

# **The Evolving Function of Land Administration in Society - Capitalizing on investments in a digital land register and cadastre in the Netherlands**

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## **SUMMARY**

This paper deals with the evolving function of land administration in society. That is to say, if -at least- the land administration organisations are able (both from the perspective of mandate and ambition) to capitalize on their earlier investments in conversion from an analogue towards a digital environment. Needs of the market (land, real estate, credit), the wish for better performance of the government and *e*-government-initiatives provide good opportunities to strengthen the land administration fundament. Some real life examples of the Dutch Kadaster are taken as an illustration.

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## 1. INTRODUCTION

In the '70 a political debate arose in the Dutch Parliament regarding the fiscal deductibility of mortgage interests. What was the case? Fiscal laws in the Netherlands allow homeowners to deduct from their annual fiscal income statement the interest they pay to their mortgagebank. The underlying policy was the governments' wish to encourage owner-occupied homeownership. A successful policy, as the percentage of homeownership increased from about 25% in the '50 to 54% today. However, some negative effects occurred, namely that citizens who easily could afford paying their residence by own means, nevertheless took a mortgaged loan in order to benefit from the fiscal deductibility, so enjoying government-paid 'cheap money' and spending it for other purposes. Especially the more wealthy citizens were suspected to act in this way. The political debate concerned whether the government should limit the possibilities for deductibility, by –for example- allowing fiscal deductibility for mortgaged loans only when not larger than 400,000 NFL (those days quite some money). The question was: how many citizens in NL possess a loan that exceeds that amount? The Dutch Kadaster (officially named the 'Cadastre, Registry and Mapping Agency') was asked to answer this question, because mortgages are considered as rights *in rem*, and by consequence are registered. It was the first time the Kadaster was faced with a request for a service beyond the conventional services of registration and boundary-mapping. It took almost 4 weeks for a hundred Kadaster-employees to go through all the analogue registers, page by page, to find out the answer, which unfortunately was submitted too late to play any role in the political debate.

This example is typical for many land administration organisations some 40 years ago. Their societal relevance was limited to the core statutory tasks of registration and maintenance of cadastral maps and providing information on land parcels and their ownership and use-rights. This went very well, at least when services were asked at the level of the individual parcel. Then a search in the land books, in the cadastral maps and auxiliary registers was sufficient to provide a quick answer.

However, when questions were asked at a statistical level or at an integrated level, our organisations were unable to provide such service. The limitations of working in an analogue environment were well visible, both for managers and the clientele. Since the improved opportunities of ICT application, which became manifest since the '80, the investments in ICT are manifold justified by expectations to gaining benefits in the field of efficiency (working at lower costs) and effectiveness (better customerservice). Coming along with this, was the reform of institutions and organisations, as can be seen from Netherlands, UK, Sweden etc.

This paper aims at analysing how our kind of organisations actually materialize the intended better services delivery, and how they capitalize on the investments in ICT. The paper does neither deal with the cost-aspect, nor with the reform aspects.

## 2. CURRENT STATUS OF INVESTMENTS IN NL.

Two FIG/Commission 7 conferences (FIG 2003, FIG 2005) were dedicated to identify the ICT efforts of various land administration organisations. Although the focus in these conferences was on the content of ICT application, it became clear that substantial budgets were allocated. From the Long Term Strategy Plan 2009-2013 of the Dutch Kadaster we derive that current investment in ICT (both staff-time and out of pocket money) amounts up to about 65 million € annually, to be distinguished in some 50 million € maintenance of existing systemoperations (*'keeping the systems in the air'*), and 15 million € for systemdesign and -development, which together reflects 30 % of the annual expenditure of about 250 million €. In the '70 this concerned less than 5%, as I remember.

In the Dutch Kadaster a part of this current budget is meant to finance the renewal of the existing technical and software architecture (Booij, 2003), which aims at better servicing customers:

- One national land register, where in the past every local registry office had to manage its own database (although centralised) leading to multiple recording of names etc.
- One national database with names of rightful claimants (in order to gain access to the national land register)
- Better quality of recorded data (through automated checks and balances, not easily possible in the analogue era)
- Better access to recorded data (through improved internetaccess-access, webservices, internetportals, *multichannel distribution*)
- Flexible opportunities for value-added products and tailor-made information
- Opportunities for improved dataintegration of registry and cartographic data.

