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DYNAMICS IN RESPONSIBLE LAND ADMINISTRATION; CHANGE AT FIVE LEVELS

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FIG 2018 ISTANBUL

06-11 MAY 2018
EMBRACING OUR SMART WORLD
WHERE THE CONTINENTS CONNECT:
ENHANCING THE GEOSPATIAL
MATURITY OF SOCIETIES

1954

FIG

7 MAY 2018, ISTANBUL, TURKEY

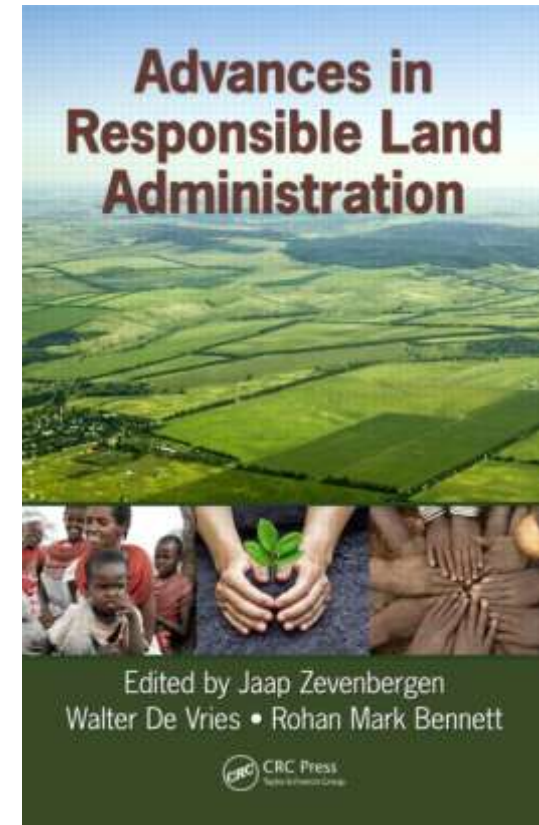FACULTY OF GEO-INFORMATION SCIENCE AND EARTH OBSERVATION
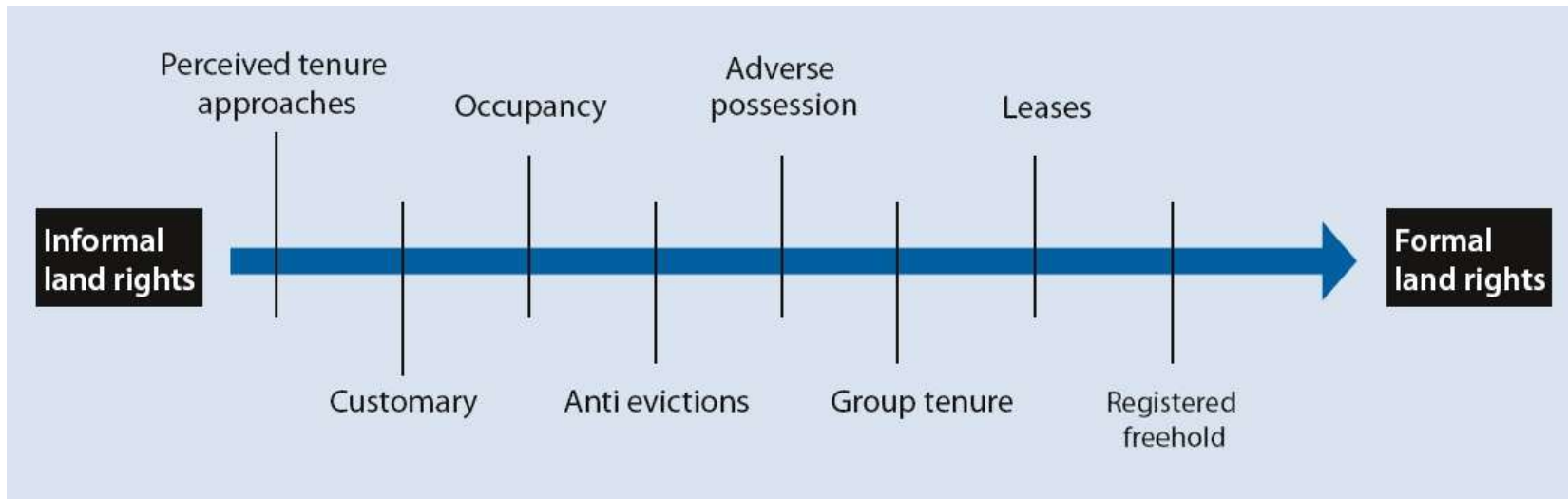
ITC

ADMINISTRATION ←→ DYNAMICS

- 'administration' suggests
  - bureaucratic, controlled
  - steady, if not slow, paces of change

