

Towards Sustainable Land Administration Systems: Designing For Long-Term Value Creation

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Key words: land administration, updating, services, business models, strategy alignment

ABSTRACT

Many developing and transition countries have adjudicated or redesigned land registration and cadastral systems over the past two decades. The (re)establishment of the systems and the massive collection of information in the field is done in the form of projects, often (financially) supported by donors. However, to have a lasting effect on tenure security and especially on facilitating a land and credit market, the systems need to keep running after the donor has left.

The end-users or clients of the land systems are to a large extent the citizens, at least those who have or are acquiring a registered right on land, professionals in the real estate market, like banks, realtors and insurance companies and government agencies. Making their engagement with the land registration and cadastral system effective and efficient has to be a key design requirement when the system is being completed. Clients make use of the land administration system through their services. Receiving an extract to prove ones rights, registering a transfer of ownership, notifying the new right holders (heirs) after the death of the original right holder, mortgaging the property, and subdivision are some of the key services for the citizens. Local and national government agencies often also need overviews, esp. to prepare land policies and implement land management decisions. These services, which are produced at a cost (in money and time), should take into account the clients' financial situation and other costs borne by the client (related to accessibility, ease of use, etcetera). These costs, next to the perceived benefits, are key success factors for the use of the land administration from a client perspective. Receiving enough revenues, to offset the costs, is however also needed to sustain the local offices. For this to be the case, an active enough market has to exist in the area, the local office serves.

After an overview of the factors affecting the sustainability from both the clients' and the state' perspective, a new approach is suggested. This approach includes thinking through the business model of land administration and developing aligned strategies. Both are linked to understanding and applying the value chain of land information. We end with some concluding remarks.

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1. INTRODUCTION

Many developing and transition countries have adjudicated or redesigned land registration and cadastral systems over the past two decades. The (re)establishment of the systems and the massive collection of information in the field is done in the form of projects, often (financially) supported by donors. However, to have a lasting effect on tenure security and especially on facilitating a land and credit market, the systems need to keep running after the donor has left.

The end-users or clients of the land systems are to a large extent the citizens, at least those who have or are acquiring a registered right on land, professionals in the real estate market, like banks, realtors and insurance companies and government agencies. Making their engagement with the land registration and cadastral system effective and efficient has to be a key design requirement when the system is being completed. Clients make use of the land administration system through their services. Receiving an extract to prove ones rights, registering a transfer of ownership, notifying the new right holders (heirs) after the death of the original right holder, mortgaging the property, and subdivision are some of the key services for the citizens. Local and national government agencies often also need overviews, esp. to prepare land policies and implement land management decisions. These services, which are produced at a cost (in money and time), should take into account the clients' financial situation and other costs borne by the client (related to accessibility, ease of use, etcetera). These costs, next to the perceived benefits, are key success factors for the use of the land administration from a client perspective. Receiving enough revenues, to offset the costs, is however also needed to sustain the local offices. For this to be the case, an active enough market has to exist in the area, the local office serves.

After an overview of the factors affecting the sustainability from both the clients' and the state' perspective, a new approach is suggested. This approach includes thinking through the business model of land administration and developing aligned strategies. Both are linked to understanding and applying the value chain of land information. We end with some concluding remarks.

