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Studies on selected topics in land management and land administration

Status of the research on mergers of cadastres and land registries

Note by the Bureau of the Working Party on Land Administration

Summary

This note presents the preliminary results of an advanced interpretative and prescriptive study on the issue of mergers of cadastres and land registries. It draws upon the results and recommendations of three earlier studies: a survey study involving UNECE member States, a narrative study on how merger processes and decisions were perceived, and a survey among 56 UNECE member States on the degree of integration. The latter study included questions on land registration processes, access to information, cadastral systems, and other aspects of land administration. The summary of the three earlier studies is attached in Annex I.

The Working Party is invited to take note of the status of this study.

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I. Introduction

1. The land administration domain is a relatively confined domain in which organizational merger discussions have had a long history. The domain is concerned with the accurate description and maintenance of records on land ownership and other land rights and restrictions. To do so, two basic processes are necessary: the creation and maintenance of information on land parcels and buildings (usually referred to as the cadastre, or cadastral information), and the registration and updating of rights and restrictions to those parcels and buildings (usually referred to as land registration). These separate activities are in some countries executed by one agency, whilst in other countries by two, or even more than two, agencies. The call to merge these agencies has increased worldwide, but several countries have insisted that the two types of agencies should remain separate. The discussion of unifying (merging) cadastral organizations and land registries has been a topic of discussion and research by the Working Party on Land Administration for more than a decade. In 2005 a report from the UNECE/WPLA task force on mergers of cadastres and land registers noted: *‘Although separate organizations may administer the land books, the cadastre, and the registers of mortgages and encumbrances, an integrated system is desirable either in one organization or through electronic linkages’*. In 2013 a new research group started to evaluate the contemporary discourse on mergers and the actual status of integration. This research group formulated three objectives:

- (a) Conduct an evaluation of case studies, comparing countries where agencies had merged and or had not merged.
- (b) Evaluate to which extent land administration benchmark studies correlate to the World Bank doing business reports on the issue of organizational mergers.
- (c) Conduct a qualitative study on how staff members of the respective agencies perceive mergers, integration and extended collaboration.

2. The group produced four publications so far: Wouters et al. 2016; de Vries et al. 2015; Laarakker et al. 2015; de Vries et al. 2016. The early findings of these collective studies revealed a number of insights on the current status of mergers.

3. The first and most prominent finding is that despite a rational argument in various publications that a single organization dealing with inter-related services can deal more effectively and efficiently with both internal and external demands (Wang et al. 2012), there is currently no hard empirical evidence available to promote the integrated model of cadastre and land registration organizations, or to suggest that merged organizations are more effective or efficient. When comparing the World Bank doing business ranks with basic data on where mergers occur and where not, there is no consistent or significant pattern of correlation. This suggests that the success factors of cadastres and land registries are not necessarily related to the merging of organizations, but to other factors which may be involved when collaborating extensively.

4. Secondly, often merger discussions can be traced back to either a very hard and discrete change in statutory law, or to a more gradual and continuous demand for more interoperability and more simplification of tasks. Several respondents of the survey referred to a new law or to public sector reform on the one hand, and public sector demands for simplifying government on the other hand.

5. Thirdly, encouraging and intensifying collaboration with information resources is in fact leading to an organizational transformation in which new unwritten procedures and attitudes are manifested leading to new communities of practice. An evaluation of personal experiences revealed that many staff members from one organization often know the staff

members of the other organization. These personal links, either established through regular personal contacts or through professional network support, facilitate the actual integration of process and work flows, regardless of whether the agencies are merged under a single formal organizational structure.

6. Lastly, it appeared that the concept of merger itself is ambiguous. Some staff members felt that the organizations were merged once they relied on a single database for their daily work. Others argued that a true merger is rooted in a fundamental change of statutes and organizational leadership. These diverse arguments necessitate a new conceptualization of mergers and of integration. Hence, the research question shifted from ‘what are mergers processes’ to ‘what forms of integration can be referred to as mergers’ and ‘how do these forms contribute to a fundamental change in organizational quality’.