- BUT: land administration tries to capture
  - relations between people and land
  - which are **changing rapidly**

- THUS: land administration is very dynamic

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DYNAMICS IN LAND ADMINISTRATION

- Based on the best MSc and PhD student work of ITC students in East-Africa we compiled a book
- In the closing chapter we see changes related to different aspects of LA:

1. Changes in the status of people-to-land relations
2. Changes in the conceptual and technological core characteristics of LA
3. Changing land use and land value
4. Measuring the change
5. Change agents

Advances in Responsible Land Administration

Edited by Jaap Zevenbergen
Walter De Vries • Rohan Mark Bennett

CRC Press

1. STATUS OF PEOPLE-TO-LAND RELATIONS

Continuum of Rights (UN Habitat 2008) – accepted by Afr.Min.Housing, Gov.C., ..

Similar to "Legitimate Tenures" of the Voluntary Guidelines for Responsible Governance of Tenure .. (CFS and FAO 2012)

SDG indicator 1.4.2: 'documented' **+** 'perceived tenure sec.'

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2. CHANGES IN CONCEPTUAL AND TECHNOLOGICAL CORE CHARACTERISTICS OF LA

- pull of dealing with variety in land tenure forms
- pull of increasing scarcity asking for more refined land planning and land management (incl. hazard and climate effects)

- push of geospatial technologies
- push of internet and mobile phone

- demand of **service delivery to all** in society

- technology can help reach this, e.g. via:

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Data Capture

- UAVs
  - Fixed Wing

think **spatial**

Unmanned Aerial System

Traversing the skies at an altitude of 115m ThinkSpatial's eBee provides high resolution aerial imagery (including near-infrared) in a fraction of the time required by conventional methods. ThinkSpatial is a CASA certified operator and we provide a range of services including aerial imagery, digital elevation models, and derived datasets (e.g. NDVI, roads, buildings).

drone4land @drone4land - Jan 30

Great achievement: in collaboration with @Charis_FlyinCam, the @its4land1 project, @INESRUHENGERI and @esrirwanda conducted their first successful fixed-wing drone flight at Gahanga Cricket Stadium. Big thanks to all authorities making it possible! #Rwanda
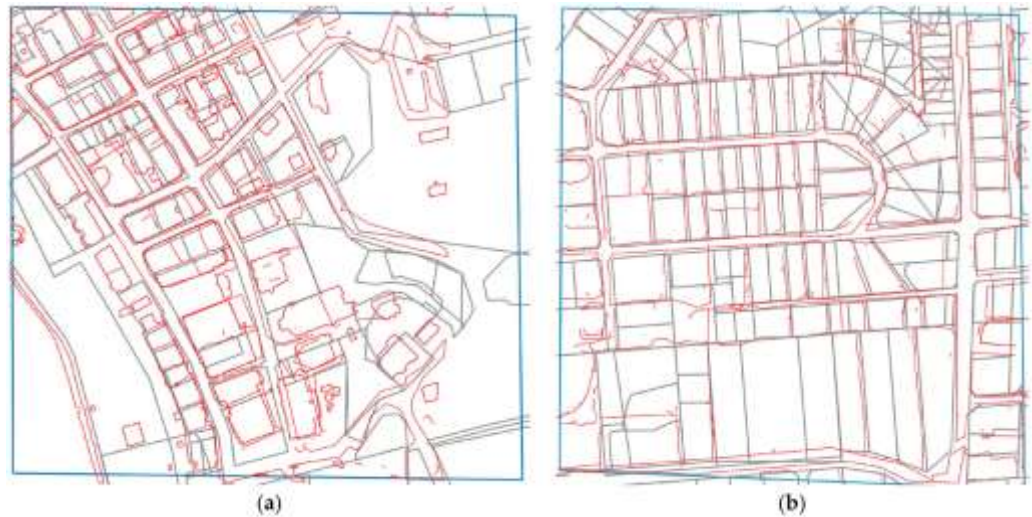

ITS4LAND
innovations for land tenure

Data Automation and AI

- Automatic Feature Extraction
  - UAV + LiDAR
  - Machine Learning Algorithms

(a)   (b)

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Data Exchange and Integration

- LADM Integration
  - BIM, LandInfra, CityGML
  - OGC Working Group
  - LADM+

- Unstructured Data
  - 'More data created in 2016/17 than previous 5000 years'
  - 'Only 0.5% used in strategic decision making'
  - Analysis opening up new insight ?

