Evaluation of Land Administration Systems

Daniel Steudler
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Background
Background & Justification

Benchmarking and evaluation of land administration systems:

- Many aid organizations and consultants are evaluating land administration systems for credit approvals;
- inventories and statistics by UN-ECE MOLA, UN-FAO, World Bank and UN-Habitat with little coordination;
- annual report of World Development Indicators by World Bank: land issues play a minor role in these statistics.

Currently, there are no internationally accepted methodologies to measure and compare the performance of land administration systems.
Why Benchmarking and Evaluating LAS?

- to facilitate **cross-country comparisons** in the performance and eventually also **identify categories** of processes and systems;
- to provide a basis for comparisons **over time**
- to demonstrate **strengths and weaknesses** of LA systems
- to justify why a country should improve its LA system and identify areas/priorities for **reform**
- to help to draw **links to other issues** and sectors (financial, governance, environmental, social, etc.)

- **to justify an investment to improve**
- **to monitor improvement**
What is Benchmarking?

A definition by AusIndustry-Best Practice Program (1995):

“An on-going, systematic process to search for and introduce international best practice into your own organization, conducted in such a way that all parts of your organization understand and achieve their full potential. The search may be for products, services, or business practices and for processes of competitors or those organizations recognized as leaders in the industry or specific business processes that you have chosen.”
What is Evaluation?

Evaluation is concerned with questions such as (SDC, 2000):

- are we doing the right thing?
- are we doing things right?
- what lessons can we learn from our experiences?

Evaluating or measuring the performance of a process or a system is a basic prerequisite for improving productivity, efficiency, and performance (Kaplan and Norton, 1996):

- "you can't improve what you can't measure" or
- "if you cannot measure it, you cannot manage it".
"Land administration refers to the process of recording and disseminating information about ownership, value and use of land and its associated resources."

"Land administration includes, *inter alia*, cadastre, land registers, land consolidation, valuation and land information systems."
Conceptual Model of state-wide parcel-based Land Administration System

(Williamson, 1985)
Evaluation Elements
Evaluation Elements

(Baird, 1998)

For analyzing and comparing national administration systems such as land administration or cadastral systems, we need to establish an evaluation framework. To evaluate administration systems, four basic evaluation elements would have to be considered:

– well-defined **OBJECTIVES** (to know where to go to);
– clear **STRATEGY** (to know how to get there);
– **OUTCOMES** and monitorable **INDICATORS** (to know if on track);
– **EVALUATION OF RESULTS** (to gain input for improvements).
Evaluation Elements and Cycle of Assessment

- **OBJECTIVES**
  - for example every 4 years

- **STRATEGIES**
  - for example annually

- **OUTCOMES**
- **INDICATORS**

- **REVIEW PROCESS of Objectives & Strategies**
Dynamic of recipe change

(Grinyer and Spender, 1979)

Adoption of recipe → Development of strategy → Implementation → Corporate performance

If unsatisfactory

Step 1
Tighter controls

Step 2
Reconstruct or develop new strategy

Step 3
Abandon old recipe and adopt new one
The Six Basic Parts of the Organization

(Mintzberg et al., 1995)

**Strategic Apex:** where the whole system is overseen.

**Middle Line:** Managers of managers; the middle line establishes a hierarchy of authority between the operating core and the strategic apex.

**Operating Core:** Operators, who perform the basic work of producing the products and providing the services.

**Technostructure:** A large organization requires a group of people who mainly analyze, plan and control the operations of the whole organization and the work of other staff. They are often outside the direct hierarchy of line authority.

**Support Staff:** Staff units that provide various internal services, from a cafeteria or mailroom to a legal counsel or public relations office.

