

Land Administration: To See the Change from Day to Day

Inaugural address

Jaap Zevenbergen

Professor of Land Administration Systems

22 April 2009

Enschede, The Netherlands



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Dear Rector, members of the Board of Supervisors, professors, staff and students of ITC, distinguished guests, family and friends, ladies and gentlemen,

In September 2008, large rallies and protests were held in Singur in the Indian state of West Bengal. The underlying cause was the plan of the large industrial company Tata Motors to construct a new plant to produce the Nano, an affordable car. First came protests from local farmers who claimed they were being forced off their land or were being paid only a fraction of the land's true value to make way for the plant. These protests led to a plan to relocate the plant to Gujarat, another part of India. However, other protesters, who wished the Tata Motors plant to stay in Singur, blocked a national highway in an attempt to prevent the company from relocating it to Gujarat.

This kind of land struggle can be found all over the world, since pressure on land is increasing because of population growth and economic developments. In many places, changes in land use are unavoidable, particularly as the expected increase in the world population over the next decades will be fully reflected in a comparable increase in the urban population in developing countries (United Nations 2008). Such land use changes have taken, and are still taking, place in developed countries as well. Some of you here today may have travelled by car or train to Enschede after a gap of several years, and if so you will have noticed the expansion of suburbs, business parks and even forests along the way. Although protests against a decrease in nature areas do occur, in the Netherlands these changes come about in a rather tranquil way, in accordance with clear procedures that acknowledge the rights of the present land users and provide fair compensation. A well-developed land governance structure, an appropriate legal framework and clear information on the pre-existing land rights, land use and land values are prerequisites in this respect. This clear information on rights, use and value is available only when a well-functioning land administration system exists. Unfortunately, in many countries around the world the land administration systems are not functioning well or cover only a small part of these countries. This has a negative affect on the development of these countries – as the Tata Motors case goes to show.

Land administration systems

According to the United Nations Economic Commission for Europe's *Land Administration Guidelines* (UN ECE 1996, p. 6), land administration is the process of recording and disseminating information about the ownership, value and use of land and its associated resources. It includes the determination (sometimes known as the

“adjudication”) of rights and other attributes of the land, the survey and description of the these, their detailed documentation, and the provision of relevant information in support of land markets. The term has become much used since the transitions in Central and Eastern Europe in the early 1990s. An important reason for this being the need for a common term to bring together the cadastral and land registration functions. In many Western European countries, these are performed by two or more different agencies, often falling under different ministries. And even in countries where the functions are brought together in one agency, a (disciplinary) divide often exists between the (geodetic) surveyors and (real estate) lawyers. Other disciplinary inputs added over the years include (land) economics, (geo-)information science, public administration and management.

To me, the term “system” in land administration systems means much more than just the ICT component – however important that part may be. A system can be described as “a set of elements together with relationships between the elements and between their attributes related to each other and to their environment so as to form a whole that aims to reach a certain goal” (Zevenbergen 2002, p. 87). A system is thus a combination of elements at a useful level that together fulfil a certain goal. In brief, in terms of a land administration system that goal is to provide tenure security and implement land policy (but more of this later). It is of the greatest importance to remember that a land administration system is a tool, or more precisely a number of tools, to be used to satisfy these goals.

Land administration is about “humankind-to-land relationships”. Traditionally, in an early 20th century capitalist economy, one thought of “a man owning a parcel” – although even that was oversimplified. More abstractly, a subject (one or more persons) has an interest in an object (a part of the Earth). We need to identify each of these three entities (subject, interest and object) and connect them together for each separate relationship. For example, my wife and I jointly hold the Dutch right of *eigendom* (ownership) to the parcel identified as Schipluiden, C, 1065.

To design and operate the appropriate land administration system in a particular region, one should fully understand the types of relationships that are considered important in that region. These are to be found in the regional land tenure system, which sets out the rules drawn up by society regarding who can use what resources for how long and under what conditions.

The first entity deals with the subjects. These can be individual persons (although even then often a couple or a family); legal entities with known legal representatives (such as limited companies or associations); groups where who belongs to the group and who is allowed to represent the group may or may not be clear; local and national government bodies (such as municipalities, provinces, states and national agencies); and the "general interest" at different levels (particularly as the one benefiting from restrictions or responsibilities).

