Seminar 2. Co-ordination initiatives

Cadastre 2014: a vision for Future Cadastral Systems

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A quickly growing world population leads to increasing utilization of natural resources and impacts on environment. The absolute control over his parcel the land owner used to have, is increasingly restricted by public regulations enacted in the interest of the society. The localization and the implementation of these regulations are not always fulfilled with the necessary care. The documentation is often insufficient and not open to the public. This implies the danger of arbitrariness.

Modern cadastres, as outlined in the publication «Cadastre 2014; A Vision for A Future Cadastral System» will be the future tools to handle the aspects of land appropriate. They create a model of the entire legal situation of land. Future cadastral systems will be public inventories of data concerning all legal land objects in a country and they provide legal security for the handling of regulations based on public law.

Modern cadastres play the role of bookkeeping systems of land matters. Like commercial account systems, they are obeying internationally acknowledged principles of keeping records and they can be adapted to the needs of the different societies and legislations.

It is self-evident, that such modern cadastral systems can only be managed with the help of information technology and a fruitful public-private partnership.

Reliable data provided by modern cadastral systems will strongly support political decision-making and sustainable development.

About FIG

FIG, the International Federation of Surveyors, was founded in 1878 in Paris. It is a federation of about 100 national associations and is the only international body that represents all surveying disciplines. It is an UN-recognized non governmental organization (NGO) and its aim is to ensure that the disciplines of surveying and all who practice them meet the needs of the markets and communities that they serve. It realizes its aim by promoting the practice of the profession and encouraging the development of professional standards.

FIG's activities are governed by a plan of work, which is regularly reviewed against a longer term strategic plan. The current plan of work focuses on the surveyor's response to social, economic, technological, and environmental change and the particular needs of countries in economic transition. FIG also recognizes that markets for surveyor's services are constantly changing. The plan accordingly lays emphasis on strengthening the professional institutions; promoting professional development; and encouraging surveyors to acquire new skills and techniques so they may be properly equipped to meet the needs of society and the environment.

Environment for the development of Cadastre 2014

General Developments

The world, its different cultures, and its political and economic systems are in a permanent development process. This process is driven primarily by the activity and the creativity of humankind. New medical and technical possibilities have impacts on life, on the way of living, and on the way of doing business. One effect of this development is the growth of the world's population. More and more people are to be provided with food and water, housing, household and transport equipment, energy, etc. An increasing number of people are demanding leisure activities and facilities. The demand for waste removal, water cleaning, and recycling materials is increasing.

This development leads to an increase in the consumption of natural resources, particularly of land. It has been acknowledged that disorganized consumption of natural resources will lead to a degradation of nature, of the natural world, of the environment, and finally of humankind. Efforts are being made to encourage sustainable development. That means that development should be undertaken in such a way that a minimum of resources are consumed. It is the main goal of Agenda 21 to improve awareness of and introduce measures for a sustainable development of humankind in harmony with the environment.

As land is an important part of nature and the environment is the basis for nutrition, housing, energy production, resource exploitation, leisure activities, waste disposal, economic activities —in short for the maintenance and survival of humankind— cadastres are a crucial aspect of sustainable development. Traditional cadastre systems, however, can no longer meet the high standards set by sustainable development. There is a need to adapt the currently successful operating cadastral systems to the new standards and to implement improved cadastral systems where no such infrastructure exists. This is one reason for the many ongoing cadastral reforms and efforts in the world. Unfortunately the changes are often not rigorous enough and a lot of human resources and financial means are invested with questionable results.

Role of Land Administration and Cadastral Systems

To be able to use land and natural resources in a sustainable manner comprehensive Land Management is necessary. Land management must base on Land Administration which is defined as «the processes of determining, recording and disseminating information about the tenure, value and use of land when implementing land management policies». For Land Administration access to a reliable bookkeeping system is indispensable. The cadastre plays the role of this bookkeeping system.

Like the successful operation and development of a business is based on a well developed financial administration system the sustainable development of humankind must be supported by a complete land administration system (Figure 1). Like in a financial administration system, the land bookkeeping must obey clearly defined rules that are valid world-wide in principle, and may be adapted in detail to accommodate national and cultural peculiarities.

Future cadastral systems will provide this bookkeeping function to support decision-making and sustainable development. The principles of a cadastre are acknowledged world-wide. The details can be adapted to meet the needs and traditions of a particular country. Land management

Figure 1
Role of Land Administration and Cadastre in the business process

Level	General Business	Global Development Business
Strategic (goal setting)	Sound economic development	Sustainable development
Management (measures to meet strategy)	Company management (ressource management)	Land management
Administrative (business processes)	Administrative unit	Land administration
Operation (tools for documenting and monitoring)	**Accounting** • accepted principles of bookkeeping • reliable • complete • appropriate to needs • adaptable to development	**Cadastre** • accepted principles of documentation of rights/restr. • reliable • systematic • appropriate to needs and laws • adaptable to development • public

needs reliable information about the existing land and its resources and about the legal situation of these items. This information will be provided by future cadastral systems. Cadastres will be the basis for land administration systems that will support the world's hopes for sustainable development.

Development of Cadastre 2014

Terms of Reference and Result

FIG, aware of the need for change in the cadastral domain and of the efforts in cadastral reform, initiated at the Melbourne 1994 FIG Congress by its Commission 7 the Working Group 7.1. The terms of reference for this Working Group were to:

Study cadastral reform and procedures as applied in developed countries, take in consideration automation of the cadastre and the role of cadastre as part of a larger land information system, evaluate trends in this field and produce a vision of where cadastral systems will be in the next twenty years, show the means with which these changes will be achieved and describe the technology to be used in implementing these changes.

The result of this work was published as a brochure with the title «Cadastre 2014, A Vision for a Future Cadastral System» [Kaufmann, Steudler, 1998] (Figure 2). It was presented 1998 at the FIG Congress in Brighton.

Since 1998, the brochure was translated into more than 20 different languages. In 2001 FIG had to provide a second edition because the first was sold out.

Information Collection

Working Group 7.1 studied the existing literature and the experience being gained in ongoing cadastral projects and had close contacts with the Office Internationale du Cadastre et du Registre Foncier, OICRF, an institute of FIG. These studies gave a clear view of the role and principles of cadastre and the importance of the security it provides for the coexistence and economic activities of humankind. Economic development on the basis of a functioning land market is only possible when land matters are settled in a legally correct way and within a secure legal environment. We also found that the traditional principles are proven and true and must be the basis for modern cadastres.

A wide-spread survey of existing cadastral systems and the reasons and aims of the ongoing cadastre reforms, and a second enquiry into the development of privatization and cost recovery in the different cadastre institutions, were carried out and the results documented in the brochure.

Development of the Vision for Future Cadastral Systems

Based on this input we were able identify the deficiencies of existing cadastres and the trends in development.

It became clear that the documentation and registration of private land rights does not provide enough information to assemble a complete picture of the legal situation of land. The legal environment has changed remarkably in the last few decades. Societies introduced new legislations under public law in the interest of a careful utilization of land and other resources. New laws concerning physical planning, protection of the environment, and the exploitation of limited natural resources emerged.

This process is going on and it can be considered as a fact that further legal regulations will and must be implemented.

All these regulations on one hand touch the absolute rule of the land owner, on the other hand create an unclear legal situation of land. This may in a medium term threaten the land market and hinder a sustainable development. Legal uncertainty can change the role of land being one of the most important instruments to provide economies with loans secured by mortgages. In Switzerland more than 60% of loans in a value of about 540 billion Swiss Francs are secured by land. This situation is similar in other countries and also in the EU.

Our investigations showed that services from cadastral systems are expected to be more efficient and comprehensive as they normally use to be and assessing the

technological development we saw the new promising possibilities of the information and sensor technology.

This resulted in the thesis that modern cadastral systems must be designed to be able to:

• give reliable and complete information on the legal situation of land by taking into consideration all legal impacts on land;

• adapt to the changing needs of societies by flexible organizations and well defined information structures and data models;

• work straight forward and efficiently by making use of appropriate technology;

• achieve best practice and flexibility by bundling the strengths of the public and private stakeholders;

• be run at minimum cost for citizens and communities.

To meet these requirements the principles for modern cadastral systems were developed.

Principles of Cadastre 2014

New definitions

Cadastre 2014 applies the proven principles of the traditional cadastre but enlarges the objects to be processed by the cadastre and the content of cadastral systems.

The new objects to be processed are the land objects. Land parcels are one category of land objects:

Traditional Definition: Land Parcel. A land parcel is a piece of land with defined boundaries, on which a property right of an individual person or a legal entity applies.

Definition of Cadastre 2014: Land Object: A land object is a piece of land in which homogeneous conditions exist within its outlines. The legal land objects are describeb by the legal content of a right or restriction and the boundaries which demarcate where the right or restriction applies.

The new cadastre shall comprise not only the land parcels but all land objects in a defined area:

Traditional Definition: Cadastre. Cadastre is a methodically arranged public inventory of data concerning properties within a certain country or district, based on a survey of their boundaries.

Definition of Cadastre 2014: Cadastre 2014. Cadastre 2014 is a methodically arranged public inventory of data concerning all legal land objects in a certain country or district, based on a survey of their boundaries.

Statements on Cadastre 2014

This definitions are the bases for the first of the six statements on Cadastre 2014:

Cadastre 2014 will show the complete legal situation of land including public rights and restrictions! Every piece of legislation concerning spatial matters defines legal land objects. All these land objects are to be carefully defined, verified, and kept in a public register.

Otherwise the legal security which is important for governments and administrations, economies, private persons, and land owners will not be guaranteed.

Lacking legal security leads to uncertainty, lack of confidence, disorder, and finally chaos. This means that citizens lose confidence in their country's institutions, the land market as an essential part of the economy ceases to function, business becomes weak, and the whole system can crash. We can see such effects in different regions of the world.

Future cadastres shall correct this dangerous situation by applying the principles of cadastral systems on all legal land objects.

All legal land objects must be carefully delimited, verified, and registered. This future complete documentation of the legal situation of land must respect a certain structure. It must respect the principle of legal independence.

The different legal land objects are to be arranged according to the laws by which they are defined. This structure allows the immediate adaptation of the cadastre to the development of the legislation. It is not necessary to rearrange the information. New legal topics can simply be added by including a further information layer.