The justification for this renewal programme (which runs from about 2003-2013) is not only the ageing of existing systems, which would bring along serious continuity risks, but especially the changing needs of customers. Ultimately, the function of our organisation in society is at stake.

Apart from this renewal programme, additional strategic choices were made in the last 5 years (Barnasconi, 2006), of which I mention:

- 3D Cadastre: meeting the demand for new forms of property rights related to the issue of multi-use of land, a political priority. In the period 2009-2013 the digital cadastral map will be extended with an option to visualize three-dimensional objects that are not linked with the earth's surface and are no apartments. In 2015 three-dimensional volumes should be eligible for registration.
- Improving access through internet. Fifteen years ago, about 5 million information-products were sold annually, but after the introduction of the first closed network access it grew to 10 million in 2003 already, and now - after the development of

internetservice [www.mijnkadaster.nl](http://www.mijnkadaster.nl) it reached over 20 million today. Forecast is 25 million in 2013.

- Electronic lodging of notarial deeds and other legal documents. This is fully operational now, and 95% of all documents are submitted electronically. We estimate that in the future 5% will still be submitted in analogue format.
- An active role in e-government. Since 2008, the Dutch government introduced [www.mijnoverheid.nl](http://www.mijnoverheid.nl) as ‘the’ official government portal to materialize the electronic government service, in which cadastral data are fully integrated. All necessary features will be integrated in Kadasters’ systems.
- Full exploitation of opportunities of the digital environment for enhancing standard- and tailor-made information-products in order to guarantee a leading role of the Kadaster in meeting existing and new societal needs.

### **3. THE EVOLVING FUNCTION OF LAND ADMINISTRATION ORGANISATIONS: A FRAMEWORK.**

In my view, land administration organisation can safeguard and develop their role in society in a number of ways.

In the *first* place, there is enhancing the traditional role in the land- and real estate market. Already many years land administration organisations aim at facilitating the smooth working of the market in providing security of transactions. Sound registration procedures and adequate supply of relevant information about subjects, rights and objects allow for fast moving property transactions, and for the prevention of fraud. In the '90 first attempts were made to enhance the transparency of the market, through the publication of statistical data about marketprices and transactions (Real Estate Barometer Sweden, House Price Index UK, Netherlands). Much more now is possible, as can be seen in section 4.1.

In the *second* place, governments are increasingly using cadastral information for governance. Traditionally this concerned land taxation, land use planning, and the acquisition and management of state lands. New fields occur, such as the registration of the increasing different sorts of rights on land according to public law (distinguished from private law aspects like ownership and lease), subsurface infrastructure such as cables and pipelines, information infrastructures, climate change, water, safety, homeland security etc. In section 4.2. this is elaborated a bit.

In the *third* place governments aim at streamlining their services to citizens and companies, through the introduction of e-government facilities. Apart from the provision of policies and technical and legal means to make electronic exchange of communication possible, the chaos which normally exists in a government information architecture has to be solved (van der Molen, 2007). As land information appears to play an important role as core-information for society, land administration organisations have the opportunity to boost their role and function in modern society. More in section 4.3.

In the *fourth* place society at large needs location based information, not specifically related to cadastral information. Although this economic sector enjoys the attention of many private sector companies (both for keydata by Google, Cyclomedia and value added services by many other), the underlying fundament often comes from the National Mapping Agencies, providing their digital topographic datasets and above all their ‘coordinates’. More ins ection 4.4.

#### 4. CAPITALIZING ON ICT INVESTMENTS.

Capitalizing can be seen in two ways, namely generating extra financial income, and giving better justification of existence. Both are important for land administration organisations. The world wide debate about free government information for all, might cause that gaining revenue is not always obvious. Supply of land information against a maximum of distribution costs, does not give much award for investments in product-development. Nothing is for ‘free’, so someone has to pay at the end of the day. In the case of the Dutch Kadaster the government –although in favour of free government information for all- exempted various self-supporting government agencies for application of this general rule, at least for the time being. Personally I agree that taxpayers should not pay twice for the same information, but when governments in the past reduced the taxburden by putting certain public bodies at an arms’ length of the minister and ordered them to take care of their own incomes by colectin fees (in our case of people pursueing a real estate of mortgage transaction), a conflict arises. Whatever financial arrangements are imposed in the future, hopefully incentives for improved service through product- and servicedevelopment remain, one way or another.