The second entity deals with the interests. These can also be highly diverse and have their roots in different legal systems, such as statutory, customary or religious law. Special complications can be found in cases where different legal systems coexist, and where legal pluralism with regard to land tenure (and dispute resolution) is at work. If we add the informal land relationships as well, a whole continuum of land rights emerges. But even under one legal system different parallel interests in the same land usually exist and together make up the "bundle of rights", encompassing use right, control right and transfer right (FAO 2002; Batson 2008, p. 54). Another term that emphasises that there are both benefits and obligations with regard to land is "rights, restrictions and responsibilities" (RRR), as used in the Land Administration Domain Model (LADM). The strongest, most complete right is ownership or freehold, and this can be held by the State (or Crown or President) or by tribes or individuals (often this is dubbed the allodial title). But even when individuals enjoy ownership, this differs in meaning from the notion of ownership of most movables. Even in the heyday of free land ownership in the early 19th century in Western Europe, the chapter of the Civil Code dealing with property contained more articles on the rights of neighbours than on the principles of ownership. And since land has such an important meaning for society as a whole, the wider society, including the environment, not only imposes neighbours' rights but further restricts the owner's rights in the bundle. So the usual situation is a number of layers of land-related interests, each held by different subjects, and each applying to its own appropriate piece of land. Although this is often a parcel, it can also be a land use zone, a floodplain, an apartment, or a complex urban structure with property boundaries described in 3D to allow multiple use of space.

This brings us to the third entity, the object. The most common form is the parcel, a continuous area to which homogeneous rights apply – meaning that the same right holder holds the same rights to the whole area. The traditional depiction of a parcel is on a 2D map, but of course the related rights and usage are 3D. A conceptual

description of the object is a prismatic volume from the centre of the Earth into the sky – although in most countries the law limits the extent of the right upwards and downwards in some way. The 2D representation of the object is the line where this volume intersects the surface of the Earth. However, this 2D representation becomes too limited as soon as rights relate to objects that are above or below one another. Apartment units in large complexes are a common case in point. Many jurisdictions allow individualised rights for each unit (combined with common rights for the main construction, elevators, staircases, the land, etc.), and of course this cannot be fully depicted in two dimensions. Managing – and particularly maintaining – such complexes is not easy, but most of the time the problems are caused by contradictions between common interests and personal benefit. For example, after the rapid privatisation in Central and Eastern Europe, those living on the lower levels did not want to pay maintenance for the roof and elevator. But in the Netherlands too, legislation relating to such complexes is reviewed and adapted on a regular basis, and has recently incorporated new rules concerning the joint maintenance fund.

Efficient use of inner-city space in recent times has created more and more complex constructions with diverse usage and possessors. To facilitate possession of parts of such constructions based on the strongest rights, which, for example, makes mortgages feasible, 3D property descriptions are needed. And where these are in use, the land administration system should be able to depict them in an appropriate way. Joint research of ITC and Delft University of Technology has suggested several approaches for a 3D cadastre to deal with this. Comparable issues relate to time-sharing of the same object. This is most widely known in regard to holiday estates, but it can also be considered for seasonal agriculture with more than one crop per year. Work on a 4D cadastre to fully integrate this has already started.

Returning to the bulk of objects, the parcels, two important things should be borne in mind, especially by land surveyors and other geo-information scientists. The first is that a parcel, as the object in which a certain set of interests from the bundle of rights is held by a certain subject, is the unit that this subject controls under certain rights. Often, though not always, this means that the subject is using the unit in some way (e.g. the subject is living in a house built on an urban plot, or the subject's cows are grazing in a meadow). The bulk of this type of usage is in the more central part of the parcel, and intensity of usage decreases towards the parcel edge. Nevertheless, it is the position of these edges, the boundaries, that receives most of the attention – on the one hand,

from the land surveyors and other geo-information scientists, who are asked to map the parcels (in some countries words such as boundary survey clearly emphasise this focus); on the other hand, from the right holders, who focus on boundaries, particularly when the land administration system is adequately protecting the rights as such. Boundary disputes are quite common, and land surveyors and even the courts are regularly called on to settle them. Only real “general boundaries” systems focus on the rights as such without dealing with the exact position of the edges, but very few countries practise this in a positive way – England seems to be one.

The second thing to remember is that the boundary – as the line where one subject’s right ends and another subject’s right begins – is in principle an abstract line constructed by societal convention. This line can be described or drawn regardless of the circumstances on the ground. This means that such a line can only be described in the first instance by those to whom societal convention has given the right to do so. Here societal convention can refer to a government agency granting or allocating land, or someone owning a larger parcel of land who wants it subdivided into smaller parts. Of course, in practice most of these boundaries are related to terrain features – because that is what we people understand best (and what makes up our mental map) – but not always. In the many situations where a land administration system is being set up (or improved) by capturing the existing land tenure situation, the terrain features become even more important, since most parcels are defined by a change of interests in land that also implies a change of user. And thus a use or user change boundary is normally visible and approximates the legal boundary. Unfortunately, exceptions can easily be found: sometimes a right holder uses half a parcel personally and gives someone else temporary use of the other half (two plots, one parcel); a farmer may own half his field himself and rent the other half from a neighbour (two parcels, one field); within one parcel different (sub)fields may be visible owing to soil type, irrigation facilities or crop rotation (many fields, one parcel); a director or manager may live in a company house next to the company’s yard with plants and sheds (one parcel, different use types); or one of the neighbours may be – mistakenly or secretly – using a strip of land on the other side of the legal boundary.