2. FACTORS AFFECTING THE VIABILITY AND THE LONG-TERM ECONOMICAL SUSTAINABILITY

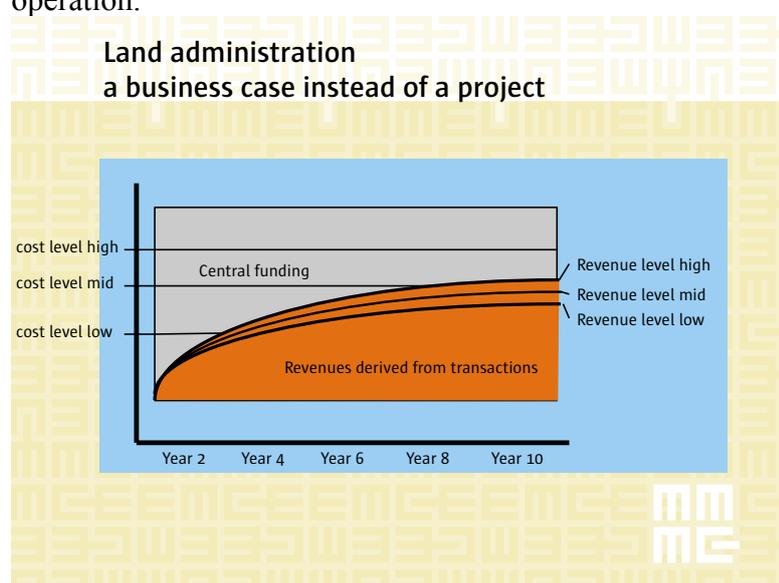
Developing an effective land administration is, besides all the technical, organizational and cultural challenges, also a matter of economics. If the economics do not make sense, sustainability is at risk.

In the design phase of a land administration system, many decisions are (implicitly or explicitly) made, affecting the project and future cost and revenue streams. The projects are often run with international cooperation and (co)funding. Usually strict budgeting is done before project launch and monitored during the project period. A favored solution in the project phase may lead to higher cost in the going concern phase.

A simple example in a non-digital setting is the use of recording books which can contain as much land holdings as possible (saving on printing costs), but which then do not have space for entering later changes due to transactions. (cf. Deininger et al 2008). Another one is that even though digital work processes may make sense during massive collection, it is not always the case for the next phase; the going concern phase (i.e. after the project has been completed).. The costs of maintaining IT equipment and retaining qualified staff might not be worth it in certain upcountry local offices with a very limited land market and thus a low need for services (cf. Zevenbergen and Haile 2010).

Such decisions affect the viability and sustainability of the land administration. Good outcomes in the project phase may cause bad outcomes in the going concern phase. Long-term economic sustainability is a balancing act between perceived value of the services, affordability and costs.

Additional costs need to be balanced against additional value creation. Raising the value of information and the service levels will, in most cases, increase the cost level. If higher value levels are not offset with higher direct revenues, the state will need to fund a bigger part of the operation.



Business modelling can help optimize the value creation, revenue and cost streams and it therefore plays an important role in the long-term economic viability and sustainability of land administration. The business model should be developed in the design phase. Sometimes

slightly different choices result in increased revenues, or reduced costs during the going concern phase.

Although interrelated, the perspectives from the client and state side are separately presented in the next paragraphs. We start with the clients' perspective. Without their buy-in the reliability of the system is at great risk.

3. RELIABILITY

Clearly the registration should be reliable. It should mirror reality. All real world transactions need to be captured and registered as and when the transaction occurs. But how do we get there? For a start: How do we know people are registering all their transactions? Are the citizens aware of the registration? How do they perceive the value? Do they know how to make use of the services? What encourages them and what prohibits them from using?

Having a registration is nice, but crucial for the sustainability of the land administration system, is the client buy-in. This is all about creating awareness, perceived value, affordability and ease of use.

3.1 Awareness and Perceived Value

For the citizens, the introduction of a land administration means a change in behavior. The new system probably replaces an old system and therefore needs to prove itself as being a better substitute for traditional and established ways of securing ownership/use and transferring property.

Communication, using modern and certainly also traditional channels is vital for building awareness and understanding. For this, one needs to monitor whether the citizens are aware of the function of the land administration system, the benefits for them and how they can make use of the services.

Communication needs to be on going activity, which should already start during the massive collection phase. A research MSc study from Rwanda (with fieldwork in one sector) shows, that after several years, the main awareness of the need and benefits to register still come from the early awareness campaigns (Muyombano 2014).

