Sustainable Land Management based on Fast Approach Cadastral Documentation

Dr. Alexander Kohli, Switzerland
geosuisse, Delegate to Commission 8

FIG Working Week 2011, Marrakech, Morocco, TS02K – Spatially Enabled Society

Agenda

1. Basic Principles of Data Modeling in a Spatially Enabled Society
2. Experiences – Information to be Documented / Modeled
3. Sustainable Land Management (SLM) – Fast Approach Documentation
4. Conclusions

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**Basic Principles of Data Modeling
in a Spatially Enabled Society**

- **Public, permanent access** to **updated** spatial information is
  a **common good in SES/SEG** (Wallace, 2007);

- The SES happens even without SDI's as **development is fast** and huge
  availability of spatial information;

- **Spatial information** on same topic of different sources **can/must
  be overlaid**;

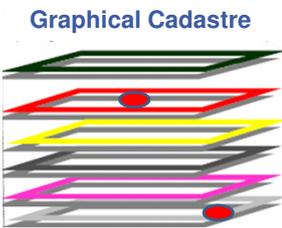- **Distinction** of information sources and legal state is **crucial**.

  → **Independently modeled** spatial information **layers in a SDI**.

Independently modeled Information layers

Law   **Cadastre**

Land Code: **Graphical Cadastre**   **Register of Real Estate
Legal Boundaries   and (other) Rights**
**Disputed Boundaries
Tenures**
Public Law:
Urban zoning
Protection zones
**Indigenous Heritage
etc.**

… an achievement of '**FIG Cadastre 2014**'

Experiences – Information to be Documented / Modeled

Suburban land claim

The league star, a pile of shells and the house auction day farce

Australia – Indigenous Heritage

Independently modeled Information layers

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… conflicting legal boundaries.

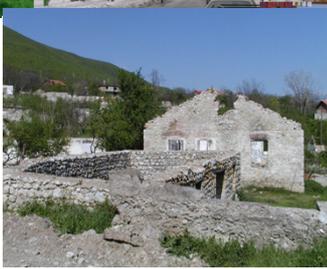**Kosovo – Property Problems**

Illegal Occupation and Evictions

60'000 – 100'000 claims + 60'000 verification requests!

Illegal Construction

Abandoned Property

Independently modeled Information layers

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→ Disputed Boundaries
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etc.

… conflicting legal boundaries.

Sustainable Land Management (SLM)…
… by Risk Based Land Use Planning

- Not stopping – **but steering of development**;
- Measures for steering (trials for stopping):
    - legally approved land use planning with public involvement;
    - risk based land use planning (**destruction** incl.);

2. Experiences – Information to be Documented / Modeled
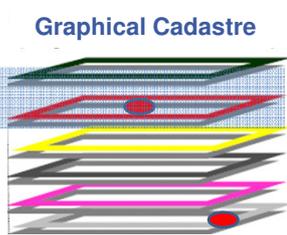Dr. Alexander Kohli, FIG Working Week 2011, Marrakech, Morocco, TS02K – Spatially Enabled Society

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Urban Planning and…
… Results like Sprawl

Peri-urbanization in France 1990-99

IDP settlement in Georgia
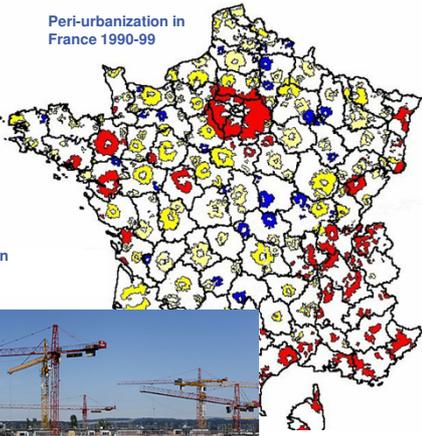
Construction hype in Baku (AZ)

Construction hype in Switzerland

2. Experiences – Information to be Documented / Modeled
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Independently modeled Information layers

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... conflicting land use.

Sustainable Land Management (SLM)...
... Public-Right Restrictions

- Land use under awareness of **Public-Right Restrictions:**
  - More transparency (**building code, lines of construction, forest, refuse dumps, water protection etc**.);
  - **Easy access** to information.
    → Cadastre on **P**ublic **R**ight **R**estrictions of **L**andownership **R**ights
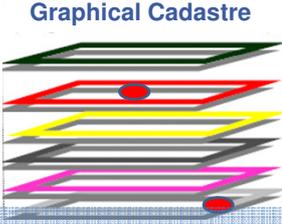
Independently modeled Information layers

Law

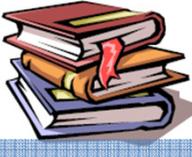**Cadastre**

Land Code:
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etc.

