

Re-Design Land Administration Strategy for Good Governance

Godfried BARNASCONI, Director, Kadaster International (The Netherlands)

Key words: strategy, land registration, cadastre, business administration

SUMMARY

First the paper deals with some developments in modern society, that are part of the way a society is governed, like the meaning attached to data, 3D spatial planning and developments and the restructuring of governmental information infrastructure.

These developments need a response from land administration organisations. Because of the different situations in countries, there is no general recipe for redesigning a strategy. Therefore an outline is given of the new strategy in the Dutch Cadastre. One of the elements in the regular planning and control cycle of the Dutch Cadastre relates to a rolling forecast in the form of an annual 5-year policy plan. Last year the Executive Board decided that a fundamental reassessment of the strategy was necessary, a decision that resulted in the formulation of an ambitious set of strategic objectives that will serve as the leitmotif for the Agency's policy planning for the next 5 years.

Re-Design Land Administration Strategy for Good Governance

Godfried BARNASCONI, Director, Kadaster International (The Netherlands)

1. INTRODUCTION

This paper aims at discussing trends in modern society regarding aspects of governance, and how land administration organisations respond to that by redesigning their strategy. As an example we consider the Netherlands' Agency. One of the elements in the regular planning and control cycle of the Dutch Cadastre, Land Registry and Mapping Agency (in short, the 'Agency') relates to a rolling forecast in the form of an annual 5-year policy plan. Last year the newly appointed Executive Board decided on a fundamental reassessment of the strategy, a decision that resulted in the formulation of an ambitious set of strategic objectives that will serve as the leitmotif for the authority's policy planning for the next 5 years. Following a rapid decision-making process, in January 2005 the Executive Board adopted nine firm strategic objectives for implementation during the period between 2005- 2010.

2. ASPECTS OF GOOD GOVERNANCE IN MODERN SOCIETY

Without the pretention to be complete, some eye-catching developments regarding good governance are summarized below.

2.1 Access to Land-information for Everybody: The Significance Attached to the Data

Those consulting (in particular, non-professional users) the land register and the cadastre will assume that the data they contain is 'true': the name of the person for that real estate listed in the register and the composition of the rights to that real estate will be taken as fact. The current significance of a land register based on a conventional deed registration (like in the Netherlands), namely that those *not* listed in the register can never hold title to the real estate from a legal perspective¹, but that those who *are* listed in the register do not necessarily hold the title to the real estate is unmanageable for the public, who moreover find themselves compelled to engage a civil-law notary to furnish the necessary certainty². It is possible to argue that the causal system of transfer³ in which imperfections in previous transfers can be attached to a later transfer (since in contrast to what is referred to as the 'abstract system', the contract governed by property law is not independent of the underlying title(s)) cannot be regarded as compatible with the legitimacy of government actions within the context of the

¹ However, this might not always be absolutely true, for example with respect to succession

² The authorities in the Netherlands have made things easy for themselves since in some laws they adopt the fiction that the name listed in the land register is the legal owner. Examples are the Expropriation Act and the Land Consolidation Act. This is also referred to as the 'administrative-law' ownership.

³ For example Article 3:84, par 1 of the Netherlands Civil Code: The transfer of property requires a valid title for the person who has authority of disposal of property.

provision of certainty relating to rights to real estate⁴ today. From that point of view, title registration (like England&Wales, Sweden) provides a better security: what you see on the screen is considered as 'true'.

The governance aspect is that a government which has to deal with providing more and easy access to land-information, also has to take care of the quality of the information and the way how users of information are protected against incorrect information.

2.2 3D Society and 2D Land Administration: The Spatial Dimension of the Land Register and Cadastre

The multiple use of land is increasing – a development which is resulting in changes in the traditional concept of ‘landownership’ as employed in civil law, namely that the person owning a parcel of land also possesses the rights to the column of air above and the column of soil under that land (for example Netherlands Civil Code, 5:20, 5:21, Bürgerliches Gesetzbuch §906). At ground level the multiple use of land is resulting in the multiple exercise of rights (in particular, rights of use), and use of the regions above and below ground level in the division of rights in the ownership column (apartment rights, right of superficies, pipes, tunnels, minerals). Many governments promote the multiple use of land⁵, for example in the Netherlands in the Fifth National Policy Document on Spatial Planning, and currently continues to do so in its National Spatial Policy Memorandum⁶, pursuant to which developments such as the Koopgoot Rotterdam (subsurface shopping centre), the Utrechtse Baan complex (roofing over the highway), and the intended roofing over of the A2 motorway at the location of Utrechts' new Leidse Rijn towndevelopment are already taking place⁷. Within this context the Dutch National Spatial Policy Memorandum⁸ states that the upper level of the soil is being subjected to increasingly intensive use, whereby the underground main transport pipes are of great importance to industry and energy supplies, and that an improved and more durable arrangement of the underground use of space is desirable⁹. Moreover from a legal perspective there is also scope for the necessary improvement, since following the telecom judgement by the Netherlands Supreme Court¹⁰ the rights to

⁴ This in spite of the fact that the objective of the Cadastre Act is to promote legal certainty by – by means of true representations – the statement and maintenance of correct and complete juristic facts, according to J.G. Brouwer, 1991, *Kadasterwet: meer dan een grond-wet* ('The Cadastre Act: more than a land act') (Stichting Nijmeegse Notariële Congressen)

⁵ Proceedings FIG Conference 3D Cadastres, 2001, and Stoter, J.S., 2004, 3D Cadastres, Dissertation TU Delft

⁶ In particular Section 11.6, relating to spatial policy below ground level.

⁷ Habiforum, the Multiple Land Use Centre of Expertise, also cites the Zuidas Amsterdam Master Plan in its Nova Cura publication (Lemma, 2000, page 27), although others are of the opinion that the necessary comments can be made about this plan (page. 54)

⁸ The Standing Parliamentary Committee is aiming for adoption in November, after which the Memorandum will be passed to the Senate (DURP, October 2004).

⁹ This would also prevent gas pipes from passing through safety zones, as demonstrated by M. Groot Koerkamp using a geographic analysis in *De kenbaarheid van leidingen* ('The knowability of pipes'), MSc Thesis, Utrecht University, 2001.