7. Wouters et al. (2016) look at these questions and use the analytical framework of the EFQM model (European Foundation for Quality Management) of 2012 as a basis for a questionnaire responded to by representatives of WPLA, ELRA (European Land Registrars Association), and PCC (Permanent Committee on Cadastres in the EU). The collective responses showed that organizations are perceived to reach the highest degree of integration in collective leadership and joint strategies, and the lowest degree of integration in handling customers and collectively dealing with improvements and innovations. In other words, mergers and integration primarily focus on the operations instead of a shared customer focus and the perceived degree of integration is substantially higher for the enabler components than for the results components. These results imply that integration is primarily developed and appreciated from an internal perspective and not from a systems perspective, and that results are not improved vis-à-vis the external environment, such as society at large or customers in the narrower sense.

8. The degree to which these findings can be converted into practical guidelines or alternative courses of action for cadastral and land registry agencies is however still unknown. The core questions hereby are:

- (a) to which extent the best practices can be customized or re-contextualized for organizations working in different institutional environments in different countries;
- (b) to which extent a narrow categorization of merger concepts better derive recommendations for innovation; and
- (c) to which extent a narrow categorization of merger concepts would better predict internal and external behaviour of the respective organizations.

9. This report addresses these questions in relation to the main practical challenges from two different perspectives, an internal and an external perspective. Policy implementation theory (May 2013) and theoretical frameworks related to lean tools and methods in organizational and informational management (Tyagi et al. 2015), help to provide an analytical framework to discuss these perspectives and derive concrete measures from transition. The report is therefore built as follows: first, it provides an explanation on how the findings of the previous studies could be translated into transitional challenges and requirements (see Table 1 of annex I); second, it gives a justification why and how to rely on each of the two theoretical frameworks as a way to solve the practical challenges for cadastre and land registry organizations. In Table 2 of annex I the results in two analytical frameworks to look at the challenges are presented. Table 3 of annex I presents the review of how the challenges can be converted into actions for each of the analytical elements. These results are then interpreted with regards to the key questions of this study, followed by a general set of conclusions and recommendations for further research.

II. Discussion

10. Comparing the internal and external recommendations helps to address the key research questions.

11. Firstly, to a certain extent merging practices and experiences can be customized or re-contextualized for organizations working in different institutional environments in different countries. It relates however strongly on the capabilities and potential to foresee and adapt to alternative action. This in turn depends on how strongly the individual staff members are involved in and benefit from external social and professional networks in which the creative capacity exist to contribute and foster alternative actions. In other words, a change in the merger discourse, and the subsequent intention and action towards mergers depend on what they learn, adapt and further pursue after having been exposed to customer feedback, professional meetings or workshops and to novel developments. Practical ways to stimulate internal drivers towards mergers depend on the presence of internal staff development mechanism, internal knowledge development systems, and the ability to innovate in a flexible way, amongst others.

12. Secondly, the combination of the responses to the survey based on quality management systems with the theories policy implementation and theories of lean management helps to formulate concrete actions towards mergers. This combination fosters also a new way to look at the management of the organizational system after a merger. Multiple processes need to be fostered simultaneously. The eight aspects connected to the theoretical frameworks provide even a narrower picture in how to convert specific gaps in perceptions about merger processes towards actual merger implementation steps. This in turn enables better recommendations for merger innovations or innovations derived by mergers.

13. Finally, the narrower categorization of merger concepts and implementation strategies can indeed better evaluate, predict and steer internal and external behaviour of the respective organizations during a merging process. By being more aware of internal staff interests and social-professional networks the needs of customers can be better met, but also staff is likely to remain more motivated in innovative merging processes.

III. Conclusions and recommendations

14. The research into mergers of cadastres and land registries is just a first step into a more integrated system of handling land matter and handling land information in a more comprehensive and effective manner. Experience in various countries is already showing that land agencies are increasingly requested to work in larger consortia of both public and private agencies. In such cases merger or integration strategies gain in importance and significance. Having gone through a fairly thorough exercise of looking at the merger of just two agencies helps however to identify some of the challenges ahead. Whereas some may perceive that the advances in technological development have offered opportunities towards simplification of integrated processes, the merger studies have also revealed a certain amount of complexity and nuances in the variation in merging and the challenges connected to this variation. The specific perspective taken in this paper showed further that the key issue or objective may not be merger per se, but organizational development and strategic organizational embedding in society. Making the key roles for the organizational system(s) dealing with land and land information more explicit and open to new demands requires a more flexible response of both cadastres and land registries to the needs of politics and society.

