

Spatial data and INSPIRE Directive: an Italian-Spanish comparative analysis

Elena Sánchez Jordán* / Cesare Maioli**

* Facultad de Derecho
Camino de La Hornera s/n
E-38071 La Laguna
mejordan@ull.es

** CIRSIFID
Via Galliera, 3
I-40121 Bologna
cesare.maioli@unibo.it

Keywords: e-government, geographical information systems, spatial data, ICT law

Abstract: This paper deals with spatial data as part of environmental information. It compares the main spatial data provided in Italy and Spain and it explains the role that INSPIRE Directive is playing in these countries, stressing the problems that have been encountered in the way to create a common information basin in the EU.

1. Introduction

The Sixth Environmental Action Programme identifies better information as one of the keys to improve Environmental policy in the decade 2002–2012. Geographic information plays a basic role here, because of its potential to present information in a lively and understandable way to citizens and stakeholders. The availability of environmental information will be surely improved through the Directive 2007/2/CE, of 14 March 2007, otherwise known as Infrastructure for Spatial Information in the European Community (INSPIRE). Its implementation will represent an important support to some of the key approaches established in the Sixth Environmental Action Programme. Even if this Directive has broader purposes than environment only, the support of environmental policy is one of its basic objectives. Anyhow, the interest of the EU towards environment protection is not new. Council Directive 90/313/EEC of 7 June 1990 on the freedom of

access to information on the environment initiated a process of change in the manner in which public authorities should approach the issue of transparency, establishing measures for the exercise of the right of public access to environmental information, which should be developed and continued. On 25 June 1998, the European Community signed the Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (known as “the Aarhus Convention”). Some years later, the Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information (that repeals Council Directive 90/313/EEC of 7 June 1990) was adopted. Therefore, some years before the INSPIRE Directive was passed, this Directive 2003/4/EC required Member States to adapt their laws, procedures and internal information systems to achieve the protection of the right of access to environmental information and the guarantee of its systematic availability.

2. The Italian situation

Under Italian law, the protection of the right to environmental information is part of a broader process of digitalization of the Public Administration (PA) that has been carried out through different sector rules, which have been gathered together in the so called Code of Digital Administration (CAD), Legislative Decree 82/2005. The CAD represents an attempt to take advantage in a rational way of the Information and Communication Technologies (ICT) to define new procedures and to reorganize administrative activity: it consists of programmatic rules, aimed at carrying out structural changes in the expression of administrative action, and of compulsory rules that regulate specific fields. Section III of Chapter V regulates the usage of the data, and it includes important innovations: it defines spatial data as “all kind of information geographically located” (Art. 59, paragraph 1); it establishes the Committee for technical rules on spatial data, with the task of determining the technical rules for creating the spatial data bases and to ensure the usability and the exchange of data between the central and the local PA (Art. 59, paragraphs 2 and 4); it sets up the National Repository of spatial data, directed towards providing the public access to data of general interest that are available in the PA at the national level (Art. 59, paragraph 3), and it includes amongst the spatial data of national interest the cadastral data base, managed by the Agenzia del Territorio (AdT) (Art. 59, paragraph 7-bis).

The spatial data stored in the Cadastre present peculiar characteristics in comparison with business information systems: consisting the territorial data, according to CAD, of any information geographically located (Art. 59, paragraph 1), they are the result of an association of information or data to geographical elements; thus for each basic geographical component different information is collected from different sources and authorities. This is a crucial point for geographical information; it is at the same time the object of the right of access by the general public to the environmental information, being the territorial data a species of environmental data, and a strategic means for government of a territory by different PA bodies.

Italian Cadastre, a part of Italian AdT since 2001, is in charge of the definition of methodologies, rules and procedures for cartographic, cadastral and immovable properties publicity services. From 1998 to 2007, a process of decentralization to municipalities of cadastral functions has been carried out. Under the Decree of the President of the Ministers Council of 14 June 2007, the management of the cadastral data and of its related functions has been transferred to the municipal administrations following the principle of vertical subsidiarity. The Decree distinguishes various types of administration of the cadastral functions (e.g. management by autonomous municipal administrations, associations of municipalities, mountain communities, in care of the AdT) as well as different options of aggregation of functions, which a municipality assumes according to its own organizational and technical capacity. The Decree imposes on the municipalities the exclusive and free of charge use of ICT applications and of exchange systems put at their disposal by the AdT for the management of those procedures in which they have assumed direct management. Hence, the unity of the national informative cadastral system, especially with regard to the different kind of services supplied to citizens and companies, should be ensured by the obligation imposed on AdT's ICT structure. Cadastral services are shared between the AdT, which provides the infrastructure and the basic software tools, and the Municipalities.