¹⁰ 6 June 2003

underground pipes are of the nature of immovable property rights^{11, 12}. It had already been demonstrated that the ownership of tunnels also exhibits room for improvement¹³. The absence of an appropriate pipe register¹⁴ could even put society at risk¹⁵.

Meanwhile the Minister of Economic Affairs¹⁶ announced the desire to decrease the number of incidents with excavation works. Construction companies will be forced by law to report their intended excavation works at a digital desk, the Minister says, through which the utilities and cable companies are obliged to provide for accurate and up to date geo-information appropriately. Previously this was all done on a voluntary base. The Minister proposes to place the desk within the Agency.

The Dutch Minister of Spatial Planning¹⁷ published an intention to start pilot projects to include the subsurface topography in the normal procedures for spatial planning and development, because of the economic importance of subsurface infrastructure nowadays.

With increasing demand for space and the response of multi use of land, a strategic question for land administration organisations is whether they will stick to the 2D cadastre.

2.3 Ready for NSDI: the land register and the cadastre as an authentic register in the information infrastructure

The resolution of problems requires more information than that available from one single data set, and this is equally true for problems with a spatial concept. This realization has resulted in the development of what are referred to as 'information infrastructures'¹⁸ that offer opportunities for both the integration of data and the multiple use of data, thereby

¹¹ P. de Haan criticizes the chaos in the legal regulations relating to the ownership, management and registration of the subterranean infrastructure, and consequently is of the opinion that it is high time a pipe-rights register was introduced (NJB 2004, No. 11)

¹² The Kadaster rescued the situation with the *richtlijn kabelnetten* ('Cable network Guidelines') (see the Guidelines and W. Louwman in WPNR 03/6547)

¹³ H Ploeger in *De privaatrechtelijke aspecten van de aanleg van boortunnels* ('Civil law aspects of drilled tunnels'), dissertation, Leiden, Kluwer 1997.

¹⁴ The KLICs ('Cable and Pipe Information Centres') formed in 1989 now also endeavour to supplement the information about the pipe managers with on-line detailed information about the actual cables and pipes. The failure to stipulate mandatory participation in this scheme is a serious shortcoming, in the opinion of P. de Haan (Geo-Info 2004-2)

¹⁵ See also J de Kruif, 2004, *De geo-info van kabels en leidingen: wachten op de grote klap?* ('The geoinformation about cables and pipes: waiting for the big bang?'), Geo-Info 2004-2

¹⁶ Letter Dutch Minister Economic Affairs to the Parliament 23 November 2004

¹⁷ Letter Dutch Minister Spatial Planning to the Parliament 23 November 2004

¹⁸ A frequently-used definition of geospatial data infrastructures originates from R. Groot & J.D. McLaughlin in their book 'Geospatial Data Infrastructures', Oxford University Press 2000, namely '*GDI encompasses the networked geospatial databases and datahandling facilities, the complex of institutional, organizational, technological, human and economic resources which interact with one another and underpins the design, implementation and maintenance of mechanisms facilitating the sharing, access to, and responsible use of geospatial data at an affordable cost for a specific application domain or enterprise*'.

achieving cost savings¹⁹. It will be evident that this will not be simple when the same type of data is stored at a variety of locations in data models specific to the relevant application²⁰. For this reason an effective infrastructure can be achieved solely by the use of authentic registers (or 'baseregisters', 'keyregisters') to store key data that is available for integration and multiple use. Various countries work on this subject²¹. The Streamlining Key Data Programme offers for example the Netherlands the appropriate policy. The progress in the development of the system of authentic registers pursuant to the Streamlining Key Data Programme obviates the need for the repeated collection and storage of data; it results in the multiple use of data, and in certainty as to the quality of the data. This is to the benefit of efficient and effective authorities, and to the reduction of the administrative burden imposed on the public and the business community²². Legislation is currently being prepared for the confirmation of the designation of the following registers as the core of the system of authentic registers:

- Municipal Personal Records Database (GBA) (Census)
- Land Register and Cadastre
- Key Business Register (BBR)
- Addresses
- Buildings²³
- *Geografisch kernbestand* ('Geographic Key Register' GKB)

The current status of these 'key registers' within the system of authentic registers is as follows: the introduction of a register of addresses and buildings is being studied, the BBR and the *geografisch kernbestand* GKB are being implemented, and the GBA and land register are operational. In the summer of 2004 the Council of Ministers decided to introduce the *Basis Registratie Adressen* ('Addresses Key Register', BRA) and *Basis Gebouwen Registratie* ('Buildings Key Register', BGR)²⁴, whereby endeavours shall be made to submit the legislation to the House of Representatives of the Parliament in 2007, and to complete the implementation in 2009^{25 26}.

In addition, the Dutch Government has decided to introduce a unique public service number for each member of the public (an extension of the existing tax and social insurance number, the 'SOFI' number) and to introduce a unique identification number for legal persons within the scope of the development of the Key Business Register BBR (what is referred to as the '*Bedrijvenservicenummer*' 'Business Service Number'). The most important candidates for

¹⁹ It is necessary to endeavour to achieve these cost savings since what are referred to as the 'transaction costs' are in part determinative for prosperity and well-being, according to D.C. North, 1990, 'Institutions, Institutional Change and Economic Performance', Cambridge University Press.

²⁰ For example, the Dutch Ministry of the Interior and Kingdom relations states that the authorities keep records of the same type personal data in at least 30,000 registers (Heemskerk, et al., 2001)

²¹ Van der Molen P., 2004, Good administration of land in Europe, FIG/UN Aquascalientes

²² Duivenboden, H. van, and Vries, M. de, 2003, 'Upstream: Chronicle of the Streamlining Key Data Programme', The Hague

²³ It would appear that the Dutch no longer use the term *gebouwen* ('buildings'), but instead refer to *panden en verblijfsobjecten* ('premises and residential properties') (Geo Info 2004-10 page 439)

²⁴ 11 June 2004, Parliamentary Documents, 2003-2004, 26.387 no. 22

²⁵ *Nieuwsbrief VROM Basisregistraties*, ('Key Registers Newsletter', Ministry of Housing, Spatial Planning and the Environment), April 2004, Number 3.