3.2 Affordable Fees and Ease of Use

Principally, setting fees at cost recovery level may look like a good thing. It lowers the level of state funding, creates faster funder buy-in and makes the land administration less vulnerable to state budget allocation issues. But from a user acceptance perspective it might be the absolute wrong way to go. What if it means that the fees are becoming a reason not to register? For instance, when citizens, or at least large parts of society, cannot afford it. High fees may introduce severe damage to the reliability and long-term sustainability of the land administration.

Guiding principles for the development of a sustainable land administration include:

Towards sustainable land administration systems: Designing for long-term value creation, (6969)
Michel Magis and Jaap Zevenbergen (Netherlands)

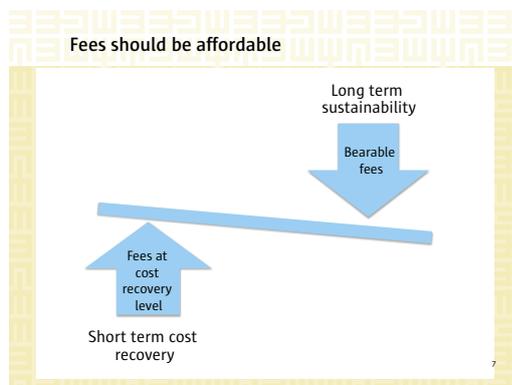
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- Fees should be affordable & where possible set according to the value they generate, so that they do not undermine the land administration.
- Fees should recover, within the constraints of the first principle above, costs at as high a level as possible.

The impact of the fees should be monitored closely, if necessary, one needs to be able to respond quickly to mitigate negative impacts of the fee structure.

One way to differentiate can be to have a differentiation in the fees for core functions that also are needed by the poorest, e.g. processing of inheritances, and more ‘value added’ services for those active in the commercial land market.

Not only fees of the land administration, but also other mandatory fees and costs of the chain, such as fees of private practitioners (like notaries, surveyors), taxes and the clients’ travel costs should be included in the “affordability” equation.



Ease of use is the next element in the cost equation for the potential user. Does the user know how to proceed? Is the potential user able to obtain the services with a reasonable effort (reasonable travel distances/times, opening hours and queuing time)? Are procedures easy to comply to and understandable? Is there enough support to help the users? What about the timeliness of service delivery, freedom from error of the services and reliability of the information and communication?

Framing this as balancing the incentives and disincentives (esp. high transactions costs) for the potential client in the context of new institutional economics can be found in e.g. Zevenbergen (1999).

4. STATE’S FINANCIAL INVOLVEMENT

4.1. Costs

Project and going concern costs are related to decisions made with respect to product quality, applied technologies, processes and procedures, range of services and to capacity building and maintenance.

These decisions affect the primary activities such as data collection, data management, data distribution and service delivery, and related supporting activities. Another factor are the opportunities to integrate with local customs, organizations and systems. Running computerized offices in remote towns with very little service demands may not always be wise in the early going concern period, even when the data collection phase is best done digitally (see e.g. Zevenbergen and Haile, 2010).

4.2 Revenues

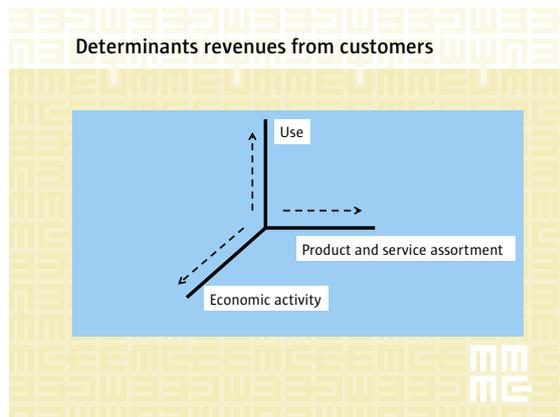
On the revenue side, only a part of the revenues of a land administration can be internalized, i.e. lead to a direct revenue stream through delivering services.

