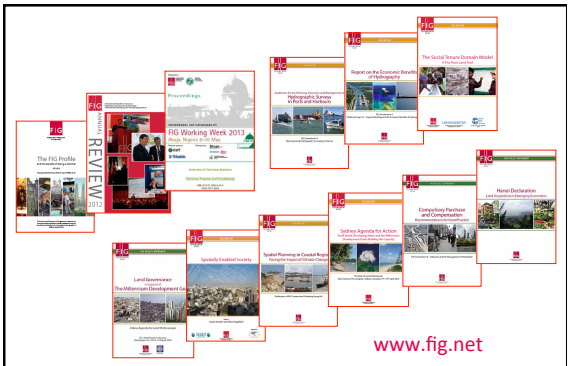
International Symposium & Exhibition on Geoinformation (ISG 2013)
Land Administration Domain Model Workshop
(LADM 2013) workshop
Universiti Teknologi Malaysia Kuala Lumpur 24-25 September 2013

The Land Administration Domain Model and the Continuum of Land Rights

Fédération Internationale des Géomètres
International Federation of Surveyors
Internationale Vereinigung der Vermessungsingenieure

Kalvebod Brygge 31-33
DK-1780, Copenhagen V, Denmark
Tel: +45 3886 1081; Fax: +45 3886 0252
url: www.fig.net



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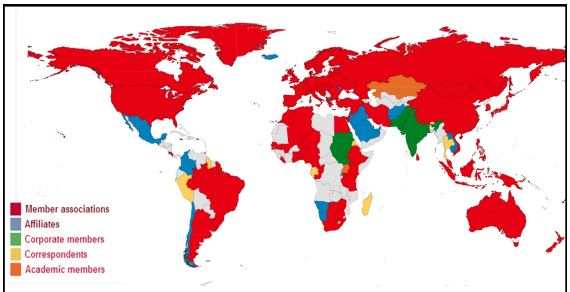
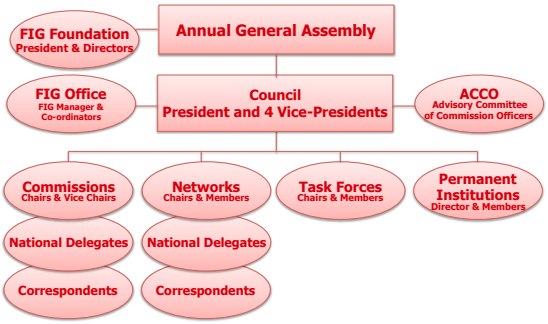
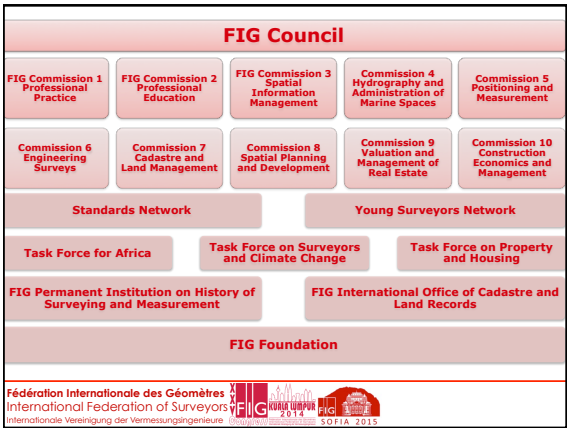


Member Associations; Affiliate Members; Academic Members;
Corporate Members & Correspondents
120+ Countries





Problem statement

1. 70 % of developing country populations outside formal register (Zevenbergen: 2011)
2. Increasing insecurity of tenure - globalisation
3. 1.5 billion out of 6 billion rights registered (McLaren : 2011)
4. Conventional land administration too expensive (Zevenbergen: 2011)
5. Problems of sustainability (Childress: 2004)
6. Cannot go to scale (Zevenbergen: 2011)
7. No secondary rights, affordable group rights etc
8. Need to develop affordable scalable approach – 'continuum'

(Clarissa Augustinus, 2013)