**Ideology:** encompasses the traditions and beliefs of an organization that distinguish it from others and infuse a certain life into the skeleton of its structure.
Evaluation Framework and Methodology
Evaluation Areas

Cycle of Assessment

Organizational Levels

Social, cultural, technological context

Administration System

Review process

Policy Level

Management Level

Operational Level

External Factors

Social, cultural, technological context

Policy Level

Management Level

Operational Level

External Factors

Cycle of Assessment

Organizational Levels

Social, cultural, technological context
## Analogy to General Business Management

*based on Kaufmann, 2000*

<table>
<thead>
<tr>
<th>Organizational Levels</th>
<th>General Business (stakeholder: private company)</th>
<th>Land Issues (stakeholder: society)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy (goal setting)</td>
<td>Sound economic development</td>
<td>Sustainable development</td>
</tr>
<tr>
<td>Management (measures to meet strategy)</td>
<td>Company management</td>
<td>Land management, resource management</td>
</tr>
<tr>
<td>Admin. business processes</td>
<td>Administrative units</td>
<td>Land administration functions and organizations</td>
</tr>
</tbody>
</table>
| Operational (tools for documenting and monitoring) | **Accounting system:**  
  • accepted principles of bookkeeping  
  • reliable  
  • complete  
  • appropriate to needs  
  • adaptable to development | **Cadastre:**  
  • accepted principles for documentation of rights, restriction and responsibilities  
  • reliable  
  • systematic  
  • appropriate to needs and laws  
  • adaptable to development  
  • public |
Analogy to Re-engineering Concepts

Framework for Re-engineering Land Administration Systems (Williamson and Ting, 2001)

Global Drivers of Change

- Globalisation
- Urbanisation
- Technology
- Sustainable Development
- Micro-economic reform

Social System

Benchmarking and Feedback

Vision for humankind to land relationship

Existing Land Administration System

Strategic planning

Conceptual Land Administration System

Implementation

Operational Land Administration System
Evaluation Areas † Evaluation Framework

**Administration System**

- **Policy Level**
- **Management Level**
- **Operational Level**
- **External Factors**

<table>
<thead>
<tr>
<th>Area</th>
<th>Possible Aspects</th>
<th>Possible Indicators</th>
<th>Good Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy Level</td>
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<tr>
<td>Management Level</td>
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<td>Operational Level</td>
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<td>External Factors</td>
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<tr>
<td>Review Process</td>
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</tbody>
</table>
### Evaluation Framework (1)

<table>
<thead>
<tr>
<th>Area</th>
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<th>Possible Indicators</th>
<th>Good Practice</th>
</tr>
</thead>
</table>
| **Policy Level**   | • Objectives and tasks of the system  
• Historic, legal, social, cultural background  
• Equity in social and economic terms  
• Viability of system  
(economical, social) | • List of objectives and tasks  
• Historic, legal, social arrangements  
• Social indicators  
• Economic indicators (expenses, incomes, fees, costs) | • System is well defined by objectives and tasks  
• System responds to needs of society  
• System is equitable for all  
• System is economically viable |
| **Management Level** | • Structural definition of system  
• Strategic targets  
• Institutional and organizational arrangements  
• Cooperation and communication between institutions  
• Involvement of private sector | • Definitions and characteristics of system  
• List of strategic targets  
• List of institutions and their responsibilities and strategies  
• Links between institutions (legal, organizational, technical)  
• No. of contracts with private sector | • Structure of system is useful and clearly defined  
• Strategies are appropriate to reach and satisfy objectives  
• Involved institutions have each clearly defined tasks and cooperate and communicate well with each other  
• Private sector is involved |
# Evaluation Framework (2)

<table>
<thead>
<tr>
<th>Area</th>
<th>Possible Aspects</th>
<th>Possible Indicators</th>
<th>Good Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operational Level</strong></td>
<td>• Outcomes</td>
<td>• Products for clients</td>
<td>• Products respond to objectives</td>
</tr>
<tr>
<td></td>
<td>• Technical Specifications</td>
<td>• Technical indicators</td>
<td>• Technical specifications and implementations are appropriate to strategic needs</td>
</tr>
<tr>
<td></td>
<td>• Implementation</td>
<td>• Implementation factors</td>
<td></td>
</tr>
<tr>
<td><strong>External Factors</strong></td>
<td>• Human Resources (personnel, training)</td>
<td>• Number of personnel, eduction</td>
<td>• Appropriate number of personnel in relation to task and population</td>
</tr>
<tr>
<td></td>
<td>• Capacity building</td>
<td>• Continuing eduction (seminars, etc.)</td>
<td>• Continuing eduction on a regular basis</td>
</tr>
<tr>
<td></td>
<td>• Professional association</td>
<td>• Number of universities and students</td>
<td>• Appropriate number of universities and students</td>
</tr>
<tr>
<td></td>
<td>• Technical developments</td>
<td>• Is there a professional association (y/n)</td>
<td>• Professional association takes active role</td>
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<td></td>
<td></td>
<td>• New technologies on the market</td>
<td>• New technologies are evaluated on a continuing basis</td>
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</table>

