1. INTRODUCTION

The areas of surveying and land administration are basically about people, politics and places. It is about human rights, engagement and dignity; policies and good government; and places in term of shelter, land and natural resources. By taking this approach FIG pursue sustainable development in both an economic, social, governmental, and environmental sense.

The areas of surveying and mapping, spatial information management, cadastre and land management provide a basic platform for poverty eradication and development. This is why FIG is deeply committed to achieving the Millennium Development Goals (MDGs).

The eight Millennium Development Goals form a blueprint agreed to by all the world’s countries and all the world’s leading development institutions. The United Nations Millennium Summit, September 2000, established a time bound (2015) and measurable goals and targets for combating poverty, hunger, disease, illiteracy, environmental degradation and discrimination of women. These goals are now placed at the heart of the global agenda. The Summit’s Millennium Declaration also outlined a wide range of commitments in human rights, good governance, and democracy.

The Millennium Development Goals (MDGs) is a powerful concept towards development, security and human rights for all. Surveyors play a key role in this regard in terms of providing some of the fundamental preconditions for development. These preconditions are also embedded in the Millennium Declaration and spelled out in the targets and indicators for achieving the MDGs.

FIG – as an international NGO recognized by the UN – should make the world understand the important contribution of surveyors in this regard and cooperate with the UN agencies such as UNDP, UN-HABITAT, FAO, and the World Bank to optimize the outcome of our common efforts. FIG should identify their role in this process and spell out the areas where the global surveying profession can make a significant contribution. 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 reaching the goals. Measures such as capacity assessment, institutional development and human resource development are all key tools in this regard.
2. THE EIGHT MILLENNIUM DEVELOPMENT GOALS

The relevant material on the Millennium Development Goals is available at the UN website: http://www.un.org/millenniumgoals/goals.html
It is obvious that the MDGs address some of the most fundamental issues of our times. It is also obvious that only a few of these issues relate to the work and the world of the surveying community. But in any case, as stated by Kofi Annan (UN, 2005c) “We will not enjoy development without security, we will not enjoy security without development, and we will not enjoy either without respect for human rights. Unless all these causes are advanced, none will succeed.” And FIG is very into the area of development.

In the report “In larger freedom: towards development, security and human rights for all” (UN, 2005c) UN Secretary-General Kofi Annan presents the human vision of the future world in terms of having:

- Freedom for Want
- Freedom for fear
- Freedom to live in Dignity

In this perspective the MDGs represent a wider concept or a vision for the future, where the contribution of the 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, providing secure tenure systems, and systems for land valuation, land use management and land development. The work of the surveyors is about infrastructure investment both in physical and technical terms, which make other decisions better and more reliable.

3. THE FIELD OF SURVEYING AND LAND ADMINISTRATION

Land administration is part of the infrastructure that supports good land management. The term Land Administration refers to the processes of recording and disseminating information about the ownership, value and use of land and its associated resources. Such processes include the determination of property rights and other attributes of the land that relate to its value and use, the survey and general description of these, their detailed documentation and the provision of relevant information in support of land markets.

The importance of capacity development in surveying and land administration at the organizational level was usefully quantified in Great Britain (OXERA, 1999) by research that found that approximately £100 billion of Great Britain’s GDP (12.5% of total national GDP, and one thousand times the turnover of OSGB) relied on the activity of the Ordnance Survey of Great Britain. Less exhaustive studies in other European countries have pointed to similar figures. The importance of geographic information continues to grow, with a range of SDI initiatives at local, national, regional and global level, so there is reason to believe that the figures would be increased rather than reduced if the GB study were to be repeated today. With these very significant numbers, as well as the central importance of sound land management, the importance of solid, sustainable organizations in the field of surveying and land administration is clear.
Land administration is concerned with four principal and interdependent commodities – the tenure, value, use, and development of the land – within the overall context of land resource management.

The day to day operation and management of the four land administration elements includes national agencies, regional and local authorities, as well as the private sector in terms of e.g. surveying and mapping companies. The functions include:

- the allocation and security of rights in lands; the geodetic surveys and topographic mapping; the legal surveys to determine parcel boundaries; the transfer of property or use from one party to another through sale or lease;
- the assessment of the value of land and properties; the gathering of revenues through taxation;
- the control of land use through adoption of planning policies and land use regulations at national, regional and local levels;
- the building of new physical infrastructure; the implementation of construction planning and change of land use through planning permission and granting of permits.

The Land Administration activities sit within the Land Management Paradigm. This is a comprehensive expression for all activities associated with the management of land and natural resources that are required to fulfill political objectives and achieve sustainable development. Land management is then simply the processes by which the resources of land are put into good effect. Land management requires inter-disciplinary skills that include technical, natural, and...
social sciences. It is about land policies, land rights, property economics, land use control, regulation, implementation, and development. The concept of land includes properties, utilities, and natural resources, and encompasses the total natural and built environment within a national jurisdiction, including marine areas.