UN-HABITAT
FOR A BETTER URBAN FUTURE

"climate change is becoming a risk multiplier for the poor and the vulnerable and a core development challenge for both developing and developed economies alike"

United Nations Department of Economic and Social Affairs – Population Division

TABLE 1. POPULATION AND AVERAGE ANNUAL RATE OF CHANGE OF THE WORLD AND DEVELOPMENT GROUPS, ESTIMATES AND THREE SCENARIOS: 1950-2300

Year or period	World			More developed regions			Less developed regions		
	Medium	High	Low	Medium	High	Low	Medium	High	Low
	Population (millions)								
1950	2 519	–	–	813	–	–	1 706	–	–
1975	4 068	–	–	1 047	–	–	3 021	–	–
2000	6 071	6 071	6 071	1 194	1 194	1 194	4 877	4 877	4 877
2025	7 851	8 365	7 334	1 241	1 282	1 199	6 610	7 082	6 135
2050	8 919	10 633	7 409	1 220	1 370	1 084	7 699	9 263	6 325
2075	9 221	12 494	6 601	1 153	1 467	904	8 068	11 027	5 696

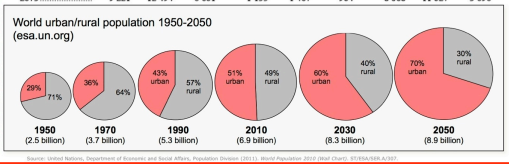
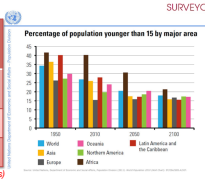


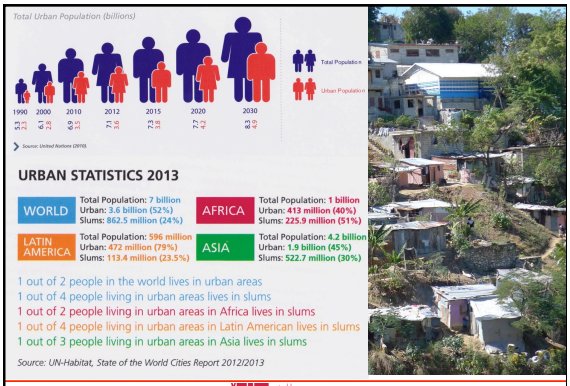
FIG YOUNG SURVEYORS

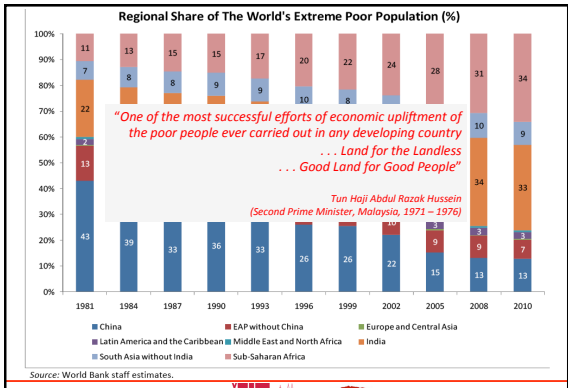
Median Age in Years	1950	1980	2010	2050	2100
Latin America and Caribbean	20.1	20.1	27.9	41.0	46.6
Africa	19.2	17.5	19.8	26.4	35.9
World	23.9	23.1	29.4	37.9	41.9



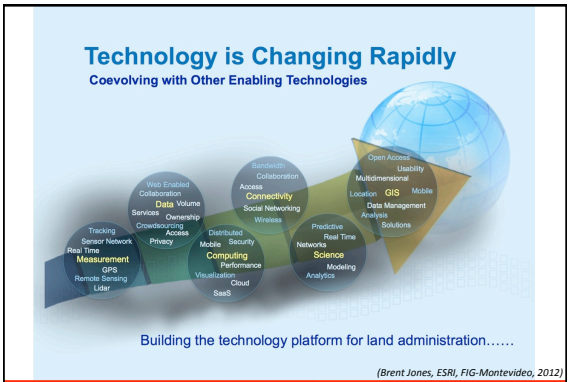
(United Nations Department of Economic and Social Affairs)

addressing the needs of Youth as a broad category within Society and Economy.