There are probatory effects (juridical effects) of an official document; in the case of Cadastre it concerns: probatory effects of identifications, i.e. the determination of nature and entity of rights *in rem*, persons who hold them, and immovable properties upon which those rights hold; probatory effects on topography, i.e. the precise specification of the boundaries within which those rights apply.

Italian Cadastre is not probatory of any of the above effects regarding rights *in rem* and boundaries represented in the maps.

Nevertheless Cadastre provides documents (usually public acts) that may contain means to prove the rights and the boundaries in which these rights hold; in this aspect it offers a support either for identification and topographic probatory effects.

Moreover Cadastre may become fully probatory, for the topographic side, if a judge, not having any other element, uses the boundaries of the cadastral maps to delimitate an uncertain border.

3. The Spanish situation

Under Spanish law, we can find two rules regarding the digitalization of the PA. The first one is the Royal Decree 263/1996, of July 16, on the ICTs by the state's general administration, considering itself a development of Art. 45 of the Act 30/1992, of November 26, on Legal Regime of Public Administration and Common Administrative Procedure. The second one is the Act 11/2007, of June 22, on Electronic Access to the Public Services by the Citizens. Both of them try to promote the use of ICTs by the PA, but they do not refer specifically to environmental or spatial data. This kind of data are produced, managed and stored by different organizations: mainly by the Spanish Ministry dealing with environment, but also by the governments of the different Autonomous Communities, most of which have its own portal of environmental and spatial information, as well as by some municipalities. Anyway, and with regard to spatial data, we have to mention two institutions that deal with them and cover almost all of the Spanish territory: the Cadastre and the Land Registry.

Although the Spanish administrative system is highly decentralized, the law-making power regarding the Cadastre belongs to the state, which approved the Legislative Royal Decree 1/2004, of March 5, on the Cadastre, that is applicable in all the Spanish territory except in the Basque Country and Navarra. In its preamble it states that this organization has become an important infrastructure of spatial information, available to PA, companies and citizens. The management of the cadastral data and cadastral functions belongs to the state, which will carry them out through the General Directorate of the Cadastre, in a direct way or in cooperation with the different administrations, organizations and public corporations. The cadastral information should be distributed, whenever possible, using ICT tools.

The Spanish Cadastre is an organization with a fiscal origin whose main purpose consists in describing the real estate, its different uses and applica-

tions. It consists of a collection of spatial data and descriptions that offers spatial data services, so it can be considered an infrastructure for spatial information, following INSPIRE's wording. This infrastructure can be used by the PA (national, regional, local) as well as by citizens. As an inventory of real estate, it contains physical information (cadastral reference, surface, location, use, shape and boundaries, cartographic representation, date of construction and quality of the building, forest use and crops, amongst other aspects), legal information (identification of holders or owners: name, national identification number, address, etc.) and economic information (cadastral values of land and buildings, valuation criteria). This cadastral data base includes detailed information of more than 32 million urban properties, more than 40 million rural properties and more than 27 million cadastral owners. The Cadastre has probatory effects regarding the data they stored as long as they are not contradictory with data stored by the Land Registry (Art. 3 Legislative Royal Decree 1/2004, of March 5, on the Cadastre). Unlike what happens in other fields of the PA, where important difficulties regarding the use of telecommunication facilities have been stressed, spatial data stored in the Cadastre can be managed through ICT tools including: the submission of declarations, communications and applications to the Cadastre; the exchange of information amongst different organizations belonging to PA; the request for information. Therefore a Virtual Office of Cadastre (OVC) started up in May 2003 with the main goal of providing other Administrations with information which, up to that moment, citizens were requested to present in the suitable office after collecting it themselves from the cadastral office. At the moment, the OVC supplies a number of important services dealing mainly with providing information.