As a matter of fact, much of the value created by many land administration systems, is an externality. These revenues are not captured and are not a way to directly offset the costs. Value such as to support vital public policies (it may speed up economic growth), support to good governance (it may limit strains on land rights and land use) or the creation of benefits in processes of public and private users (for instance more efficient land use planning, taxation, property transfers, valuations...) are too a large extend of general interest, but not easy to 'capture' as a revenue.

So, to what extent is a state prepared or able to financially support the land administration system, is a crucial question to be answered before decisions are made on product quality, technology and capacity.

The answer to this question could certainly put restraints on the ambitions of the state. But a clear answer would also help to build a sustainable land administration.

There are opportunities to generate revenues from products and services. This depends on the level of economic activity, technological infrastructure and usage and factors earlier mentioned which influence potential usage (such as awareness, perceived value, acces to and affordability). Traditional revenue streams are for instance land administration transaction fees, contributions from the lease and property tax administration, fees for land administration information services.



It however needs sound and knowledgeable business development skills and experience to assess and implement successful revenue generators. Again, one needs to address these questions during the development of the business model in the design phase of the land administration system.

5. A NEW APPROACH FOR LAND ADMINISTRATION PROJECTS

All the above should be figured in during the original design of a land administration system as part of a project. It is suggested that this is done by coming up with an appropriate business model and developing aligned strategies.

5.1 Business Model Land Administration

The business model for developing a sustainable land administration describes the way an organisation creates and captures the value generated by land administration.

The basic value proposition for a land administration is to determine, secure and protect the rights of the owners and other stakeholders by providing land administration services and related information services (cf. Magis 2005).

The land administration services are mainly triggered by inheritance, sales and gifts, mortgage, expropriation, sale of state land, lease of state land and transfers from public to private domain, subdivisions and court rulings.

The land administration's further potential lies in land administration information services. These are needed to support the development and implementation of public policies, good governance, generation of benefits in processes of public and private users.

Sustainability means that there is a positive business case for the land administration, and revenues offset costs, either via direct revenues or central funding.

The use of the land administration services is dependent on economic growth (and the level of activity within the land market) and factors related to customer acceptance.

5.2 Developing With the Business Model Aligned Strategies

The appropriate starting point for future projects could be the available budget, derived from direct revenues and the central funding. The next step would be to define the mission of the land administration, followed by the objectives on the financial, customer, process and resources level. Initiatives to reach these objectives, critical performance indicators, critical success factors, risk and risk mitigation measures need to be subsequently identified.

On the financial level

The question here is: What do the investors (state/donors) expect and what strategic objectives from a financial perspective can be derived?

- | Elements of the approach |
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| <ul style="list-style-type: none">• Identification of the future mission of the land administration• Identification of the goals on the financial, customer, process and resources level and appropriate initiatives to reach these strategic goals should be defined. As a part of the planning process critical performance indicators, critical success factors, risks and risk mitigation measures need to be identified.<ul style="list-style-type: none">○ Identification of requirements to create awareness and perceived value○ Identification of the requirements with respect to affordable fees and ease of use○ Identification of the measures for development and maintenance of the services○ Identification of the measures to build and maintenance of the necessary organization and capacity○ Development of the associated costs and revenue scenarios. |

On the customer level

Which strategic objectives should we set with regard to satisfying our customer wishes in order to achieve the financial targets? Here we could define objectives with regard to the future value proposition, awareness and perceived value.

On the process level

Which strategic objectives should we set with regard to internal processes? How will we be able to fulfil customer expectations in accordance with the market requirements? Here we could define objectives with regard to the quality - and service levels. Systems attuned to efficiently handle many, rather standardized cases versus a very sporadic case-by-case approach. The latter costs more per unit, calls for higher expertise of staff (and thus higher salaries → costs) and normally only reaches the upper and higher middle class. However, for the state (initial) investment is lower in a case by case approach, but this will not lead to comprehensive, area covering land information for a long time, and thus society misses out on some of the broader public advantages for a long time.