Annex 1: Findings and interpretations text and responses

1. Findings and resulting challenges and requirements to implement mergers process

1. From the previous research Table 1 summarizes the organizational and informational findings, challenges and requirements discussed in the I. Introduction.

Table 1: Findings and resulting challenges and requirements to implement mergers process

<i>Findings</i>	<i>Challenge / requirements for implementing mergers</i>
Success factors of cadastres and land registries are not necessarily related to the merging of organizations, but to other factors which may be involved when collaborating extensively.	In a merger process cadastres and land registries should take more care of which other organizations and other institutional factors in their environment significantly determine or influence their decisions.
The origin/start of merger processes lies in an external artefact of daily work – either a clear law or a point in time at which interaction between staff members from separate agencies start to intensify their interactions.	External artefacts which could initiate mergers should be pro-actively adopted, designed, created or found.
Internal behaviour of individual staff members co-evolves with discussions on mergers.	Knowledge networks of staff members should be used and incorporated into merger discussions and discussions.
Mergers do not only occur through merging databases, but also through synthesizing organizational leadership and collaborative resource management	Merger can only work if more integration takes place in all parts of the organization, including asset, human and financial resource management, customer management, policy and strategy support and operational activities.
The degree and pace of integration in collective leadership and joint strategies between the agencies is out-of-sync with the degree of integration in handling customers and customer feedback collectively.	The mismatch between the shared knowledge and experiences of top-level staff members amongst each other and that of operational staff members with customers' needs to be repaired / improved. In other words, there needs to be a better match of customers' feedback and operational changes.

2. The challenges for implementation show a clear pattern: there are both external and internal adaptations which should take place simultaneously; there has to be pro-active change management in any transitions; there is continuous change from outside the organizational system of cadastres and land registries which influences the degree of success of mergers; changes have to be practical concrete, and have both long- and short term effects at the same time.

3. Therefore it makes sense to design or derive possible and realistic changes and recommendations for transition in view of two theoretical frameworks which are essentially practice and implementation oriented: one which takes into account how to either make use or avoid external and contextual factors in the transition process from non-merged organizational systems to merged organizational system, and another which primarily looks

at internal characteristic, opportunities and possibilities. A useful theory for the former is *policy implementation theory* (May 2013), and for the latter is the framework related to *lean tools and methods* in organizational and informational management (Tyagi et al. 2015). Each are further discussed with the aim to create an analytical framework of further evaluation and recommendation.

4. The idea behind policy implementation theory is that even though policies or strategies for change may be transparent and evident, the implementation towards the policy or strategic goals still depends on a number of contextual aspects including capacity, capability, contribution and potential. Each can be further explained.

5. Capability refers to the possibilities presented by a ‘complex intervention’ - *a cognitive and behavioral ensemble that involves different material and cognitive practices, relations and interactions*. When people within an organizational system engage with complex interventions, they engage with multiple objects of practice. In other words, they may rely on different representations of reality and possible solutions. These may include classifications, real or virtual artefacts and techniques, technologies or organizational systems. The result of engaging with these different objects is that they result in new practices and new constellations between staff members.

6. Capacity refers to the social-structural resources available to agents of change. A lot of the improvement of capacity of individuals can be traced back to their social networks in which they operate, whereby advances in technologies or practices may contain characteristics which all of a sudden turn to be attractive to adopters within the network. Social networks of staff members may exist within organizational systems (even within a single organization or hierarchy) but they often transcend these formal institutional boundaries. Capacity is therefore often generated in a more open system, which is diffuse and unbounded.

7. Potential (agency), in connection with motivation, refers to the social-cognitive resources available to people, groups of people and organizational systems to change and influence change. ‘Potential’ is largely a psychological construct which denotes a starting point of individual and collective commitments and ultimately individual and collective action. It is derived from both individual intention and personal discretions. But if people operate in a social system then the construct ‘potential’ predominantly refers to collective intentions, or shared commitments.

8. Contribution refers to what agents do to implement complex interventions. Usually individuals or groups interact with each other in order to carry a complex intervention forward. Such a continuous investment in directed action leads to an operationalization in practice. If such a contribution cannot be sustained then the efforts of implementation decrease.

