

## From Measurement to Management

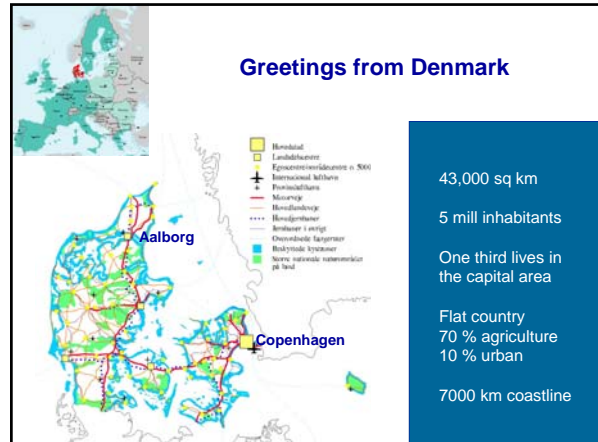
- the changing role of surveyors  
in support of the global agenda

Prof. Stig Enemark

 President  
Aalborg University, Denmark

ESRI SURVEY&ENGINEERING GIS SUMMIT, SAN DIEGO, 16 JUNE 2007

## Greetings from Denmark



## Wonderful Copenhagen



## Greetings from the Home Base



## Aalborg – my home town



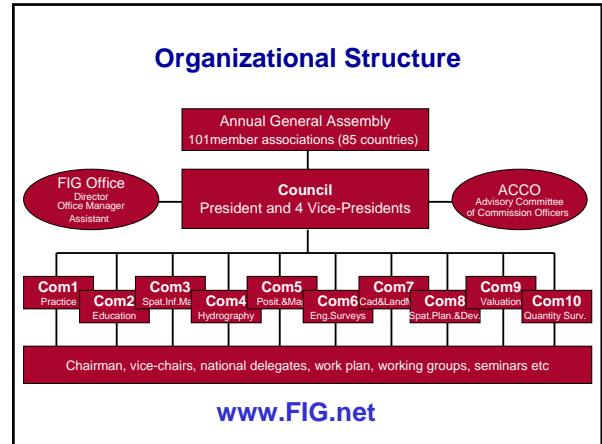
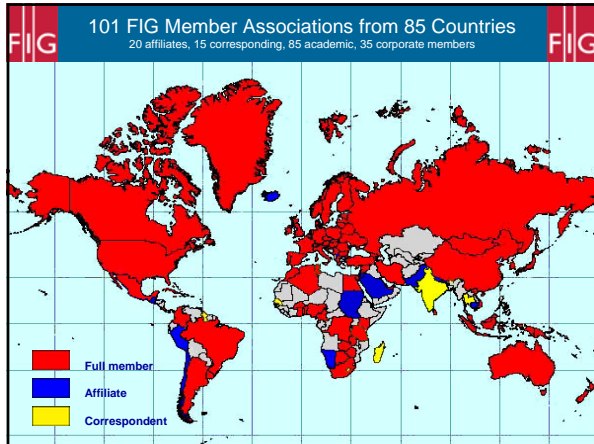
## The key message

### From measurement to management

- **From** playing a key role as geodetic engineers in exploring and measuring land and seas of the world
- **To** playing a new key role as and managers of land and properties

*The need for eradicating poverty and achieving sustainability*

***The Land Professionals***



### The Role of FIG

- Professional Development**
  - Developing the profession through providing a global forum for professional discussions and interaction
  - Conferences, symposia, commission working groups, .....
  - This global forum offers opportunities to take part in the development of all aspects of surveying disciplines
- Institutional Development**
  - Building the capacity, through institutional and organisational development at national and international level
  - Providing institutional support for professional organisations to adopt standards for education, CPD, and professional code of conduct
- Global Development**
  - Building a better world through contributing to the global agenda
  - Cooperation with international NGO's such as the UN agencies, World Bank, and sister organisations
  - Joint activities and common policy-making to reduce poverty and enforce sustainable development