**Area**

**Possible Aspects**

- Outcomes
- Technical Specifications
- Implementation

**Possible Indicators**

- Products for clients
- Technical indicators
- Implementation factors

**Good Practice**

- Products respond to objectives
- Technical specifications and implementations are appropriate to strategic needs
- Appropriate number of personnel in relation to task and population
- Continuing education on a regular basis
- Appropriate number of universities and students
- Professional association takes active role
- New technologies are evaluated on a continuing basis
# Evaluation Framework (3)

<table>
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<th>Area</th>
<th>Possible Aspects</th>
<th>Possible Indicators</th>
<th>Good Practice</th>
</tr>
</thead>
</table>
| Review Process     | • Review of objectives and strategies  
                      • Performance and reliability of system  
                      • User satisfaction                | • Review of objectives and strategies (y/n)  
                      • Turnover, time to deliver, number of error  
                      • Review of user satisfaction (y/n) | • Regular review process  
                      • System is efficient and effective  
                      • System delivers in time and with few errors  
                      • Appropriate, fast and reliable service to clients |
Evaluation Methodology

<table>
<thead>
<tr>
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<td>Management Level</td>
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<tr>
<td>Operational Level</td>
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<tr>
<td>External Factors</td>
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<tr>
<td>Review Process</td>
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</tbody>
</table>

Evaluation Framework

Evaluation of Aspects and Indicators — Good Practices = Performance Gaps

Summary / SWOT-Matrix

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
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<tbody>
<tr>
<td>Opportunities</td>
<td>Threats</td>
</tr>
</tbody>
</table>
"Land Administration" Case
Input for Land Administration evaluation framework

Features and Criteria:
- Seven features from Simpson (1976)
- Considerations for Land Registration Improvements (Holstein (1987)
- Requirements for Implementing the Multipurpose Cadastre (Dale and McLaughlin, 1988)
- Aspects of a well-functioning cadastral system (Bogaerts, 1999)
- Cadastre 2014 (Kaufmann and Steudler, 1998)
- Toolbox Principles for Land Administration Systems (Williamson, 2001)

Modern Context:
- Sustainable development
- Holistic approach to land issues
- Inclusion of all rights, restrictions, responsibilities
- Good governance and civic participation
- E-government
- Data integration
### Examples of Performance Indicators (1)

<table>
<thead>
<tr>
<th>Area</th>
<th>Aspects</th>
<th>Possible Indicators (not detailed and not exhaustive)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Policy Level</strong></td>
<td></td>
<td>- Existence of a government policy for land administration (y/n)</td>
</tr>
<tr>
<td></td>
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<td>- List of statements for land administration system role</td>
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<td></td>
<td></td>
<td>- Existence of independent land board (y/n)</td>
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<tr>
<td><strong>Land tenure principles</strong></td>
<td></td>
<td>- Existence of formal recognition and legal definition of land tenure (y/n)</td>
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<tr>
<td></td>
<td></td>
<td>- Security of tenure (no. and solution of disputes)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Social and economic equity (underrepresented groups)</td>
</tr>
<tr>
<td><strong>Economic and financial factors</strong></td>
<td></td>
<td>- Cost/benefit and fee structures, land tax revenue</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Economic indicators (value and volume of land market)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Funding and investment structure</td>
</tr>
<tr>
<td><strong>Management Level</strong></td>
<td></td>
<td>- Adequate protection of land rights</td>
</tr>
<tr>
<td><strong>Cadastral and land administration principles</strong></td>
<td></td>
<td>- Support of land market (secure, efficient, simple, at low cost)</td>
</tr>
<tr>
<td><strong>Institutional principles</strong></td>
<td></td>
<td>- List of responsible departments and ministries</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Central or decentral organization</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Number of institutions and offices</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Private sector involvement, no. and volume of contracts</td>
</tr>
<tr>
<td><strong>SDI principles</strong></td>
<td></td>
<td>- Standards arrangements, core data</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Access network, pricing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Data definition, modelling</td>
</tr>
</tbody>
</table>
### Examples of Performance Indicators (2)