²⁶ This could possibly be one year earlier, in accordance with the Minister's wishes (VNG Magazine 10-9-2004)

inclusion in the system include the GBKN ('Large Scale Topographic Base Map of The Netherlands') and DINO (*Data en Informatie Ondergrond*, 'Underground Data and Information'). It will then be necessary to seek a suitable administrative-legal construction for the management of the GBKN²⁷. The *Landelijke Samenwerkingsverband GBKN* national collaboration group welcomes the designation of the GBKN as an authentic register, although it acknowledges that modifications will be required to ensure for the necessary standardization²⁸.

In general land administration organisations have to formulate their role in the government information architecture under reconstruction.

2.4 Information to Solve Customer's Problems: the Lack Completeness of the Land Register and Cadastre

There are numerous rights to real estate which – although they to some extent relate to third parties ('*a sale does not break a tenancy*', '*a sale does not break an agricultural lease*') – are not maintained in registers in an accessible manner. Dutch examples are tenancies, agricultural leases²⁹, and easement. Records of tenancies are maintained in the landlord's administration, agricultural leases by the agricultural tenancies authority, and easements by the Agency.

In addition, some factual data – although of importance to society – are not maintained in registers in an accessible manner. For example, there is no national access to the value of real estate. Municipalities maintain registers of the value within the scope of their property-tax administration^{30, 31}. National access to land use is available via the Central Bureau of Statistics³². At the beginning of 2003 the Government submitted a legislative proposal for the

²⁷ Streamlining Key Data Programme Draft Programme Plan 2004-2007 (15 July 2004) page 9 ff.

²⁸ Report, *GBKN op weg naar een authentieke registratie?* ('GBKN on the road to an authentic register?'), 2 June 2002

²⁹ The Council of Ministers has recently decided (5-2-2004) to carry out a fundamental revision of farm-lease legislation (Farm Lease Act 1958, amended 1984, amended 1995) on the basis of the recommendations submitted by the *Commissie Ruimte Voor Pacht* ('Scope for Farm Lease Committee', Ministry of Agriculture, Fisheries and Food Quality), which perceives farm leases as a future-proof alternative to ownership that will be capable of bringing the decline in the area of leased farmland (still 48% in 1987, currently 26%) to a halt. The Committee considers an amendment of the Farm Lease Act of essential if this approach is to succeed.

³⁰ The abolition of property tax for non-owners is without prejudice to the continued need of the value assessment for the owner's tax. It should be noted that the Netherlands Council of State has severely criticized this abolition (Binnenlands Bestuur, 3 Sept. 2004)

³¹ Pursuant to the Valuation of Immovable Property Act, Article 40, par. 1, information about the value is issued solely to those who can demonstrate a legitimate interest. Consequently the value is not information that is disclosed as a matter of course. Information about the value of the neighbourhood and the calculation principles is now available on request (Netherlands Council of State, 11-8-2004). It should be noted that Professor A Bregt perceives the value as an existing element of the geoinformation infrastructure (Council for Real Estate Assessment, Annual Report 2003, pages 34/35).

³² As from the Version 2000 the CBS' *Bestand Bodemgebruik* ('Soil use file', formerly soil statistics) is reconciled with the Top10Vector of the Dutch Topographic Service (N. van Leeuwen in Geo-Info 2004, Volume 1, page 218 ff.)

registration of data relating to external safety³³ that provides for a register of data pertaining to the safety risks in the vicinity of structures, inclusive of the underlying calculations and the name, address, and the precise location of the structure. The National Institute for Public Health and the Environment (RIVM) will be the owner of the register, for which purposes the Institute will probably make use of topographic geometry 1:25.000³⁴.

The customers' demand for complete land information requires more cooperation and coordination between datasuppliers.

2.5 Streamlining: the Information Needs of the Chain in the Real-estate Market

The parties in the Dutch real-estate market -like in any country- require a great deal of information if the market is to exhibit an appropriate performance. In addition to land registry real-estate data from the land registers and the cadastre, they also require -for example in the Netherlands- information from the Municipal Personal Records Database GBA (census), Verification Information System, *Voogdijregister* ('Guardianship of Minors Register'), *Curateleregister* ('Tutelage Register'), Commercial Register, *Huwelijksgoederenregister* ('Matrimonial Property Register'), *Failissementsregister* ('Bankruptcy Register'), *Register Surséance van Betaling* ('Register of Suspension of Payments'), Central Register of Wills³⁵, *Register Nalatenschappen* ('Register of Estates (inheritances)'), *Register Superheffing* ('Register of Superlevies') as well as a large number of public-law provisions³⁶. Legislation providing for the provision of information about public-law restrictions has now been submitted in the form of the *Wet Kenbaarheid Publiekrechtelijke Beperkingen* ('Provision of Information on Public Restrictions concerning Real Estate Act'); the implementation is scheduled for 2007³⁷.

The Royal Dutch Notarial Society's intranet intends to render a number of these registers accessible to civil-law notaries for the performance of their duties.

A governance issue is how to regulate easy access to land-information that is stored in various places and in various formats.

2.6 Coordination: Topographic and Geographic Information

The Dutch Cadastral map, GBKN ('Large Scale Topographic BaseMap of The Netherlands') and the (future) *Geografisch Kernbestand* ('Geographic Key Register') are all registers that will be incorporated in the system of authentic registers (although this is a conditional designation for the GBKN). The cadastral map is not object-oriented, but is nevertheless topologically correct. Although a requirement for the topological correctness of the GBKN

³³ Parliamentary Document 28767 numbers 1-3, 22 January 2003.

³⁴ According to A.J. van der Meer in *Geodesia* 2003-4 (page 176 ff.)

³⁵ The Central Register of Wills will be taken over by the Royal Notarial Association.

³⁶ For a complete inventory see Professor J. de Jong, *De Notaris en het Rechtsverkeer* ('The Civil-law Notary and legal Issues'), Vermande 1987 (page 87 ff.), a consultative report for the (then) Koninklijke Notariële Broederschap.