### The Global Challenges

- Technology development**
  - GPS, GIS, Internet
- Micro-economic reform**
  - privatization, decentralization, downsizing, quality assurance
- Globalization**
  - from local to global
  - events in one part of the world impact on people in other parts of the world
- Sustainable development**
  - developments that effectively incorporates economic, social and environmental concerns in decision-making
  - meet the needs of the present without compromising the ability of future generations to meet their own needs

### The UN Millennium Development Goals

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

The framework includes 18 targets and 48 indicators enabling the ongoing monitoring of annual progress

### The UN Millennium Development Goals

The first seven goals are mutually reinforcing and directed at reducing poverty in all its forms. The last goal – global partnership for development – is about the means to achieve the first seven.

Surveyors play a key role in terms of providing some of fundamental preconditions for development.

These preconditions are embedded in the MDGs and spelled out in the targets and indicators for achieving the MDGs.

FIG should make the world understand the important contribution of the surveying profession in this regard.

**Goal 1: Eradicate extreme poverty and hunger**

- Reduce by half the proportion of people living on less than a dollar a day
- Reduce by half the proportion of people who suffer from hunger

**Goal 2: Achieve universal primary education**

- Ensure that all boys and girls complete a full course of primary education

**Goal 3: Promote gender equality and empower women**

- Eliminate gender disparity in primary and secondary education preferably by 2005, and at all levels by 2015

**Goal 4: Reduce Child mortality**

- Reduce by two thirds the mortality rate among children under five

**Goal 5: Improve maternal health**

- Reduce by three quarters the maternal mortality ratio

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

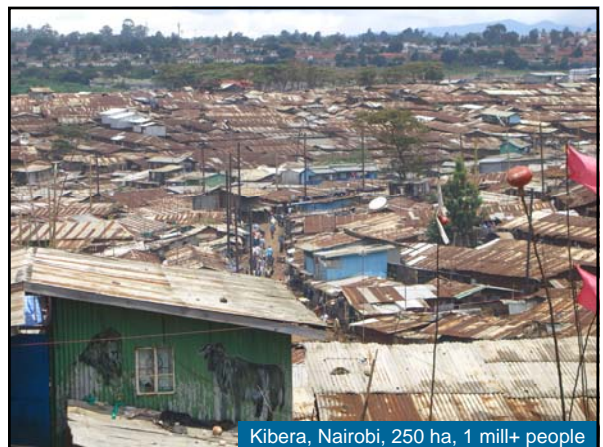
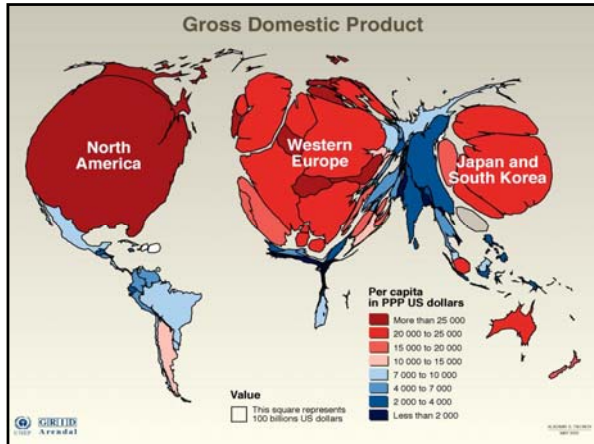
- Halt and begin to reverse the spread of HIV/AIDS
- Halt and begin to reverse the incidence of malaria and other major diseases

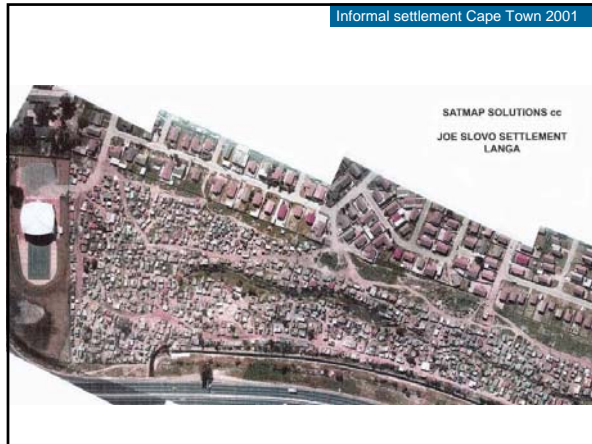
**Goal 7: Ensure environmental sustainability**