9. The general idea behind the methodological framework of lean (and mean) organizational management is that innovation is a continuous process whereby one gains rapid and concrete results and that one has to keep on changing the organization. The tenet thereby is that the quality of products delivered is directly proportional to the efficiency of knowledge creation and innovation – whereby knowledge is the combination of tacit knowledge of employees (in their social-professional networks) and explicit knowledge (created and reflected by formal procedures and hierarchies). Existing knowledge within an organization may be exploited in dealing with problems by exploring, defining, and developing their solutions. During this problem solving exercise, teams not only take actions to solve them, but they also gain dynamic shared knowledge. Addressing problems is thus both a consecutive and iterative process of socialization, externalization, combination and internalization. Each of these can be further explained.

10. Socialization is the mix of activities providing an opportunity for experience sharing, improving collaboration throughout given projects, encouraging individuals to spend time together in joint hands-on experiences, supporting and providing opportunity for informal meetings, and working in the same environment to exchange personal or specialized knowledge.

11. Externalization is the process whereby best practices and lessons learned are documented to avoid high uncertainty in future innovation. Knowledge is changed from implicit knowledge to explicit knowledge. Know-how is converted via concepts, hypotheses, metaphors, analogies, and models for explaining in more tangible and generic forms through demonstration, comparison, and experimentation. A high commitment and participation of internal qualified members and external experts in the training programmes and seminars with little external control (little pressure from shareholders) are required for successful completion of externalization. Open dialogue among employees and senior leadership who are seeking honest feed-back is a strong motivation for reducing ambiguities.

12. Combination refers to a more institutionalized process of knowledge generation. It is at this stage that collected reports issued by the internal and external agents (e.g. customers, competitors, partners, or government representatives) are integrated, classified, reclassified, and synthesized with various existing explicit notions possessed by employees, to form a cluster of organized knowledge resulting in 'systemic explicit knowledge'. In this mode explicit knowledge mentioned in files, databases, networks, and reports is classified and transformed into intricate and organized explicit knowledge to identify innovative products or technologies most likely applicable to be put into practice.

13. Finally, the internalization mode refers to the stage whereby collective explicit knowledge is transformed into tacit knowledge, updating the mental representations of individual organization members. This is generally achieved both by accessing the organization database and intranet to obtain required information, and by analysing deliverables of training programmes, workshops, seminars, and conferences. Such tuned-up, combined, and structured explicit knowledge leads towards action-oriented knowledge intended to be disseminated for pragmatic use. Analysis and explanation of relevant reports issued by suppliers, competitors, partners, or government representatives can be used during the knowledge internalization mode.

2. Analytical frameworks

Table 2: Analytical aspects to implement and evaluate recommendations for a transition towards merged organizations

<i>External perspective (policy implementation theory)</i>	<i>Internal perspective (lean framework)</i>
Capability	Socialization
Capacity	Externalization
Potential	Combination
Contribution	Internalization

3. Implementing and evaluating recommendations for transitions towards mergers

14. The combination of challenges with the analytical frameworks allows to induce and evaluate the recommended internal and external transitions towards mergers systematically.

Table 3: How challenges can be converted into actions for each analytical element

Challenge / requirements for implementing mergers	<i>External perspective (policy implementation theory)</i>			
	<i>Capability</i>	<i>Capacity</i>	<i>Potential</i>	<i>Contribution</i>
In a merger process cadastres and land registries should take more care of which other organizations and other institutional factors in their environment significantly determine or influence their decisions.	Use collective meetings, hackatons and write workshops to generate alternative ideas and solutions towards increased integration of databases and work processes.	Use interns and practical workers and BSc, MSc, PhD researchers to scan which new concepts and ideas are emergent in the external environment of ICT, legal changes (e.g. omgevingswet in NL ;). Adopt such new ideas, symbols in both organizations.	Identify staff members or inter-agency informal structures which are actively pursuing new ideas or are acting upon new opportunities of collaboration	Identify external resource dependencies which influence or de facto construct the processes leading to mergers decisions.
External artefacts which could initiate mergers should be pro-actively adopted, designed, created or found.	Exchange knowledge and experience with partner organizations or organizations working under a similar (budget or institutional) regime how change can be fostered and coordinated.	Identify relevant indicators in which yearly results can be presented jointly in one single integrated way	Identify which new trends or changes staff members are interested in to pursue.	Work with or learn from practical implementers of other organizations who facilitate a change or carry forward a decision into practical action (think of external consultants, IT companies)
Knowledge networks of staff members should be used and	Execute and share / present the results of internal staff surveys about the	Employ experiences and networks from previous work	Activate employees of both organizations through providing funds for pilot	Promote a comprehensive yet collaborative /