A second remark here is that governments might have assigned such a limited mandate to the land administration organisation, that these organisations are restricted in their freedom to extend their portfolio of products and services. In that case effort should be made to change the ‘landlaw’ in such a way that society can fully benefit of digital land registers and cadastres. In NL, the Cadastre Act ’92 was changed in order to allow the Kadaster to extend her portfolio towards ‘contributing to good governance’ and ‘contributing to the economy at large’.

##### 4.1 Evolving function in the land- and real estate market

In line with the existing initiatives in providing statistics for better understanding of the real estate- and credit market, a digital environment allows for some new and in great demand.

*For the professionals.*

a) **Monthly marketstatistics (real estate market):** as a follow up of earlier statistical reports, the Dutch Kadaster publishes every month a report about the performance of the real estate market in general, comprising information about transations, prices, distinguished in various categories of real estate and per region. Although these reports are for free, it is a nice contribution to our function in society because the press refers to these reports frequently in the media. It enhances the relevance and the profile of the Kadaster.

b) **Quarterly mortgage statistics (credit market)**: every three months specific information is being published on the performance of the mortgage market. Mortgages are distinguished in five categories, and the publication provides statistics per existing houses, newly built houses, lands with a building permit. Furthermore there is price information about rural parcels, parcels with building permit, foreclosures and ships. Although these reports are also for free, it is again a nice contribution to our function in society because of free publicity in the press.

c) Regular **reports about market shares** of notaries, real estate agents, and mortgage banks. The reports provide per agreed area statistical information about real estate transactions and/or mortgage transactions and the market share of the applicant. This report has a fee (about 800 € for the most simple report at an annual base .

d) **Watchdogsystem**: new feature, that will become available this year. During a transaction, the notaries have to check the land registers and the cadastre a few times, for example when they draw up the deed of transfer, just before the signing of the deed by the parties, just after this to check whether seizures are registered in the same time-span, and afterwards to check whether the transaction is properly registered. Having a subscription on the watchdogsystem, the notaries will get this information automatically delivered in their own office system.

d) **Land- and real estate price monitors**: this is possible for various categories, such as residential houses, business real estate, agricultural parcels, retail real estate, lease market, selling of rental houses to their renters; for many of these reports, the source is a combination of information from registry and cadastre and specific datasets of third parties, such as DCA Service Centre for Rural Market, Dataland (a cooperation of all Dutch municipalities to provide access to all their data) (fees are about 1,90 € per included parcel, and a minimum order of 70 €). Tailormade solutions are offered to the market, such as a specialized land monitor for ‘ASR Real Estate Management’ the biggest private land owner in NL.

e) **Appraisals**: Nowadays mortgagebanks do not always require an on-site visit of an appraiser to assess the value of the real estate to be used as a collateral. Similar to mass appraisal by municipalities for land taxation purposes, they use more and more the services of specialised appraisal companies that combine a lot of distributed datasources in order to estimate the value of a property, right from their office desk. Kadaster supplies a lot of tailormade information about transactions, prices, fysical descriptions etc, that form a substantial part of these companies’ databases (for example ‘Stater Ltd’). For example: a list of reference objects of a mortgage-application in a certain area costs 1,04 € per identified reference object with a minimum order of 70 €.

The aim of this series of productdevelopments is to satisfy the needs of the professional users in the real estate market. According to the annual customersurvey this works out quite well (mainly positive responses).

*For citizens*

a) **Better access**: of course cadastral information is accessible through the [www.kadaster.nl](http://www.kadaster.nl) website. However, many organisation maintain websites that regard land, real estate, and

property information, in which cadastral information forms a necessary element. Some examples: [www.geoz.nl](http://www.geoz.nl) combines Kadaster-data with municipal data (Dataland, a strategic partner), [www.boerzoektgrond.nl](http://www.boerzoektgrond.nl) combines Kadaster data with information of Stivas (farmers searching for suitable landplots to acquire), [www.watwaswaar.nl](http://www.watwaswaar.nl) combines historical Kadaster maps and information with historical data from other government sources, [www.koophuis.nl](http://www.koophuis.nl) and [www.jaap.nl](http://www.jaap.nl), two sites about houses for sale including relevant cadastral information, [www.landmarkinfo.nl](http://www.landmarkinfo.nl), [www.kadasterscan.nl](http://www.kadasterscan.nl), [www.dataquote.nl](http://www.dataquote.nl), three sites that provide complete reports of all relevant aspects of houses (with a focus on environment, e.g. soilcontamination), [www.waardevanjewoning.nl](http://www.waardevanjewoning.nl) ('value of your house') delivering estimated value of one's property, [www.boerderij.nl](http://www.boerderij.nl) comprising land transaction information interesting for farmers, [www.woningwizard.nl](http://www.woningwizard.nl) and [www.woningquote.nl](http://www.woningquote.nl) two sites that estimate the value of a property and provide price information through sms-service.

