and indigenous rights to land that is found especially in developing countries where tenures are predominantly social rather than legal. Therefore, traditional cadastral systems can not adequately supply security of tenure to the vast majority of the low income groups and/or deal quickly enough with the scale of urban problems. A new and innovative approach is found in the continuum of land rights (including perceived tenure, customary, occupancy, adverse possession, group tenure, leases, freehold) where the range of possible forms of tenure is considered as a continuum from informal to towards more formal land rights and where each step in the process of securing the tenure can be formalised (UN-Habitat, 2008).

3.2 Property Restrictions

Rights to land and property also include the right of use. However, the right to use may be limited through public land-use regulations and restrictions, sectoral land use provisions, and various kind of private land-se regulations such as easements, covenants, etc. Many land-use rights are therefore in fact restrictions that control the possible future use of the land.

Land-use planning and restrictions are becoming increasingly important as a means to ensure effective management of land-use, provide infrastructure and services, protect and improve the urban and rural environment, prevent pollution, and pursue sustainable development. Planning and regulation of land activities cross-cut tenures and the land rights they support. How these intersect is best explained by describing two conflicting points of view – the free market approach and the central planning approach.

The free market approach argues that land owners should be obligated to no one and should have complete domain over their land. In this extreme position, the government opportunity

to take land (eminent domain), or restrict its use (by planning systems), or even regulate how it is used (building controls) should be non-existent or highly limited.

The central planning approach argues that the role of a democratic government includes planning and regulating land systematically for public good purposes. Regulated planning is theoretically separated from taking private land with compensation and using it for public purposes. In these jurisdictions the historical assumption that a land owner could do anything than was not expressly forbidden by planning regulations changed into the different principle that land owners could do only what was expressly allowed, everything else being forbidden.

The tension between these two points of view is especially felt by nations seeking economic security. The question however is how to balance owners' rights with the necessity and capacity of the government to regulate land use and development for the best of the society. The answer to this is found in a country's land policy which should set a reasonable balance between the ability of land owners to manage their land and the ability of the government to provide services and regulate growth for sustainable development. This balance is a basis for achieving sustainability and attaining the MDGs.

Informal development may occur in various forms such as squatting where vacant state-owned or private land is occupied and used illegally for housing or any construction works without having formal permission from the planning or building authorities. Such illegal development could be significantly reduced through government interventions supported by the citizens. Underpinning this intervention is the concept of integrated land-use management as a fundamental means to support sustainable development, and at the same time, prevent and legalise informal development (Enemark and McLaren, 2008).

3.3 Property Responsibilities

Property responsibilities are culturally based and relate a more social, ethical commitment or attitude to environmental sustainability and good husbandry. Individuals and other actors are supposed to treat land and property in a way that conform to cultural traditions and ways of good ethical behaviour. This relates to what is accepted both legally and socially. Therefore, the systems for managing the use of land vary throughout the world according to historical development and cultural traditions. More generally, the human kind to relationship is to some extent determined by the cultural and administrative development of the country or jurisdiction.

Social responsibilities of land owners have a long heritage in Europe. In Germany, for example, the Constitution is insisting on the land owner's social role. In general, Europe is taking a comprehensive and holistic approach to land management by building integrated information and administration systems. Other regions in the world such as Australia creates separate commodities out of land, using the concept of "unbundling land rights", and is then adapting the land administration systems to accommodate this trading of rights without any national approach.

5. THE LAND MANAGEMENT PARADIGM

Land management underpins distribution and management of a key asset of any society namely its land. For western democracies, with their highly geared economies, land management is a key activity of both government and the private sector. Land management, and especially the central land administration component, aim to deliver efficient land markets and effective management of the use of t land in support of economic, social, and environmental sustainability.

The land management paradigm as illustration in figure 5 below allows everyone to understand the role of the land administration functions (land tenure, land value, land use, and land development) and how land administration institutions relate to the historical circumstances of a country and its policy decisions. Importantly, the paradigm provides a framework to facilitate the processes of integrating new needs into traditionally organised systems without disturbing the fundamental security these systems provide.