- Blockchain – making the 'gatekeepers' digital ?
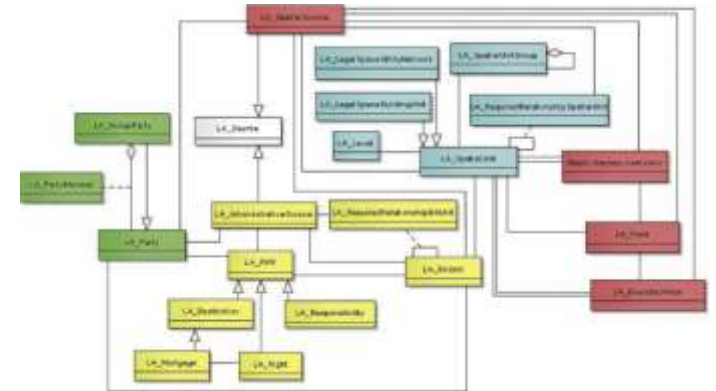
approaches to capture remaining 70% of people-to-land relations

STDM; a pro poor land information system and more

- 1. a (new) way of thinking with flexible base notions of LA
- 2. a software package designed to meet the above ideas
- 3. a broad approach how to collect data in the field
- ..

FFP Land Administration

- realistic approaches to get to full cadastral coverage
- allowing future upgrades
- STDM pilots → upscaling a part of role out
- ..

The Social Tenure Domain Model
A Pro-Poor Land Tool

**Fit-For-Purpose
Land Administration**

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3. CHANGING LAND USE AND LAND VALUE

- Pressure on land leads to rural land becoming urbanized
  - loss of agriculture fields and natural areas
  - densification of built up areas
  - cross cutting linear infrastructure

CHANGING LAND USE AND LAND VALUE

- Land use planning should moderate and guide this, within well thought broader zoning plans and under a land clear policy

  - (needs lot of geo-information to do well)

  - needs good land governance to do fair / equitable

  - needs land services to implement efficient and fair
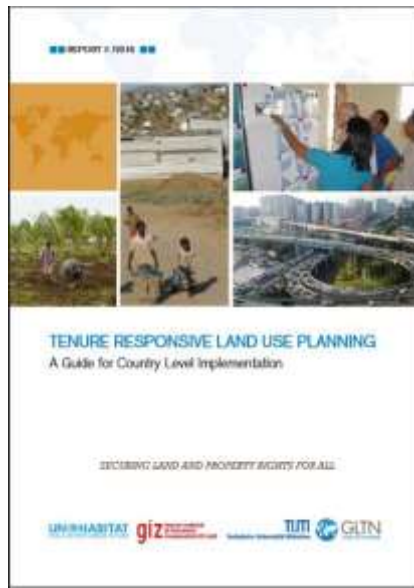
The 8 R's of Responsible Land Management (de Vries and Chigbu, 2017)

	Looking at questions such as…
Responsive	• Including needs, requests, long-term views of stakeholders • Addressing urgency of need
Resilient	• Ensuring or creating the sustenance of societal structures • Avoiding major disruptions
Robust	• Based on solid mechanisms • Not leading to fundamental change or disruptions
Reliable	• Decisions are trusted or are based on trust or creating trust
Respected	• Decisions and actions are valued positively • Decision makers are seen as appropriate leaders or managers
Retraceable	• All steps are documented, so history can be reconstructed • At all times it is possible to see which steps have been taken by whom, and what still needs to occur
Recognizable	• People can identify with the decisions; there is ownership of the project or intervention
Reflexive	• At regular points in time there are moments at which the rightfulness or appropriateness is re-evaluated or re-assessed

4. MEASURING THE CHANGE

- Impact measurements of land interventions has been weak

- Performance of existing systems, see Doing Business of WB

- Now in SDGs, land targets explicit or implicit in many goals

SUSTAINABLE DEVELOPMENT GOALS

Goal 1. End poverty in all its forms everywhere

1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance

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5. CHANGE AGENTS

- Innovative land administration can be done
  - technologically enough is already available
  - it needs esp. change of mindset
    - interdisciplinary and cross agency thinking
    - goal and client orientation, not technocratic procedures, requirements and 'mandates'
  - appropriate (post) graduate training in new ideas, but especially in **attitudes** of land professionals, which include (parts of):
    - land surveyors, lawyers, planners, real-estate economists, IT-specialists, ..
  - professionals should "Be Part of the Solution, Not the Problem!" (FIG president in 2012)

DYNAMICS IN LAND ADMINISTRATION

- is influenced by many drivers
- (geo) ICT is certainly a part of that
  - Geo-information is not value free
    - 'information is power', can be easily abused
    - use and goal should be kept in mind when collecting
- land management (incl. administration) is broad and interdisciplinary
  - it contributes to economic development
  - if not well designed it can easily damage the weaker groups in society, and thus needs to be responsible

Smart Surveyors for Land and Water Management

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