³⁷ MBP 2005-2009, page. 28.

has been imposed within the scope of its standardization and uniformization, this has not yet been implemented on a national scale³⁸. The *Geografisch Kernbestand* is based on the Top10NL, which will be fully object-oriented³⁹. It is expected that the Top10NL will be available at the end of 2005⁴⁰. The Ravi ('Dutch Council for Geoinformation') had already recognized in 1997 that the reconciliation of the *Geografisch Kernbestand* and the GBKN would be of importance⁴¹, in analogy with the Kadaster's earlier decision that the cadastral map and the GBKN would need to be reconciled with each other⁴². Scientific research since carried out on the harmonization of map data sets offers prospects for the integration of object-oriented data sets^{43, 44}.

A further issue relates to the integration of the NAP ('Nieuwe Amsterdam Peil', thew ordnance datum) and RD ('National Triangulation System') in a 3-D reference frame. In view of the GPS developments a segregated availability of the NAP⁴⁵ and RD information was no longer of relevance, as a result of which an integrated website has been available since 1999⁴⁶.

The Dutch situation doesn't differ very much from most societies. Cooperation and coordination are prerequisites for really enjoying value added benefits for the user.

2.7 Cross Border: the Perspectives in the European Union

The harmonization of legislation on ownership rights, land registers and the cadastres is not to be expected within the short term since the provisions of the Treaty of Rome include an agreement stating that the EU's competences do not extend to issues of this nature⁴⁷, although

³⁸ The object formation of the GBKN has already been advocated many times, and is technologically feasible; see, for example, Dr M. de Gunst and Dr J. den Hartog in *Classificatie van vlakken in de GBKN* ('Classification of planes in the GBKN') in Geodesia, 1999-6, who state that a knowledge system for the classification planes can halve the conversion time and consequently greatly reduce the costs.

³⁹ Whereby the needs voiced by the users were clearly understood, according to E.Kolk and N.J. Bakker in their article *Naar een tweede generatie Top10Vector producten* ('Towards a second generation of Top10Vector products') in Geodesia, 2001-6, page 288 ff.

⁴⁰ The initial construction of the Top10NL database (in Oracle9i) has now been completed, and work is now in progress on an automatic conversion of Top10Vector, Top10Wegen (context) and Top10raster (texts) that, together with the manual finishing, is scheduled for completion at the end of 2005. An object editor, ArcGIS, has now been selected that will in due time be capable of converted the objects immediately.

⁴¹ Ravi Report 97-1 *1:10.000 Kernbestand: een haalbare kaart* ('1:10,000 Key register: a feasible map'), 1997, Amersfoort.

⁴² Implemented on the completion of the *Kaartvernieuwing* ('Map renovation' project as of 1-1-2004).

⁴³ H.T. Uitermark, 2001, 'Ontology-based Geographic Data Set Integration', dissertation. University of Twente.

⁴⁴ Practical applications are already cited by Dr H. Uitermark and Professor P.van Oosterom, *Integratie van wegennetwerken uit verschillende databases* ('Integration of road networks from various databases') in Geodesia, 1999, 7/8, relating to the conversion progress with road elements from the GBKN and Top10V.

⁴⁵ A beneficial factor is that the NAP is extremely up to date following the completion of the 5th precise levelling, see R.E. Molendijk, *Het NAP: houvast in Nederland en Europa* ('The NAP: a reference point for the Netherlands and Europe'), Geodesia 2000-9. The height data for all height benchmarks will be adjusted on 1-1-2005 (Geo-Info, 2002-10)

⁴⁶ See articles including the article by N.J.M. van Eekelen and A.M. Troost, 'RD + NAP = 3D', Geodesia 1999-11

⁴⁷ Article 222 of the Treaty of Rome (art 295, since 2002).

to a certain extent the free movement of persons, goods and capital do give cause to harmonization⁴⁸. However, the EU is taking small steps in this direction, such as with respect to the free movement of capital (inclusive of mortgages)⁴⁹, time-sharing property⁵⁰, and intellectual property⁵¹. The EU would appear to exert a more marked and direct influence in other areas, such as government tenders⁵², spatial planning⁵³, technology⁵⁴, and SDI⁵⁵ although the EU's influence on national legislation is not that pronounced⁵⁶. The Netherlands Institute for Spatial Research is of the opinion that within the context of spatial planning the EU actually determines the use of the land in the Netherlands⁵⁷. As a direct consequence of the *eContent* Programme the Agency is participating in the European Land Information System EULIS project⁵⁸, financed for 50% from EU funds. The INSPIRE project aims at coordination and cooperation between datasuppliers for the benefit of European policy aims (like environmental policy).

Countries in the European Union face an increasing appeal to cross border cooperation and coordination.

2.8 Rural Development: Less Importance of Agriculture?

The use of rural areas in the Netherlands will be regulated by the future Rural Planning Act (WILG), which will succeed the current Land Development Act. This new Act will create the framework for an integral approach to the rural planning problem, an approach which is currently unjustifiably less than optimum. This is by the way a prominent issue in many other countries⁵⁹. The approach to the urban regions had previously been improved (in particular, with respect to urban renewal) by combining the budgets of all the relevant government organizations in the Urban Renewal Investment Budget (ISV). The provinces will primarily determine the functions of the rural areas, and how the plans are to be implemented and managed. The provinces will also determine the extent to which they wish to make use of land-use procedures such as redevelopment and land consolidation. The demand for these is expected to exhibit a dramatic decline, since projects of this nature are not of a scale such that

⁴⁸ See the contributions by P. Laarakker and P. van der Molen at the First European Cadastral Congress (EU Proceedings, Spanish Catastro, 2002)

⁴⁹ Second Banking Directive 89/646

⁵⁰ Time Sharing EU Directive 94/47

⁵¹ Judgement of the European Court of Justice in a case on intellectual property (13 July 1995, C-350/92)

⁵² Directive 93/36 ca

⁵³ Such as the Habitat Directive 92/43, Birds Directive 79/409, INTERREG programme

⁵⁴ Use of Public Information (03/98), programmes such as *eEurope*, *eContent* and *Inspire*, but also GALILEO, the 'European GPS' (The European Programme for Global Navigation System, ESA, 2003)

⁵⁵ EU Directive COM(2004), 516, 23-07-2004, INSPIRE

⁵⁶ Two groups of researchers arrived at 16 % and 25% respectively, in comparison with the expected 60% (NRC 9-10-2004)

⁵⁷ Report, 'Unseen Europe', Netherlands Institute for Spatial Research, 2004

⁵⁸ For information, see P. Laarakker and S. Gustafsson, 'EULIS-Ambitions, Bottlenecks and Policy Solutions for a European Land Information Service', FIG Paris, 13-17 April 2002.