In many cases, land surveyors and other geo-information scientists assume the visible boundaries to be the legal ones, and collect the boundary data directly from these terrain features. This can be done during fieldwork, using GPS, for example, (although people around are likely to add their own opinions) but particularly airborne data

acquisition techniques. Aerial photogrammetry, notably orthophotos, has played an important role in preparing parcel maps, and these days, with the latest generation of civil satellites having less than 1 m resolution, remote sensing is being tried at least for rural areas (see Figure 1). Although the efficiency and quick area coverage that these techniques can provide are important for setting up land administration systems, the two points mentioned above should never be forgotten during the procedure to finalise the land administration system based on the use of such techniques. Fieldwork in this case is needed not only for calibration purposes but also for individual ground truthing. Another development may be that imagery through time will allow the detection of land use changes, which could be a trigger to verify whether changes in rights have been reported (improving up-to-dateness) or are even legal (improving enforcement).



Figure 1: Participatory boundary identification using satellite imagery in northern Ghana, 2008 (photo by Anthony Arko-Adjei)

Benefits of land administration

Land administration systems in one way or another have been around for centuries, even millennia in some cases. They usually emerge when the management of land becomes more complex. Such complexities may be due to natural and ecological phenomena, such as the historical, yearly flooding of the river in the Egyptian Nile valley, or land under irrigation, terracing or crop rotation. Other types of complexity are caused when land (or certain types of land) become scarce and/or land becomes a commodity that is increasingly changing hands. Another important trigger for land administration is the government's need for money. Land cannot be hidden, and thus provides an appealing base for taxation, which – when correctly implemented – is also relatively fair in distributing the tax burden.

Napoleon I, who laid the foundations of today's land administration for much of Western Europe, is often linked with the so-called fiscal cadastre. Nevertheless, Napoleon I said of the cadastre:

"The cadastre just by itself could have been regarded as the real beginning of the Empire, for it meant a secure guarantee of land ownership, providing for every citizen certainty of independence. Once the cadastre has been compiled ... every citizen can for himself control his own affairs, and need not fear arbitrariness of the authorities"

(Hampel 1978, pp. 42-43).

Clarity with regard to land rights also allows easier transfer and use of land as collateral for mortgages. Different studies have described how this affects economic growth by stimulating investment via both increased access to credit and higher land values (e.g. Feder and Nishio 1998, p. 28). Based on this notion, Hernando de Soto has been advocating "paperisation" of the land rights of the poor, so that they can benefit from this as well (De Soto 2000). Others, however, are warning against this approach, stating that it is oversimplified on the one hand, and even dangerous for the poor on the other. Distress sales and non-repayable mortgages are indeed a quick way to lose one's assets. The discussion is attracting mainly economists and legal anthropologists, but we land administrators need to be involved as well. At least we must be aware of it, but it goes further, in stimulating us to come up with land administration tools that minimise the risks while still bringing the advantages. Furthermore, we should contribute to better research on what really happens after an intervention, including the effects of the so-called autonomous developments (the continuing changes without specific interventions such as land titling).

Looking into the history of different places will show that the need for land as collateral has been an important trigger in starting the implementation, expansion or change of a land administration system – names such as mortgage (or hypothec) office make this clear. This name for cadastral offices was in common use in the Netherlands until the Cadastre Law of 1992, and is still in use in the parts of Greece that do not fall under the new Cadastre Law. Therefore the need for a land administration system, and what it focuses on, is related to economic and societal developments. So there is no one system that is fit for all.

Linking land administration with the development of the position of land in society (at least in the Western World) has been detailed by Ting in her PhD work with Williamson. They distinguish land as a wealth until the late 18th century, as a commodity until the second world war, as a scarce resource after the war, and as a community scarce resource since the 1980s. Each needs a different cadastral response, being in the same order fiscal/juridical, land transfer, planning and multi-purpose (Ting and Williamson 1999).

Land administration can serve a number of societal goals, which are partly related to the unique historical and societal developments of each country. On the one hand, this diversity in goals stresses the importance of having a well-functioning land administration system in place and, consequently, the importance of studying and teaching land administration. On the other hand, it leads to differences between countries, the aspired goals and the disciplines related to them, which complicates a common understanding, a joint terminology and coherent theoretical underpinnings. This forms a major challenge for scientific research in land administration, which suffers from a non-finalised terminology as well as the need to emphasise one of the related disciplines to ensure publication in scientific journals.

In its land administration publications, the UN ECE identifies no less than 13 benefits of land administration:

- it guarantees ownership and security of tenure
- it is the basis for land and property taxation
- it provides security of credit
- it guarantees the result of judicial procedure relating to land rights, including rights of repossession of land
- it reduces land disputes

- it develops and monitors land and mortgage markets
- it protects state lands
- it facilitates land reform
- it promotes improvement of land and buildings
- it facilitates reliable land use records
- it improves urban planning and infrastructure development
- it supports environment management
- it produces statistical data as a base for social and economic development (e.g. UN ECE 2005, p. 6).