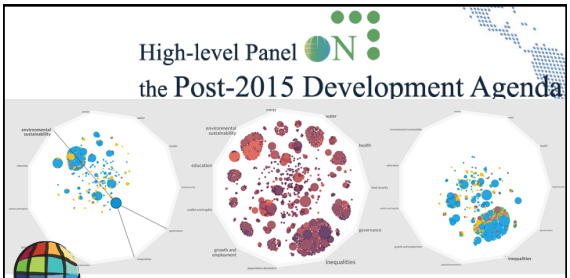


Source: World Bank staff estimates.



(Brent Jones, ESRI, FIG-Montevideo, 2012)

Photograph: Pawel Kopczynski/Reuters



The High Level Panel Report is of the view that "business-as-usual is not an option. We concluded that the post-2015 agenda is a universal agenda. It needs to be driven by five big transformative shifts"

2013 LOUGH ERNE

Land

44. We will support greater transparency in land transactions including at early stages, and increased capacity to develop good land governance systems in developing countries. Last year, the G8 welcomed the UN Committee on World Food Security's Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests. .. .. ..

Food Security and Nutrition

53. G8 member reaffirm their commitment to respond with the scale and urgency needed to achieve sustainable global food and nutrition security. .. .. ..

Climate Change

56. Climate change is one of the foremost challenges of our future economic growth and well-being. .. .. ..

RIO+20
United Nations Conference on Sustainable Development

"Recognize the importance of comprehensive hazard and risk assessments, and knowledge and information sharing, including reliable geospatial information"

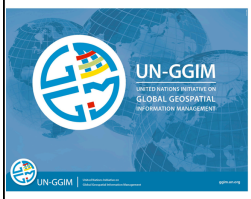
'The Future We Want'
2012 Rio +20 Conference

VOLUNTARY GUIDELINES ON THE
Responsible Governance of Tenure
OF LAND, FISHERIES AND FORESTS IN THE CONTEXT OF NATIONAL FOOD SECURITY

Endorsed on 11th May 2012 by the United Nations Committee on World Food Security

"We now have a shared vision. It's a starting point that will help improve the often dire situation of the hungry and poor"

Jose Graziano da Silva
(FAO Director General)
May 2012



"Sound geospatial information is crucial for addressing the complex problems the world is facing today. These problems are global in nature and affect different regions, rural and urban areas alike, requiring coordinated efforts, more innovative and sophisticated approaches, as well as effective tools to ultimately guide our way to sustainable development"

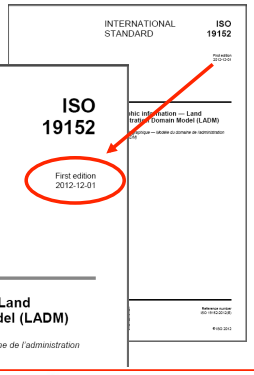
Prof. Paul Cheung
(UN Statistics Division & GGIM Secretariat),
February 2012

Landmark resolution on "Sustainable urbanization through equitable access to land, housing, basic services and infrastructure" adopted. (April 2011)

Continuum of Land Rights — *Global Land Tool Network, UN-HABITAT (2010)*

The Social Tenure Domain Model
A Pro-Poor Land Tool
FIG Publication No. 52

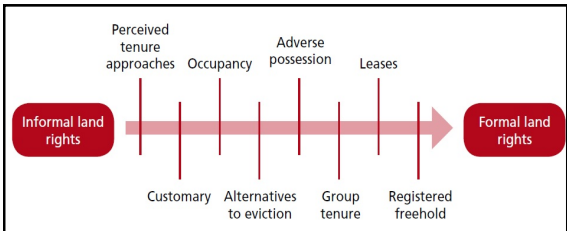
include rights that are documented as well as undocumented, from individuals and groups, from pastoralist and informal settlers, that are legal as well as extra-legal and informal