The Land Registry is an institution where data regarding rights *in rem* over real estate such as ownership, usufruct, servitudes, etc., can be filed if its holder wants to (except in the case of mortgage and right of superficies, which must be registered to be born). It is possible to consider that it stores spatial data because the first time that an immovable enters in the Land Registry it is described with a direct reference to a specific location or geographical area. The Land Registry has very strong effects, as the data it contains are considered true even in cases where they are not, to protect those who acquire rights trusting what the Land Registry states. Since the end of the 90's, a project named "Geo-base" has been carried out in about one fourth of all of the Spanish Land Registries (250 of around 1000). Its purpose is to describe, in a graphic way and making use of ortho-imagery, each of the immovables that are stored in the Land Registry. Within this project,

new layers of information, mainly on environment and town planning aspects, have been included in it, but they have weaker effects, as they just inform citizens with no further consequences.

4. Unloosen knots

There are some unloosen knots. Even if under Italian law the spatial data are ruled in a systematic way under a uniform vision, strong divergences remain from a practical point of view amongst the systems of process, management and offer of the spatial information: this is a result of the diversification in the use of administrative discretion. However, such lack of homogeneity between implementation models and management of the informative spatial systems represents the symptom of a tendency of the Italian public system, which suffers some structural inabilities in the effort to integrate ICTs in administrative activity. With the decentralization of the 1970s and of the following years, 20 Italian regions became responsible for land-use planning and territorial management and the 103 provinces received the power regarding environmental management; the coordination is still in the central administrations. This highly decentralized Italian society deeply marks the development of the Italian infrastructure for spatial data. Given the strong regional dimension, in the collection and maintenance of geographical information, coordination tends to be bottom up rather than top down.

In Spain, spatial data (stored in the Cadastre) are regulated in a systematic way and in a single law except, as we said before, in the Basque Country and in Navarra. Such law has been subsequently developed by the Royal Decree 417/2006, of April 7, which establishes that, in general, the management of cadastral documentation and information should be carried out through ICT tools. This aim has been achieved quite successfully mainly thanks to the OVC. Also the data stored in the Land Registry have started to be managed through ICT tools. One of the main problems that can be pointed out with regard to the Spanish situation is the lack of coordination between Cadastre and Land Registry, so data stored in one or another not always coincide. Thus, in such cases, and following Art. 3 of the Legislative Royal Decree 1/2004, of March 5, on the Cadastre, the data of the Land Registry prevail. Another problem that can be stressed is that many Autonomous Communities as well as many municipalities have developed their own portal on spatial information, with the subsequent lack of harmoniza-

tion regarding the availability, quality, organization, accessibility and sharing of spatial information.

5. The role of INSPIRE

INSPIRE lays down general rules as well as technical rules to set up a European dimension for the management of spatial information. The situation on spatial information in Europe is one of fragmentation, gaps in availability of geographical information, duplication of information collection and problems of identifying, accessing or using data that is available. As a result of these problems, effective Union policy actions suffer because of lack of monitoring and assessment capabilities that take into account the spatial dimension. INSPIRE should ensure a higher integration level of spatial data than that of the national information systems, so as to create a common information basis amongst Member States and a dynamic and shared tool to develop community policies, especially of environmental planning and spatial protection. This infrastructure shall be based on infrastructures for spatial information established and operated by the Member States. INSPIRE requires also specific implementing rules to be adopted through a committee procedure representing Member States. Its main principles are the following: data should be collected once, at one level of government (at the level where it can be done most efficiently) and shared between all levels; it must be possible to combine seamlessly spatial information from different sources across Europe and share it between many users and applications as a seamless combination from different sources; data should be available on conditions that are not restrictive and it should be easy to discover which geographic information is available, fits the needs for a particular use and under what conditions it can be acquired and used; geographic data must become easy to understand and interpret because it can be visualised within the appropriate context and selected in a user-friendly way.