The future cadastral systems are therefore no longer parcel-based. They take into consideration the different land objects, defined by the laws of a given jurisdiction. All these land objects are defined as geographical objects in a common reference system. To investigate impacts of restrictions on a certain property parcel the land objects are compared geographically by the overlay technique when this is needed.

The second statement on Cadastre 2014 says:

The separation between «maps» and «registers» will be abolished! The establishment of separate organisations for map production and land registration was often necessary in the past because the two operations used to require different skills, and the available technology did not allow for other solutions. With information technology (IT) it is possible to link land objects directly with the information needed for registration. Land objects can be described in future by the geometric and the alphanumeric parameters, with the latter containing the legally relevant records. The still often practised separation of the physical and organisational structure will become unnecessary.

Statement three takes into consideration that modern information technology based cadastres will have a forceful impact on the way of working:

«Cadastral mapping» will be dead! Long live modelling! Information technology works with digital data and provides the ability to model objects of the real and legal world. Maps as analogue representations will lose their function as information storehouses; their only purpose will be to represent information in such a way that it can be communicated easier and in a more comprehensive form. In future we will have increasingly different graphic representations as extracts of the cadastral model tailored to the needs of the individual customer. To store maps as a picture on a computer is therefore an archaic operation.

The fact that in future information technology will be used to operate cadastral systems is expressed by statement four:

«The paper and pencil cadastre» will be gone! According to the terms of reference of our working group, the work concentrated on developed countries because one thought then that in developing and transitional countries the traditional methods would be carried on. Today, eight years later, you cannot find any cadastre project in the world where information technology is not involved. IT makes work easier.

The trend to privatize the operational work to be executed in the field of cadastre is reflected in statement five:

Cadastre 2014 will be highly privatized! Public and private sectors are working closely together! The privatization and new public management topic will affect the cadastre as it affects any other domain of human activity. This is a fundamental trend. The public domain will nevertheless have to provide for secure land titles but it will

outsource most operational work and concentrate on supervision.

Finally, in statement six the aspect of cost recovery which is also a potent trend, is expressed:

The cost of Cadastre 2014 will be recoverable! The awareness that even operations executed by the public sector have their price, and that the public and the private sectors have at least to cover their cost, leads to efforts to implement cost covering fees also in cadastre. In several cadastral systems it was proved that cost recovery is possible. Because cadastre is a long-term investment the depreciation period for the initial investment costs can be longer than for normal goods.

Effects of Cadastre 2014

Cadastre 2014 is the bookkeeping system for the scarce resource land. This bookkeeping is complete, accurate, and reliable. It documents facts and therefore avoids disputes. Political processes and sustainable development is often hindered by fruitless discussions. Future cadastral systems document all facts in an indisputable manner.

Decisions can be taken on the basis of complete and reliable information. This accelerates the implementation of the decisions.

Because Cadastre 2014 provides a reliable and clearly defined model of the existing situation, the effects of planned measures can be tested in the model. Erroneous decisions can be avoided.

The danger of too much and/or inconsistent regulations hampering development, can be banned. Over-regulation and inconsistency may be identified with the help of complete and reliable cadastral information in an early stage of action.

The time consuming acquisition of base data, which today often amounts up to 75 to 80% of the total project duration, will not be necessary when the cadastre provides complete and reliable information. Projects can be implemented in shorter periods. Money and human resources can be saved.

Conclusion

Cadastre 2014, basing on the successful principles of the traditional cadastre but applying them on a wider range of legal land objects, supports sustainable decision-making, which is only successful when based on reliable and complete information about the situation of land. With its help political discussions are focused on the really existing problems and the possible solutions. The relevant facts, created by legal assignments are carefully and securely documented.

With the consequent application information technology and data modeling and of the principle of legal independence efficient and flexible operation of the cadastre system is guaranteed.

The cooperation of public and private sectors and the cost recovery make cadastre 2014 a smooth efficient tool in the hands of societies.

Cadastre 2014 providing a complete and up-to-date accountancy about land and enabling efficient and effective use of it, meets humankinds future needs. It is a mighty tool to manage the further development of the world.

References

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Co-ordination experiences among member States

The Land Registry in England and Gales and its co-ordination with other Land Agencies

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1. This paper is in three parts.

• First it describes the institutional structure in the United Kingdom for all aspects of land administration*. This includes those activities carried out by cadastral agencies in mainland Europe.

*(*Land Administration is the term established by the United Nations Economic Commission for Europe (UNECE) to describe that group of activities related to land including national mapping, land registration, land valuation, land use and land information).*

• Secondly it describes the work and the developments in the Land Registry in England and Wales and its co-ordination with other agencies in the UK and in Europe

• Thirdly it refers to the work of the United Nations Economic Commission for Europe's Working Party on Land Administration (UNECE WPLA) and how this is relevant to this topic on Coordination Initiatives at the Congress

Land administration structures in the United Kingdom

2. There is a long tradition in the United Kingdom of the public administration of those functions which are normally undertaken by cadastral organisations in mainland Europe. Systems of National Mapping, Land Registration, Land Valuation and Land Use are all well established. Together these public and statutory services underpin the social and economic well being of the country. But the cadastral tradition, commonplace in many countries of Europe, is not to be found in the United Kingdom. These public services function effectively through well established institutional structures. They are independent but co-ordinated.

3. At a technical and operational level the functions of national topographical mapping, land rights registration, land valuation and land use are the responsibility of separate agencies accountable to different Departments and Ministers. A further feature of the position in the United Kingdom is that for some of these functions responsibility is directed separately and independently in England and Wales, in Scotland and in Northern Ireland. Each of these jurisdictions have Parliaments or Assemblies with devolved and independent law making powers and departments responsible for particular aspects of public administration. There is, nevertheless, substantial consistency in the technical practices and procedures across the United Kingdom and close co-operation and co-ordination between agencies.

4. The chart below illustrates schematically the responsible Ministries, agencies and the users of land administration services in England and Wales.

Land Registration

5. The responsibility for registering land rights including ownership, mortgages, burdens and easements rests with the **Land Registry**, which is a public Agency of the **Lord Chancellor's Department** (the Ministry of Justice). The Head of the Land Registry is directly accountable to the Minister. He has extensive quasi-judicial powers and he and his staff will determine the great majority of all issues and disputes relating to land rights. The interests registered are guaranteed by the State and those whose rights are registered can be indemnified if they suffer loss through an error or omission on the register. Citizens are free to appeal to the High Court if they wish to challenge the decision of the Registrar. This is very rare.

6. The Land Registry is responsible for keeping and updating the public land register (which incorporates the registered title plan) for every registered property. The land register is open to public inspection. This official plan is based on the largest available scale of the national topographic map published by the **Ordnance Survey** (the National Survey and Mapping Agency).

Land Valuation

7. The responsibility for maintaining a record of property valuation rests with the **Valuation Office,** which is a public Agency of the **Treasury** (the Ministry of Finance). The Chief Valuer is accountable directly to the Board of Commissioners of the Inland Revenue who are answerable to the Minister. The Chief Valuer and his staff maintain, by survey, inspection and from other sources, authoritative information on the «annual value» of commercial and residential properties. These assessments take account of ground area, use, location, market value etc. The Valuation Office uses the large-scale topographic map produced by the **Ordnance Survey** as an essential element in its valuation records. The valuations are used by **Municipalities** as the basis for raising local land taxes to finance local services.

Land Use

8. The overall responsibility for ensuring that information on land use and land classification is maintained rests with primarily with two departments; the **Department of the Environment, Food and Rural Affairs and the Department of Transport, Local Government and the Regions**. In many instances the Departments delegate to **Municipal Authorities** the statutory responsibility for maintaining the necessary records on land use and planning information.

9. The various Agencies and departments of the Ministries with direct responsibility for maintaining these statutory records also use the large scale topographic maps produced by the **Ordnance Survey**. The Departmental Ministers are accountable to Parliament for ensuring that these statutory land records are maintained although, in practice, day to day responsibility lies with the appointed Heads of the Departments and Agencies in central or local government.

National Mapping

10. Responsibility for ensuring that national topographic mapping is maintained to specified high standards rests with the **Ordnance Survey**. This is an Agency of the **Department for Transport, Local Government and the Regions**. The Head of the Agency is directly responsible to the Minister who is accountable to Parliament for ensuring that national surveying and mapping meets the specified requirements of the government.

11. It is the task of the Agency to maintain a continuously updated topographic survey of the country, providing to its statutory customers survey and mapping products which meet agreed specifications that enable those agencies to carry out their statutory functions. It follows from this that the Agency must maintain high professional and technical standards in producing source mapping information which forms the basis of the specialist mapping records maintained by the other land Institutions.

Co-ordination and inter-relationship of land administration agencies

12. What distinguishes the arrangements in the United Kingdom from many other countries is that whilst the Ordnance Survey does record the physical features on the ground it is not itself the holder or of specialist data on ownership rights, land valuation or land use. Such records are maintained by the particular Agencies referred to above which, because of their specialist responsibilities, are able to tailor their records based on Ordnance Survey maps with whatever information is considered necessary. In this scenario the Ordnance Survey Agency is the *supplier* and the Land Registry, the Valuation Office, the Ministry of Agriculture, Municipalities and other users are *customers*. These government agencies, as customers, pay the Ordnance Survey Agency for the map products and services provided, as do other non-statutory and private users of the Agency's maps.

13. Whilst the remit and separate accountability for these land and mapping related government functions are clear the «commercial» relationship ensures the closest of technical and service arrangements between statutory map users and the Ordnance Survey Agency as provider of national mapping.

HM land registry-coordination with other land administration agencies.

The Impact of Technology

14. Until 1974 the Land Registry's records and procedures were entirely paper based. In that year the Registry introduced a system, then revolutionary, of telephone searching for those seeking to establish whether or not third party interests subsisted on unregistered land (a name index was maintained of Land Charges).

15. In 1986 the main land register project was launched whereby individual land registers were computerised. All transaction and enquiry processing was done by staff using terminals. All 18 million computerised registers can now be accessed on-line by any user who has a credit account under the «Registers Direct» system. They are billed monthly for the enquiries they make. «Registers Direct» and telephone searching systems have transformed access to land information. Substantial savings in manpower and costs have also resulted from the streamlined internal processing of transactions.