Land management activities reflect drivers of globalization and technology. These influence the establishment of multifunctional information systems, incorporating diverse land rights, land use regulations, and other useful data. A third driver, sustainable development, stimulates demands for comprehensive information about environmental conditions in combination with other land related data.

In practice, the organizational structures for land management differ widely between countries and regions throughout the world, and reflect local cultural and judicial settings. The institutional arrangements change over time to better support the implementation of land policies and good governance. Within this country context, the land management activities may be described by the three components: land policies, land information infrastructures, and land administration functions in support of sustainable development.

A more conceptual understanding may take the form of a hierarchy of levels as presented below:

- **Land Policy** determines values, objectives and the legal regulatory framework for management of land as the key asset of any society.
- **Land Management** encompasses all activities associated with the management of land and natural resources that are required to achieve sustainable development. These activities include the core land administration functions: land tenure, land value, land use and land development.
- The **Land Administration System** provides the infrastructure for implementation of land policies and land management strategies, and underpins the operation of efficient land markets and effective use management. The cadastre is at the core of any LAS.
- The **Cadastre** provides the spatial integrity and unique identification of every land parcel usually through a cadastral map updated by cadastral surveys. The parcel identification provides the link for securing rights in land and controlling the use of land.
- The **Land Parcel** is the key object for identification of land rights and administration of restrictions and responsibilities in the use of land. The land parcel simply provides the link between the system and the people.

“A hierarchy of land issue levels”
4. A GLOBAL AGENDA

The MDGs stem from the Millennium Declaration adopted by the world leaders at the entrance to the new millennium (8 September 2000). Following consultations among the international agencies, including the World Bank, OECD, etc., and the specialized agencies of the United Nations such as FAO, UN-HABITAT, etc., the UN General Assembly (6 September 2001) recognized the MDGs as part of the Road Map (UN 2001) for implementing the Millennium Declaration.

Achieving the MDGs by 2015 will require more focus on development outcomes and less on inputs. The goals establish yardsticks for measuring results, not just for developing countries but for rich countries that help to fund development programs and for the multilateral institutions that help countries implement them. 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.

It is almost a truism that the problems facing humanity are closely intertwined, and that each tends to complicate the solution of one or more other. A comprehensive approach and a coordinated strategy are therefore of vital importance, tackling many problems simultaneously across a broad front. This is precisely the objective of the Millennium Declaration and this is why the goals, targets and indicators are necessary for monitoring the specific achievements as well as the overall progress towards the deadline of 2015.

However, a coordinated strategy will not be achieved without better coordination among international institutions and agencies, including those within the United Nations system. And this effort must also mobilize the energies of all actors, including notably the private sector, philanthropic foundations, non-governmental organizations, academic and cultural institutions, and other members of civil society (UN 2001). FIG is committed to that.

5. THE ROLE OF FIG

FIG can facilitate and support capacity development in three main ways (Enemark, 2005):

- **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 Working Weeks, 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 provides institutional support to individual member countries or regions with regard to developing the basic capacity in terms of educational programs and professional organizations. The educational basis must include programs at minimum Bachelor level
that include the combination of Surveying and Mapping, Spatial Information Management, and Land Management. Such programs combine the land administration/cadastre/land registration function with the topographic mapping function within a holistic land management perspective. The professional organizations 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 NGOs such as the United Nations Agencies (UNDP, UNEP, FAO, HABITAT), the World Bank, and sister organizations (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.

The three means of development are of course interrelated and interdependent. Professional development at national level requires that both a professional organization and an adequate educational basis are in place. Institutional development in terms of mature public agencies and policies requires a solid professional and educational base in order to establish a holistic and sustainable approach to land management based on principles of good governance and an adequate balance between the activities of the public and private sector. And global development requires the action of mature NGOs with a strong political and professional base.

**Organizational Structure**

![Organizational Structure Diagram](http://www.fig.net/council/enemark_papers/azimuth_04_2005.pdf)

The full FIG profile see: [http://www.fig.net/council/enemark_papers/azimuth_04_2005.pdf](http://www.fig.net/council/enemark_papers/azimuth_04_2005.pdf)
5. THE CHALLENGE FOR FIG

A coordinated strategy for achieving the MDGs as presented in section 2 above can not be established by a top down approach. It has to be developed through mutual initiatives supporting the overall aim and objective. The challenge for FIG in this regard is twofold:

- To explain the role of the surveying profession and the surveying disciplines in terms of their contribution to the MDGs. Such statements also make the importance of the surveying profession disciplines more understandable in a wider political context.