- Integrate the principles of sustainable development into country policies and programmes; reverse loss of environmental resources
- Reduce by half the proportion of people without sustainable access to safe drinking water
- Achieve significant improvement in lives of at least 100 million slum dwellers, by 2020

**Goal 8: Develop a global partnership for development**

- Develop further an open trading and financial system that is rule-based, predictable and non-discriminatory; includes a commitment to good governance, development and poverty reduction— nationally and internationally
- Address the least developed countries' special needs, including tariff and quota-free access for their exports; enhanced debt relief for heavily indebted poor countries; cancellation of official bilateral debt; and more generous official development assistance for countries committed to poverty reduction
- Address the special needs of landlocked and small island developing States
- Deal comprehensively with developing countries' debt problems through national and international measures to make debt sustainable in the long term
- In cooperation with the developing countries, develop decendant productive work for youth
- In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries
- In cooperation with the private sector, make available the benefits of new technologies— especially information and communications technologies





**It is all about:**

- **People**  
Human rights, engagement and dignity
- **Politics**  
Land policies and good governance
- **Places**  
Shelter, land rights and natural resources

**The role of FIG**

Is strongly committed to the MDGs and the UN-Habitat agenda on the GLTN

**The role of the surveying profession**

The MDGs is a powerful concept towards development, security and human rights for all. The surveying profession plays a key role by providing:

- Geographic information in terms of mapping and databases on the natural and built environment
- Secure tenure systems
- Systems for land valuation, land use management and land development
- Systems for transparency and good governance

**FIG responses to the global agenda**

[WWW.FIG.NET](http://WWW.FIG.NET)

## From Cadastre to Holistic and Pro Poor Land Management

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

Administering the people to land relationship through

- Land Policy
- Land Management
- Good Governance

and

- Building the capacity to deal with this

## The increasing role of property rights...

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

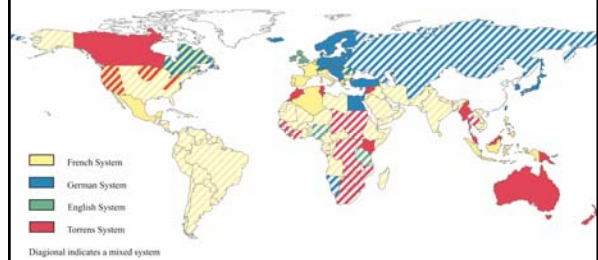
*Hernando de Soto - 1993*

## What is a good property system ?

- People in general can participate in the land market; widespread ownership; everybody can make transactions and have access to registration
- The infrastructure supporting transactions must be simple, fast, cheap, reliable, and free of corruption.
- The system provides safety for housing and business, and for capital formation