⁵⁹ See the proceedings of the FIG Symposium on Modern Land Consolidation, Clermont Ferrand 2004

they are assigned political priority⁶⁰. Consequently there is a demand for instruments of a different nature.

The challenge is how to respond as a land administration organisation to rural development when non-agricultural matters are not seen as sufficient justification for investments.

3. CURRENT STRATEGIC OBJECTIVES IN THE DUTCH CADASTRE

The Multi-annual Policy Plan 2005-2009⁶¹ of the Agency specified the strategic objectives, as they applied the last years, namely:

- the best possible fulfilment of the current public duties
- the expansion, where possible, of the current public duties
- the formulation of the directive role based on the public duties
- a focus on the provision of information
- increased intention to the public and private persons

3.1 Current Core Competences

It was considered as of importance to assess whether the Agency's core competences gave cause to new goals, and whether new goals give cause to other core competences. The Multi-annual Policy Plan 2005-2009⁶² identified three core competences possessed by the Agency:

- the ability to organize, manage and update frequent changes in national registers relating to real-estate and geographic data within a coherent technical geoinformation infrastructure
- the ability to develop and supply products required by the clients in a professional manner, using a coherent technical infrastructure in which ICT is an important tool
- the ability to operate at the lowest possible cost

Although not explicitly stated as such, 'manage' and 'update' should also be understood as extending to guarantees for the continuity of access to the history of the changes required for the legal transfer system and the reconstruction of boundaries. This history was also required for the topographic maps⁶³.

3.2 Appraisals by Third Parties

It seemed conceivable that the results of audits, benchmarks and client surveys will exert an influence on the new goals for 2005-2010. The overall short and medium-term improvements the Agency expected to implement, are as follows:

- extended opening hours⁶⁴

⁶⁰ J. Gaastra, *Aanzet voor positiebepaling Kadaster LI* ('Impetus for the determination of the position of the Kadaster Land Consolidation Department'), internal document, 2004

⁶¹ Multi-annual Policy Plan 2005-2009 page 21

⁶² Multi-annual Policy Plan 2005-2009 page 18

⁶³ See, for example, the *Historische Atlassen* ('Historical Atlases'), and the statistics derived from these atlases relating to changes in land use.

⁶⁴ Client satisfaction survey, Research International, 2004

- increased product innovation⁶⁵
- a more explicit external knowledge role⁶⁶
- more tailor-made products and services⁶⁷

3.3 Goals and Clients

Land registration is not an end in itself⁶⁸. The land register and cadastre serves to further the improvement of the legal certainty of landownership, the regulation of the real-estate market, land tax, spatial planning and development, and the management of natural resources, etc. This implies that a land register and cadastre is operated for its users, and that a long-term strategy will also need to find its justification in serving the users' interest, whereby the law – as is always the case – stipulates a minimum performance. The clients' demands represent the external orientation of the strategy. The manner in which the clients' demands are estimated, weighted and interpreted in terms of specific actions is an internal issue to be addressed by the Agency. Section 6 contains an assessment of the developments which will exert an influence on the clients' demands. It should be noted that this is not based on client research reviewing the situation in 2006 and later – questions which clients cannot, in reasonableness, be expected to answer. Consequently the organization shall need to assume its responsibilities for this assessment – an assessment which will call on the Agency's empathic capabilities, and on its entrepreneurship. For this reason it is also impossible to indicate 'Who has need of the Agency's external knowledge role'. The Agency will itself need to determine what influence the authority wishes to exert on developments in the societal field in which it operates. It should be noted that introducing a further distinction between the categories of clients (market segmentation) can be of assistance in the prioritization of the strategic objectives (public-sector market, professional-sector market, private-sector market, etc.).

4. SCOPE OF THE PROPOSITION 'THE KADASTER IN 5 YEARS' TIME'

The Agency derives its mandate from the Cadastre Act⁶⁹, which stipulates that the Agency maintains a pan-national land registration and cadastre so as to further the legal certainty of registered property (with respect to judicial issues, commercial issues, and administrative issues) and the efficient provision of information by the authorities, and which supports and promotes economic activities.

Consequently the Agency cannot develop its strategy further other than on the basis of the goal stipulating that in five years' time the Agency will continue to fulfil the substance of its

⁶⁵ Client satisfaction survey 2004, *Visitatie Publieke Verantwoording* ('Public Accountability Audit') 2002, *Benchmark Uitvoeringsorganisaties* ('Benchmark of Implementation Organizations') (KPMG 2003)

⁶⁶ *Visitatie publieke verantwoording* ('Public Accountability Audit') 2002

⁶⁷ Client satisfaction survey 2004

⁶⁸ This is also evident from the definition as given in the UN Guidelines for Land Administration 1996, which states that 'land administration is the process of determining, recording and disseminating of information regarding ownership, value and use of land, when implementing land management policies', indicating that the objective is determined by the procedure used for 'land management': consequently this is where the clients are to be found.

⁶⁹ Art. 2a, Kadasterwet (Cadastre Act)

societal duties within the field of its mandate, and that it shall have organized its operations in a manner that lays the appropriate foundations for its continued fulfilment of its societal duties in later years. For this reason the approach adopted entails a review the goals the Agency will need to set itself in 2010 if the organization is to continue to justify its existence during the following 10 to 20 years.

As a result of this panoramic perspective the Agency, after going through a number of phases⁷⁰ of

- divestment (1990-1994)
- shoulders to the wheel (1994-1997)
- tilting (1997-2000)
- stabilization (2000-2004)
- will need to continue to the following phases, namely:
- modernization (2005-2010)
- expansion the frontiers (2005-2025)

The remainder of this paper reviews the arguments for the adoption of this approach.