INTERNATIONAL STANDARD
ISO 19152

Geographic information — Land Administration Domain Model (LADM)

Information géographique — Modèle du domaine de l'administration des terres (LADM)



Continuum of Land Rights — *Global Land Tool Network, UN-HABITAT (2010)*

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CADASTRE 2014

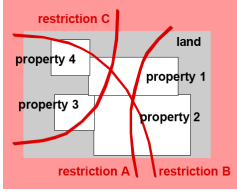
A VISION FOR A FUTURE CADASTRAL SYSTEM

Jürg Kaufmann • Daniel Steudler

July 1998

Statement 1 on Cadastre 2014

Cadastre 2014 will show the complete legal situation of land, including public rights and restrictions!



Comment: The population of the world is growing. The consumption of land is increasing. The absolute control of the individual or of legal entities of land is increasingly being restricted by public interest. To provide security of the land tenure, all facts about land must be made obvious by the cadastral system of the future.

Consequences: A new thematic model is necessary. Surveyors must take into consideration public law.

CADASTRE 2014
A VISION FOR A FUTURE CADASTRAL SYSTEM
Jürg Kaufmann • Daniel Steudler
July 1998

Statement 2:
The separation between "maps" and "registers" will be abolished

Statement 3:
The Cadastral mapping will be dead! Long live modelling!

Statement 4:
"Paper and pencil cadastre" will have gone!

Statement 5:
"Cadastre 2014 will highly privatized! Public and private sector are working closely together!

Statement 6:
Cadastre 2014 will be cost recovering

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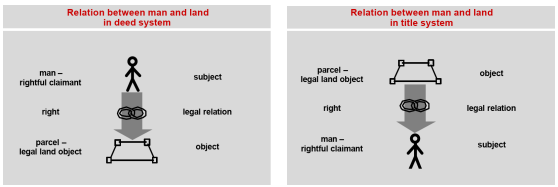
KUALA LUMPUR 2014 SOFIA 2015

"Land tenure is not changed by Cadastre 2014, but it is a part of it. If a legal land object is the property of an individual or juridical person, it is a form of individual land tenure. If the property right belongs to a traditional tribe or clan, it is a customary tenure; if it is given to a co-operative it may be called a co-operative tenure, and if the property right belongs to the state, we can call it a communist tenure"

(FIG Cadastre 2014, 1998)



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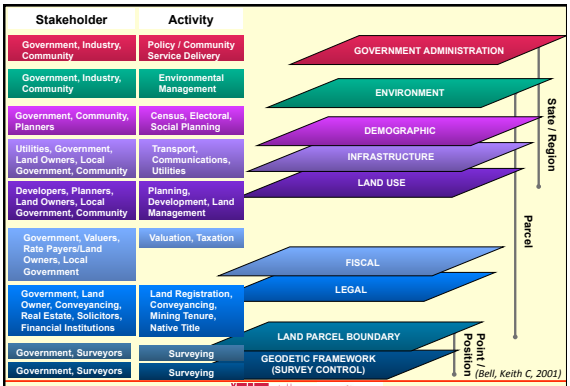

(Bell, Keith C, 2001)

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PCGIAP-Working Group 3 "Cadastre"

The University of Melbourne Department of Geomatics

FIG-Commission 7 "Cadastre and Land Management"

Cadastral Template

A Worldwide Comparison of Cadastral Systems

Cadastral country reports based on a jointly developed PCGIAP/FIG template.
Established under UN mandate by Resolution 4 of the 16th UNRCC-AP in Okinawa, Japan in July 2003.
UN endorsement for cooperation with UN-ECE WPLA, UN-ECA CODI, and PCIDEA.