16. The Land Registry Mapping Project is progressively computerising the individual title plans for each registered property and all the Index Maps for England and Wales. The Registry has led the current development in the UK of

a National Land Information Service (see below). This is bringing together, by the use of a unique property reference number, the computerised land information records of various government agencies so enabling «one-stop» access by users.

17. The Land Registry is now examining the scope to introduce «electronic conveyancing» (automated land transfer) whereby those submitting applications and documents for registration may do so on-line. The aim is to move toward a «paperless» system. With on-line access already functioning for information enquiries the basis and potential to extend this to on-line registration and on-line land transfer is already in place.

The National Land Information Service.

18. The development of the National Land Information Service is a practical example of inter-agency co-ordination between national public sector land agencies. Moreover the delivery of the service depends in part on the channels of access for users being provided by private sector companies.

19. The origins of this initiative arose from a government commitment made in 1992. In that year the Government's White Paper on the Citizens Charter included the following commitment in respect of land registration:

«We propose to explore ideas for completing the land register and bringing together information held by the Land Registry and other public bodies. This would help speed up, simplify and promote security in property transactions and bring details of all land ownership into the public domain. A national land information system may be one way to allow the citizen faster and easier access to an authoritative, accurate and comprehensive public record of all land and property»

20. As a consequence, in 1993, the then Chief Land Registrar was invited by the Government' to bring together an inter-departmental group of those public bodies with a leading role in maintaining information about land and property. The Project Board met regularly and included senior representatives from the Valuation Office, the Department of the Environment, the Ordnance Survey, the Local Government Management Board and also the Royal Institution of Chartered Surveyors. The task was to carry through the objectives expressed in the White Paper.

21. In co-operation with others, the Land Registry financed, and its Computer Division developed, the prototype system which enabled access to live information held by a number of key organisations. The HMLR team demonstrated this system extensively throughout the country and it later became the basis for the co-operative live pilot system for the City of Bristol.

22. NLIS uses the new technologies to bring together online, and to make available via one portal, all information on particular land and property titles likely to be of interest to intending purchasers and to others. The information includes not just Land Registry information but also information from local authorities on land charges, planning applications and other matters, and information from the Valuation Office on taxable values, and other relevant information from other sources, cross referenced to topographical and address information held by the Ordnance Survey.

23. It was clear that, technically, the system could deliver what was expected in the way of one-stop access online by customers to a number of separate land information databases held in different organisations. The future rate of access availability would, however, depend on the pace at which local authorities could establish unique Property reference numbers (UPRNs) to a standard format and computerise their records.

24. What was not as clear was how such a concept was to be managed and financed. The government bodies recognised that they had no locus to undertake such a task themselves and no powers to set up a corporate vehicle to act on their joint behalf. It was agreed between all the partners that the Local Government Information House (LGIH) was best placed to carry the project forward on behalf of all the public sector providers. LGIH, after competitive tender, contracted private sector bodies to provide the hub and the channels through which the land information data held by the public sector bodies could be accessed by users.

25. The National Land Information Service (NLIS) is now a developing operational system providing live land information to many users. As local authorities progressively apply unique property reference numbers to the properties in their areas so increasingly the coverage of the NLIS is extending.

26. The chart below indicates the structure. The responsible agencies have complete control over the maintenance and accuracy of their land information records. The «Independently Managed Hub», run by a private sector partner, provides the gateway through which the three contracted independent channel companies can provide value added on-line land information services to customers.

27. The chart below illustrates this co-ordinated structure:

28. The English experience illustrates what has become possible because of the capacity and versatility of computer based systems for storing information and for remote access on-line. Without the need for institutional restructuring co-ordinated initiatives between agencies has made possible the merging of land information data through compatible databases and shared systems. This has depended in part on the adoption of unique property reference numbering for all land parcels. The programme to do this has been managed by the **Local Government Information House** in co-operation with individual **Local Authorities**. —who have carried out the allocation of UPRN's to standards laid down centrally. A comparable system, the Scottish Land Information System (Scotlis) is being introduced in Scotland. These initiatives are prime example of two of the United Kingdom Government's policies; for *«Joined up Government»* and for *«Modernising Government»*.

The European Land Information Service (EULIS)

29. Building on its NLIS initiative HM Land Registry for England and Wales is one of the eight countries who are founder members of a new initiative to establish a European Land Information Service.

30. Among the objectives of the initiative is to improve access to, and expand the use of, public sector information about land throughout Europe. The EULIS initiative will address those issues which at present may be a barrier to the free interchange of land information. By so doing the way will be cleared for developing the cross European property and mortgage markets for the benefit of the citizens. More detailed information about this initiative will be covered at other sessions at this Congress.

The work of the United Nations Economic Commission for Europe's working party on land administration (UNECE wpla) and how this is relevant at the congress

31. The United Nations Economic Commission for Europe has, for the last ten years, given a high priority to fostering land administration developments in its member states. The focus has been on assisting countries in transition establish functioning land systems based on private land rights. «*Land Administration*» is the United Nations' term that encompasses land registration, cadastral and topographic survey, land valuation, land use and land information; all key components of a national land and geographic information service.

32. In 1993 UNECE launched its initiative to strengthen land administration capabilities for countries in transition. Under the auspices of the UN ECE Committee on Human Settlements a series of meetings were held of «*Experts in Land Registration and Cadastre*». Later, in February 1996, this group was formally constituted as *MOLA* (the Meeting of Officials on Land Administration). In 1999 recognizing the importance of its work the UNECE gave this body standing status and it was reconstituted as the Working Party on Land Administration (UNECE WPLA). A series of seminars and workshops have been held in Albania, Armenia, Austria, Croatia, Czech Republic, Denmark, Germany, Hungary, Latvia, the Netherlands, Norway, Poland, Romania, Spain, Sweden and the United Kingdom. Workshops are scheduled for June and September this year in Moscow and in Vienna. The secretariat of WPLA is at the UNECE Headquarters in Geneva. WPLA has also conducted land administration missions in Albania, Georgia and Kyrgyzstan. The aim has been to bring together the expertise developed over many years in established land administration systems in the ECE region and to share and exchange experience.

33. One of the first initiatives of the UNECE Committee on Human Settlements was to establish a Task Force under the leadership of Professor Peter Dale from the United Kingdom, (now Honorary President of FIG) to prepare Guidelines on Land Administration. The UNECE «*Land Administration Guidelines*» were published in 1996. They provide a comprehensive analysis of the characteristics of effective land registration and cadastral mapping information systems and much practical information on related land management issues. The Guidelines, which have been widely translated, explain how to establish land information systems which are essential to the effective functioning of a market economy and a society which recognizes private property rights.

34. In 1998 the UNECE published, in three languages, a Policy Paper «*Social and Economic Benefits of Good Land Administration*». This Policy paper was directed to politicians and policy makers in member states of the ECE. It emphasizes the importance of good land administration in building social and economic well being.

35. In May 2000 the WPLA published its «*Study on Key aspects of Land Registration and Cadastral Legislation*». The Study provided detailed information on the arrangements in 36 countries.

36. WPLA also produced in 2001 the *Second edition of the UNECE «Documentation of Land Administration Projects»*. This provides summaries of past and on-going projects in ECE member states. Originally restricted to projects dependent on external financing the summaries have been extended to all European countries.

37. As part of its work WPLA has also researched land administration systems across ECE countries and published three editions of an «*Inventory of Land Administration Systems in Europe*» the most recent in July 2001. This study has examined and described the four principal aspects of land administration in 42 countries in the ECE region.

38. These activities are set out in the Annex to this Paper.

39. All UNECE countries are members of the WPLA. The programme of the Working Party is directed and monitored by an elected Bureau of country delegates. Its Chairman is Mr Bengt Kjellson, the Director of Planning at the Lantmateriet, National Land Survey of Sweden. This continuing programme is closely related to much of the ground to be considered at this 1st European Congress on Cadastre.

40. The UNECE WPLA Web site, which contains access to the above documentation, is at: http://www.unece.org/env/hs/wpla/welcome.html.■

Le Cadastre Belge

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Definition du Cadastre Belge

En Belgique, on entend par Cadastre à la fois la documentation cadastrale (fichiers et plans) et le service chargé de la gestion (mise à jour) de la documentation (l'administration du cadastre).

Origine du Cadastre Belge

La conception du cadastre belge est d'origine française.

En effet, dans la foulée de la révolution française (1789), la Constituante décide en 1790-1791 la création du cadastre général et de la contribution foncière; elle trace des règles pour:

— les opérations préparatoires et d'ensemble,
— les arpentages parcellaires,
— la délimitation de chaque commune,
— la triangulation par commune.

Suite aux conquêtes napoléoniennes, les territoires de la Belgique sont inclus dans l'Empire français, et un cadastre, sur le mode «français», est dès lors constitué dans nos régions.

Retenons les paroles de Napoléon:

«Un bon cadastre parcellaire sera le complément de mon code civil».

Après Waterloo (1815), et durant la période commune avec les Pays-Bas du Nord, des travaux d'établissement du cadastre sont poursuivis.

Les travaux sont définitivement terminés (Province de Luxembourg) en 1843, donc déjà après la création de l'Etat souverain belge (1830).

Evolution du Cadastre Belge

Durant les XIXe et XXe siècles, le système cadastral belge va être constamment amélioré et plus particulièrement ces vingt-cinq dernières années.

1976: reprise sur support magnétique du fichier de base (la matrice cadastrale): la mise à jour de la matrice cadastrale s'effectue par ordinateur.

1987-1989: création d'un fichier national informatique des personnes morales de droit public-propriétaires et des personnes morales de droit privé-propriétaires, constituant une base de données des propriétaires connus au cadastre.

1990: création d'un répertoire national des personnes physiques sous la forme d'une base de données. Celle-ci constitue la dernière phase du répertoire national des propriétaires connus au cadastre.

1994-1995: mise à jour on-line depuis les contrôles, via le réseau du Cadastre, de *toutes* les données de la matrice cadastrale (propriétaires *et* parcelles).

Caractere du Cadastre Belge

Il convient de rappeler que le cadastre belge devait à l'origine être un instrument juridique et probant, à savoir un système positif dans lequel les documents, tenus par bien immobilier (système réel) et par des fonctionnaires publics, ont force probante en matière de droits. Le fonctionnaire chargé de la tenue des dits documents y joue un rôle actif.

On se contenta pratiquement de relever trop souvent les situations de fait quant à la possession.