In his inaugural address, Paul van der Molen summarises these into four areas that land administration should serve:

- 1 the improvement of land tenure security
- 2 the regularisation of the land market
- 3 urban and rural land use planning
- 4 the taxation of land (Van der Molen 2001, p. 5).

In my PhD dissertation (Zevenbergen 2002, p. 3), I focused on legal security for the owner and purchaser as output of the land registration black box, with the land tenure situation as input (see Figure 2). This put the focus on the private market side of land administration. The present research theme here at ITC is called "Land Administration for Informed Governance", which suggests focus on the later items in the list, although the detailed text and current execution clearly cover all items, including (1).



Figure 2: Land registration as a black box (Zevenbergen 2002)

One definition of land administration focuses on supplying the instruments for implementing land policy. This would make land policy the input, with the land administration system being the black box. The question then is what should be identified as the output, since each land policy is again different and tries to point the way to a number of desirable societal outcomes. The two overarching aims of land policy that can be seen in the title of the 2003 World Bank Policy Research Report *Land Policies for Growth and Poverty Reduction* (Deininger 2003) are also specifically mentioned in our research theme description. This, however, does put a strong focus

on the economic dimension, whereas it is widely acknowledged that economic growth needs to be balanced against its social and ecological consequences, a notion that is best expressed in terms such as the triple bottom line “People, Planet, Profit” or sustainable development. Sustainable development will be used as the output in the model I present in Figure 3. Nevertheless, as land administration still has a pivotal role to play in providing tenure security for the owner and purchaser of land as well, I present a cross-shaped system model that combines both.



Figure 3: Land administration as a black-box

Land administration can achieve both these goals only if and when the information in the land administration system has the right level of up-to-dateness. And it is only through the cooperation of those transferring land rights, by reporting the changes soon after the event, that we can keep the records up to date (see below) and thus see the change from day to day.

Before I discuss some details of how a land administration system can be kept up to date, it is important to realise that a land administration system cannot reach any of its goals on its own. To be able to produce the outputs expected of it, a land administration system needs to be embedded in a wider institutional context. This institutional context is partly of an economic nature but mostly related to governance. For instance, a state guarantee for a registered owner has little or no meaning if, when a problem arises, it takes years in court to ensure that the state delivers on that guarantee; or when the elite can get land registered in their name regardless of the facts on the ground. This institutional context is dubbed “land governance” and includes topics such as dispute resolution and transparency in land administration. As regards the latter, ITC has been training land sector staff in several African regions in collaboration with UN Habitat, GLTN¹ and local partners, and a proposal to continue in Southeast Asia is being drafted.

¹ GLTN = Global Land Tool Network, facilitated by UN Habitat with financial support from Norway and Sweden

Similarly, the advantages of land as collateral only work in practice when there is a banking sector in place willing to deal with clients on this basis, and when the clients have sufficient regular cash income to realistically repay the loan (otherwise taking on such a loan is a sure way of losing the land in the near future).

Updating

Much has been written on how to design and set up a land administration system, but although more work is still needed on this, I want to focus today on how to keep a land administration system up to date once it has been established. To do this, all relevant changes have to be processed. As described above, most of the changes in the humankind-to-land relationships are caused by transfers between right holders. In some cases, a government body is one of the right holders, giving certain rights away through granting, allocating or selling some land or alternatively acquiring land by purchase or expropriation. Mostly, however, the transaction is between two ordinary parties (individual people or companies). When it comes to ordinary parties, we can distinguish two main groups of rights transfer: transactions on which a party has decided (even though the seller might not actually wish to do this) and transfers of rights as a consequence of an event (death of the owner is the clearest example, but also marriage, divorce, corporate merger or bankruptcy). A transfer of rights may relate to the whole of an existing parcel, to a part of an existing parcel (usually called a subdivision), or to a more complex rearrangement of parcels into a new layout (often including change of use). Let us look a bit closer at the transfer of an existing parcel.

If buyer and seller know each other (well), they can make an oral deal on their own. The buyer pays the seller, often performing some kind of symbolic act, and then starts to use the land. Often they will inform the neighbours and perhaps some local leaders, and even appoint some of them as witnesses (see e.g. Genesis 23, verses 4-20, and Ruth 4, verses 1-8, in the Bible). A similar process was also usual in ancient Rome, whose law has had a huge influence on today's Western legal systems. At least five Roman citizens who had come of age had to be present as witnesses, and one other held the bronze scale. The would-be owner held the item² for sale and some bronze (this was relaxed for land, and after a while not necessary on the land itself). He would recite a formula, stating he owned the item and that he had bought it with this bronze and this scale. He would then touch the

² The procedure was not specifically for immovables but for core assets to which the family patriarch held rights, including land in Italy, slaves and large domesticated animals.

scale with his bronze and pass the bronze to the seller, originally the sale price, later just some symbolic amount (Lokin 1985, p. 11³).

