

Jürg Kaufmann - Review and Impact of the Six Statements of 'Cadastré 2014' (7141)

AGENDA

1. What has been achieved – what not?
2. How fit the statements into the trends shown by UN-GGIM?
3. Conclusions

6 STATEMENTS OF CADASTRE 2014

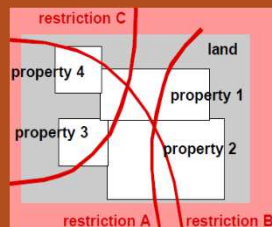
- (1) Cadastre 2014 will show the complete legal situation of land, including public rights and restrictions!
- (2) The separation between 'maps' and 'registers' will be abolished!
- (3) The Cadastral mapping will be dead! Long live modelling!
- (4) 'Paper and pencil - cadastre' will have gone!
- (5) Cadastre 2014 will be highly privatized! Public and private sector are working closely together!
- (6) Cadastre 2014 will be cost recovering!

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Cadastre 2014 will show the complete legal situation of land, including public rights and restrictions!

Comment: The population of the world is growing. The consumption of land is increasing. The absolute control of the individual or legal entities of land is increasingly being restricted by public interest. To provide security of the land tenure, all facts about land must be made obvious by the cadastre system of the future.



State of implementation

- Concept widely understood;
- Priority on establishment of a private-law property cadastre needed for land market development and as basis for NSDI.
- Implementation primarily in developed countries with more or less complete cadastral systems.

Examples:

- New Zealand: 10–20 Year Strategy for developing the Cadastre 2034 system;
- Switzerland: Cadastre for public-law restrictions on landownership rights (PLR-Cadastre) following the ideas and principles of CADASTRE 2014

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Comparison with the UN-GGIM trend analysis

The traditional cadastral procedures are applied to secure the high quality needed for the management of legal arrangements concerning the land and the land tenure, including the restrictions stipulated by the public laws.

The UN-GGIM report addresses the problem of data quality as follows:

2.6.1 The issue of liability for the quality and accuracy of data is likely to grow in prominence over this period. Historically, NMCAs and other providers of geo-spatial information have largely been able to avoid this issue, publishing disclaimers that strive to absolve them from any litigation risk.

2.6.3 The response to this increasing risk over the next few years seems likely to take one of two forms: a continued acceptance of the risk, with government legislation to minimize the litigation risk;

or the development of a 'warranted' data model, where at least some attributes of data will contain a form of guarantee.

CADASTRE 2014 aims exactly at collecting and delivering liable information concerning all types of boundaries (Kaufmann, 2008) to support land management and sustainable development.

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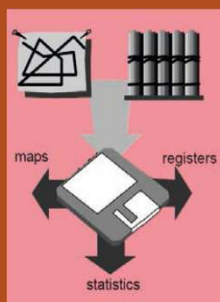
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The separation between 'maps' and 'registers' will be abolished!

Comment: The separation was necessary because the available technology – paper and pencil - did not allow other solutions.



State of implementation

- Most countries, especially those where the cadastre has been re-activated or re-established implemented unified organizations with cadastral surveying and land registration functionality
- Topographic mapping functionality was included in many cases.
- In countries where information technology is well advanced, the customers can dispose of combined web-based solutions providing 'map' and 'register' services.

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Comparison with the UN-GGIM trend analysis

This convergence of the two functionalities of cadastral systems was often ventured into based on the recommendation by CADASTRE 2014.

The UN-GGIM report speaks therefore of national mapping and cadastral authorities NMCAs.

The efficiency of institutions according to the UN-GGIM report is an important issue:

5.1.4 In some countries, a major trend will be to replace obsolete data collected many decades ago as the economic benefits of up-to-date data can now be quantified; in other countries a major trend will be adapting business models and access regimes to meet the changing expectations of an ever-more demanding customer base accustomed to easy access to online mapping in a user-friendly environment.

Many countries have re-engineered their cadastral services in this sense and the stakeholders in the land market can address a one-stop-shop to settle their land and property affairs.

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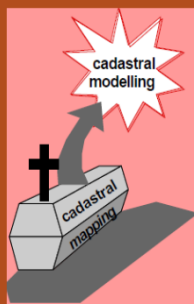


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The Cadastral Mapping will be dead! Long live modelling!

Comment: Maps have always been models, but the available technology did not allow for the use of these models in a flexible manner. In mapping flexibility had to be brought in by different scales. Different scales had to be represented by different data models.

Modern technology allows the creation of maps of different scales and registers in different forms derived from the same data model.



State of implementation

- Rather hesitant implementation of data models;
- UML diagrams available and widespread now;
- Use of computer-readable model descriptions still not yet common property;
- LADM international standard ISO 19152;
- Swiss Land Management Foundation has developed computer-readable LADM description in INTERLIS. (see www.swisslm.ch)

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Comparison with the UN-GGIM trend analysis

CADASTRE 2014 started the process to overcome the map paradigm and re-place it by a data paradigm. This effort seems still to be painful for many cadastral professionals. It is expected that the work on the LADM has a positive impact on the understanding of the advantages of data modelling. Machine-processability, which will make data handling much easier will experience a breakthrough in the near future.

The UN-GGIM report underlines the need for machine-processable data modelling:

1.3.2 Semantic technologies will play an important role when it comes to publishing and making sense of this data, offering the opportunity to create rich machine-processable descriptions of data. This will enable knowledge sharing and re-use in addition to data sharing and re-use.

CADASTRE 2014 identified the trend early and cadastre as the most important base for GDIs will play a leading role in this field.