L'aspect «fiscal» a prévalu:

— à dresser un inventaire des biens immobiliers et de leurs propriétaires aux fins de réaliser un partage équitable de l'impôt foncier,

— estimer le revenu cadastral de chaque bien immobilier,

— communiquer les résultats de cette opération à l'administration chargée de percevoir l'impôt foncier.

Lien entre le Cadastre et le regime hypothecaire

Le rôle que remplit un cadastre se rattache étroitement à l'organisation et à la fonction du système hypothécaire du pays concerné.

Dans les pays ayant un *système réel* (documentation organisée suivant les biens immobiliers), le cadastre, en tant qu'inventaire des biens immobiliers, est indispensable pour les hypothèques. Le cadastre y a un caractère juridique, dans la mesure où il a pour effet de faire naître des droits.

Par contre, si le système réel appartient à la catégorie des systèmes passifs, il existe alors deux documentations distinctes, entre lesquelles il existe cependant une collaboration très étroite. Dans le cadastre ne peuvent être repris que les droits transcrits aux hypothèques, et les hypothèques ne peuvent enregistrer que les biens connus au cadastre (système français).

Dans les pays comme la Belgique ayant un *système personnel* (documentation organisée suivant les personnes), la relation entre le cadastre et les hypothèques est beaucoup moins étroite. Comme ce système s'accompagne, en général, d'un système hypothécaire passif et que, en raison de sa nature, celui-ci n'a pas pour effet de faire naître des droits et n'a pas de force probante, le cadastre, comme tel, ne possède pas davantage ces attributs.

En résumé, en ce qui concerne la Belgique, le cadastre, par lui-même, n'a pas pour effet de faire naître des droits et n'a pas de force probante. Il peut, tout au plus, à défaut d'éléments plus probants, fournir une présomption (voir art. 1349, code civil). La preuve du droit de propriété ne peut résulter que du titre de propriété. La preuve vis-à-vis des tiers n'y est possible que si le titre a été dûment transcrit dans les registres hypothécaires.

Notons toutefois que dans le cadre de sa fonction fiscale, les documents cadastraux ont, en Belgique, une valeur «juridique» ou probante en tant qu'écrits authentiques (article 1317, C.C. et article 395 C.I.R. 1992). Certaines législations administratives ont élargi cette force probante à certains secteurs publics, comme les expropriations, le remembrement rural, l'aménagement du territoire, etc.

Perspectives nouvelles - realisees et en cours

Regroupement cadastre-enregistrement-hypotheques: création de l'ACED

En 1999, fut créée l'Administration du Cadastre, de l'enregistrement et des domaines (A.C.E.D.). L'A.C.E.D. regroupe:

1) les services de l'Enregistrement et des Domaines;
2) les services des conservations des Hypothèques et
3) les services du Cadastre.

Le Comité de gestion de cette nouvelle administration publique a établi un plan stratégique de modernisation en vue de la fusion du «cadastre» et de «l'enregistrement» (fonction à la fois civile et fiscale).

Cette restructuration des services s'appuie sur trois axes principaux:

— le renforcement des synergies entre le cadastre et l'enregistrement et ultérieurement les hypothèques;

— la modernisation de la gestion des ressources humaines et techniques;

— la modernisation de la gestion des activités des services, initiée par un management de la performance.

Une première étape vers la création d'un cadastre juridique a été franchie par la nécessité d'assurer la concordance entre la documentation cadastrale et l'objet des actes soumis à la publicité immobilière selon l'article 1 de la Loi sur les Hypothèques.

A cette fin, il convient d'améliorer l'identification des biens immobiliers pour lesquels un acte ou un document est établi afin d'être rendu opposable et ce, particulièrement, en cas de transfert d'une partie de parcelle cadastrale. Il est important que l'acte concerné comporte des mentions suffisantes pour pouvoir adapter correctement la documentation cadastrale en général, et le plan cadastral en particulier.

C'est pourquoi, pour chaque acte translatif ou déclaratif de droits réels immobiliers en rapport avec une partie d'une parcelle cadastrale existante ou avec la division d'une parcelle cadastrale existante, à l'avenir, il sera nécessaire de joindre un plan de bornage établi par un géomètre, identifiant clairement l'objet du contrat.

Strategie de modernisation - management de la performance

Une stratégie de modernisation a été initiée: dont les **trois axes** principaux sont:

— renforcement des **synergies** entre les administrations fiscales: synergies *organiques* avec le processus de restructuration des services, d'une part, synergies

fonctionnelles avec la conclusion de protocoles de coopération pour une plus grande transparence et responsabilisation des uns et des autres, d'autre part;

— modernisation de la **gestion des ressources**: d'abord, gestion des ressources *humaines* avec la réflexion en cours sur le projet «gestion du personnel-politique du personnel», ensuite, gestion des ressources *informatiques* avec une programmation budgétaire correspondante;

— modernisation de la **gestion des activités des services**, initiée par le projet «mesure de la performance» que nous pouvons appeler dorénavant «Management de la performance».

La poursuite du projet du Management de la performance conduit à revoir en profondeur les méthodes du **contrôle interne** au sein de chacune des administrations. Il s'agit d'adopter, à cet égard, les meilleurs standards de la gestion moderne des organisations et des entreprises.

Cela nécessite:

— de mettre en évidence la pertinence des 4 principes du contrôle interne,

– il est l'affaire de tous,
– il est en processus continu,
– il apporte une assurance raisonnable
– il n'est pas un but en soi,

— un double exercice de clarification, l'un portant sur les missions et valeurs fondamentales, et l'autre portant sur les objectifs de gestion, traduisant en termes concrets les missions et valeurs fondamentales. Le «Management de la performance» rend possible une vraie **autonomie-responsabilisation** des administrations,

— une gestion du risque impliquant:
– intégralité et valeurs éthiques
– compétences, formation et évaluation du personnel,
– structure de l'organisation et responsabilité,
– politique et stratégie
– philosophie et style de management
– ressources et outils de gestion.

Objectifs strategiques definis par l'ACED

Le Comité de gestion de l'ACED a défini comme suit ses objectifs stratégiques généraux.

La réalisation des objectifs généraux doit tendre à l'amélioration permanente de la sécurité juridique, de l'équité, de la rationalisation des méthodes de travail, de l'image de marque, et de la qualité des prestations de services.

Les 5 objectifs stratégiques énoncés ci-dessous ne se rattachent pas à un processus particulier. Leur réalisation est toutefois importante pour un fonctionnement optimal de la nouvelle administration de l'ACED. Il s'agit:

— de réaliser la fusion des services communs –logistique, ressources humaines, automatisation– des secteurs Cadastre, Enregistrement, Domaines et Hypothèques de l'administration centrale de l'ACED;

— d'étudier la rationalisation, l'harmonisation et la simplification des dispositions légales et réglementaires devant conduire à une meilleure productivité de l'administration;

— de mener à bien la restructuration et l'harmonisation des circonscriptions (contrôles, recettes, inspections et directions) des services patrimoniaux (cadastre, enregistrement, domaines, comités d'acquisition, conservations des hypothèques) et regrouper les services des différents secteurs subsistant dans les mêmes bâtiments;

— de mener une réflexion sur l'assistance aux services locaux de l'administration;

— d'assurer une information et une communication interne vers l'ensemble du personnel.

Pour la réalisation de ces objectifs les tâches principales nouvelles ou à renforcer, sont les suivantes:

Gestion des connaissances

— Collecter, conserver, traiter et mettre à disposition de façon optimale des informations au personnel.

Créer un dossier unique sur le «contribuable» comprenant toutes les données nécessaires afin d'optimaliser le traitement au sein du service.

Gestion des changements

Préparer la mise en œuvre des projets de modifications et le soutien des entités exécutives dans la mise en œuvre réelle de ces projets.

Analyse de risque

Développer et appliquer des méthodes et techniques d'analyse de risque afin d'organiser d'une manière aussi efficiente et efficace que possible les ressources du service.

Stratégie envers les groupes-cibles

Acquérir et mettre à jour la connaissance des besoins du contribuable et structurer des interactions avec ce contribuable sur la base de ses besoins. Parallèlement à cela, instaurer une communication transparente avec les différents groupes-cibles, dont principalement les notaires, les cabinets de géomètres, les institutions publiques et privées en relation avec la sécurité juridique des patrimoines immobiliers, de sorte qu'ils soient informés de ce qui leur est possible, mais également de leurs obligations.

Modernisation de la gestion des ressources humaines

L'environnemnt dans lequel s'inscrit l'action du secteur public est en constante évolution. Il faut donc pouvoir s'adapter en permanence. La gestion du personnel doit permettre de répondre à la fois aux aspirations légitimes des membres du personnel et aux besoins des services dont ils font partie. Cela passe par une plus grande professionnalisation de la gestion du personnel et par le souci constant d'une politique du personnel dynamique, tant en termes de carrière qu'en termes de réponse aux besoins évolutifs des services.

Développement de l'usage de nouvelles technologies

Compte tenu de la rapidité des évolutions technologiques, il est indispensable que le développement des divers projets informatiques contenus dans le plan stratégique informatique soit géré de manière coordonnée. Le développement des nouvelles technologies de l'information (sites internet, réseaux intégrés, CD-ROM div

Copernic Business Process Reengineering (BPR)

Dans le cadre de cette stratégie de modernisation, le Ministère des Finances mène une réflexion approfondie sur tous ses processus dans le cadre du plan COPERNIC.

Pour cela, 16 programmes Business Process Reengineering (BPR) ont été constitués. Ils permettront de faire aboutir les réformes en cours et de relever de nouveaux défis.

La première phase de la réforme a abouti à établir le schéma général du nouveau «Service public Fédéral» Finances qui est appelé à remplacer le Ministère des Finances.

La deuxième phase à laquelle nous travaillons actuellement, dessine, avec l'aide des 16 BPR, une nouvelle image de tous les aspects des administrations concernées.

Pour ce qui concerne l'ACED, 3 BPR fonctionnels ont été créés: «Mesures et Evaluations», «Services Patrimoniaux» et «Sécurité juridique», dont je préciserai les objectifs ci-après, notamment ceux établis par le BPR «Mesures et Evaluations», qui concerne plus particulièrement le plan cadastral.