<table>
<thead>
<tr>
<th>Area</th>
<th>Aspects</th>
<th>Possible Indicators (not detailed and not exhaustive)</th>
</tr>
</thead>
</table>
| **Operational Level**       | Technical principles         | - Data properties (capture method, quality and accuracy)  
                                | - Data maintenance, timeliness                        |
| **External Factors**        | Human resources              | - Number of personnel (public and private)            
                                | - Professional association                            |
|                             | Capacity building            | - Number of universities and students                 
                                | - Funding structure for capacity building             
                                | - On-going education (no. of workshops, seminars)     |
|                             | Research and development     | - Number of research institutes in the land administration field |
|                             | Technology                   | - Freedom of systems and methods (y/n)                
                                | - Regular review of new technologies on market and assessment of fitness for use (y/n) |
| **Review Process**          | Assessment of Review Processes | - User satisfaction indicators                        
                                | - Degree of satisfaction of objectives and strategies  
                                | - Existence of a regular review process (y/n)         |
Show Case
### Show Case for Evaluation of an LAS (1/3)

**Evaluation of single areas and aspects**

<table>
<thead>
<tr>
<th>Area</th>
<th>Aspects</th>
<th>Possible Indicators (not detailed and not exhaustive)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Policy Level</strong></td>
<td>Land policy principles</td>
<td><em>Government policy</em>&lt;br&gt;<em>Existence of independent land board</em>&lt;br&gt;<em>Spatial info. supports good governance</em></td>
</tr>
<tr>
<td></td>
<td>Land tenure principles</td>
<td><em>Recognition and definition of land tenure</em>&lt;br&gt;<em>Security of tenure</em>&lt;br&gt;<em>Social and economic equity</em></td>
</tr>
<tr>
<td></td>
<td>Economic and financial factors</td>
<td><em>Cost/benefit awareness</em>&lt;br&gt;<em>Land tax revenue</em>&lt;br&gt;<em>Support of land market</em></td>
</tr>
<tr>
<td><strong>Management Level</strong></td>
<td>Cadastral and land administration principles</td>
<td><em>Structure is useful (comprehensive and systematic cadastre)</em>&lt;br&gt;<em>Strategies are appropriate to reach and satisfy objectives</em></td>
</tr>
<tr>
<td></td>
<td>Institutional principles</td>
<td><em>Central vs. decentral / state vs. local</em>&lt;br&gt;<em>Private sector involvement</em></td>
</tr>
<tr>
<td></td>
<td>SDI principles</td>
<td><em>Standards, core data</em>&lt;br&gt;<em>Access network</em>&lt;br&gt;<em>Data definition, modelling</em></td>
</tr>
</tbody>
</table>
# Show Case for Evaluation of an LAS (2/3)

## Evaluation of single areas and aspects

<table>
<thead>
<tr>
<th>Area</th>
<th>Aspects</th>
<th>Possible Indicators (not detailed and not exhaustive)</th>
</tr>
</thead>
</table>
| **Operational Level**     | Technical principles       | - Data maintenance  
- Timeliness                                                                                                              |
| **External Factors**      | Human resources            | - Number of personnel (public and private)  
- Professional association                                                                                                  |
| **Capacity building**     |                             | - Number of universities and students  
- Funding structure for capacity building  
- On-going education (no. of workshops, seminars)                                                                             |
| **Research and development** |                             | - Number of research institutes in the land administration field                                                       |
| **Technology**            |                             | - Freedom of systems and methods  
- Regular review of new technologies on market and assessment of fitness for use                                              |
| **Review Process**        | Assessment of Review Processes | - Regular review process of objectives and strategies  
- User satisfaction                                                                                                           |
# Show Case for Evaluation of an LAS (3/3)

## Summary / SWOT-Matrix

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Regular and comprehensive review of strategy</td>
<td>• Cadastre not comprehensive and systematic</td>
</tr>
<tr>
<td>• Good cooperation between public-private-academic sectors</td>
<td>• Cadastral issues not integrated in strategy</td>
</tr>
<tr>
<td>• Strong academic sector</td>
<td>• Data modelling</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Vision of spatial information being crucial for good governance</td>
<td>• Not being able to bring the diverging interest groups together</td>
</tr>
<tr>
<td>• Strengthen political support</td>
<td>• Loosing political support</td>
</tr>
</tbody>
</table>
Thank you for your attention!