**Only 25-30 countries in the world apply to these criteria.**

## Land Registration Systems around the World



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

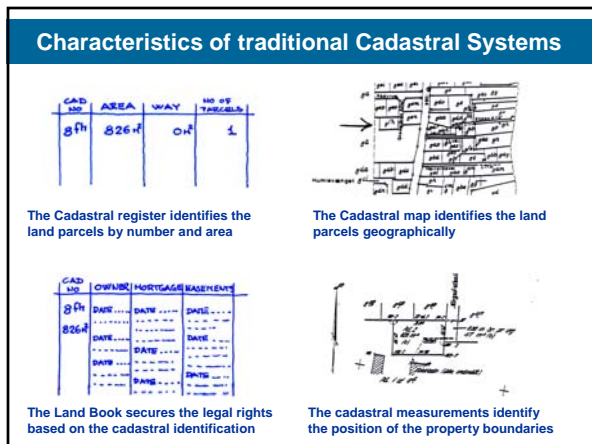
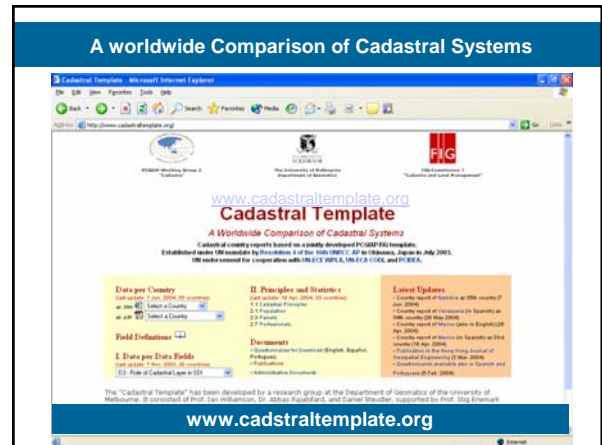
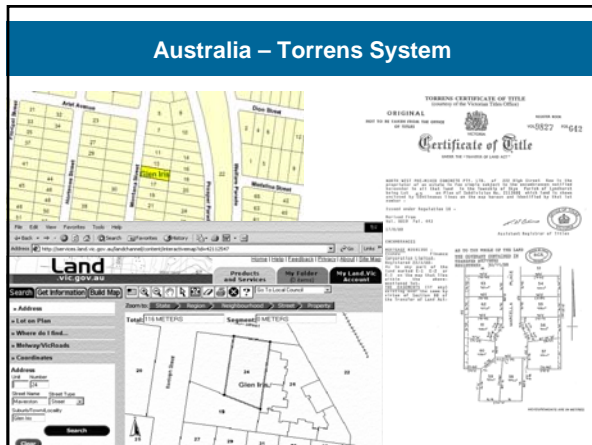
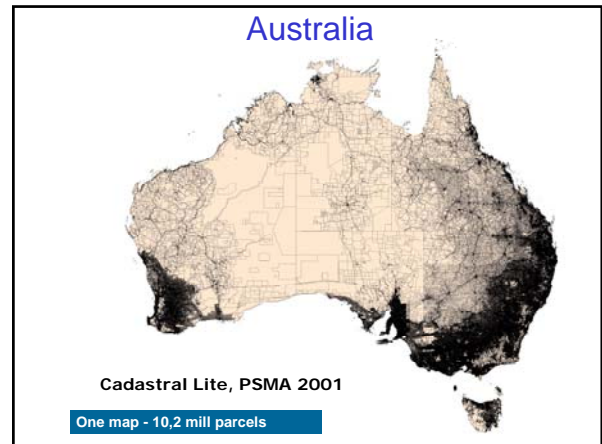
## USA: The rectangular system (PLSS)

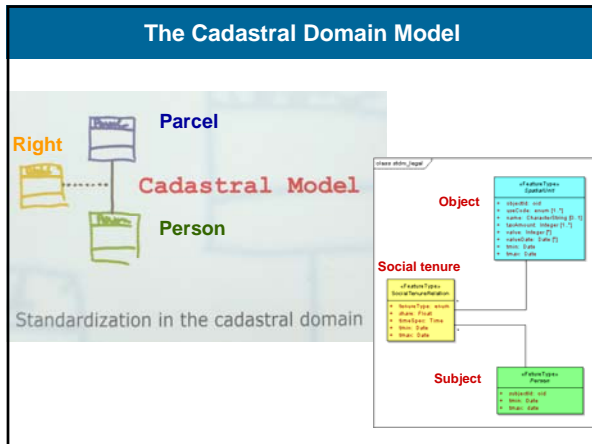


## USA: Linking a legal land description to the GIS Cadastre



(Meets and bounds description)