Principes strategiques

• Principe stratégique 1

— Garantir la sécurité juridique et la transparence:

– augmenter le nombre de recouvrements corrects (débiteurs et montants corrects)

– fournir au public une documentation patrimoniale (plan cadastral...) fiable et juridiquement correcte expliquer et justifier le cheminement pour arriver à une décision (p. ex. la fixation du revenu cadastral)

– augmenter l'accessibilité des documents pour l'utilisateur interne et externe

• Principe stratégique 2

— Gérer en «bon père de famille»:

– diminuer les coûts lors de l'acquisition des biens immobiliers pour les autorités fédérales et autorités non fédérales

– garantir un meilleur suivi et une meilleure gestion des coûts

– améliorer la fixation des prix en fonction des coûts

– développer des produits payants en complément à la mission de service public

• Principe stratégique 3

— Développement des services orientés vers la clientèle:

– accélérer les prestations de services, augmenter la qualité et faciliter les interactions avec l'administration

– tenir compte des besoins des clients internes et externes en créant un partenariat et un dialogue continu avec la clientèle

– créer un point de contact unique aussi bien pour les questions à poser que pour les missions confiées à l'organisation

• Principe stratégique 4

— Professionnaliser la prestation de services:

– les entités mettent tout en oeuvre afin d'être considérées comme des partenaires professionnels dans leurs domaines spécifiques

– développer l'expertise technique par une formation permanente des membres du personnel

– focaliser sur les activités qui amènent une valeur ajoutée

– une administration proactive qui engendre des initiatives propres

BPR «mesures et evaluations»

En ce qui concerne le BPR «Mesures et Evaluations», les processus suivants ont été déterminés:

— processus «Gestion du plan cadastral»

— processus «Evaluation des biens immobiliers»

— processus «Evaluation des biens mobiliers»

— processus «Traitement des contestations, réclamations et litiges».

Les objectifs suivants ont été dégagés:

— élaborer une structure de travail permettant de fonctionner de façon optimale dans un environnement de marché

– basée sur la qualité, la rapidité, la rigueur et la précision

— profiler l'organisation en tant que référence dans le domaine «évaluation de valeur»

– entre autres être le *point de contact unique* pour toute évaluation de valeur dans le secteur public

— utilisation optimale de l'expertise existante

– augmenter l'efficacité en effectuant toutes les évaluations de valeur au sein de l'entité ME

– aiguiser la responsabilité du fonctionnaire en lui faisant prendre conscience de son rôle spécifique

— fixer des normes de qualité pour les produits à mettre à la disposition du client

– le client doit être satisfait des services qu'il est en droit d'attendre de l'administration

En ce qui concerne plus particulièrement le processus «Gestion du plan cadastral», il est acquis que l'établissement d'un procès-verbal de bornage ressortit au premier chef au Cadastre. Je reprendrai en détail ci-après la stratégie spécifique au plan cadastral.

Sachez toutefois dès à présent que nous considérons que le bornage est l'activité principale des géomètres-experts du cadastre et ce dans le cadre de l'établissement d'un cadastre juridique.

Dans cette perspective, l'intervention des géomètres «privés» ne pourrait avoir lieu qu'à la requête de l'administration s'agissant de bornage (et non de mesurage non contradictoire), de façon occasionnelle et dans l'hypothèse où l'administration du cadastre ne dispose pas des ressources humaines nécessaires.

L'ACED a donc imaginé une ouverture vers le secteur privé, en l'occurrence vers les géomètres privés, de même que, de façon plus générale, vers une recherche de partenariat.

Nous en reparlerons plus loin.

BPR «services patrimoniaux»

Dans le TO BE défini par le BPR «Services patrimoniaux» les nécessités suivantes ont été soulignées:

— Une plus grande accessibilité aux informations permettant de déterminer la valeur et d'acquérir des biens immobiliers (valeur vénale estimée par «Mesures et Evaluations», bases de données, ...)

Ainsi, les entités des services patrimoniaux doivent s'investir d'avantage dans la «négociation» avec les futurs expropriés-vendeurs et la «prospection» du marché

— Les nouveaux processus dessinés lors du BPR ont été présentés à une assemblée de receveurs des domaines. Ces derniers les ont accueillis favorablement et insistent sur la nécessité de mettre en oeuvre plus de moyens pour les faire fonctionner (ex. automatisation plus poussée)

BPR «securite juridique»

En ce qui concerne le groupe de travail «Sécurité Juridique» du BPR, les processus qui suivent ont été déterminés:

— processus «Réclamer des droits»

– Droits d'enregistrement, droit d'hypothèque, rétributions, droits de greffe immédiatement perçus et taxes assimilées aux timbres

– Droits de succession, droit de mutation par décès, insuffisances

— processus «Maintenir à jour la documentation patrimoniale»
— processus «Fournir la documentation patrimoniale»
— processus «Traitement des contestations, réclamations et litiges».

Strategie pour le plan cadastral

Jusqu'à une période récente, le plan cadastral était élaboré dans un but principalement fiscal, c'est-à-dire déterminer la base imposable et identifier le redevable de l'impôt foncier.

Afin de remplir cette mission, l'administration belge a mis l'accent sur la régularité de la mise à jour, sur l'identification des possesseurs et sur la création d'une documentation complète relative aux caractères intrinsèques des bâtiments.

Depuis 1983, toutes les données alphanumériques (donc non graphiques) sont informatisées et peuvent être mises à jour par les services extérieurs directement sur la banque de données et cela dès la réception de l'information. Par contre, le plan cadastral est resté à l'écart de ces projets et, quoi qu'il soit complètement mis à jour annuellement, sa gestion est restée manuelle.

Comme indiquée ci-dessus, depuis l'année 2000, les objectifs du cadastre belge ont été modifiés. L'administration doit constituer une banque carrefour des données patrimoniales et renforcer le caractère juridique de sa documentation. A cet égard, le plan cadastral acquiert une importance essentielle puisque la parcelle cadastrale constitue l'identifiant sur lequel s'appuie toute l'information contenue dans les différentes tables d'informations à caractère juridique des secteurs hypothèque et enregistrement qui sont désormais fusionnés avec le secteur cadastre.

Il est donc primordial que le plan cadastral soit actualisé en continu et que l'identifiant (la parcelle cadastrale) soit connue le plus rapidement possible.

D'autre part, les pouvoirs régionaux belges, compétents notamment en matières d'environnement et d'urbanisme, souhaitent développer un partenariat avec l'administration fédérale afin de disposer d'un plan parcellaire informatisé indispensable à leurs missions.

Le projet pour le plan cadastral doit donc répondre à trois qualités essentielles:

1.° être toujours actualisé en continu; il est en effet primordial que les travaux de numérisation n'handicapent pas le rythme normal et actuel des mises à jour du plan;

2.° répondre aux critères essentiels de qualité;

3.° être constitué dans un format permettant l'échange aisé et régulier, voire continu, de l'information avec les autres institutions publiques.

Dans ce contexte, l'administration fédérale belge a choisi d'informatiser le plan cadastral en trois étapes.

La première étape consiste à numériser le plan cadastral et à le gérer en CAD. Il ne s'agit donc pas encore d'une banque de données liant le plan à la matrice, mais d'un plan exclusivement graphique. Délai de réalisation: 3 ans.

La deuxième étape consiste à améliorer la qualité du plan en ajustant celui-ci sur des référentiels régionaux. Cette opération permettra d'obtenir un plan continu, géoréférencé et, en principe, nettoyé au niveau de la parcelle des erreurs grossières (la précision serait de un mètre en absolu). Délai de réalisation: 5 à 8 ans.

Le lien entre les données alphanumériques de la matrice cadastrale, des fichiers des hypothèques et de l'enregistrement avec les données graphiques du plan cadastral, constitue la troisième et dernière étape, c'est le Système d'Information Géographique (SIG). Cette étape est seulement à l'étude et doit permettre notamment d'automatiser au maximum la gestion du plan cadastral en permettant l'intervention des géomètres du secteur privé, l'administration gardant un rôle de validation et de contrôle.

Ce choix de procéder par étapes présente différents avantages:

1. Cette procédure permet de répondre immédiatement aux demandes externes émanant des pouvoirs régionaux.
2. L'impact de la vectorisation peut être assimilé sans mettre en danger le rythme actuel de mise à jour.
3. L'amélioration de la qualité ne freine pas la mise en service d'un plan informatisé.
4. Le personnel pourra s'adapter progressivement aux réformes.
5. La réalisation de la première étape donnera l'expérience et le délai nécessaire à une conception sans faille d'un SIG répondant aux besoins réels actuels (pas de conception d'un SIG conçue sur base d'un produit traditionnel).

Collaboration aced-geometre independant

Principe

La collaboration entre l'ACED et tout géomètre indépendant devrait s'organiser dans le cadre d'une convention.

Situation existante

Actuellement, les plans de géomètres (et d'une manière générale, tous les plans joints aux actes) ne sont pas normalisés et de nombreux plans présentent une qualité insuffisante (règles de mesurage non correctes, pas ou peu de signatures des propriétaires, indication des mesures insuffisantes, formats et échelles divers).

Le secteur cadastre en reçoit une copie (souvent de mauvaise qualité) du secteur enregistrement.

Le plan cadastral est mis à jour au vu de cette copie en transformant (par intégration) les données du plan du géomètre pour les adapter au périmètre rigide des parcelles concernées. Cette transformation empêche la conformité entre le plan cadastral et le plan du géomètre.

En outre, le plan cadastral ne s'améliore pas, il conserve ses imperfections et tous les inconvénients qui s'ensuivront lors de mesurages ultérieurs (par ex, lors de l'implantation d'une nouvelle construction dans un lot intégré).

Bien que réglementé, l'archivage des copies de plan de géomètre aux contrôles du cadastre, n'en permet pas leur exploitation d'une manière efficace.

Conclusion

Bien que l'ACED reçoive un exemplaire des plans de géomètres, le processus actuel ne permet pas de les utiliser correctement et les géomètres ne peuvent les consulter. Le secteur cadastre de l'ACED ne possède dès lors qu'un rôle accessoire dans la recherche des limites de propriété.