The review of these following phases is accompanied by a discussion of issues that can promote and ensure for the achievement of the expansion of the frontiers. In so doing the Agency's innovative capacities will become more apparent, and the authority's external knowledge role will be made more explicit – or, in other words, a powerful Agency will play a pioneering role with respect to significant societal developments within its field of operations.

Self-evidently, all these developments are without prejudice to the first of the current strategic objectives, namely 'doing your job well', which remains a *conditio-sine-qua-non*. However, within this context the manner in which society develops will determine the requirements to be met by 'doing your job well'. Consequently this objective also possesses a dynamic dimension.

5. STRATEGIC IMPLICATIONS OF SOCIETAL DEVELOPMENTS

The developments outlined above will have an impact on the Agency's strategy. The following sections review each of these developments in terms of the strategy, whereby the principles cited in Section 6 constitute the leitmotif for the strategic review .

5.1 The Impact of the Provision of Truthful Data

The discussion of the legal nature of the land register is of relevance to the provision of truthful data⁷¹. Moreover the relevance is further increased in view of the Agency's

⁷⁰ According to Deelen & Eertink, in S. van Thiel (Ed.), 2004, *Governance van Uitvoeringsorganisaties* ('Governance of Implementing organizations'), Kadaster, page 115 ff.

⁷¹ This discussion is not new: it was recently conducted in the *Naar een meer positief stelsel van grondboekhouding* ('En route to a more positive system of land bookkeeping') (Kluwer, 2003) consultative report submitted to the *Vereniging Burgerlijk Recht* ('Private Law Association'), with contributions from

Plenary Session 1 – Land Administration and Good Governance

12/18

Godfried Barnasconi

PS1.3 Re-Design Land Administration Strategy for Good Governance

endeavour to make use of the Internet as the primary channel for the provision of information; non-experts, in particular, will consult solely the land register and cadastral maps, and will never consult the public register (that will soon be in digital form). The elevation of the land register and cadastre to the status of authentic registers will also play a role, since pursuant to this status their users will need to be able to assume that the data is correct. Consequently there is reason for the authority to give serious consideration to the extent of the Kadaster's ability to guarantee that the information recorded in its registers is correct and in line with legal reality⁷². Self-evidently this will involve a fundamental amendment of the Netherlands Civil Code (Article 3:89) and of the Cadastre Act, since the issue involves the improvement of the legal significance attached to land register. At present the Civil Code contains no such provisions; solely the Cadastre Act includes the necessary provisions (Article 3, par. 1, under b). The necessity of reviewing the position of the cadastral map in the event of an amendment of the system (Cadastre Act, Article 1, par. 1, under c) is related to this. Professor J. de Jong⁷³ makes some suggestions for a situation in which no major amendments are desired, such as an amendment of Article 3:88 Civil Code (consequences of the authority to dispose of property), articles 3:19 and 3: 20 Civil Code (powers of the custodian) and Chapter 3.1.2 Civil Code (designation of the land register as a public register). On balance the Agency would improve its position by at least investigating and possibly endeavouring to ensure for an evolution to a system with positive legal effect⁷⁴.

5.2 The Impact of the Multiple Use of Land

The multiple use of land can adopt a variety of forms:

- above ground (for example, apartments, superficies, viaducts, structures)
- at ground level (for example, different uses of the land at different times)
- below ground (for example, tunnels, roads, pipes, structures)
- over the course of time: time-sharing ownership constructions.

Recent publications indicate that the registration of 3-D objects is not simple⁷⁵. This is in part due to the definition of landownership in the Netherlands Civil Code: although the property certainly does have a 3-D component this is bound to the ownership of the parcel of land. The Netherlands Civil Code does not provide for the ownership of a 3-D volume as an autonomous object that can be the subject of rights. This concept of ownership is reflected by

Professor J. de Jong, mr H. Ploeger, Professor A.A. van Velten, and mr J.A. Zevenbergen. The principal choice for the continuation of the negative system was made by Parliament in 1961 following a question from Meijers. However, the House of Representatives of the Parliament did request an improved position for acquirers in good faith (since included in the Netherlands Civil Code, under Article 3:88). The Royal Committees of 1867, 1887 and 1906 had previously concluded that a replacement of the negative system could not be recommended (see Van Riessen, *Het Kadaster*, recently published by the Agency, 2004).

⁷² Whereby the great deal of attention the Agency devotes to quality management and the authority's ISO certification are both beneficial factors.

⁷³ In the same consultative report, page 8 ff.

⁷⁴ The cost incurred by members of the public for the entire process of the transfer of real estate is a macro factor of importance to the decision-making. These costs should not increase.

⁷⁵ See the proceedings of a workshop 'on 3D Cadastres', P.J.M. van Oosterom, J.E. Stoter, and E.M.Fendel (Ed.), 2001

current land register practice, in which 2-D records are made of the geometry of cadastral parcels. J. Stoter⁷⁶ indicates a migratory route the Kadaster could adopt in the event that a legal definition of a 3-D parcel proves to be a bridge too far⁷⁷. She refers to this as a 'hybrid 3-D Cadastre' that retains the land parcel as the legal object, but which nevertheless makes 3-D records of the geometry.

A 3-D survey will also need to offer a solution for the urgent societal problem relating to information about the location of underground cables and pipes, especially since pipes have proven to be a subject of rights⁷⁸.

A new strategy for the Agency will require an evolution towards a 3-D system in both a legal and geometric sense.⁷⁹

5.3 The Impact of Authentic Registers

Legislation for the designation of the land register as an authentic register is currently in preparation. Endeavours are being made to submit the legislation on 1 January 2006, with implementation in 2007⁸⁰. The municipalities have been designated as the authentic source for addresses and buildings. Experience acquired with the Municipal Personal Records Database (the GBA, which still cannot be consulted on-line)⁸¹ indicates that the Agency could play a role in rendering these addresses and buildings accessible at a national level, event though the municipalities remain the owner of the source. The Agency's justification for this approach is based on one of the authority's core competences, i.e. its skills in the management and updating national databases which change at an extremely high frequency. Within this context the assignment of the responsibility for the implementation of the authentic registers of cadastral parcels, buildings, addresses and geographic objects to the Minister of Housing, Spatial Planning and the Environment would appear to be beneficial⁸².