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 reaching the goals. Measures such as capacity assessment, institutional development and human resource development are all key tools in this regard. These issues in response of the MDGs should be reflected in the work plan of the council as well as the commission work plans within their specific areas.

A number of FIG publications have already made significant contributions: The Bathurst Declaration on Land Administration for Sustainable Development (FIG publication no 21, 1999); the FIG Agenda 21 (FIG publication no 23, 2001); FIG Guidelines on Women’s Access to Land (FIG publication no 24, 2001); The Nairobi Statement on Spatial Information for Sustainable Development (FIG publication no 30, 2002); Land Information Management for Sustainable Development of Cities (FIG publication no 31, 2002), The Marrakech Declaration on Urban-Rural Interrelationship for Sustainable development (FIG publication no 33, 2004); The Aguascalientes Statement on Development of Land Information Policies in the Americas (FIG publication no 34, 2005).

- To work closely with the UN agencies and especially the World Bank in merging our efforts of contributing to the implementation of the MDGs. This provides a platform for focusing on specific issues of mutual interest. At the same time it will contribute further to the well founded cooperation between FIG and our UN partners.

The World Bank Development Agenda plays a key role in implementing the MDGs. It is widely recognized that FIG and the World Bank have conducted some very successful events over the years, and that the two organizations in many areas - especially within land administration - are working very much in parallel. It would be appropriate to develop some more formal relations based on our common experiences and successful cooperation. This could include a more formal contribution from the World Bank at the FIG regional conferences. We may also aim to develop a WB/FIG special event to take place say 2008 at the WB headquarters in Washington that will focus on implementing the MDGs especially in terms of capacity development in the area of Land Administration. It is proposed to establish a FIG Task Force to deal with this issue as argued in section 5 below.

A more targeted area of cooperation includes the UN-HABITAT agenda on the Global Land Tool Network (GLTN) for pro-poor land management. The main objective of the GLTN is to facilitate the attainment of the MDGs through improved land management and tenure tools for
poverty alleviation and the improvement of the livelihoods of the poor. FIG is committed this agenda (see Augustinus et.al., 2006 and also the FIG commitment to GLTN at http://www.fig.net/news/news_2006/oslo_march_2006.htm.)

Other targeted areas of cooperation may include the UNDP, FAO and UNEP on projects related to urban/rural interrelationship and environmental sustainability (see e.g. http://www.fig.net/pub/morocco/proceedings/PS2/PS2_1_tveitdal.pdf).

Equally important is the cooperation with the UN OOSA (UN Office for Outer Space Affairs) in relation to issues like disaster and risk management (see the FIG/UN OOSA memorandum at http://www.fig.net/news/news_2004/vienna_dec_2004.htm).

6. A PROPOSED FIG TASK FORCE

FIG and the world wide surveying profession has already contributed in many ways to the implementation of the MDGs. This includes the impact of the surveying profession and the surveying disciplines to societal development, as well as the impact of the FIG initiatives, conferences and publications, most of them in cooperation with the UN agencies.

However, a more focused approach is needed if FIG is going to present a clear profile in contributing to this global agenda. An appropriate way to achieve this would be to establish a FIG Task Force that brings together expertise to analyze, explain, and present a FIG response to the MDGs. The task force shall cooperate with the UN-agencies and especially the World Bank in developing a FIG policy document including a strategy for implementation and advice of the FIG council on necessary actions.

7. FINAL REMARKS

The objective of this paper has been to present the MDGs that serve as a visionary challenge to help garner new energies and resources for the development agenda, with a focus on outcomes. The agenda includes the basic elements for a new global partnership. It also includes, however, a range of challenges and risks to the larger development community – risks posed by the cynicism that failure (or only partial success) could engender (World Bank, 2002).

FIG already shares this global responsibility. It is argued, however, that FIG should develop more focused approach in this area and develop a FIG policy document in cooperation with our UN partners.
REFERENCES


BIOGRAPHICAL NOTES

Stig Enemark is Professor in Land Management and Problem Based Learning at Aalborg University, Denmark, where he was Head of the School of Surveying and Planning 1991-2005. He is currently Vice-President of FIG and FIG President Elect 2007-2010. He was chairman of FIG Commission 2 (Professional Education) 1994-98, and he is an Honorary Member of FIG. He is also immediate Past President of the Danish Association of Chartered Surveyors. He holds a masters of science in surveying, planning and land management and he obtained his license for cadastral surveying in 1970, working for ten years as a consultant surveyor in private practice. His teaching and research are concerned with land administration systems, land management and spatial planning, and related educational and capacity building activities. He has undertaken consultancies for the World Bank and the European Union especially in Eastern Europe and Sub Saharan Africa. He has about 250 publications to his credit, and he has presented invited papers to more than 60 international conferences.
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