Graphical Cadastre

**Register of Real Estate
and (other) Rights**

… conflicting land use.

Fast Approach Documentation (I)

Sustainable Land Management in a SES must be based **on updated land documentation**:

- Call for new tools – **fast approach cadastre** (SLTM);

- **'FIG Cadastre 2014'** – use of **separate layers** for different topics as legal status, land holding type, occupations etc.;

- Registration not only of legal objects – but **all rights, tenures, holdings**;

- **Procedures to regularize** and **legalize** tenures.

Fast Approach Documentation (II)

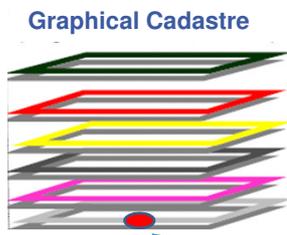Fast Approach Documentation of property, houses, rights, or tenures:

1. **Identification** on satellite / orthophoto maps → preliminary land title – **surface description** on separate cadastre layers according to '**FIG Cadastre 2014**';

2. **Resolution of conflicts and approval** – negotiation and **reciprocal signing of maps** by the owners / holders → general public display for **public approval**;

3. **Procedures to formalize** tenures (land reform acts) **based on clear documentation** of spatial information.

3. Sustainable Land Management (SLM) – Fast Approach Documentation   15
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Fast Approach Documentation (III)

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Registration **by points, poly-lines or surfaces also** – not only by measured parcels/areas!

3. Sustainable Land Management (SLM) – Fast Approach Documentation   16
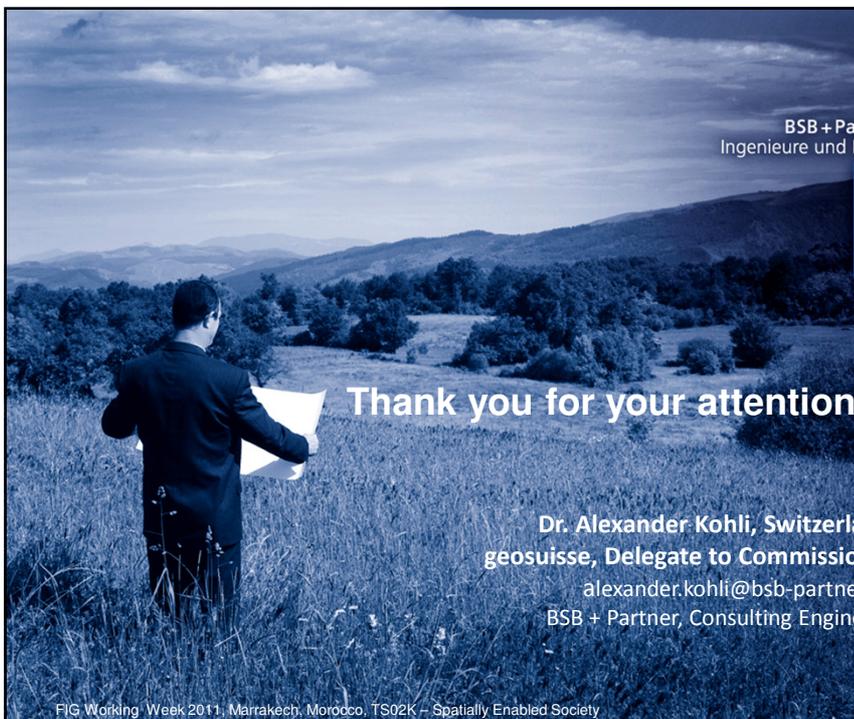Dr. Alexander Kohli, FIG Working Week 2011, Marrakech, Morocco, TS02K – Spatially Enabled Society

Conclusions

Being spatially enabled for **Sustainable Land Management** means

- **Comprehensive** documentation of **spatial information** in one system (legal / institutional independence, platform independent data modeling, '**FIG Cadastre 2014' principles**);

- **Straight forward approach** for documenting spatial information incl. rights **representing the actual situation** – as a pre-requisite;

- **Quick and transparent procedures** to regularize and legalize tenures, or other illegal assets (construction) → good governance;

- Making the information to a **permanent accessible common good** (web based, SDI, etc.).

5. Conclusions
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BSB + Partner
Ingenieure und Planer

Thank you for your attention…

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FIG Working Week 2011
Bridging the Gap between Cultures
Marrakech, Morocco, 18-22 May 2011