PROPOSITION - NORMALISATION DES PLANS DE GÉOMÈTRE

Objectif

La normalisation doit:
— Permettre l'enregistrement informatique du plan dans les fichiers cadastraux

— Permettre l'attribution d'une qualité juridique aux limites
— Faciliter l'interprétation des plans et leur utilisation dans le cadre de la mise à jour du plan cadastral
— Homogénéiser la documentation

Normes

A cette fin, il est demandé aux géomètres de confectionner leurs plans en respectant les normes suivantes:
— Indiquer sur le plan les coordonnées des sommets de propriété (locales, Lambert ou dans un autre système). Les coordonnées permettent de régler les problèmes des angles et de récupérer sans déformation les limites de propriété
— Faire signer les parties (voisins) dans la mesure du possible (augmente le nombre de limites contradictoires)
— Permettre l'identification des signataires, par exemple en plaçant un tableau (un ensemble de signatures illisibles en fin de document ne permet pas cette identification)

Confection d'un dossier

Le géomètre confectionne un dossier contenant un plan original, avec les signatures, et une disquette avec les coordonnées des sommets de propriété et des bâtiments (1) sous la forme d'un fichier.

Enregistrement des plans de géomètre à l'ACED
Communication du dossier au secteur cadastre de l'ACED

Le dossier confectionné par le géomètre est communiqué d'office par celui-ci directement au contrôle du cadastre et, à défaut, à la demande de l'agent de l'ACED lorsque celui-ci en a la nécessité lors des travaux de mises à jour.

Le but est de fournir au contrôle du cadastre un exemplaire original de bonne qualité.

On demande de fournir les coordonnées définitives du périmètre du plan d'ensemble lors de la vente du premier lot et les coordonnées des sommets de polygonale. Cette partie du dossier doit rester confidentielle et est strictement réservée à l'usage interne de l'ACED, plus précisément à un seul responsable par province. Ces informations sont demandées afin d'optimaliser le traitement des grands lotissements.

Enregistrement des plans dans une base de données à l'ACED

Le plan est l'objet d'un enregistrement dans une base de données relationnelle. Cette base comprendra notamment les informations suivantes:
— Numéro de parcelle concernée (après mutation)
— Situation du bien si bâti
— Année et numéro du croquis des mutations
— Nom du géomètre
— Date du plan
— La raison pour laquelle le plan a été réalisé (joindre à un acte, projet de division, etc) (2)
— Le cas échéant, date de l'acte auquel il est joint
— Le cas échéant, nom du notaire ayant instrumenté l'acte
— Le cas échéant, l'existence d'une servitude (3)

L'élaboration de cette base de données permettra:
— Aux géomètres, d'effectuer une recherche;
— A l'agent de l'ACED, de connaître les plans archivés, de les comparer, de les assembler et éventuellement, d'apprécier si un géoréférencement peut s'avérer opportun (voir troisième volet)

Classement de ces dossiers avec les croquis des mutations au contrôle du cadastre

Après traitement dont question au troisième volet, le dossier du géomètre est classé avec les croquis des mutations archivés au contrôle du cadastre et non plus dans un classement distinct.

Le regroupement avec les croquis permet:
— De faciliter la recherche d'un plan de géomètre
— De rassembler des pièces (plan et croquis) ayant un lien étroit
— D'obtenir un classement unique, appliqué dans tous les contrôles (simplification)
— Lors de la consultation, de connaître immédiatement la qualité et la source des informations reprises au croquis et, éventuellement, d'empêcher une régularisation erronée relative à une limite juridique
— Pour les géomètres, d'accéder à une documentation fiable et vérifiable, ainsi qu'au document de géoréférencement dont question au troisième volet.

Amélioration du plan cadastral (à titre d'information)
Géoréférencement éventuel

Après mise à jour du plan cadastral de manière traditionnelle, l'agent du contrôle du cadastre transmet le dossier du géomètre à l'agent responsable des applications GPS de sa province (un responsable par inspection des Grands Levers et Plans Généraux).

Celui-ci décide de l'opportunité de géoréférencer le plan du géomètre s'il ne l'est pas déjà.

Le géoréférencement et la numérisation ultérieure permettront d'ajuster le plan cadastral de manière très précise sur le plan du géomètre.

Numérisation et enregistrement dans un fichier référentiel cadastral «plans de géomètre»

Les plans y sont indiqués sans déformation autre que celles résultant du géoréférencement.

Ajustement périodique du plan cadastral sur le référentiel

Périodiquement, le plan cadastral est ajusté au référentiel à l'aide d'un logiciel intégrateur parcellaire. Cette opération sera réalisée après l'ajustement sur le référentiel régional et pour autant que le référentiel cadastral «*plans de géomètre*» contienne suffisamment de plans numérisés par îlot.

Les limites de parcelle sont le cas échéant déplacées dans des couches «*juridique contradictoire*», «*juridique unilatéral*» ou «*technique*» respectivement selon que le plan du géomètre est signé par toutes les parties concernées, ou par une seule partie et joint à l'acte et enfin selon qu'il s'agit d'un simple mesurage à valeur technique. Une limite juridique

(1) À la demande des associations des géomètres.
(2) À la demande des associations de géomètres.
(3) À la demande des associations de géomètres.

unilatérale devient juridique contradictoire si un deuxième plan concernant la parcelle voisine correspond exactement au premier plan (cas fréquents lors d'un lotissement).

Cette opération permet de mettre en concordance exacte les limites parcellaires aux limites de propriété.

Consultation de la documentation cadastrale organisée au profit des géomètres
Consultation gratuite au contrôle

Dans le cadre de la convention susmentionnée, les géomètres conventionnés reçoivent gratuitement le droit à la consultation des croquis des mutations (et le dossier plan du géomètre éventuel ainsi que du dossier géoréférencement) archivés au contrôle du cadastre.

Consultation de la base de données des plans de géomètre

Pour les géomètres ayant souscrit une convention, il sera possible de consulter gratuitement la base de données des plans de géomètre archivés aux contrôles du cadastre.

Convention

L'accord entre chaque géomètre et l'ACED sera officialisé dans une convention.

Une valeur fondamentale: l'aide proactive au citoyen

L'aide proactive s'attache au principe de la confiance légitime du citoyen (un autre principe de bonne administration) dans la mesure où le citoyen est en droit d'attendre des fonctionnaires compétents des informations correctes et adéquates.

Il convient dès lors de développer un service orienté vers le client respectant les caractéristiques suivantes:

— satisfaction du client
— image et notoriété
— rapidité et qualité du service
— proximité
— professionnalisation des activités

Cette politique d'aide proactive risque dans les faits de se voir contrecarrée par des réglementations existantes allant dans un sens opposé.

Il est en conséquence opportun de procéder à une révision des réglementations dans la mesure où elles risquent d'être en porte-à-faux avec l'objectif émis d'améliorations des relations contribuables-administration.

Relationship with other European Cadastral Systems congres sur le cadastre dans l'Union Europeenne

Dans le cadre de la présidence de l'Union Européenne durant le premier semestre 2002, le Royaume d'Espagne a pris l'heureuse initiative de réunir pour un premier congrès les différentes institutions cadastrales des quinze pays de l'Union.

Ce premier congrès aura lieu à Grenade du 15 au 17 mai 2002.

Le Royaume de Belgique a accueilli avec grande satisfaction cette initiative et y présentera ses objectifs en matière de réforme de l'administration du Cadastre belge dans le cadre de la nouvelle «institution» de la documentation patrimoniale.

Certains principes énoncés pour l'établissement d'une déclaration sur le Cadastre dans les pays de l'Union Européenne retiennent plus particulièrement l'attention.

En ce qui concerne l'Etat Fédéral belge, je retiens en particulier le fait que la parcelle est l'objet de base du Cadastre.

L'administration du Cadastre belge est compétente pour la création et la mise à jour de l'information graphique et alphanumérique relative à la parcelle.

Chaque parcelle doit être reprise avec un code unique et invariable. Ce code comprendra des éléments qui permettront une localisation précise au travers d'un système de coordonnées géographiques européen.

Toutes les parcelles ainsi que toutes les constructions et installations doivent être cadastrées de manière adéquate. Cela implique de définir un système d'informations géographiques (GIS) reprenant des données concernant notamment les droits de propriété, les superficies, les limites juridiques, la capacité pédologique du sol, les caractéristiques environnementales de la parcelle, ainsi que celles des bâtiments et des constructions existantes.

Sur le plan européen, la Belgique adhère à l'idée que les Cadastres doivent être gérés comme des bases de données ouvertes, pouvant incorporer d'autres informations propres à la parcelle, selon les nécessités de chacun des Etats membres et de l'Union Européenne.

Ainsi, en Belgique, les bases de données réunies sous une coupole (à créer) doivent permettre la gestion des impôts fonciers et la planification territoriale, ainsi que celle permettant une évaluation massive au travers d'applications informatiques.

Déjà en Belgique, l'information détenue au Cadastre est mise à la disposition de tous les citoyens ainsi que des entreprises. Les normes pour y accéder respectent les normes prescrites par la Commission de la Protection de la vie privée, notamment. En outre les prix fixés ne découragent pas l'accès à l'information.

L'information territoriale est mise à la disposition des administrations communales, régionales et fédérales. La collaboration et la coopération entre les services de ces différentes entités concourent à la conservation et à l'actualisation permanente de l'information cadastrale.

Further steps

e-Business Intelligence pour l'e-gouvernement

Definition de base

L'e-gouvernement c'est «La redéfinition des relations internes et externes du secteur public, basées sur des processus en réseau grâce à des technologies de l'information, afin de parvenir à une meilleure administration, d'optimaliser le service au public et de susciter une plus grande participation des citoyens.»

Le defi

Il faut non seulement moderniser l'appareil de l'Etat, améliorer le service au public et informatiser les données et procédures, mais aussi faire LE choix stratégique de créer, au travers de l'e-gouvernement, les instruments les plus puissants et les plus efficaces pour l'Administration du futur par:

— Un nouveau service public: efficient et qualitatif
— La collecte et la distribution d'informations complètes, mises à jour et contenant des données de valeur
— Le «Turning data into knowledge»: transformer les données en savoir/connaissance
— Un leadership et une politique publique énergique et orientée «résultats»
— Un nouveau rôle des pouvoirs publics: agir comme facilitateurs, catalyseurs et partenaires par excellence.