(Cadastral Template 2.0 (2013 – 2016) is currently being scoped and prepared for its launch in 2014. It is a collaborative activity between FIG and University of Melbourne CSDILA)

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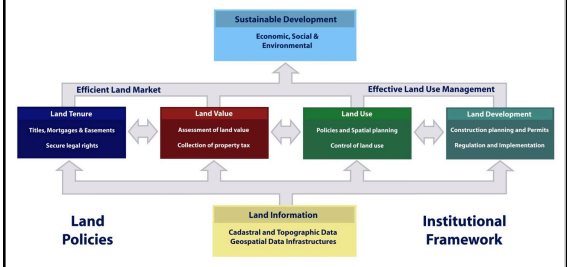
KUALA LUMPUR 2014 SOFIA 2015



Land Administration systems provide the infrastructure for implementation of land polices and land management strategies in support of sustainable development.

(Enemark, et al)

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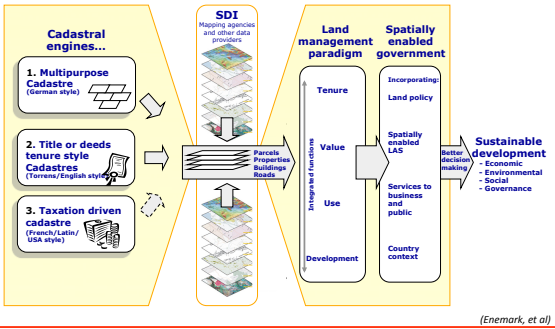
KUALA LUMPUR 2014 SOFIA 2015

Significance of the Cadastre



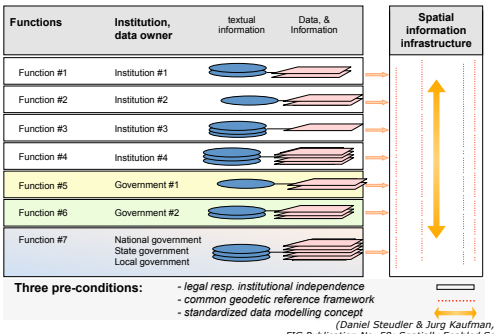
(Enemark, et al)

(Abbas Rajabifard, 2012)

Spatially enabled Government and Societies, recognizing that all activities and events have a geographical and temporal context, make decisions and organize their affairs through the effective and efficient use of spatial data, information and services.

UN-GGIM-AP Kuala Lumpur Declaration on Spatially Enabled Government and Society, 2012

Data Integration Concept



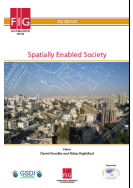
Three pre-conditions:

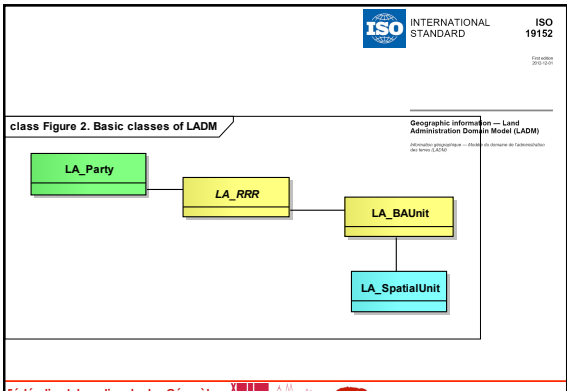
- *legal resp. institutional independence*
- *common geodetic reference framework*
- *standardized data modelling concept*

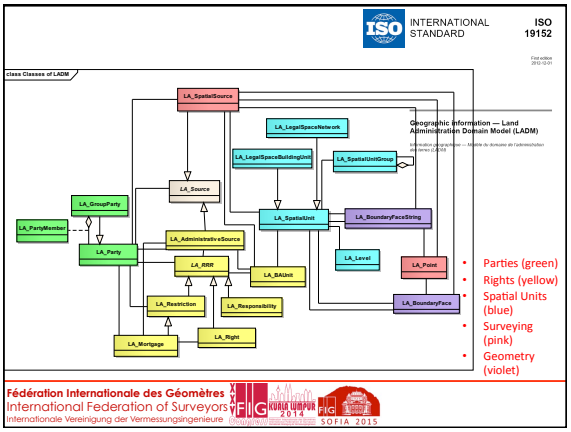
(Daniel Steudler & Jurg Kaufman, 2012
FIG Publication No. 58: Spatially Enabled Society)

