Towards a Spatial Data Infrastructure in Croatia

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Key words: Spatial Data Infrastructure, Cadastre, Standardization, Physical Planning, Sustainable Development.

SUMMARY

The term Spatial Data Infrastructure (SDI) is not new and has already been present in the world for quite a long time. President Clinton's Executive Order 12906 from April 1994 played a crucial role and was an initiative in establishing National Spatial Data Infrastructure (NSDI). This Order induced briskly the building of NSDI and also of all additional counterparts in the USA and around the whole world. Besides NSDI, various other initiatives at regional (EUROGI, PCGIAP, …) and global level (GSDI) were also launched.

In this paper, an overview of different initiatives and efforts in establishing SDI in Croatia will be presented. State bodies such as the Government and State Geodetic Administration have the main role in it in collaboration with public and commercial sector and also with academic community. As the main factor in creating a future SDI, State Geodetic Administration has launched several initiatives the goal of which is the installation of new technologies, equipment and procedures in map production and the establishment of digital topographic and cadastre databases. The arrangement and modernization of spatial records and the establishment of NSDI make the key factors for sustainable physical planning and land development at local and national level.

In the next few years Croatia must solve numerous duties to arrange spatial records. These duties must be solved very conscientiously and in a reasonable period of time. It is very important for Croatian prosperity and for the fulfilment of the conditions set in the process of entering European and international integrations.

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1. INTRODUCTION

Spatial data infrastructures exist for quite a long time, actually from the moment when the first spatial data were collected and presented in maps and plans (Phillips et al. 1999). The first infrastructures were quite inconvenient and inefficient considering that spatial data were not in a digital format. With the rapid development of spatial data collecting and of communication technologies, spatial data infrastructure has become a more and more important factor in the way of spatial data usage at the level of private and public sector, of state and ultimately at global level.

President Clinton's Executive Order 12906 from 1994 played an important role and a stimulus for the creation of national spatial data infrastructures. The issue of this order induced speedy work on the building of national spatial data infrastructure and other additional counterparts in the USA, but also around the world. Besides national spatial data infrastructures, different initiatives at regional (EUROGI, PCGIAP ...) and global level (GSDI) were also induced. Development of spatial data infrastructures in separate countries is different (Groot and McLaughlin 2000). Sets of basic spatial data also vary from country to country, and each national spatial data infrastructure is different with regard to society needs, sociological evolution, economic reality, and national ambitions and priorities. The efficient land management with sustainable development, and the planning of all land operations, demands for spatial files arrangement and modernization, and the establishment of national spatial data infrastructure. Its establishment demands for full coordination and cooperation between the provider and the spatial data user, as well as between public and state institutions (Roić 2000).

2. SPATIAL DATA INFRASTRUCTURE IN CROATIA

The term “Spatial Data Infrastructure” (SDI) is often used to denote the relevant base collection of technologies, policies and institutional arrangements that facilitate the availability of and the access to spatial data. The SDI provides a basis for spatial data discovery, evaluation and application for users and providers within all levels of government, the commercial sector, the non-profit sector, academia and by citizens in general (Nebert 2001).

The establishment of national spatial data infrastructures (NSDI) has been a vision of people who deal with spatial data for a long time. These infrastructures are the foundations of many justifications for the investment in spatial data and systems, but in practice, for now, there are very few arranged, general and efficient national spatial data infrastructures. In some cases they are not defined completely, and especially not executed. Developed countries in the world have already advanced very much in this regard, whereas in transition countries, like Croatia, it is still in the beginnings.

2.1 Establishment Initiatives

The main factor in the establishment of national spatial data infrastructure in Croatia is State Geodetic Administration (DGU). DGU is an administrative state organization which executes administrative and professional business in the domains of geodesy, cartography, cadastre and photogrametry, and takes care of cadastre and geodetic-spatial system informatization, official state cartography (1:5000, 1:25000, 1:50000, 1:100000, 1:200000), geodetic documentation, spatial units and conveyances, and geodetic-cadastre tasks on the state boundary. The connection of DGU with the work of Eurogeographics in 2001 is of great importance for the advancement of geoinfomation (GI) community in Croatia.

In the last few years a number of initiatives have been raised, the aim of which is to introduce new technologies, implements and procedures in map production and digital and cadastre database establishment. A big shift in spatial data advancement was already reached in 1999 through the setting up of DGU Web pages (Figure 1).

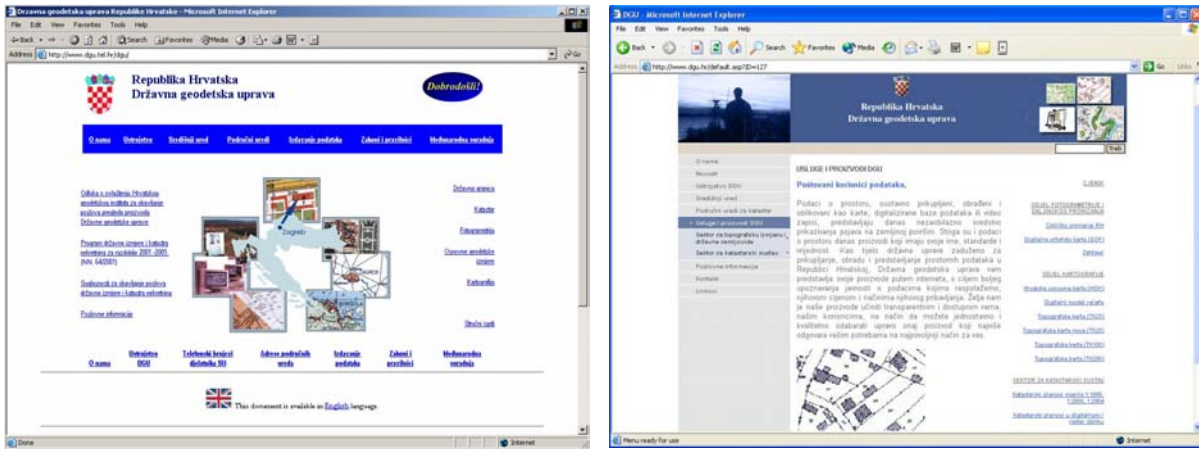

Figure 1: The front Web page of DGU in 1999 and 2003 (www.dgu.hr)