Reconcevoir et reorganiser l'administration

— Administration accessible: l'administration est fournisseur de services
• Service au public 24h/24, 7j/7
• Procédures et processus d'information simplifiés («easy to find»)
• Service au public 24h/24, 7j/7
• Accessibilité des données personnelles
• Service individualisé
• Accessibilité sans barrières
— Opportunité d'intégration réelle des processus
• Services publics en temps réel (interne et externe)
• Accords de coopération
• Services publics transactionnels
• Relations personnalisées («1-to-1»)
— Impulsion donnée à une administration fonctionnant «en réseau»
• En interne: coopération entre autorités ➔ transdépartementale, transrégionale
• En externe: Partenariats (PPP)
— Management des ressources humaines et nouveaux services publics
• Leadership et gestion de la performance
• Responsabilisation et travail autonome
• Formation continue et e-learning
• Disponibilité des technologies de l'information
— Garantie du service public
• Sécurité informatique
• Authenticité du service
• Vie privée, confidentialité
• Confiance
— e-démocratie, communication et participation

Accessibilite

— S'ouvrir à tous les canaux possibles
• Internet, bornes et terminaux publics, centres d'appels, GSM, TV, e-mail, …
— Organiser un accès direct et guidé
• Combiner la cyber-administration avec le maintien du contact humain
• Optimaliser l'ensemble de l'infrastructure publique en vue du service au public
• Etablir un dialogue direct
• Soutenir la formation aux nouvelles technologies de l'information («e-learning»). ■

The Cadastre in Portugal

DIMAS DIAS VEIGAS

Mr. President, members of the round table, fellow congressionists. Portugal

(Não me sendo possivel apresentar a comunicação na língua de Camões, tentarei fazê-lo na de Cervantes.
Que ele e vocês me perdoem a ousadia!)
No siendo posible hacer una presentación en la lengua de Camoes, intentare hacerlo en la de Cervantes.
Que el y ustedes me perdonen la osadía!

This presentation represents a strictly personal and partial vision of the situation of the Cadastre in Portugal.

I will firstly briefly introduce the recently created Portuguese Geographic Institute (PGI) and then go on to speak about the situation of the real estate Cadastre in Portugal, the structure of cadastral data, and lastly, some mechanisms of coordination among the organisms and institutions most directly involved with real estate, principal among which, in addition to the PGI, are the Conservatories of the Real Estate Register and Notaries (Ministry of Justice), the General Directorate of Taxes (Ministry of the Treasury), the Ministry of Agriculture, local governments and naturally, the proprietors.

1. The PGI, created by Decree Law 8/2002 of 9/1, is the consequence of the merge of the National Centre of Geographic Information (NCGI) and the Portuguese Institute of Cartography and Cadastre (PICC), assuming their attributions, competencies and responsibilities.

The principal missions of the PGI are the following:
— Exercise the role of national cartographical authority
— Produce official geographic information
— Develop and coordinate a national system of geographic information
— Conduct research and training in the area of geographic information science and technology
— Promote the development of the information society.

With specific reference to the Cadastre, the PGI is responsible to:
— Establish references for all real estate (rustic and urban)
— Identify the referenced properties
— Issue Real Estate Cards
— Obtain and graphically reflect the geometric characteristics of all real estate
— Provide support for the evaluation of real estate property
— Ensure the maintenance and updating of cadastral data
— Certify the cadastral elements of each property

2. In Portugal, until 1994, geometric Cadastre was only practised on rustic property, representing approximately 55% of the country's surface area and only 12% of its 18 million existing properties.

The principal aim of this Cadastre was fiscal and constituted an inventory, and was therefore unconcerned with the legal ownership of individuals.

As of 1995, the PICC (now PGI) changed over to a real estate Cadastre, meaning the package of data that characterises and identifies all existing rustic and urban real estate property in the country.

In accordance with Cadastral regulations, real estate is characterised by:
— Its administrative location – District or Autonomous Region, municipality and «freguesia».
— Its geographic location – the position of its vertices on the applicable system of coordinates.
— Its geometric configuration – the mapping of a closed polygonal line, joined at the ends.
— Its area.

and is identified by a unique numerical code called the Real Estate Identity Number (**Número de Identificación del Predio or NIP)**, which is included in the Identity Card of each property.

The NIP consists of 20 digits, divided into 5 groups.

The use of the NIP is obligatory on all public documents identifying the estate, and it is also compulsory to present the Identity Card at notarial and other official acts.

3. Cadastral data are loaded onto SICAD, the system of real estate cadastral data, which allows

— To view and consult graphic and alpha-numerical cadastral information

— To maintain and update cadastral information keeping a historic record.

— To make simple queries and statistics.

— To obtain and make available graphic representations of cadastral elements.

The formats and structures of graphic cadastral data are, briefly:

— System of coordinates: Hayford-Gauss, Datum 73

— Graphic scale: 1/500 to 1/5000

— IGDS (DGN) Format, in 2D

— Files: two types:

– .cad extension – for general cadastral information, except for place names

– .top extension – for place names.

— Multi-coded graphic elements, in accordance with the Catalogue of Objects approved by the PGI.

4. Current status of the Cadastre:

4.1. Completed and/or valid:

a) Rustic Cadastre (up to 1994):

— In 12 Districts and 2 Autonomous Regions, covering:

– 134 municipalities
– 1067 «freguesias»
– 1 985 000 rustic estates
– 4 890 000 hectares
– 23 798 cadastral sections, scaled between 1/500 and 1/5000

b) Real Estate Cadastre (rustic and urban):

— In 2 Districts, affecting:

– 3 municipalities
– 42 «Freguesias»
– 102 468 estates
– 36 300 hectares
– 573 cadastral pages, scaled between 1/1000 and 1/2000

4.2. Real Estate Cadastre under execution on the national and regional levels

– 6 municipalities
– 80 «freguesias»
– 171 000 hectares
– 360 000 estates

5. Harmonisation and coordination between the principal institutions

In cadastral terms, an estate represents a fraction of *legally autonomous* land, which in theory should be closely linked to its legal characterisation and registration, established in the Property Register.

This theory gains strength with the definition that the Cadastre is only definitive when it is is harmonised with the property register, and until harmonisation occurs, it is only provisional.

To achieve harmonisation, the PGI and the General Directorate of Registries and Notaries (DGRN) must reciprocally ensure the continuous input of real estate elements into the respective databases. When differences exist between the Cadastre and the Property Register, the owner is responsible to achieve harmonisation.

Execution or renewal of the Cadastre must also be ensured, whereby the Property Register Conservatories located in each municipality communicate to the PGI all changes occurring during a given period.

On the other hand, the identification of real estate in the Register must not contradict the inscription on the real estate matrix, administered by the General Directorate of Taxes (DGCI), or with the respective Cadastral description, meaning that registration (legal) and maxtrix (fiscal) should also be coordinated. The DGCI can access the Cadastre at any time although it is not obligated to do so.

The close relationship between Cadastre and Property Register on one hand, and the Register and fiscal matrix on the other, is therefore clear.

However, reality has shown us that the process of harmonisation is not an easy or rapid process, because:

• Inscription in the Property Register is not obligatory, therefore many properties are not registered in the municipal offices that maintain the Property Register.

• Some inscriptions and descriptions of estates are not correct.

• Some Registers are out of date in terms of area, boundaries or owners.

• The Register allows for variations in area of up to 10% for rustic real estate an 5% for urban real estate.

• Lack of updating of the Cadastre.

• Lack of updating of matrix elements.

• The process of computerisation of cadastral and Register data has not been conducted evenly at the different levels of the Administration (national, regional and local). The lack of general criteria means that some institutions lack information systems and others, sometimes thanks to personal initiatives, have reached a high level of computerisation.

• Estate boundaries are not always established with legally valid deeds (which in many cases do not even exist).

• To complicate the situation further, the concepts and characteristics of real estate (Cadastre, Register, Taxation) do not coincide, leading to a situation in which a single physical reality can be treated and referenced in different ways by these three entities.

A simple demonstration:

— In the case of the Civil Code – CC (legal effects and basis of registration):

Two types of property are considered and defined:

– Rustic
– Urban

— In the case of Cadastral Regulation (cadastral effects):

Only *one type* of property is considered and defined.

— In the case of the Tax Code (fiscal effects):

Three types of property are considered and defined:

– Rustic
– Urban
– Mixed

An example of merely the numeric affects of this situation is the case of the municipality of Ilhavo where on the date of execution of the Cadastre (1999) there were nearly 24,000 estates inscribed and described in the Register, nearly 27,500 for cadastral purposes, and nearly 41,000 on the fiscal matrix.

6. In the phases of execution or maintenance of the Cadastre, if differences or modifications are found in area or the position of boundaries, it is the owner who, once notified, must seek harmonisation of the Register with the Cadastre.

Mistakes or variations can be rectified via presentation of a technical document, produced by the PGI, reflecting the boundaries established in accordance with the owners of the neighbouring properties.

To maintain and update cadastral information, property owners must notify the PGI of any modification occurring to the estate, due to boundary errors or changes, consolidation or segregation of the estate, or errors and omissions existing in cadastral data. Modifications can be registered by presenting a technical document in any central or regional office of the PGI, in the period of 30 days following notarisation of the act. The notary must advise the owner of his obligation to declare and the applicable period. This information must be expressly included in the deed.

— The technical document is obligatory whenever the notarial act reflects a change of property boundaries.

— This document must be presented for the modified estate, and for all those affected by the change.

— These modifications will only be effective when registered on the Property Register.

Who can draw up a Technical Document?

a) an entity licensed to practice cadastral activity

b) a technical specifically licensed by the PGI.

c) the PGI, as a service.

The PGI introduces the changes into its information system, as long as they are legal and that the technical document is correct and contains sufficient information.

The inscription of modifications or the reasons for rejection will be notified:

- to the owner
- to the conservation office of the Property Register
- to the tax office

Expropriating entities are likewise required to notify the PGI of its actions and which cadastral properties are affected.

Local authorities are also required to notify the PGI of modifications to administrative boundaries, place names, and number of estate police. The PGI has the competencies and attributions to issue an Official Administrative Letter, drawn from a database registering the state an most consistent position of the border limits of the country and those of administrative circumscriptions. This information makes up the elements of SABE/EuroGeographics.

7. **How can this information be harmonised?**

How to relate this descriptive information, including boundaries and defined areas, collected by almost empirical processes, obsolete and out of date; with up-to-date information on a digital geometric platform?

A pilot project is currently underway in collaboration with the General Directorate of Registers an Notaries (DGRN) to harmonise the Cadastre with the Property Register and the transfer of data between the two.

Another project is underway, in collaboration with the General Directorate of Taxes, for this General Directorate to adopt the NIP, which would allow exchange of data between the two entities.

