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Review of the programme of work for 2018-2019:
Studies on selected topics in land management and land administration

Future Scenarios in Land Administration

Note by the Bureau of the Working Party on Land Administration

Summary

Decision- makers in the field of land administration need a broad understanding of emerging issues and developments that are expected to shape the future of the sector. To this end, the Bureau of the Working Party on Land Administration has initiated a study to develop future scenarios for the land administration sector based on the relative importance and anticipated impacts of global megatrends within the next 10-15 years. The objective of the study is to support land administration authorities in the ECE region and beyond to identify common challenges, share best practices for solutions and risk mitigation measures, and to improve preparedness for future disruptive changes. Ultimately, the study is aimed at identifying long-term strategies for the sustainability of the work and services provided by land administration authorities. The study is ongoing and intermediate results have been presented at the joint WPLA/FIG/Technical Chamber of Greece event in Athens (November 2018) and at the UN World Geospatial Information Congress in Deqing, China (November 2018).

The Working Party is invited to take note of the information provided on the study.

I. Introduction and background

1.   For the purpose of the study on the future scenarios in land administration, it was decided to use a definition developed by Stig Enemark in 2005, which covers the four land administration functions (land tenure, land valuation, land use and land development) in the context of a defined land policy framework, institutional arrangement and information infrastructure[1]. Land tenure and land valuation, are the main functions considered in the study while the latter two, land use and land development, are more peripheral for the purpose of the study. The study applies a comprehensive and holistic approach to the assessment of scenarios of land administration systems.

2.   The first step of the study is to investigate recent and ongoing megatrends. Most publications which discuss scenarios have been conducted by industry and were focused on the development of cadastral systems without analyzing how the different megatrends will impact them. For instance, two studies produced in New Zealand and Australia have outlined expectations for the future of cadastres (LINZ, 2014 and ICSM, 2014). FIG[2] has also published a study – Cadastre 2014 and Beyond – with future visions for cadasters. Only research carried out in Finland seems to have similar objectives; it examined the perceived importance of 21 global megatrends in the context of cadastral systems and the implications of relevant megatrends for the Finnish cadastral system.

II. Description of the study

3.   The WPLA Bureau agreed to use 11 out of 12 megatrends, as defined by Z-punkt[3] in 2018 as the basis for the analysis in this study. Eight senior international land administration experts[4] were requested to describe possible impacts of these megatrends on land administration and score the megatrends' relevance and comparative importance for land administration systems.

4.   Conclusions of the senior experts on the importance of the megatrends for the land administration systems were used as input for a roundtable on scenarios which was organized with the participation of land administration professionals in Stockholm, Sweden in June 2018. The roundtable participants agreed that there are two key megatrends *Business Ecosystem* and *Urbanization and Digital Transformation*, which highly affect the development of land administration systems and therefore these megatrends are the main "influencers" of the scenarios.

5.   The roundtable participants also identified four possible directions of land administration organisations along two axes – (see Figure 1). The horizontal axis represents land administration *governance* from a traditional/hierarchical on the left to a digitally enabled ecosystem to the right. The vertical axis describes land administration *organization type* (which defines how the organization operates) with the upper end representing private organisations and the lower end public ones.

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[1] Information infrastructure: refers to the communications networks and associated software that support interaction among people and organisations.

[2] International Federation of Surveyors

[3] A consulting company specializing in trends and futures research. http://www.z-punkt.de/en/

[4] David Boman, Lantmäteriet (Sweden); Wernher Hoffmann, BEV (Austria); Kirsikka Riekkinen, Aalto University (Finland); Martin Salzmann, Kadaster (the Netherlands); Mats Snäll, Lantmäteriet (Sweden); Daniel Steudler, Swisstopo (Switzerland); Rik Wouters, Kadaster (the Netherlands); Fredrik Zetterquist, Ordnance Survey (United Kingdom)