This ritualistic procedure of transfer, *mancipatio*, started to erode because it was considered too complicated and cumbersome. Parties would draft a document (deed) in which they declared that *mancipatio* had taken place even when the ceremony had not been performed. Without going into all the details here, the legal position of the buyer was quite interesting. Since the transfer had not been completed as prescribed, the buyer had not become the owner under traditional Roman law. However, owing to the relatively easy rules for prescription, after two years he would acquire ownership after all. Furthermore, the judges increasingly strengthened the intermediate position, until one spoke of having acquired ownership under “judge law” (Lokin 1985, pp. 13/14). It was during the codification of Roman Law under Emperor Justinian in the 4th century after Christ that the difference was finally removed (which also had significant effects) (Lokin 1985, pp. 18/19).

In the early days, besides *mancipatio*, there was another way of transferring any type of property, including immovables. This was called *in iure cessio* and took place in front of a judge (or provincial governor). It took the form of a “mock trial”, where the acquirer would act as claimant, claiming possession of the item in question, and the seller did not contradict this. The judge would then assign the item to the acquirer. As this procedure could be conducted in only a limited number of places, it was considered cumbersome and seldom practised (Lokin 1985, p. 10). It seems to me there are some similarities between this procedure and, for example, the German procedures for title registration, which in theory take place in front of a land judge (in practice the procedures are of a much more practical nature).

What can we learn from 2000 years ago? We see that a complicated legal procedure that was no longer considered practical was slowly phased out. We also see that there was a way round it – also legal but at the start considered inferior. Over time this gradually became the normal, fully accepted, legal procedure. Not only did the courts acknowledge this, they also increased the protection for those who acquired land in this way, and eventually the legislature erased the last remnants of inferiority. Of course, these processes took a long time, and I have no information on how many land

³ When describing these transactions, Lokin is quoting extensively from the *Gai Institutiones* of the famous Roman historian Gaius)

conflicts arose while the intervening lack of clarity prevailed. Still, it might serve as inspiration for countries where presently a slow and overcomplicated official procedure exists that is often ignored in favour of an informal route.

In any case, we should be aware that none of the above procedures included any systematic keeping of documents in the form of a register. The oral, witnessed method is particularly risky when the parties concerned start to interpret the deal differently or when the relationship between buyer and seller changes or was weaker from the start.

Government bodies trying to tax transfers are not happy when they are unaware of such transactions. They like to be informed – which also gives them the opportunity to assist should a conflict arise later. So governments usually introduce rules to encourage people to inform them of transactions. On 10 May 1529, Charles V, the Holy Roman Emperor but here acting as Count of Holland, forbade the transfer of land unless the transaction was brought before judges in the area where the land was located, declaring all other transfers null and void (Ketelaar 1985, p. 41). A similar ruling referring to the courts and including the mandatory recording of transactions was made by his son, Philip II, in 1560 and by the Legislature of Holland in 1580, which seems to suggest that the application was not adhered to very well (Ketelaar 1985, p. 44). In some towns, however, procedures of this type predated the 16th century. The 1580 ruling included instructions regarding the boxes in which the records had to be kept, since the records of several towns had been destroyed during the War of Independence in the Netherlands at that time (Ketelaar 1985, p. 44).

During these times, innovations regarding records and record keeping were applied from time to time in different towns (e.g. to increase completeness of, and access to, local records), although many weaknesses remained (Ketelaar 1985). Many forms of land transfer (e.g. inheritance) did not need to be registered under the 1529 ruling, and certain types of transaction (e.g. involving the feudal lord) would be performed in a specific court, thus leading to an incomplete picture of the information on a specific property in any one court (Ketelaar 1985, p. 47). In all cases, the motivation of the authorities clearly included the fiscal aspect, since some kind of transfer tax was more or less constantly in place (2.5% in Holland in 1598). However, legal security was also mentioned as a motive.

What can we learn from 450 years ago? First, that mandating registration by law does not automatically lead to compliance; second, that destruction of land records during conflicts led to attempts to prevent this (early start of post-conflict land tools); and finally that, although step by step local innovations increased the usability and effect of land administration in various towns, certain issues needed to be tackled at a higher level (e.g. the competence of parallel structures).

Many existing land administration systems, especially those in developing countries, are not being updated very successfully. Often they cover only a part of the land and reach only a segment of the society. Complicated procedures, parallel authorities, the need to hire expensive experts, the need for different approvals, and overall costs in time and money deter many people from embracing the land administration system. Vested interests, elite bias, the copying of “Western” systems, overconfidence in technological solutions, and forgetting to contextualise are some of the reasons. None of these is intrinsic or specific to land administration, but we land administrators must prove we can do better. Inclusive pro-poor tools need to be designed and mainstreamed, including legal-administrative solutions that are simpler than, for example, Torrens titles. Teaching and training should be broadened, and more lessons should be learnt through thorough evaluations. Land administration systems should be part of the solution but too often, lacking fitness for purpose, they have become part of the problem.