And because the elaboration of the Cadastre is a costly and lengthy exercise, the PGI is working to promote collaboration with other organisms and to establish cooperation agreements with local authorities (which are ultimately the principal users and beneficiaries of cadastral information, essential for the implementation of municipal master plans) to develop joint actions in the production of large scale cartography and to computerise the rural Cadastre and to maintain the rustic and real estate Cadastre.

We are also witnessing greater cooperation between the PGI with several independent agencies on matters of technical support, in preparation and availability of regulations and technical forms for the contracting and production of large scale and cadastral cartography, that are integrated into municipal projects of urban re-qualification (POLIS program), territorial organisation and the training of municipal SIG.

Similarly, agreements have been reached with the Ministry of Agriculture to prepare cadastre and cartography which will serve as the basis for the implementation of projects for the re-composition of agriculture and forests and for irrigation.

Unfortunately, negotiations initiated several years ago to develop a project of agricultural parcelling were never completed, which has represented the loss of an opportunity to develop a country-wide project of undeniable benefits and to rationalise financial and technical resources.

8. In the absence of the political attention that the Cadastre deserves and demands (obviously, because it does not give votes in the short term) and due to ignorance or lack of knowledge by politicians of its potential as an instrument for planning and integrated organisation of the territory, for providing services to different entities and for different purposes, no coherent and consistent criteria have ever existed for its execution.

An example is that in QCA II initially 25,000,000 euros were budgeted to execute the Cadastre and improve the information system, which has been reduced, in practice, to less than a third of that amount. For QCA III, the perspective is darker still.

9. Taking into account the recognised importance of the multi-purpose cadastre, it is absolutely necessary in Portugal to revise the entire philosophy of action in this matter, with regard to coordination of the activity of different parties, the rationalisation of resources, the concentration of resources and diversification of sources of finance.

Personally, and as a basis for a deeper and wider reflection, I believe that on the national level the following is needed:

— Obtain financial resources;

— Standardise cadastral, registral and fiscal legislation;

— A more rigorous definition of the objectives of the Cadastre;

— A definition of the quality and level of precision sought: a high quality, very precise Cadastre, or a less precise but faster one, in the form of a simple estate inventory.

— Define and establish priority areas of action for a more rigorous and better quality Cadastre;

— Determine whether or not to use the information of thematic Cadastres already prepared or underway, the agricultural parcel, for example.

— Intensify international cooperation (also in Portugal, many people of other member States have purchased property).

Can most of the responsibility for execution and establishment of priorities still be transferred to independent local entities or their associations, as some people advocate?

Should the responsibility for maintenance be transferred to licensed technicians and companies?

Thus, the responsibility of the central organisms, in this case the PGI, should always preserve the essential elements of:

— regulation, standardisation, training, licensing, and taxation of cadastral activity,

— as manager and guarantor of the quality of the cadastral information system and of the link to real estate legal and fiscal sub-systems.

— The PGI must also undertake the coordination and standardisation of cadastral activity required or executed by other competent entities, in order to minimise:

– duplication of work,

– misuse or dispersion of funds, which are always scarce.

This will require greater coordination and closer cooperation between the parties that intervene in these matters (organisms producing the basic geographical information, private sector, organisms coordinating the legal situation of property, and institutional and private users):

— Coordination with other member States relative to the objectives, methods and structure of cadastral data, their integration in an information system and the exchange of data between institutions.

— Definition of the policy of availability of cadastral information, means, prices, data forms, copyrights, etc.

I conclude with a special salute to the great majority of my colleagues in the PGI who, believing in and aware of the importance of this Congress, have come here at their own expense.

Thank you for your attention. ■

Coordination experience among the Member States

ARVO KOKKONEN
Deputy Director General, Cadastre
National Land Survey of Finland

Existing Legislation

Surveying law and legislation on the registration of real estate belong to the sphere of national legislation. In Finland and Sweden application of surveys is exceptionally wide compared with practices in other EU Member States and they constitute features of governmental power and of civil and administrative law.

Directive 95/46/EC «On the Protection of Individuals with Regard to the Processing of Personal Data and on the Free Movement of Such Data» has been issued as a means to influence directly national legislation and to harmonise the EU market. The first article of the directive ratifies two leading principles that seem indirectly to affect extensively the entire base register system. These principles are linked to the privacy of natural persons, the processing of personal data and the free flow of personal data between Member States. Firstly, when processing personal data, the Member States must guarantee basic rights and freedoms and especially citizens' right to privacy. Secondly, the Member States cannot restrict or forbid the free movement of personal data between Member States for privacy reasons. The conformity of base registers (incl. the Cadastre) may be important for the sake of their intelligibility and data transfer promotion.

Finland and other Nordic Countries

Due to the common history of Finland and Sweden, laws on surveying and registration have the same origin. Governmental power, i.e. surveyors of the State and municipalities, has played and still plays a central role in surveying. Procedures for surveys have been included in indemnity assessment procedures as well and redemptions are conducted in survey procedures. The basis for foundation of the Cadastre in Finland as well as in other parts of Europe has been fiscal reasons, i.e. compilation of fiscal catalogues. User-oriented information service demands on data contents of the Cadastre have been imposed no earlier than during the last century. Titling all register units is an example of the need for alteration in rights registration. Previously the legislation was concerned with registration of privatly owned properties (taxable land) only.

Membership period in the EU

Finland has been a member of the EU for eight years. This is a short period of time to assess EU membership's effect on real estate registration. As I mentioned before, laws on surveying and registration of real estate are national legislation. During membership the law on surveying and partially the law on cadastral registration were renewed. At the same time the Code of Real Estate, which describes real estate rights, was renewed as well. Renewal of these laws is based purely on national interests. A proposal for a Land Information System (containing the Cadastre and the Land Register) and information service therein was submitted last autumn to the Parliament and is currently under debate. In connection with the proposal preparation legislation on information service connected to land information was investigated in Europe and especially in the EU Member States. Soon it transpired that legislation like this is quite new in Europe.

Experience in Practice

Nordic Joint Projects

Nordic surveying authorities Maanmittauslaitos (Finland), Lantmäteriet (Sweden), Kort-og Matrikelstyrelsen (Denmark) and Statens Kartverk (Norway) together with Helsinki Technical University, Stockholm Royal Technical University, University of Aalborg and Norges Landbrukshögskolan launched in autumn 1999 a joint research project that aimed to compare real estate rights and their registration. The study has advanced so far that it can be published by the end of this year. One preliminary observation reveals how important it is to define exactly those concepts that should be compared, and mentions the need for going deeply into metadata: data about data. One aim of the study was to initiate new research that could be exploited at the European level as well. There are expectations that at least the results gained from the research methods used could be exploited.

Another remarkable Nordic study carried out during the membership period was the study on usability of land consolidations for solution of land-use problems. The study results directly influenced the renewal of Finnish surveying law.

Experience in the WPLA Organization

Finland has taken part in the activity of the WPLA and its predecessor MOLA throughout their existence. The

experience gained has been positive. Documents drawn up for Land Administration Guidelines have provided good descriptions for the development of a new land administration system not only for countries in transition but for the old market economy countries as well. Inventories on the existing situation serve the old market economy countries for the same purpose, of which Finland has had good experiences in the Nordic cooperation.

Investigations indicate that the national legislation has strongly directed surveying, cadastral registration and registration of rights. It is evident that a wider harmonisation of legislation would irrevocably lead to harmonisation of work processes and data systems. As long as data processing is manual, things are in a sense simpler, modelling and standardization of data are not absolutely necessary. Now that digitalisation has emerged throughout Europe over the last ten years, it can be considered as a possibility. Digitalisation requires data modelling at a higher level compared with the manual techniques when data transfer over borders is desired. The need for cooperation and coordination of the EU Member States – the so called old market economies – is perhaps based on the requirement for digitalisation of the land information.

EULIS project

The «European Land Information Service» is a tangible project aiming at development of an international land information service. Finland is currently an active participant. The starting point of the project —customer orientation— focuses the viewpoint from relations between authorities to customer needs. The focal point will be improvement of data usability through use of the latest technology. Experiences gained thus far suggests that the matter must handled from the metadata basis in order to define what the question deals with. In the every phase of the EULIS project land transactions, legal effects of registrations and rights and obligations of the parties are described in their respective countries. Furthermore register systems on land information and their data contents are described. At the European level this is the most deeply probing investigation ever conducted to compare different systems. Not until at this level a proper comparison and possible co-ordination of systems can be started, as far as there then any more is a need for it.

The National Board of Patents and Registration of Finland has been involved in the implementation of the European Business register, which is an information service similar to EULIS and provides data on enterprises acting in Europe. Finnish experience with the EBR has been positive, indicating that there is an indisputable need for base registers throughout Europe.

Need for Development Based on Experiments

Customer investigations have revealed that real estate information users would like to have more services than existing systems can provide. Spatial (map) data on real estate is required, suggesting that map data must be included in the sphere of information service-not only data on borders but also topographic data in the form of maps or orthophotos superimposed on them. Furthermore, data on land use-rights and restrictions are desired to be described as spatial objects and linked spatially with real estates. These needs require the ability to manage the completeness of complex data systems. On the other hand, it means creation of common data models and standards over Member State borders. This work is in a hurry and its priority shall be increased. The present digital cadastral used must be developed into «metadata-cadastres», since most of the prevailing systems are no longer sufficient in surroundings perfused by an increasing number of regulations and growing complexity.

In the further development of European land information systems and information services, there is a need to define the goal we have been striving to obtain. At national level, functioning systems have been created for each Member State. Creation of a common European land information system is an imposing economic, juridical, procedural and data management challenge. Its suitability must be investigated critically. New feasibilities for use in information technology and the continuously increasing possibilities they provide present us with further economic results. A common system may not be the intrinsic value but the extensive use of land information throughout the EU. There is a need for increased use of land information. Currently it is required for cross-border land markets, mortgaging over borders, environmental monitoring, statistics and managing of CAP subsides system.

The Cadastre itself is the core of the land information system, as an independent system its value is not as high. Existence of data on land rights and restrictions, whether it concerns ownership, encumbrances or land-use rights and restriction, must be available. Even this is not enough. Data on citizens and enterprises, i.e. socio-economic data, should be made available and made possible to integrate with land information. How to split these different themes into systems and organise them is not essential, but the completeness of these systems is. This information infrastructure is a crucial factor for the development and social stability of society. ■