b) **Attracting citizens with free information:** making citizens aware of the relevance of cadastral data. Through the [www.vindjeeigenhuis.nl](http://www.vindjeeigenhuis.nl) ('find your own house') citizens can have free access to a limited set of data of their own house; through the service 'value of a house' citizens can ask for a calculation of the value of a house, based on the purchase price in the past, and the development of the price-index for that category of houses in that particular region. In both cases the Kadaster expects that their curiosity will encourage them to enter the Kadasterwebsite for paid services.

c) **SMS service:** when sending a sms-message comprising zip-code and housenumber, the sender gets information on most recent purchase price and transaction date. This service commenced at the end 2007, and acquired already 55000 calls in 2008, and currently amounts up to 6300 applications monthly (1.35 € per SMS).

d) **Purchase price hot line:** idem, for 0.80 € per connection-minute (9000 calls a month).

e) **Standard House-report:** this is technically complex and unique product, because it combines 'on the fly' distributed datasets of various datasuppliers, providing for a report comprising all cadastral data, municipal data, maps and aerial photographs, fish eye pictures, environmental data, land use data etc. (23.50 € per report).

f) **Price development:** monthly detailed report about the development of purchases prices of privately owned houses (16 €).

g) **Location based services:** a new experimental service is the location based information supply. Using a PDA, the computer localises the location automatically, and supplies cadastral map data on which the user can click for more information for a particular spot (under development).

h) **Visualisation cadastral objects:** Kadaster started a strategic cooperation with Cyclomedia Ltd, to combine cadastral information with 360°-photographs and very precise aerial imagery, in order to better visualise cadastral information for citizens and professionals. The 360°-pictures allow for looking in all directions from and to the object of interest, even to the sky.



In summary: although still many citizens appear not to know the Kadaster, nevertheless the salesfigures show an increasing interest in knowing more about real estate. Even in times of financial crisis, when submission of deeds dropped drastically, the demand for information grows every day. Obviously it matters how easy the services are provided (such as the sms service).

#### 4.2 Evolving function in governance

It is said that the government can do no step without leaning on the walking stick of the Kadaster (prof. Piet de Haan, TU Delft).

While this concerned the conventional use of cadastral information for land taxation, land use planning and acquisition of land for the general interest, new forms of support to government policy become possible.

a) **Neighbourhood monitor:** for the Ministry of Housing, that wants to monitor the social development of weak neighbourhoods, through certain indicators such as house transactions, mortgages, foreclosures, seizures etc. Will be available this year.

b) **Public safety and security portals:** The Dutch Kadaster participates in new projects such as 'Geodata infrastructure in disaster and crisis management' and in the intended portal 'Public Service Using Maps', and the new National Geoportal. The rationale is that when disasters occur (flooding, explosions, terrorism) location referenced information about real estate, addresses, ownership, coordinates etc are very relevant. In 2008, a real life disaster exercise took place where advanced GIS-software was tested, sourced by various datasuppliers, amongst which the Kadaster, which system (called 'Eagle One') was later nominated for the National Security Prize 2008.

c) **Education:** various types of courseware have been made available by the Dutch Kadaster to encourage the use of geo-information by students at various levels, such as 'secondary school package: do you know your own village?', 'Land consolidation game', 'Topogame' and a website EduGIS for higher level students.

d) **'Information fundamentals':** Kadaster's skills in creating SDI's, allow for a new product, namely providing so called 'information fundamentals' for areas of interest, for example for creating social housing, land consolidation, waterreservoirs etc, so all areas where the



government needs all relevant information from whatever source. Kadaster organises all relevant datasuppliers in an infrastructural arrangement (new product).

e) **‘Price monitors’**: For the Ministry of Housing Kadaster developed a detailed map (see herafter in compressed format) showing in ‘green’ areas where houseprices increase compared with those in their neighbourhood, in ‘blue’ where they decrease (over a certain periode, in this case first quarter of 2009), to identify the ‘hot spots’ in the housing market.