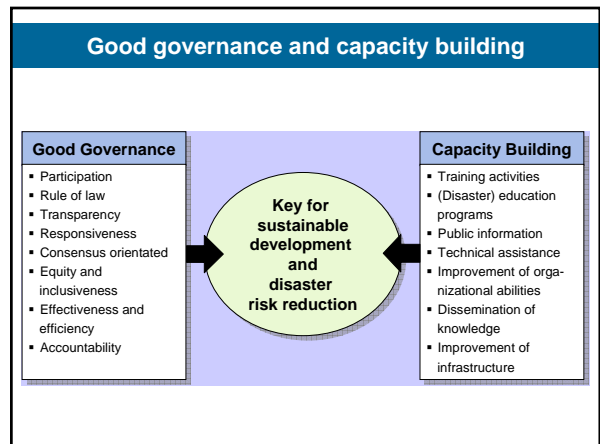




- ### UN-Habitat has asked FIG (ITC) to develop a prototype
- Develop STDM as a conceptual model
  - Develop specifications for prototype development
  - Develop a prototype
  - Test STDM prototype with real data
  - Procedures for review and quality control



- ### Cooperation Agreement with the World Bank
- Mutual representation at conferences, forums and meetings
  - Mutual representation in collaborative projects
  - Joint publications
  - Joint promotion
  - Organizing a joint WB/FIG high profile conference late 2008 at the WB headquarters in Washington DC



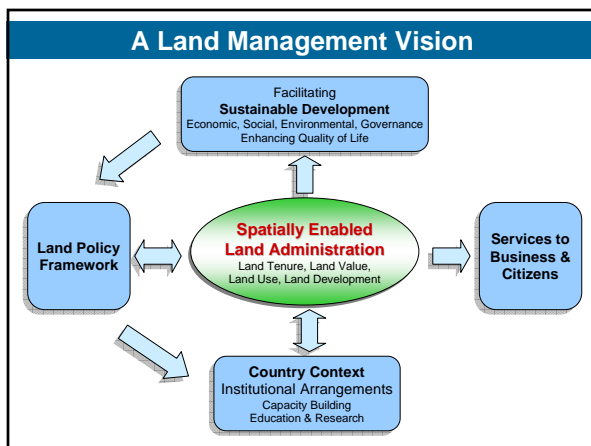
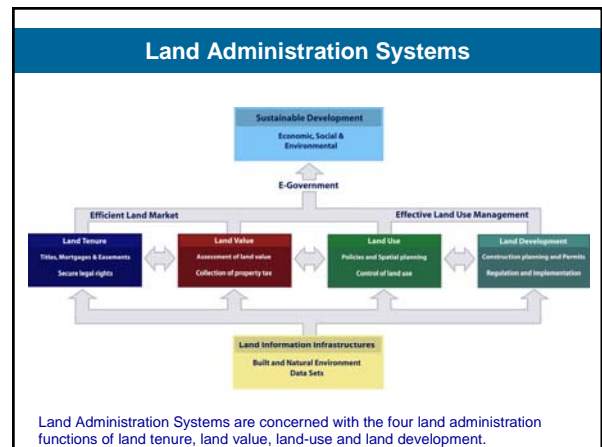
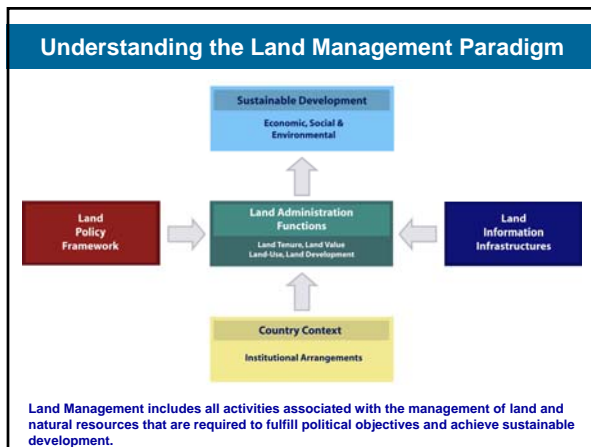
### Surveyors without frontiers ?