It would be compatible with the nature of authentic registers to restrict the subject identification in the land register to the authentic identifications, thereby simplifying the data model⁸³. In addition, the Agency could be the designated authority for the administration of

⁷⁶ J.E. Stoter, 2004, '3D Cadastres', dissertation, Delft University of Technology, page 291-292, as well as J.Stoter and M.Salzmann in Geodesia, 2002-3 *Op naar een 3D Kadaster ?* ('En route to a 3-D Cadastre?') and *Met het Kadaster de Ruimte in ?* ('Cadastre into Space?') in Geo-Info 2004, Volume 1, No. 9.

⁷⁷ Z.Klaasse, in *Ondergronds Bouwen* ('Building Underground'), Geodesia 1998-11, proposed that an endeavour should in any case be made to identify underground structure with unique land registry codes, in combination with restricted rights to the relevant land parcels above those structures. This should be feasible in the KVS ('Kadaster Real-estate system').

⁷⁸ Within this context De Haan advocates collaboration between the Agency, municipalities, and KLICs ('Cable and Pipe Information Centres'), (Geo-Info 2004-10)

⁷⁹ The Kadaster has since applied for a subsidy within the scope of *Ruimte voor Geoinformatie* ('Space for Geoinformation') for the purposes of 3-D modelling (Nieuwsbrief, Geodata, No. 18. Sept. 2004)

⁸⁰ MBP 2005-2009 page 9, possibly one year earlier (VNG Magazine, 10-9-2004)

⁸¹ Since 1 November 2004 the GBA can be accessed on line, however not for spontaneous data supply.

⁸² Parliamentary Documents 2001-2002, 26.387, No. 11

⁸³ Within this context a beneficial factor is the completion of the *KPR* quality-improvement programme in 2005 (OnderOns, Vol. 1, No. 6)

the national registers of addresses and buildings⁸⁴, whereby the municipalities would act as the authentic source.

It will be the Agency's strategy to play a leading role in the system of authentic registers.

5.4 Impact of a More Complete Register

The Agency will need to review the extent to which supplementary relevant data could be included in the land register⁸⁵ and cadastre, or integrated within the scope of an information infrastructure. The easement register will in any case need to have been implemented in 2009. It should be noted that this can be regarded as overdue maintenance.

The one-stop shopping model⁸⁶ is equally applicable to both the registers resting with third parties and the Agency's internal databases⁸⁷.

The Agency should play a pioneering role in this field.

5.5 Impact of a Role in the Chain

The Agency can play a leading directive role in the organization of the provision of this information to the market players, whereby consideration will need to be given to the cooperation with some registers within the context of digital availability and rapid national accessibility. Some land registries in other countries have developed into managers of a variety of government registers⁸⁸. The Agency should play a leading role in the organization of the chain's needs for information.

5.6 Impact on Topographic and Geographic Information

The Agency can acquire a good position by the provision of a series of topographic and geographic products that possess an internal consistency and are indispensable to third parties within the context of spatial planning, land use, management, and maintenance. For this reason the cadastral map, the Large Scale Topographic Base Map GBKN⁸⁹ and Geographic Key Register *Geografisch Kern Bestand* will need to be object-oriented and maintained

⁸⁴ R. Wevers proposes the incorporation of geometry in the buildings register, thereby obviating the need to upgrade the GBKN to an authentic register (Geo-Info 2004-10, page 440)

⁸⁵ Article 3:17, par. 2, of the Netherlands Civil Code stipulates that the registration of tenancy and farm-lease contracts and the accruing personal rights is possible solely by means of extraordinary statutory provisions. Within the context of an infrastructure collaboration with existing data administrators with respect to tenancies and farm leases is possibly a preferable approach.

⁸⁶ Principle of the Kadaster's marketing policy.

⁸⁷ Within this context the *Cadastre On Line* system could play the role of a 'real-estate portal' in serving the entire rented sector or the commercial real-estate market via partnerships with, for example, Huurnet. This could possibly result in a GIS centre of expertise for the public-housing sector, according to the department Kadata (in charge with value added product development).

⁸⁸ Such as the Service New Brunswick Canada, the State Enterprise Centre, and the Register Vilnius Lithuania, see the FIG International Seminar on e-Land Administration held in Innsbruck, June 2004, papers presented by Mary Ogilvy and Kestutis Sabaliauskas respectively.

⁸⁹ In addition, the existence of the GBKN also lays appropriate foundations for a possible central pipe register (P de Haan, in Geo-Info 2004-10)

mutually consistent by means of dataset integration using ontologies⁹⁰. Advanced detection of changes, for example using satellite images⁹¹ followed by the processing of the changes in all datasets ('change propagation') will then become a feasible proposition⁹². The assumption of the management of, for example, the *Algemeen Hoogtebestand Nederland* ('General Height Dataset of the Netherlands', AHN) and the *Nationaal Wegen Bestand* ('National Road Database', NWB⁹³) indispensable to dynamic traffic management would be compatible with this. The integration of the National Triangulation (RD) and National Ordnance Datum (NAP) in a 3-D reference frame would result in a pivotal role in the geometric infrastructure, inclusive of heights.

5.7 Impact of the European Union

The operationalization of EULIS will be an issue in the coming years. The current project will result in a prototype; now it will be necessary to decide whether this system should in fact go on the air as a fully-fledged European land-information service. The Agency can play a substantial role in this development⁹⁴ on the basis of efforts to achieve a certain degree of harmonization of real-estate law, inclusive of issues relating to the register and the cadastre and, in particular, the legal significance. In a communal market in which persons, goods and capital are deemed to be able to move in freedom it will be necessary, in analogy with national economies, to ensure that the cost of human-interaction transactions (or, in other words, 'commerce') is kept as low as possible – in this instance, to the benefit of a powerful Europe. Sweden took the initiative for EULIS.