For the rest, the government can buy the same price monitors as mentioned earlier, for professional users.

f) **Landposition reports**: in areas where the government intend to implement a certain land use (towndevelopment, watermanagement, natureconservation, rural development) the Kadaster provides reports and maps showing the status of land ownership, that is to say: which lands are owned by the government (already), which lands should be acquired, and a estimation of the effect of exchange of land (*‘land re-allottment’*): whether that can be helpful in minimizing social costs (recent aasignment by a municipality for 80,000 €).

g) **Transparent Land Market report**: Kadaster reports to the government about the detailed status of property ownership (*‘Who owns the Netherlands’*).

h) **Land Mobility report**: detailed information about number and nature of transactions in the rural areas.

i) **Subsurface infrastructure**: about 1,75 million kilometers of underground cables and pipelines have been laid all over the country. It is estimated that annually 40,000 accidents cause a damage of 140-175 million €. In 2004 the government decided that - because of the importance for the national economy- information-exchange must be executed as a public task. The new Underground Cables and Pipelines Information Exchange Act (Law of 7 February 2008) has been passed the House of Representatives on 26 June 2006, and the Senate on 5 February 2008, published in the State Gazette on 22 April 2008, and is in power since 1 July 2008. The Kadaster is assigned the mandate to implement the law. Recently, the 10,000th network operator registered his ‘interest’, and by november 2009 the electronic

portal is in the air. Excavators are obliged to give notice of every disturbance of the ground as from 1 October 2008. Kadaster contributed to a ‘Atlas of subsurface Netherlands’.

j) **Energy label:** Since January 1, 2008, legislation has entered into effect that requires an energy label to be available at the time of transactions related to the construction, sale or letting of houses. The energy label issued for a specific house provides information about the energy consumed during its standardized use. These energy labels form a new category in the land registers. To date, Kadaster, has registered about 50,000 labels. The energy labels are open for public inspection, as is all cadastral data.

#### 4.3 Evolving function in e-government

As in many countries, the Dutch government aims at better using modern information- and datacommunication technology to serve the citizen.

a) **National government portal:** The latest intra-governmental document for implementing e-government is the National Programme signed by alle levels of government on 1 December 2008. The main e-access to electronic government service is through the national government portal [www.mijnoverheid.nl](http://www.mijnoverheid.nl) (‘my government’). The website aims at providing a personal website for citizens and companies, and is operational since spring 2008. The website started with 700 users, and 11 government bodies, amongst them the Kadaster. The content of the site is steadily growing. Kadaster contributes strongly to the website, by adapting its core systems to the e-exchange functionality, for example ‘government-servicebus’, the ‘feed back facility’, and ‘shared access to key registers’. In order to boost the use of the website, since 20<sup>th</sup> of April 2009 Kadaster provides free information about their properties for users of the website, who enter the site using their Digid (‘digital identity’).

b) **National geo-portal:** By letter to the Parliament of 2 June 2008, the minister of Environment etc. announced the adoption of a strategic document regarding geo-information called GIDEON, to be implemented in the years 2008-2011. Of course, Kadaster played a substantial role in the development of the document. One of the elements is the creation of a national geo-information portal, that aims at providing easy e-access to all geographic and topographic information. An additional initiative is under development since this year, called ‘Public service with maps’, a 20 million € project of the ministries of Environment etc, of Agriculture & Nature, of Transport & Watermanagement and Kadaster to boost innovations in the access and use of all their geo-information datasets. Subsidy is provided by the ‘National Programme of the Renewal of the Government’.

c) **Webservices:** remote access to cadastral data as a webservice (XML) is already provided for a number of standard land information products. As webservices are considered a trend, Kadaster invests in further development for cadastral maps, topographic maps, and purchase price indexes. This service allows users to integrate Kadaster’s information in their own application in an easy way.

