Land administration quality assessment: LGAF, DoingBussiness, WPLA UNECE. What next?

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FIG Working Week 2017 "Surveying the world of tomorrow - From digitalisation to augmented reality", Helsinki, Finland May 29 - June 2, 2017.

TS01A
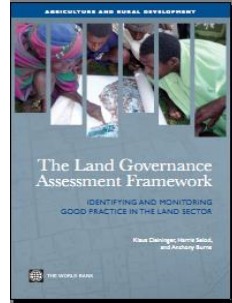# Improving Procedures in Land Management

THE WORLD BANK

Working for a World Free of Poverty

❑ Land Governance Assessment Framework (LGAF): LGI16 "Completeness of the Register", LGI17 "Reliability", LGI18 "Cost-Effectiveness and accessibility of land administration services".

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Expert methodology , off-line, time consuming

◼ WPLA UNECE. Overview of 2016, Indexes: coverage, availability of online services, state guarantees, registration and other state fees, registration speed, a type of registration system, types of actions, gender equality.
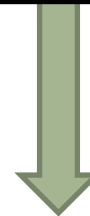
GLTN
GLOBAL LAND TOOL NETWORK
WATCH A SHORT VIDEO
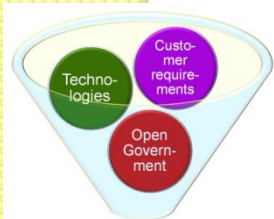
Digital transformation of society

Land Reform

Land Allotment → Land Administration → **Land Governance**

$$KPI_{LA} = F (KPI_{LG})$$

Drivers: Innovative Te

Monitoring on-line is possible today !

E-government;   multilevel RS; crowdsourcing, e-participation; e-decision making;   big data;   cloud computing; nation geospatial platforms; GNSS; VGI; SDI; BIM; M-telephony; 3D-modeling; ERP-, CRM-systems for facility-management.

What is Land Governance (LG) Monitoring?

Land Governance (LG) Monitoring is a regular automated reporting system on key indicators KPI that correspond to the functional areas of land governance. It relies on existing administrative data from various sources as a primary source of information

Model of on-line LA/LG quality assessment monitoring. Process approach:

- **Technical infrastructure**
- LA/LG BPs specification
- Model for every BP
- Specification KPI for every BP
- BP KPI on-line calculation in the technical system
- Real-time LA/LG quality assessment
- Systematic LA/LG impact assessment
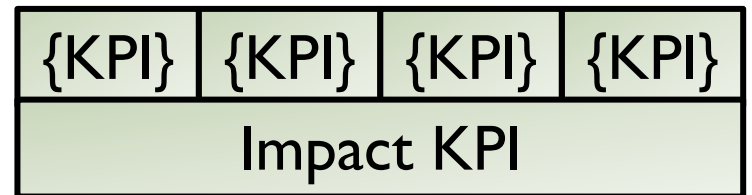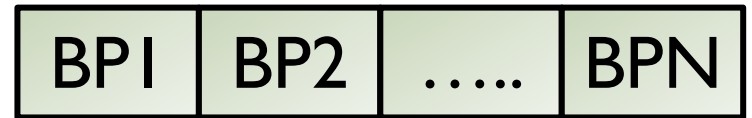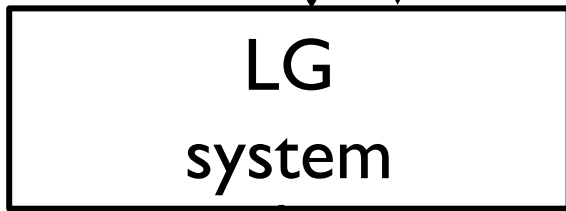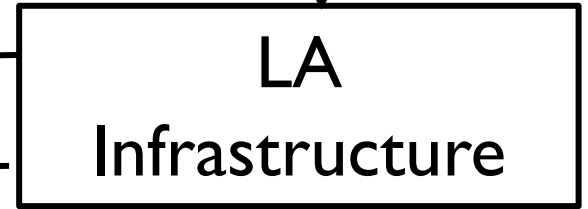- **BP improvement or reengineering**

Technical infrastructure

G, B, C

E-Services Portal

Geospatial Platform

E-Government

Multy Level RS

LA Infrastructure

LG system

BP1 | BP2 | ….. | BPN

LG on-line monitoring system LGMS

{KPI} | {KPI} | {KPI} | {KPI}

Impact KPI
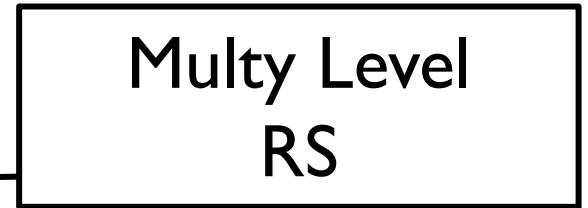
Inclusive e-participation management !