5.8 Impact of Rural Planning

The application of the planning instrument in the Netherlands is encountering the same kind of situation as in the neighbouring countries⁹⁵ – traditional planning is under pressure. However, it is generally recognized that the mechanism of land exchange is and remains suitable for the improvement of societal spatial functions; moreover it can also make land available for the necessary public objectives, an approach which is preferable to expropriation.

⁹⁰ Dissertation, Uitermark, as well as P.J.M. van Oosterom in *Topografische Bestandsintegratie met ontologieën* ('Topographic database integration using ontologies') in *Geodesia*, 2002-10 and 11 respectively.

⁹¹ See, for example, T.J.M. van der Ven and R. Beek, 2003, *Mutaties opsporen per satelliet* ('Detection of changes using satellites'), *Geodesia* 2003-10, who consider the use of satellites to identify changes for the GBKN a feasible proposition.

⁹² The Kadaster has since applied for a subsidy within the scope of *Ruimte voor Geoinformatie* ('Space for Geoinformation') for the purposes of change detection (Nieuwsbrief, Geodata, No. 18, Sept. 2004).

⁹³ Within this context it is beneficial that the NWB is harmonized with the Top10V, see J.P.M.M. Vis, *Nationaal Wegenbestand NWB van de Algemene Verkeersdienst AVD* ('The National Road Database of the General Traffic Service AVD'), in *Geodesia*, 1998-10, who states that both datasets are linked with respect to background objects.

⁹⁴ The *KOL* could possibly play a role as a 'real-estate portal' here.

⁹⁵ A recent symposium 'on Modern Land Consolidation' at Clermont Ferrand, September 2004, revealed that rural planning increasingly needs to seek its justification in objectives outside the agricultural sector (Proceedings FIG, to be published), and that consequently a wide range of instruments will be required than those currently usually made available in the relevant legislation.

For this reason the cadastral planning instruments will need to develop into an extremely flexible system of options capable of accommodating the various societal spatial needs, irrespective of the origins of those needs⁹⁶. Whilst doing so the Kadaster will simultaneously need to develop an appropriate feeling for societal spatial developments and the requisite instruments.

6. STRATEGIC OBJECTIVES AND CORE COMPETENCES

On the basis of the above it is no more than logical to reformulate the current strategic objectives in the following terms:

- The best possible performance of the current public duties.
- The promotion of innovation and knowledge for the adoption of a leading role in the evolution of the public duties in response to societal developments.

The associated core competence supplements the existing core competences:

- The ability, by virtue of innovation and knowledge management, to play a leading external knowledge role.

Consequently on the basis of a modernization of the operations which pushes back the frontiers and ensures for the Kadaster's acquisition of a powerful position the strategic sub-objectives can be summarized as follows:

- The investigation regarding evolution towards a (more) positive land registration system.
- The introduction of a 3-D land register (inclusive of cables and pipes)
- The ambition to adopt the role as a centre for a range of authentic registers
- The provision of a more complete insight into the private-law and public-law status of registered property, inclusive of the relevant juristic facts.
- The acquisition of a substantial role in the organization of the information needs of the chain in the real-estate market.
- The provision of an appropriately-linked set of topographic and geographic datasets which are object-oriented and mutually consistent with respect to changes.
- The fulfilment of a pivotal role in the geometric infrastructure (*x, y and z*)
- The role as a prominent partner for the EU in the harmonization of registered-property law, land registration, and cadastres.
- The development of flexible land-planning instruments suitable for use for a variety of societal spatial objectives.

7. CONCLUSIONS

There are a number of aspects of good governance in modern societies that require a strategic response of land administration organisations. An active and assertive attitude is necessary, and leadership should be demonstrated.

⁹⁶ Endeavouring to obtain a role in the provision of geographic information in this sector would not appear to be an option, in view of the activities of the Government Service for Land and Water Management (DLG) in this area, which even extend to the supply of a GIS for the State's real-estate management (VI Matix, October 2004)

In the Dutch case I believe there are excellent prospects for the Agency, also in modern times. The developments during the past years have been quite well; this is also apparent from the various investigations into the Agency's role. This is the inspiration for the IT modernization programme – to which, self-evidently, all effort has been devoted, and in which the Netherlands can certainly withstand a comparison with all foreign land registries.⁹⁷ The completion of the IT modernization will lay firm foundations for this role, and will render the growth to 'more' feasible. The Agency will need to capitalize on its investments in IT modernization. This is very true for many land administration organisation that dedicate attention to their IT. Moreover the very challenge -as everywhere- lies in this expansion, since society still needs to be convinced⁹⁸. The justification of the investments in the developments outlined above will need to be found in the benefits society can enjoy by virtue of an efficient and effective Agency^{99, 100}.

BIOGRAPHICAL NOTES

Since 1st May 2004 Godfried Barnasconi (47) is a member of the Executive Board of the Netherlands' Cadastre, Land Registry and Mapping Agency. Earlier he was boardmember of international insurance companies and banks.

CONTACTS

Godfried Barnasconi
Cadastre, Land Registry and Mapping Agency
PO Box 9046
7300 GH Apeldoorn
THE NETHERLANDS
Tel. + 31 55 5285216
Fax + 31 55 5285005
Email: hanneke.dusseldorp@kadaster.nl
Web site: www.kadaster.nl

⁹⁷ For the developments in various countries in comparison with the Netherlands see the Proceedings of the FIG Symposium 'on Strategies for Renewal of Information Systems and Information Technology for Land Registry and Cadastre', Enschede 2003

⁹⁸ P. de Haan is of the opinion that the course followed by the politicians in the Hague is much more difficult to chart than the subterranean infrastructure, (Geo-Info 2004-10)

⁹⁹ For a rough calculation of the macro-economic effect of an appropriate land register see 'Some Macroeconomic Aspects of Land Ownership', FIG Marrakech, in which it is calculated that in the Netherlands landownership makes a contribution of 8.1% to the GNP, of which 5.9% results from the legal certainty of that ownership.

¹⁰⁰ The Doing Business Report of the World Bank 2005 might be helpful by rating land administration systems on necessary steps to register, time involved, and cost as a % of the value of the property.