Years ahead

From the above, it is clear that a lot of research is needed to further comprehend, design, implement, run, compare and evaluate land administration systems throughout the world. In my opinion, there are five avenues that we need to focus on in the coming years.

- I There is an ongoing need to focus on land administration systems that can deliver to all in the society, and this calls for further development and refinement of pro-poor land tools. The Social Tenure Domain Model (STDM) prototype (Figure 4), which was designed here at ITC in collaboration with UN Habitat, GLTN and FIG⁴, is up for its first field test in the months ahead in rural Ethiopia. Of course, bugs and areas for improvement will pop up during the test, and a second version will be developed based on this experience. In addition, the STDM concept, which accommodates

⁴ FIG = International Federation of Surveyors

fuzzy objects, interests and subjects, as well as overlapping claims, will need to be tested in different circumstances, including customary areas, informal settlements and areas with returnees (e.g. post-conflict restitution areas).

So far, both the STDM and the overarching Land Administration Domain Model (LADM) have focused on data modelling, and thus the storing of the humankind-to-land relationships at a certain moment. The STDM includes the first time data collection of the system as well.

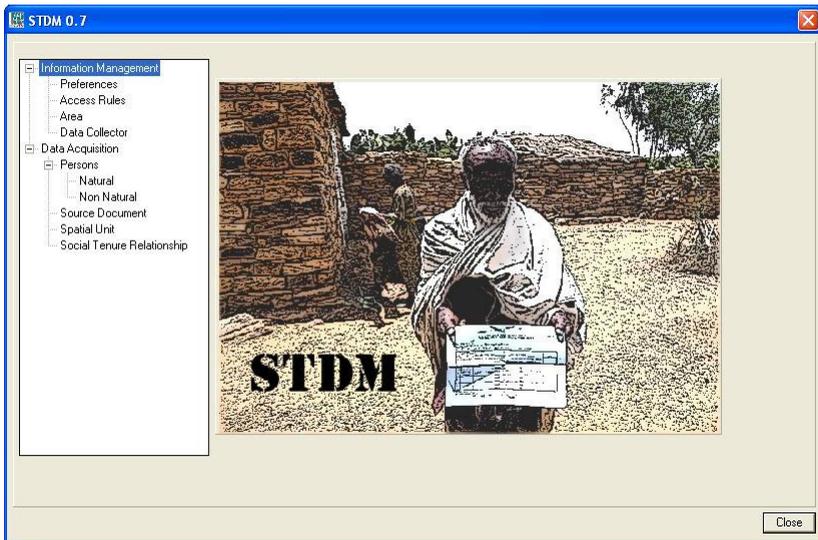


Figure 4: Front page of STDM prototype 2009

2 There is, however, also a huge need for a better understanding of keeping land administration systems up to date. This calls for a focus on the land registration component from the angle of the average or normal case rather than the most complicated cases and legal intricacies. As for land tenure, and now also for land administration through the STDM, we need a continuum of recording approaches.

There are ample examples of Western title registration systems failing to work (well) in most African countries, mainly because of the complexities, level of centralisation, required professionalism, and thus costs in relation to the advantages brought to most of society. But slowly progressing bottom-up types of record keeping of land

rights (an example shown in figure 5) and of documented transactions are also emerging (comparable to historical developments in many other places throughout the world). On the other hand, it is the government sector that is uploading all its (often partly contradictory) land policy wishes into the land administration system from the very start – even before a well-documented and recorded land market has emerged. We need to develop models that describe the different components of a recording system, what benefits they bring at what price, and how they can progress stepwise. And we especially need to improve the documentation of present and historical cases of well-functioning land recording systems that really support the society they are serving.

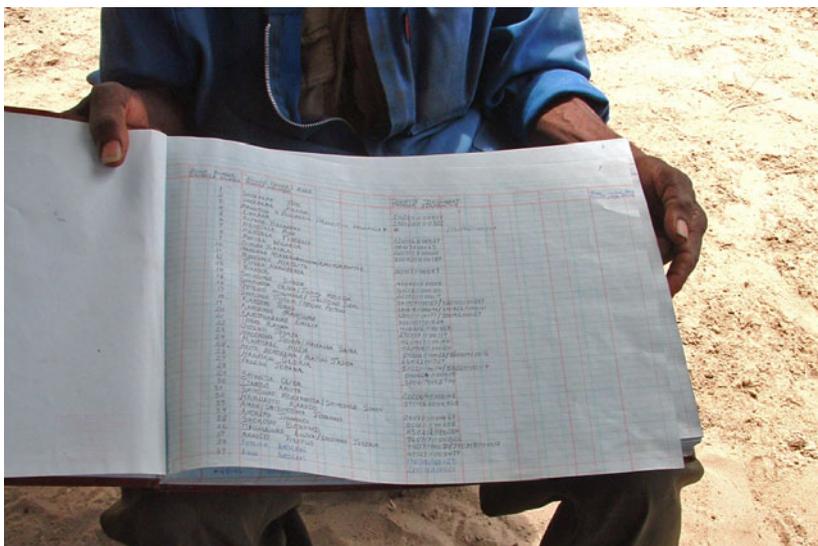


Figure 5: Local land records in Namibia, 2008 (photo by Paul van Asperen)