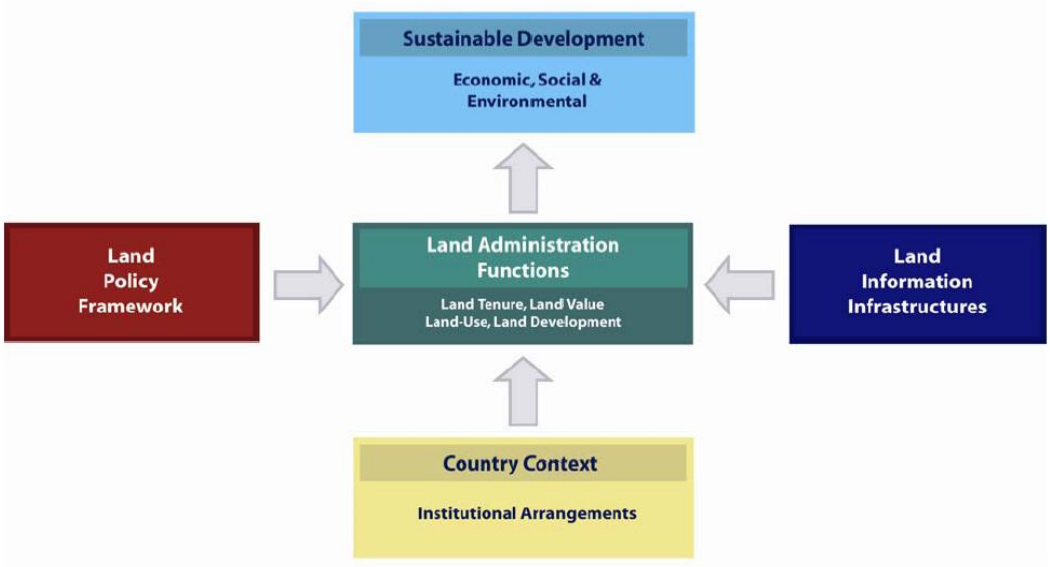

Figure 5. The land management paradigm (Enemark, 2004)

Sound land management requires operational processes to implement land policies in comprehensive and sustainable ways. Many countries, however, tend to separate land tenure rights from land use opportunities, undermining their capacity to link planning and land use controls with land values and the operation of the land market. These problems are often compounded by poor administrative and management procedures that fail to deliver required services. Investment in new technology will only go a small way towards solving a much deeper problem: the failure to treat land and its resources as a coherent whole.

6. THE ROLE OF FIG

FIG is an UN recognised NGO representing the surveying profession in about 100 countries throughout the world. FIG has adopted an overall theme for the next period of office (2007-2010) entitled "*Building the Capacity*". This theme applies to the need for capacity building in developing countries to meet the challenges of fighting poverty and developing a basis for a sustainable future, and, at the same time, capacity is needed in developed countries to meet the challenges of the future in terms of institutional and organisational development in the areas of surveying and land administration.

In general, FIG will strive to enhance the global standing of the profession through both education and practice, increase political relations both at national and international level, help eradicating poverty, promote democratisation, and facilitate economic, social and environmental sustainability. FIG can facilitate support of capacity development in three ways:

- **Professional development:** FIG provides a global forum for discussion and exchange of experiences and new developments between member countries and between individual professionals in the broad areas of surveying and mapping, spatial information management, and land management. This relates to the FIG annual conferences, the FIG regional conferences, and the work of the ten technical commissions within their working groups and commission seminars. This global forum offers opportunities to take part in the development of many aspects of surveying practice and the various disciplines including ethics, standards, education and training, and a whole range of professional areas.

- **Institutional development:** FIG supports building the capacity of national mapping and cadastral agencies, national surveying associations and survey companies to meet the challenges of the future. FIG also provides institutional support to individual member countries or regions with regard to developing the basic capacity in terms of educational programs and professional organisations. The professional organisations must include the basic mechanisms for professional development including standards, ethics and professional code of conduct for serving the clients.

- **Global development:** FIG also provides a global forum for institutional development through cooperation with international NGO´s such as the United Nations Agencies (UNDP, UNEP, FAO, HABITAT), the World Bank, and sister organisations (GSDI, IAG, ICA, IHO, and ISPRS). The cooperation includes a whole range of activities such as joint projects (e.g. The Bathurst Declaration, The Aguascalientes Statement), and joint policy making e.g. through round tables. This should lead to joint efforts of addressing topical issues on the international political agenda, such as reduction of poverty and enforcement of sustainable development.

FIG, this way, plays a strong role in improving the capacity to design, build and manage surveying and land management systems that incorporate sustainable land policies and efficient spatial data infrastructures.

7. FINAL REMARKS

The MDGs represent a wider concept or a vision for the future, where the contribution of the land professionals is central and vital. FIG (the International Federation of Surveyors), being a global NGO representing the surveying community/land professionals in more than 100 countries throughout the world, is strongly committed to the global agenda as presented in the MDGs.

The surveyors – nationally and globally – will have a key role as providers of the relevant spatial information and also as builders of efficient land tenure systems and effective measures for urban and rural land use management. This should support economic growth, social equity, and environmental sustainability. The role of FIG is about "Building the Capacity" in this area.

Issues such as tenure security, pro-poor land management, and good governance in land administration are all key issues to be advocated in the process of contributing to the global agenda. Measures such as capacity assessment, institutional development and human resource development are all key tools in this regard. More generally, the work of the land professionals within land management forms a kind of "backbone" in society that supports social justice, economic growth, and environmental sustainability. These aspects are all key components in facing the global agenda.

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BIOGRAPHICAL NOTES

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