<i>External perspective (policy implementation theory)</i>				
incorporated into merger discussions.	merged or potentially merged organization.	assignments of employees in order to foster merger opportunities	projects.	joint way to measure and report on the joint added value of both agencies in terms of cost/benefit for society
Merger can only work if more integration takes place in all parts of the organization, including asset, human and financial resource management, customer management, policy and strategy support and operational activities.	Create standard platforms for both organizations for process preparation, development and execution.	Promote exchange or rotation of staff such that collaboration culture is increasingly shared.	Install collective working groups with employees from different departments.	Ensure that organizations rely on the same procedures and staff members when procuring from external parties
The mismatch between the shared knowledge and experiences of top-level staff members amongst each other and that of operational staff members with customers' needs to be repaired / improved . In other words, there needs to be a better match of customers' feedback and operational changes.	Organise 'meet-the-directorate' sessions in which ideas, strategies and experiences are shared.	Execute combined customer survey in order to seek knowledge about facts and artefacts relevant for both agencies	Work with customers from both agencies when handling customers feedback	Collectively organise organize support for the joint strategic goals of stakeholders of both agencies

	Internal perspective (lean framework)			
Challenge / requirements for implementing mergers	Socialization	Externalization	Combination	Internalization
In a merger process cadastral and land registries should take more care of which other organizations and other institutional factors in their environment significantly determine or influence their decisions.	Create internal workshops and social activities of both organizations together to enhance collaborative work potential in cadastral and land registry products and services	Increase the means and (human) resources available to C&LR organizations are sufficient to realize the joint strategy	Create internal processes to collect and combine experience from other agencies in a similar situation in support of formulating arguments and internal strategy towards mergers	Use the interpretation of customer feedback, professional meetings or workshops on novel developments to (re-)design the merger strategy
External artefacts which could initiate mergers should be pro-actively adopted, designed, created or found.	Support the joint participation in staff development /staff upgrade opportunities (such as internal courses, webinars, etc.)	Set-up of joint formal staff development strategies connected to specific themes which have relevant for both agencies (e.g. system network management, data sharing, customer handling, etc.)	Presence of internal knowledge management systems on external factors (such as on joint customers, housing market, price developments, etc.)	Presence of a (joint) monitoring system relying on mutually agreed indicators to check whether joint strategies towards mergers are followed up.
Knowledge networks of staff members should be used and incorporated into merger discussions.	Promote an open system of innovation and knowledge exchange. Collect and document experiences.	Rely on a single policy for employee development	Promote and support the development of joint vision on knowledge management	Ensure that all employees of respective C&LR organizations understand their contribution to the overall joint (post-merged) objectives
Merger can only work if more integration takes place in all parts of the	Human resource departments of respective agencies have the same remuneration and	Execute a single standard employee satisfaction survey for all	Devise and internal policy to plan for efficiency and effectiveness increases of in	Formalise joint procedures for both agencies (for example for data access or mutations, for

Internal perspective (lean framework)

organization, including asset, human and financial resource management, customer management, policy and strategy support and operational activities.	salary scheme	departments	one joint manner (hence for both agencies together)	working or work contract conditions).
The mismatch between the shared knowledge and experiences of top-level staff members amongst each other and that of operational staff members with customers' needs to be repaired / improved . In other words, there needs to be a better match of customers' feedback and operational changes.	Only results of joint client and staff satisfaction surveys are used to further develop integrated strategy and policy.	A customer management system can help to make implicit knowledge about customers generated by interaction with customers to become more explicit.	Installation of customer groups to enhance transdisciplinary knowledge and solutions.	Create mutually re-enforcing streams of information to improve the relations with customers.

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