- 3 We need an increased understanding of what certain (ICT) tools can bring us and of what land administration really needs. A number of recent high-tech developments (e.g. satellite imagery and pattern recognition) have the potential to be more inclusive (and pro-poor) than the more traditional methods (e.g. ground surveys). Of course, this has to be embedded in a wider context, and it is easy to implement it incorrectly, but the potential is certainly there. High-resolution satellite imagery gives a relatively unbiased and, to many, understandable base representation of land-

related realities, and this can be a good starting point for participatory processes to determine the many non-visible and “institutional” aspects of the humankind-to-land relationships. Much more than words and even more than abstracted (cadastral) maps, true colour imagery is quickly understood by large sections of society (compare Figure 1). Of course, there are limits to the geospatial accuracy of such approaches, and they call for the “cadastral surveyor” to assume a very different role. The role of near-magical expert performing complex manoeuvres in the field (black box in front of the people) will shift to become much more facilitatory in nature. The black box, both in the satellite and its processing afterwards, is indeed high-tech – and it is the core of the work of several of my colleagues here at ITC – but what we can bring to the field is “reduced” (or should we say upgraded) to something quite understandable. More field testing will be needed, as well as insights from colleagues who have worked on participatory mapping and from those knowledgeable about the black box. But the greatest challenge seems to be convincing the existing corps of cadastral surveyors.

Further developments in ICT, including notions such as user-generated contents, could also have potentially similar effects – in which case it is the legal-administrative professional who would have to rethink notions such as authentication, proof and trust.

- 4 Land administration systems are a tool in a wider context. Even though we reiterate the notion that land administration is merely a tool for a wider goal, such as achieving tenure security and sustainable development, it can quickly become a goal in its own right, particularly when implementation is conducted as a project. Many of the benefits will only emerge when quite a few requirements have been met (or are being implemented at the same time). Furthermore, the land administration system being introduced or improved needs to be more or less on a par with the wider governance context. The level of computerisation, decentralisation, user-orientation, and good governance of the land administration system should not differ too much from that of general public administration structures. And while the whole land issue and the land tenure system remains unsettled (e.g. the position of pastoralists, of users of rural land that is becoming urbanised or otherwise developed, of squatters in informal settlements, of IDPs, refugees or returnees during and after conflicts and natural disasters), a “standard” land administration system is unlikely to be a great success.

Many other disciplines and interdisciplines are looking at land, especially in such cases of flux (legal anthropology, development studies, land economics). The contacts and cooperation with colleagues with such a background should be cherished and intensified. It is not a matter of "chicken or egg" here, but rather a step-by-step approach in which a number of developments are progressing in parallel (compare Barry and Fourie 2002).

Realising the above also calls for diversity in the land administration solutions on offer: not a single standard titling package but a whole range of land recording options to approximate the needs of the area in question. Frequently, this diversity is also present within countries, which challenges our often countrywide approaches. In Indonesia, for example, large tracts of the outer islands need a simple solution based on customary (*Adat*) law, whereas the central tracts of Jakarta are in need of 3D property rights supported by an appropriate land administration system.

All the above avenues are important but we here at ITC cannot, and should not want to, do it all by ourselves. Points (1) and (2) call for more or less pure land administration knowledge, whereas in (3) and (4) knowledge of other disciplines is needed. The strength of our land administration research has to lie in combining the two in the right balance – as the ITC group has been doing for the past years. We need to continue to play a key role in points (1) and (2), and to be a recognisable player in (3) and (4), talking and working with others. With regard to (4), all involved form a kind of "land sector" (termed as "land professionals" by FIG, although the latter term is spread with a strong interventionist-engineering sauce). As far as those neighbouring disciplines that are anti-interventionist are concerned, I would like to call more attention to the so-called autonomous developments. Certain segments of society (the underprivileged or poor) are always under the pressure of losing out. The risk of this increases during dynamic times, and clearly land titling and even less invasive improvements of land administration systems cause dynamics. But these days more and more areas are constantly experiencing dynamic times with regard to land, and the risk of losing is always lurking around the corner. An appropriate intervention moving towards an inclusive way of land administration should minimise (nullifying appears infeasible) land loss and create a more stable and less easily influenced reality from there on.

5 The final avenue we need to consider, in order to underpin all the above, is a much more systematic evaluation of what is going on before, during and after interventions. The evaluation should not only focus on the impact (as some ongoing household surveys already do (e.g. by the World Bank), to be extended with more use of spatio-temporal analysis), but also include an enhanced understanding of the land administration system as such, including simulations with appropriate models that are to be refined. In addition to the scientific role in this, donors should understand the importance of allowing the experts, who usually do much of the work (through project design and technical assistance), to learn from projects afterwards, and so prevent them from repeating mistakes.