Figure 1
Possible scenarios of land administration systems.
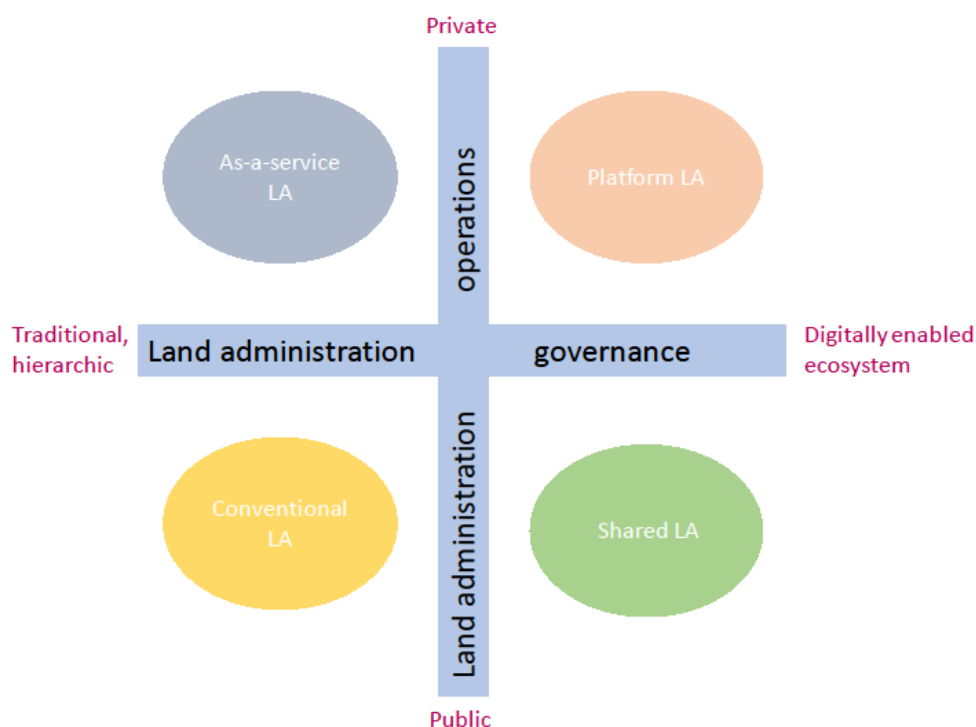
6.   The authors of the study have added three additional factors influencing the land administration operations and governance: *(i) data, (ii) technology* and *(iii) functions/processes*. Land administration is indeed different in each country and will not necessarily place these different aspects in the same position in each scenario. It is therefore valuable for the study to analyze how they would be distributed in different scenarios. By *data*, is meant how and by whom data will be managed and maintained and who will be the custodian of the data. Regarding *technology,* the authors refer to who will manage, develop and own the technology solutions and how it is configured. F*unctions/processes* are the governance and operation of the land administration functions and how they will be conducted.

7.   Roundtable participants discussed the influence of key megatrends and the factors that determine data use, technology application by the land administration organizations and the efficiency of processes. As a result, the following four scenarios were formulated:

•   *Conventional LA*. This represents land administration organizations which are centralized and where functions, data and technology are typically managed and governed by the state. This is the most common situation in the ECE countries (and beyond) of today.

•   *As-a-service LA*. This represents a scenario where one (or several) private sector actors execute much of LA services, often through an as-a-service model with the state still governing the three aspects.

•   *Shared LA*. Land administration is executed within a state framework but with shared responsibilities referring for three different aspects. Typically, a range of key registers are included and part of a government cloud.

- *Platform LA*. This is a highly automated and multi-stakeholder land administration where the private sector has a large stake on the operation of the three aspects and governance is moving to an ecosystem of technologies, platforms and diverse set of stakeholders.

III.   Next steps

8.   The four scenarios will be further elaborated by the Working Party "task group on future scenarios" and then a survey of ECE member States will be conducted in December 2018-January 2019; outcomes will be presented and discussed at the 11th session of the WPLA in February 2019. The results will be presented at the World Bank Land and Poverty Conference in March 2019.

9.   The Working Party will discuss annually the scenarios for actors in the land administration sector so that recommendations for the improvement of the land administration systems are relevant to the changing realities and meet changing expectations and needs.

IV.   Final comments

10.   The scenario analyses are neither predictions of the future nor expressions of intentions for the future development of the land administration systems. Scenarios are developed as story lines to facilitate a discussion on the future development of land administration organisations. Discussion of possible scenarios reduce the risk of a simplistic approach among land administration decision-makers and enhance their preparedness to adapt to new future, increase flexibility and build resilience for disruptive events.

11.   For land administration authorities to remain relevant and provide trustworthy services today as well as in the future, considering the global megatrends, the scenarios analysis is useful.

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