d) **Registration Public rights on land:** an increasing worry in society concerned the lack of transparency about public rights on land (mainly public restrictions, imposed by the government). Therefore the government decided that Kadaster should register these public rights, when imposed by the central government and the waterboards, and that about 450 municipalities should maintain their own official ‘register for public restrictions’, although - through synchronisation- Kadaster provides a national access portal to all data. The new Disclosure on Public Law Restrictions Act of 5 maart 2007 was approved by the House of Representatives on 8 Februari 2007, the Senate on 17 July 2007, and published in the State Gazette on 15 July 2007.

e) **Key registers:** In 2000 the government realised that the introduction of *e*-government was not possible without a severe restructuring of its own information architecture. A main issue appeared to be the development of so called key-registers (‘base registers, ‘authentic registers’) defined by law as the unique source of a particular piece of data, obligatory to be used by all government bodies and preferably the private sector as well. As the core of this system are assigned the popular census, legal bodies (companies, foundations), buildings, addresses, cadastral data, base-geography 1:10,000. Kadaster adopted all necessary features of ‘key registers’ as defined by the government, into its own registry-, cadastral- and topographical databases, and the Cadastre Act was accordingly changed. After approval by the House of Representatives on 8 Februari 2007, Senate on 27 Februari 2007, and publication in the State Gazette on 22 March 2007, the official designation ‘key register’ for Kadaster’s datasets came into force on 1 August 2008. As the Building- and Address register are new, they still are under development. The Law on Building- and Address Register passed the House of Representatives on 4 October 2007, Senate on 22 Januari 2008, publication in the State Gazette on 12 March 2009 and came into force 1 July 2009. On this date all municipalities should have their datasets complete (not yet completely met by the municipalities), and from 2011 onwards the use is obligatory for all government bodies. Currently the government expands the number of key-registers including Kadaster’s Large Scale Topographic Base Map of the Netherlands, and the property values of the municipalities.

f) **National access portals:** In many cases the municipalities are the first responsible government body. That counts for the public restrictions, buildings, addresses, values. Additionnally the government imposes the municipalities by Law of 28 November 2006 to publish their zoning plans on the web. In all cases a concern is that local information management should not restrict national access: the subsidiarity principle. Kadaster was asked to accept the responsibility for the development and maintenance of so called national access portals, based on a central database that continuously is synchronised with all local databases. In such manner, local and national responsibility can be guaranteed.

#### 4.4 Contributing to economic activities at large.

As many economic activities have a location reference, linking those activities with coordinates and maps can generate useful information for the actors involved. The maintenance of geodetic infrastructures therefore is a conditional factor.

**a) cross registers or linking datasets:** already many years Kadaster produces datasets, that link various geographical units to coordinates. These are ‘commercially’ extremely successful. I refer to national datasets that link coordinates to ZIP-code areas, to areas used by statistical bureaus, streets, and to houses, which are standard products. Any request for geocoding can be handled, such as linking a coordinate to marketing-areas used by the big retail conglomerates or mail delivery areas of the Royal Mail (TNT). The combination coordinates-frontdoors of houses is frequently used by parcel delivery and other distribution companies, emergency organisations and car navigation providers. Typing a destination in a car navigation system, generates a coordinate necessary for calculating the route-planning and a modest royalty is paid to Kadaster (driving an British made car myself, the revenue goes -by the way- to Ordnance Survey).

**b) topographic maps:** apart from various application of maps in -for example- leisure industry, Kadaster’s new object-oriented 1:10,000 topomap enjoys much demand by a myriad of users. Combining this dataset with users’ datasets linked to coordinates, provides a good fundament for information needed by the users, both for efficiency calculations and visualisation.

## 5. CONCLUSIONS AND RECOMMENDATIONS

The availability of digital datasets in land administration organisations (in this paper the Dutch Kadaster taken as an example) provide opportunities to expand the function of land administration in society. Examples demonstrate, that keen exploitation of digital databases through sound information management and innovation, give good opportunity to respond to the the growing demand for transparant land- and real estate markets, for better governance and for the development of *e*-government services. Meanwhile it became clear in the Netherlands, that the increasing number of standard- and tailormade products for the market are well appreciated by the clientele, which is proven both by customer satisfaction surveys and the willingness to pay a fair price. Secondly, the aim of the government to improve its performance in general, and through *e*-service in particular, has proven to be impossible if organisations as for example those responsible for land administration are not strongly involved in the implementation. Policy making at ministrial level is one thing, making something work at the end of the day is another thing! We -as land administrators- find here our chance and challenge.

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