Some evaluation work has been undertaken recently, but more is needed since good evaluation calls for good understanding of the systems both internally and in context. Particularly when we want to make reliable comparisons between countries, much more conceptual understanding and description of land administration will be needed. The level of complexity this brings cannot be underestimated – as I experienced a few years ago in the European COST G9 Action “Modelling Real Property Transactions” (Zevenbergen et al. 2007).

It is clear that the challenges are ample and that, even with all the cooperation we already have and are working on, we are understaffed. Real land administration experts are few in number, and several attempts over the last few years to attract more staff to this field at ITC have not led to the intended results. But we need not only more comprehensive leadership of the land administration team but also more expert capacity to teach, to conduct research and to deliver project services if ITC wants to continue to be one of the front runners in land administration. The worldwide importance of this work should now be clear, as well as why ITC (soon to be part of the University of Twente) should remain in the vanguard of this field.

Thanks

I would like to thank the rector and the Board of Supervisors for giving me the opportunity to contribute in this position to land administration at ITC. Land administration has a long history at ITC, but the increased visibility was boosted by the appointment of Jo Henssen as visiting professor of legal cadastre and land registration in the late 1980s. Henssen, one of the directors within the Netherlands' Kadaster, was already very active in the international setting, especially within FIG Commission 7, and

was already involved in joint educational activities of ITC and Delft University of Technology. I was one of the Delft students who followed his lectures, and this has given me a sound foundation for my international work in land administration. Henssen's inaugural address was delivered in April 1990, 19 years ago. After his retirement, Paul van der Molen, also one of the directors of the Netherlands' Kadaster and very active within FIG, was appointed visiting professor of cadastre and land administration. Interestingly, Van der Molen also delivered his inaugural address in April, eight years ago. As the name of his chair already indicates, land administration as a term was catching on, and within a few years became even more prominent in the UNU-ITC School for Land Administration Studies⁵, and since last year the land administration specialisation of the ITC MSc.

Thanks go to Paul for strengthening the position of land administration over the last decade, and I am glad that he will continue to contribute in this respect in the years ahead. Thanks also go to the department leadership and directorate, especially Chris Paresi and the rector, for facilitating, supporting and contributing to this strengthening process. Thanks are also due to the colleagues and PhD students within PGM, who share a passion for land administration, for making me feel at home – even when so often I am not around – and to the MSc students in the (GIM) Land Administration programme for making sacrifices to learn at ITC and at the same time teach us by virtue of their different backgrounds and experiences.

Thanks go to the Netherlands' Kadaster for supporting the developments in land administration in many ways, not the least by cooperating with ITC and strengthening the School for Land Administration Studies.

As for my personal development, in addition to Henssen, I would like to mention some others who have taught me a lot: Professor P. de Haan, who passed away a few years ago; my promotors Professor Theo Bogaerts and Professor Jitske de Jong; and many others who supplied me with opportunities and allowed me the space to explore and to learn. Professionally, these include Professor Paul van Schilfgaarde, chair holder at Delft University of Technology when I was starting out as an academic; Professor Erik Stubkjaer of the University of Aalborg, Denmark, and Professor Hans Mattsson of the

⁵ This is one of two schools set up at ITC as part of the status as associated institute of the United Nations University. The Netherlands' Kadaster also participates in and supports the School for Land Administration Studies.

Royal Institute of Technology, Sweden, for making me part of very interesting projects and much more; Dr Clarissa Augustinus from UN Habitat and Dr Klaus Deininger from the World Bank for several joint missions, discussions and brainstorm sessions; and Professor Willem Korthals Altes, current chair holder at Delft University of Technology, for allowing me to pursue my own paths and to accept this position. Privately thanks go to my parents. They allowed me to travel abroad on my own when I was nearly 16, and only two years later supported an exchange year in the United States. And to Miek, my wife, who sees me coming and going all the time while maintaining a home for our children and for me when I am around: independent when need be, together when possible.

I would like to conclude this afternoon with the story I started with. In October 2008, Tata Motors indeed decided to move the plant out of West Bengal to Gujarat. According to one news item, this was because "Gujarat was able to define the land, secure possession of the land — the main thing — at an unbelievably fast pace". But by the end of December 2008, it had become clear that another land dispute would prevent Tata from building the factory in Gujarat too⁶. Finally, Tata reverted to using one of its existing factories in Pantnagar, in the northern state of Uttarakhand.

Mr Rector, I have spoken.

⁶ It is normal that "land is politics" and that everybody tries to get a piece of the action in such cases, even when a fully functional land administration system is in place. But, without knowing the details of the case presented here, I feel it serves as a clear example of how important land administration can be, and of what the consequences of inadequacy in this respect may be.

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