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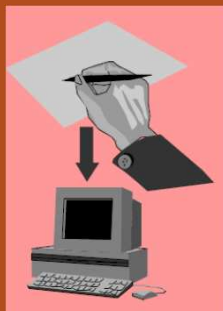


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'Paper and pencil – cadastre' will have gone!

Comment: Geomatics technology will be the normal tool for cadastral work. Real low-cost solutions are only possible when this technology is used in combination with lean administrative procedures.

Developed, developing and transitional countries need models of the existing situation to resolve the problems of population, environment and reasonable land use.



State of implementation

- It was not clear in 1994 how IT would develop in cadastre, nowadays all cadastral development projects are IT-based;
- IT-development often based on traditional views;
- Still IT solutions handle the textual and graphical data separately;
- The notion spatial data was introduced and cadastral objects are increasingly understood as normal data with parameters, describing the characteristics, form and location.

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Comparison with the UN-GGIM trend analysis

The implementation of IT in the cadastral field was driven by the fact that the penetration of the market took place in every field of administration. And cadastre is a typical process of the administration.

The UN-GGIM report emphasizes the important role of information technology

1.3.4 We are increasingly likely to see geospatial information needed to assist the evolution of this connected ecosystem over the next five to ten years. The emergence and use of precise location information in this way offers great opportunities and will see it form a core part of information technology infra-structure. Nevertheless, use in this way will also present geospatial management challenges over the coming years.

Due to CADASTRE 2014 the profession was well prepared for this new technology with new opportunities to improve the services of the cadastral organizations.

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Cadastré 2014 will be highly privatized! Public and private sectors are working closely together!

Comment: Public systems tend to be less flexible and customer-oriented than those of private organizations.

Free economies demand flexibility in land markets, land planning and land utilization. Flexibility may be provided better by private institutions. For necessary security, however, public involvement is indispensable



State of implementation

- Privatization of cadastral work is under way. The World Bank e.g. promotes the involvement of the private sector systematically and successfully in its projects.
- Cadastral data is authoritative and has a long live cycle. Only an organization with a long term existence is eligible to secure the cadastral data over a long time;
- The final responsibility must remain with an authority.

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Comparison with the UN-GGIM trend analysis

In many countries cadastral work is outsourced to private surveyors. Practically all World Bank projects on cadastre and land registration foresee the involvement of the private sector mainly to make better use of the resources and to keep the financial load for the state budgets at a reasonable level.

The UN-GGIM report sees the public-private partnership as an important issue:

4.2.1 The private sector is likely to continue to play a vital role in providing the technologies identified earlier in this paper that will enable governments, and indeed other private-sector bodies, to produce and collect the vast quantities of data we are likely to see in the coming years, to provide the technologies to manage and make sense of this data and to find value in providing access to the skills necessary to maximize this data.

5.4.3 However, despite the increase in producers and providers of geospatial information, government authorities will retain a key role in other areas of the geospatial environment where trust in the data produced is seen as vital and where natural government monopolies exist.

CADASTRE 2014 was often used to convince politicians to leave the traditional path and to allow a market for private sector professionals in the cadastre.

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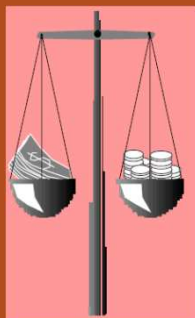


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Cadastré 2014 will be cost recovering!

Comment: Cadastral systems need considerable investment. But the land documented and secured by the cadastre represents a multiple of the investment.

The cost for cadastral systems have to be paid back at least partially by those who profit.



State of implementation

- Still heavy discussions of the cost recovery;
- No final and broadly accepted solution implemented yet;
- Depending on politics and state budgets;
- Before the global financial crisis, a majority was in favour of free of charge data and services, but crisis caused a swing back to cost-recovery of state services.

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Comparison with the UN-GGIM trend analysis

CADASTRE 2014 has initiated the discussion about licenses and fees. The implementation of Statement 6 concentrates on recovering running costs.

The UN-GGIM report deals with the cost recovery as follows:

2.1.7 Because of the fundamental nature of the data, funding will come from central government sources, supported in some cases by additional funding from global or national development the process of establishing reliable geospatial information bases is in its early stages.

2.1.8 In many countries the difficult economic climate has already seen reductions in central government funding. The accompanying increasing pressure and expectation for free availability of core datasets will also provide a challenging environment.

2.1.9 As such, one of the major challenges of the next five to ten years will be finding the funding and business models required to maintain accurate and quality-assured geospatial information, whilst growing the user community for high-quality, accurate and maintained geospatial information.

CADASTRE 2014 considered the cost recovery aspect at an early stage of development and has contributed to a better understanding.

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CONCLUSIONS

- Cadastre 2014 has initiated the necessary mental change for the improvement of the services of future cadastral systems.
- Important progress was achieved in utilization of modern methods to increase the efficiency and flexibility of land documentation, land administration and land management: PLR-Cadastre, LADM modelling and machine-readable description, public-private partnership, etc.
- Continuative studies like Spatially Enabled Society (SES) are basing on Cadastre 2014 ideas and principles.
- Cadastre 2014 has anticipated the trends and is 'still going strong'.

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WHAT IS SWISS LAND MANAGEMENT?

Swiss Land Management...
... is a private foundation aiming at transferring experiences of methodologies and technologies to reach the UN millennium development goals.

Our Mission – Our Goals

Sustainable land management as an essential contribution to
GOOD GOVERNANCE and **CONFLICT PREVENTION.**

www.swisslm.ch

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Thank you for your attention...

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