Applying a Land Management Approach to Surveying Education

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Land governance is about the policies, processes and institutions by which land, property and natural resources are managed.

Land governance is about determining & implementing sustainable land policies.

Land management covers all activities associated with the management of land and natural resources that are required to fulfil political objectives and achieve sustainable development.

The land management paradigm
Land Tenure: Allocation and security of rights in lands; legal surveys of boundaries; transfer of property;
Land Value: Assessment of the value of land and properties; gathering of revenues through taxation;
Land-Use: Control of land-use through adoption of planning policies and land-use regulations at various levels;
Land Develop: Building of new infrastructure; implementation of construction works and the change of land-use
Deeds System (French/Latin/USA style): A register of owners; the transaction is recorded – not the title.
Title System (German, Torrens/English style): A register of properties; the title is recorded and guarantied.
Ten Land Administration Principles

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<td>1.</td>
<td>LAS provide the <strong>infrastructure</strong> for implementation of land policies and land management strategies in support of sustainable development.</td>
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<td>2.</td>
<td>The <strong>land management paradigm</strong> provides a conceptual framework for understanding and innovation in land administration systems</td>
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<td>LAS is all about engagement of <strong>people</strong> within the unique social and institutional fabric of each country.</td>
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<td>LAS are the basis for conceptualizing <strong>rights, restrictions and responsibilities</strong> related to people, policies and places</td>
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<td>The <strong>cadastre</strong> is at the core of any LAS providing spatial integrity and unique identification of every land parcel</td>
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<td>LAS are <strong>dynamic</strong> and reflect the continual evolution of people-to-land relationship.</td>
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<td>LAS include a set of <strong>processes</strong> that manage change</td>
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<td><strong>Technology</strong> offers opportunities for improved efficiency of LAS and spatial enablement of land issues.</td>
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<td>Efficient and effective land administration systems that support sustainable development require a <strong>spatial data infrastructure</strong> to operate.</td>
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<td>10.</td>
<td>Successful LAS are measured by their ability to manage and administer land efficiently, effectively and at low cost</td>
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Williamson, Enemark, Wallace, Rajabifard, 2010
## Benefits to Society

| • Support for governance and the rule of law | • Protection of state lands |
| • Alleviation of poverty | • Management of land disputes |
| • Security of tenure | • Improvement of land-use planning |
| • Support for formal land markets | • Development of physical infrastructures |
| • Security of credit | • Management of resources and environment |
| • Support for land and property taxation | • Management of information and statistical data |

A Land Management Approach to Surveying Education

Surveying is not only an engineering discipline

Surveying and mapping
Geo-Information management
Cadastre, Land law
Land management,
Spatial planning

technical science
natural science
social science

An interdisciplinary approach
focus on management and problem solving
Project-organised and Problem-based Learning

- Literature
- Lectures
- Internet

PROBLEM ANALYSIS → PROBLEM SOLVING → REPORT

- Tutorials
- Field Work
- Experiments
Project-organised and Problem-based

Project-organised:
Taught courses assisted by actual practice is replaced by project-work assisted by courses.

From description and analysing to synthesising and assessment.

Problem-based:
Textbook knowledge is replaced by the necessary knowledge to solve theoretical problems.

From understanding of common knowledge to ability to develop new knowledge.

"You only know things for sure when you are capable of explaining this knowledge to others"
Tell me and I will forget
Show me and I will remember
Involve me and I will understand
Step back and I will act

*Chinese proverb*
The only constant is change...

Professional and technical skills can be acquired and updated later in one's carrier, while skills for problem solving and skills for learning to learn can only be established through the process of academic training at the universities.

Skills of dealing with the unknown problems of the future
Project work: a major assignment within a given subject-related framework determined for each semester.

Lecture courses mainly on subjects within the theme of the semester partly on subjects relating to the overall academic profile of the curriculum.
### Features of PBL Education...

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<th>Role of the Teacher</th>
<th>Examination</th>
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| A three-dimensional role:  
  - Lecturer (teacher), Supervisor (coach), Researcher (scientist)  
  - Focus on learning rather than teaching  
  - On-going renewal of lecture courses  
  - On-going and dynamic interaction between education, research and professional practice |  
  - Conducted as a group seminar chaired by the supervisor  
  - One third of the program involve external examiner  
  - Presentation from each student followed by questions/discussion (about three hours in total)  
  - Assessing methodological and professional understanding  
  - Individual marking of each student  
  - Lecture courses are assessed internally by pass/fail |
The Aalborg Model

- Problem Based Learning
  - Based on real-life engineering problems

- Project Organised Education
  - Project work supported by lecture courses

- Group Work
  - Groups of four to six students
  - Supervised by the teachers

- Interdisciplinary Studies
  - Integration of theory and practice
  - Focus on Learning to Learn
The Educational Profile of the Future

- Measurement Science
- Spatial Information Management
- Land Management

Design/build/manage the natural/built environment and connected spatial/legal rights
The Surveyor´s Profile in DK
Curriculum innovation essentially depends on developing an efficient interaction between education, research, and professional practice,
- and focusing on learning to learn
Educating surveyors – the best job in the world

Young Surveyors Network
www.fig.net/ys/index.htm