LG BP specification

Land Governance BP groups for quality monitoring		
LAND ALLOTMENT	LAND MARKET BP	LAND DEVELOPMENT
URBANIZATION	TENURE REGULARIZATION	LAND USE PLANNING
LAND RIGHT TERMINATION	ENCUMBRANCE OF LAND RIGHT	LAND DEVELOPMENT
REAL ESTATE REDEVELOPMENT	OPERATION OF REAL ESTATE OBJECTS	ADMINISTRATIVE PROCEDURES IN CONSTRUCTION
LAND PROTECTION	ADMINISTRATION OF PROPERTY TAX	....

~120 !

Tools for BP models

- *SADT (IDEF0) or*
- *IDEF3 - IDEF0 or*
- *DFD   or*
- *ARIS or*
- *UML   ol*
- Case-tool BPwin (PLATINUM technology)
- Silverrun (Silverrun technology) or
- Oracle Designer (Oracle) or
- Rational Rose.

E-Government tool !

Specification KPI for every BP

- Duration
- Cost
- Transparency
- Social Accountability
- Number per time unit
- *Monitoring Indicators*
- *Number (and prices where possible) of registered transactions of different types;*
- *Receipts of land tax revenue;*
- *Share of communal, private, and state land mapped;*
- *Cases of expropriation and privatization;*
- *Number of land-related conflicts in the courts;*
- *Share of agricultural/residential land registered and mapped in women's/men's name or in*
- *…*

BP KPI on-line calculation in the technical system
Real-time LA/LG quality assessment
Systematic LA/LG quality assessment

Continuously operating automated expert system has to carry out calculation of KPI of separate land governance processes in real time and draw conclusions about its quality.
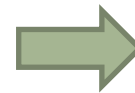
Territory Units, whole country

Infrustructure of E-Government !
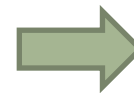
The reform of cadastral systems for LG BP improvement

1. LA: Registration, accumulation and distribution of territorial planning documents, including land consolidations and land readjustment documents.

➡ **LG: Input signals for LG System**

2. LA: Property registration on the basis of BIM (buildings information models).

➡ **LG: Development, redevelopment, 3D facility management, in LG System**

3. LA: Registration of facts, phenomenon, land events according to geo-monitoring based on cadastral data and remote sensing.
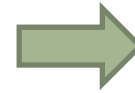
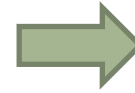➡ **LG: Feedback of LG System improvment**

4. LA: Registration of the creation, modification and termination of underground engineering structures
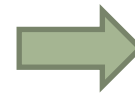
LG: Administrative procedures for exavation permissions of LG System

5. LA: Registration of events in sphere of urban development activities.

LG: On-line monitoring of LG activity in urban areas

6. LA: Registration of e-public discussion of land governance projects.

LG: e-decision making with e-participation in inclusive LG

……………………………

KPI for the land administration quality assessment

- *LAI1. Legal support of spatial data infrastructure.*

- *LAI2. Unified geospatial platform is used for territorial governance.*

- *LAI3. Cadastral data integrity.*

- *LAI4. Cadastral data completeness*

- *LAI5. BIM are the grounds for Real Estate registration*

- *LAI6. Excavations in the country are operated by cadastral data.*

KPI for the land administration quality assessment

- LAI7. Cadastre provides publicity and transparency of territorial land use planning projects.

- LAI8. Cadastre provides publicity and transparency of administrative inspections of land relations objects.

- LAI9. Cadastre support e-decisions making, e-consultancy and e-information participation in land governance purpose

- LAI10. Cadastre provides the urban development monitoring.

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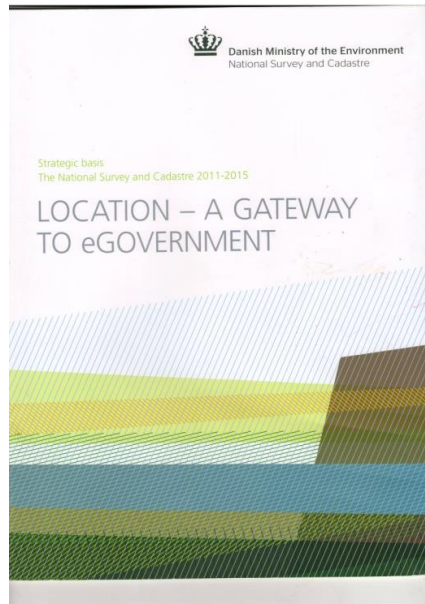
Conclusions

1. LG/LA quality on line monitoring, not off-line expert evaluation.

2. LGMS – land governance monitoring system

3. LGMS ◀- **E-government + Cadastre/Registers + Remote Sensing System**

4. Process approach

5. Models of BP$_{LG}$ - are E-Government instrument

6. KPI for every BP$_{LG}$

7, **KPI calculation by** LGMS

8. LA and LG BP improvement or reengineering

ISO 19152

- Upgrading respectively the LADM standard ISO19152 is recommend

Danish Ministry of the Environment
National Survey and Cadastre

Strategic basis
The National Survey and Cadastre 2011-2015

LOCATION – A GATEWAY
TO eGOVERNMENT

Thanks for attention

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