Tsunami, South East Asia  
December 26 2004

### The big swing

- **Measurement**  
Surveyors will still do measurements but this special expertise is no longer the core activity due to technology development
- **Management**  
Surveyors will increasingly contribute to building sustainable societies as experts in managing land and properties

*The Land Professionals*

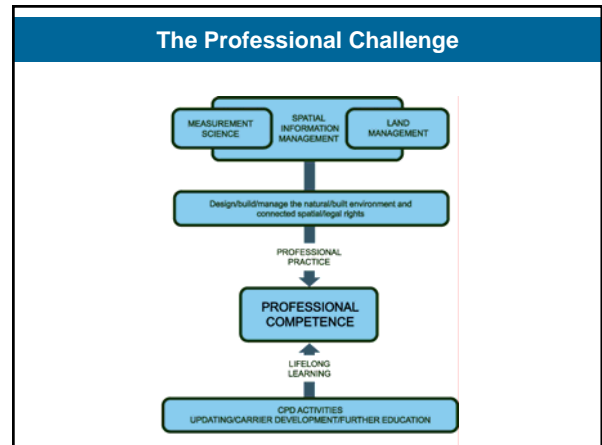
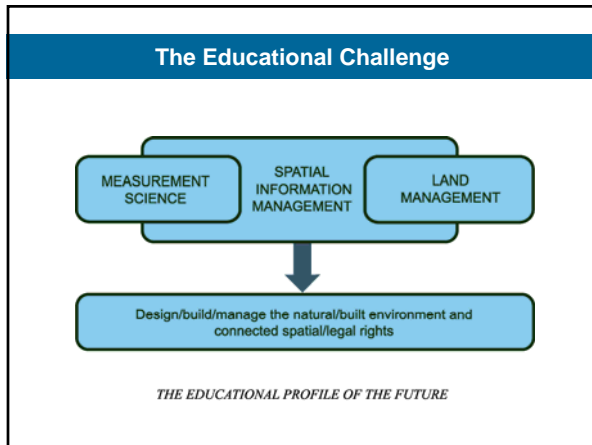
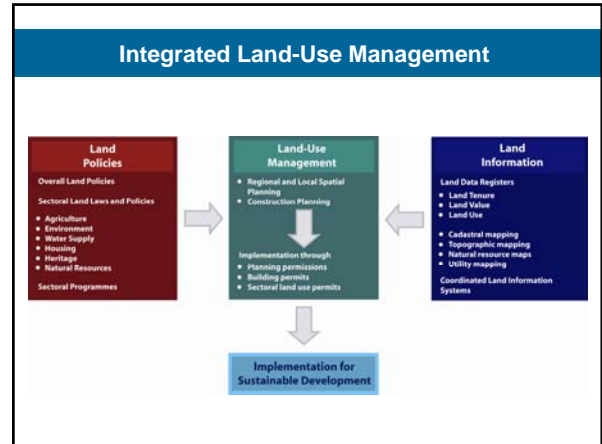
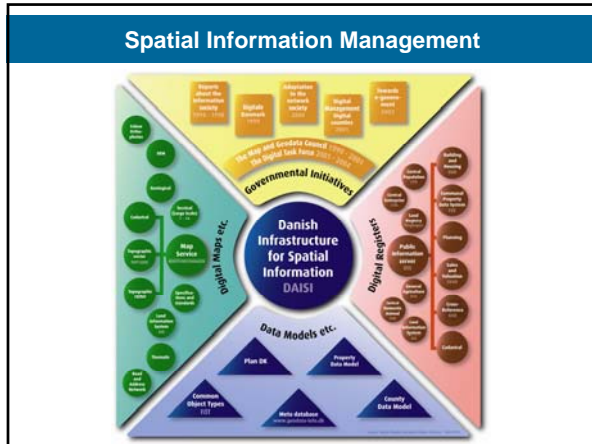


### Spatial Enablement

Spatial enablement offers opportunities for visualisation, scalability, and user functionalities.

- Attachment of information to images of the parcel and property
- Identification of "the place" in ways that are understandable by non-technical people (Google Earth)
- Capacity of businesses and citizens to manipulate the information through service oriented IT- architecture.
- Integration of government information systems
- Provision of seamless information to institutions and government





### The big swing

from

- Measurement
- to
- Management

*The Land Professionals*

### It is all about:

**People, Politics and Places - and Power**

Spatial information management; Cadastral management  
Land-use management; Project management

*The Land Professionals*

The future belongs to our children