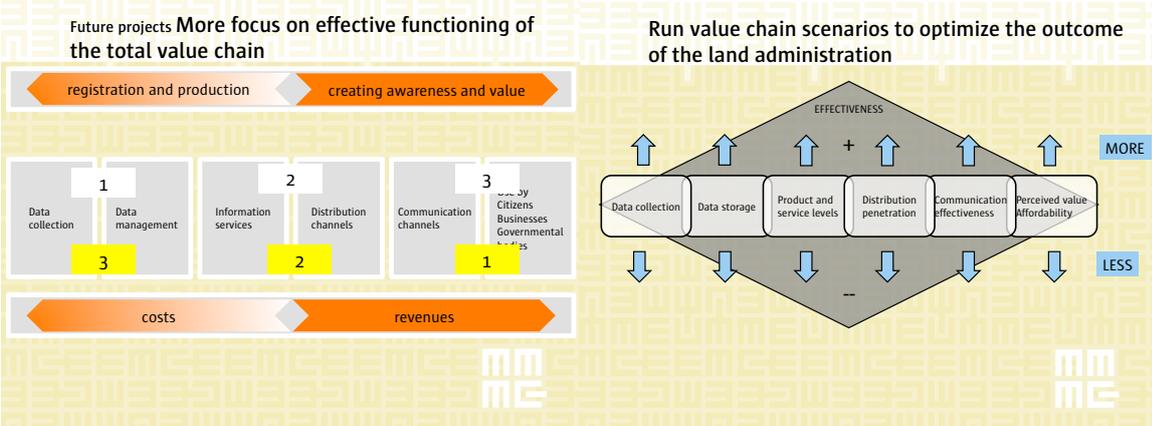
On the resources level

Which strategic objectives should we set with regard to development of resources and competences? Here we could define objectives with regard to development of capabilities related to capacity building, infrastructure, innovation, etc.

5.3 Optimizing the Value Chain

For using scenarios helps to further optimize the business model. It helps to define the set of strategic objectives, the appropriate initiatives, critical performance indicators, success factors, risks and risk mitigation measures. It also helps to optimize the entire value chain of the land administration during the different growth stages.

This also means we need to look at the whole chain that leads to value adding; not just a certain organisation’s mandate. Using a service oriented approach one needs to focus on supporting the clients (citizens, advisors, banks, other government agencies) and not just focus on the internal processes.



6. CONCLUDING REMARKS

A well-functioning framework of policies and laws in support of the land administration is essential for the sustainability of the land administration.

Experience shows that poor decisions in the design phase of a land administration project have actually undermined the long-term reliability and sustainability of the land administration.

Maintenance costs may increase to a level not affordable for the state. As a result underfunding may force short cuts in the registration affecting the reliability, the service levels or the ability to generate additional revenue streams out of information services.

Take for example areas with low economic activity and high poverty. Long-term state funding is probably needed to uphold a reliable land administration. A sustainability assessment in the design phase of a land administration project could positively affect the long-term sustainability. One could even pose the question, whether projects for land registration and

cadastre can come too early (and people feel no need for formalized security). Most likely this will vary between certain types of areas, also within a country.

The absence of a *monitoring system* of the transactions in the real world is another threat for the sustainability. Without such a system, it is not clear whether the land administration is capturing all the transactions in the real world.

Often the project phase is optimized, not giving much attention to how to sustain the system afterwards. Overly optimistic market assumptions, based on not realized awareness levels and purchasing power by the citizens are also not uncommon.

An early stage focus on the *business model* of land administration, preferably starting during the design phase of a land administration project, will provide a better understanding of the drivers of sustainability and a better base for a sustainable land administration.

During the project design phase attention should be paid to the value proposition, the costs to customers, the distribution and communication channels, the processes and resources needed.

To get a better grip on the financial sustainability of land administration and the level of dependence on long-term state funding several cost and revenue scenarios should be developed.

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