Italy and Spain are now implementing this Directive whose most important innovations are: 1) the augmentation of the value of the decision supporting functions of INSPIRE, which “should assist policy-making in relation to [...] activities that may have a direct or indirect impact on the environment” (Whereas no. 4); 2) the strengthening of the set made up by data, metadata and services with the purpose to determine the framework rules and of common applicable standards able to ensure a level of harmonization amongst the national geographical information systems (GIS) and

to ensure the interoperability of the systems and the non discrimination of citizens; 3) the establishment of technical rules and common applicable standards, which allows the integration of the national GIS in a community net of spatial information services, accessible by European citizens, irrespective of their Member State.

6. Conclusions

INSPIRE is a framework Directive with implementing rules to be defined in the coming years to create a policy and legal framework for the establishment and operation of a Spatial Data Infrastructure (SDI) for Europe, for the purpose of formulation and implementation of Community policy on the environment. Some of the main problems that have been encountered in the way to establish this SDI are those regarding the availability, quality, organization, accessibility and sharing of spatial information. Solving these problems requires measures that address exchange, sharing, access and use of interoperable spatial data and spatial data services across the various levels of public authority and across different sectors.

Interoperability is a crucial issue; main organizational conditions for its success depend on leadership and legal framework, vision for coordination and cooperation, clear communication strategy, ability to create initiatives of local communities, and interaction within policy framework. INSPIRE is based on an approach, compliant with e-government national plans, to support the availability of spatial information for the formulation, implementation and evaluation of Union policies; critical issues for development, have to do with the establishment of a coherent European SDI, consistent reference data and thematic data Europe-wide, consistent Europe-wide data quality, direct and free access to discovery level metadata, access to all public sector data and information, uniform components of reference data (e.g. units of administration, property rights, addresses, topography, orthoimagery, geodetic reference systems, geographic names), easy access to and delivery of thematic data, efficient and effective data and information delivery of a range of user needs from citizens and academics to policy-makers and commercial users, harmonized use of data and information across public and private sectors. Thereby the policy and legal framework of INSPIRE can achieve a paradigm shift in the way European spatial data and information are disseminated, shared, traded and managed.

While progress has been made on data quality and compatibility, further work is needed particularly to enable the integration of data across European Member States. Also more remains to be done to enable free access to environmental data. As we have seen, these problems also appear at a national level: both in Italy and in Spain there are different organizations providing spatial information at different levels and data cannot be considered homogeneous. The vision for spatial data infrastructure (as for other information infrastructures) as a resource necessary to facilitate the life of European citizens and enterprises has to be widely accepted. Providing investment for initiatives by European States specific to and compliant with the INSPIRE directive seems timely and appropriate.

Literature

- DPLI Working Group:* Data Policy and Legal Issues Position Paper, Environment Agency for England and Wales, 2002, in http://www.ec-gis.org/inspire/reports/position_papers/inspire_dpli_pp_v12_2_en.pdf.
- F. Galgano:* Diritto Civile e Commerciale, vol. IV, Padua: Cedam, 2004, 286–302.
- AMFM:* Infrastrutture di Dati Territoriali: Teoria e pratica dopo l'approvazione della direttiva INSPIRE, AMFM Conference, Proceedings, 19 Settembre 2007, Rome.
- B. Kok:* Interoperability in the Organizational Context, SDI Americas Symposium: Concepts, Practices and Projects, Proceedings in <http://www.gsdi.org>, 1 November 6th 2007, Wageningen, The Netherlands.
- J.L. Lacruz Berdejo et al.:* Elementos de Derecho civil III bis. Derecho Inmobiliario Registral, 2nd ed., Madrid: Dykinson, 2003, 157–193.
- B. Lozano Cutanda:* Derecho ambiental administrativo, 8th ed., Madrid: Dykinson, 2007, 214–238.
- C. Maioli and C. Ortolani:* Sui profili giuridici della gestione dell'informazione territoriale della Pubblica Amministrazione, Altalex, 8 novembre 2007, <http://www.altalex.com/index.php?idnot=38967>, 1–30, 2007.
- E. Sánchez Jordán:* La regulación de los Registros de la Propiedad y los Archivos Notariales, in press.
- D. Vandenbroucke, P. Beusen:* Spatial Data structure in Italy: state of play Autumn 2006, K.U. Leuven R&D, 2006.
- O. Vázquez Asenjo:* Efectos identificativos y descriptivos de la base gráfica registral, Revista Aranzadi de Derecho y Nuevas Tecnologías, N° 7, 2005, 99–117.