Society can be regarded as spatially enabled when location and spatial information are commonly available to citizens, businesses and governments to encourage creativity, innovation and product development, evidence based decisions and informed actions. It promotes transparency and e-Democracy

(FIG Spatially Enabled Society)






INTERNATIONAL STANDARD
ISO 19152
class Classes of LADM
Geographic information — Land Administration Domain Model (LADM)
Parties (green)
Rights (yellow)
Spatial Units (blue)
Surveying (pink)
Geometry (violet)
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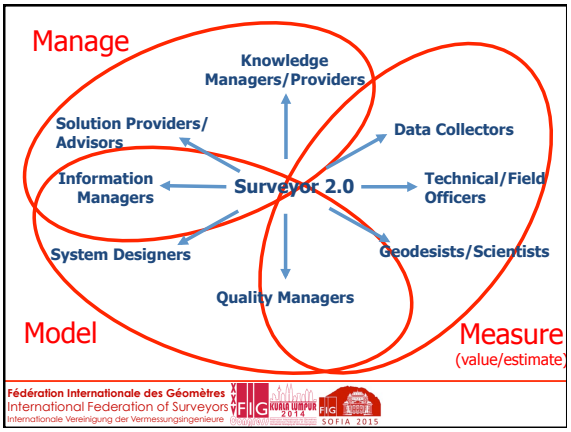
Manage
Knowledge Managers/Providers
Solution Providers/ Advisors
Data Collectors
Information Managers
Surveyor 2.0
Technical/Field Officers
System Designers
Geodesists/Scientists
Quality Managers
Model
Measure
(value/estimate)
Fédération Internationale des Géomètres
International Federation of Surveyors
Internationale Vereinigung der Vermessungsingenieure


Informed Decisions & Sustainable Actions
Manage
Knowledge
Model
Information
Measure
Data
Policies
Places
Peoples
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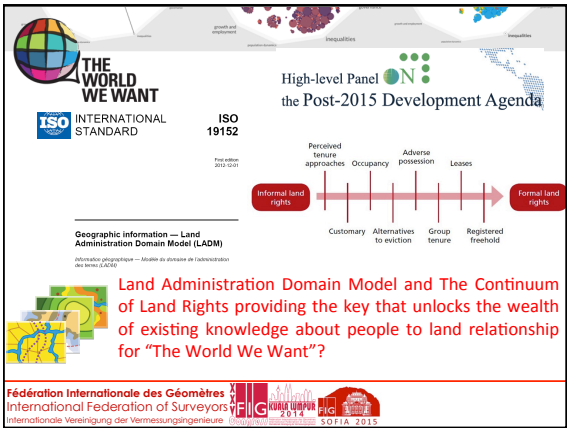
International Federation of Surveyors
Internationale Vereinigung der Vermessungsingenieure


"Land is a scare resource involving a wide range of rights and responsibilities. When poorly managed, it can become contentious often leading to disputes, conflict, degradation and other problems, all of them drivers of slum development and poverty in urban areas."
(UN-Habitat)
INTERNATIONAL STANDARD
ISO 19152
Perceived tenure approaches
Occupancy
Adverse possession
Leases
Informal land rights
Formal land rights
Customary
Alternatives to eviction
Group tenure
Registered freehold
Geographic information — Land Administration Domain Model (LADM)
Fédération Internationale des Géomètres
International Federation of Surveyors
Internationale Vereinigung der Vermessungsingenieure


THE WORLD WE WANT
High-level Panel ON the Post-2015 Development Agenda
INTERNATIONAL STANDARD
ISO 19152
Perceived tenure approaches
Occupancy
Adverse possession
Leases
Informal land rights
Formal land rights
Customary
Alternatives to eviction
Group tenure
Registered freehold
Geographic information — Land Administration Domain Model (LADM)
Land Administration Domain Model and The Continuum of Land Rights providing the key that unlocks the wealth of existing knowledge about people to land relationship for "The World We Want"?
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International Federation of Surveyors
Internationale Vereinigung der Vermessungsingenieure