The DGU Web pages were renewed in 2003, and their content was improved and completed. Besides other things, the following information could be found or taken on these pages: the spatial data catalogue (Figure 1), the data price list, the instructions for data obtaining, the instructions for compensation payment, the request for data issuing to users, etc.

In the mid-90s, DGU started up with the STOKIS project (the official topographic-cartographic information system of the Republic of Croatia) modelled on the German ATKIS. Activities on the project resulted in the secondary project "Structure of the topographic information system of the Republic of Croatia" - CROTIS, as the basis of the Croatian national geoinformation system. Coupled with that project, a model of CROTIS data was made, which sets topographic spatial data collection, processing and keeping standards. The completed model is compatible with the relevant ISO and CEN standards, and represents a good foundation for further work on the cartographic and topographic information system establishment, and which, together with other spatial data, should make a part of the national spatial data infrastructure.

In the February of 2001, a geo-nordic committee, led by the BlomInfo A/S Company, was assigned a consultative task according to the project of World Bank for technical help in institutional and regulatory reform of the private sector development. The name of the task was "Consultative services for inspection of the EU geographic infrastructure requests and its implications in Croatia with special regard to agricultural parcel system identification". Besides foreign experts, a home company from Zagreb, GISDATA, participated also in the consultative tasks.

The spatial data infrastructure in Croatia and further needs for its development were being examined in the period from the February to June of 2001, after which a final report was made. Already in the initial considerations of the status, certain insufficiencies were found, which were similar to those of other ex-socialistic East-European countries. Proprietorship is not certain, and there are also big differences between the Land books and the cadastre. Furthermore, the topographic maps are not updated systematically, most of them are out of date, and a big part of Croatia is still overspread with mines, which makes additional problems.

Recommendations for Croatia to create the SDI with regard to the present condition can be viewed as:

- Acceleration of an updated and fully integrated cadastre establishment
- Establishment of updated topographic maps and digital database (a general-purpose information system)
- Preparation of a land parcel information system
- Creation of specific administrative and thematic database
- Advancement of products, services, and the spatial data consciousness
- Setting up of a strong coordinate body for the national SDI

The specified recommendations refer for the most part to State Geodetic Administration as an executor of the necessary activities, and which, on the basis of the Program of state measurement and estate cadastre for the period 2001-2005, for the most part started with the preparations and realization of the most important projects.

Spatial data of the largest scale that cover the whole area of Croatia are the cadastral data. Precisely these data form the basic data in spatial data infrastructure (Cetl 2003). Unfortunately, the cadastre condition in Croatia is not at an enviable level. The biggest reason for that are the historic circumstances in which Croatia found itself. Situated between Balkan and Europe, it was under the influence of many countries, especially Austria and former Yugoslavia. The most part of cadastre measurements was carried through in the 19th century, and a big part of cadastre maps (for approx. 80% of the territory) from that period is still in the official use. The cadastre in Croatia was made chiefly for the purposes of taxation whereas the Land book office is competent in legal relations and ownership on the land parcel. The neglect of cadastre and ownership continued in the 20th century in the period of communistic Yugoslavia, which resulted in even bigger inefficiency and big differences between the cadastre data and the estate archive, which deals with legal relations on the land parcel.

Digitalization of cadastre files as a way towards the building of a modern digital cadastre was carried through completely for the book part, whereas the cadastre maps are still, for the most part, in the analogue format. A contribution to the cadastre modernization is the adoption of the new Real Estate Cadastre and State Survey Law in 1999, which made prerequisites for the quicker and more efficient cadastre base modernization. The law presupposes the Real Estate Cadastre data and Land books unification and the creation of a unique Land Database.

Because of the cadastre problems in Croatia mentioned, there has not been possible to develop more complex and advanced systems, which would satisfy present-day users' needs. The lack of necessary information infrastructure in cadastre offices is also a big problem. Surely the most advanced with regard to informatization is the Cadastre of the City of Zagreb, which set up its book part on-line on the Web (Figure 2).

Figure 2: Cadastre@Web the City of Zagreb (www.zagreb.hr)

The traditional cadastre system has to be modernized in order to justify its existence and the need of social community for spatial data, and to support sustainable development. Its role today has become multifunctional (Williamson and Ting 1999). Cadastre data distribution on the Internet and access insurance for the users are necessary for enterprise that has to do with land.

With the support of International bank for recovery and development, a project of cadastre and land books regulation was started up in 2002. The aim of the project is the building of an efficient land management system for the purposes of giving contributions to the development of an efficient estate market, and which is a prerequisite of successful economic development. The full estate archive data digitalization in the period of 3 years was planned, for which purpose new workers were employed for a specific period of time.

Croatia is also a sea country, and the establishment of sea estate cadastre is of great importance. The need for sea environment management and ruling is necessary for society well being on the whole, especially in the areas rich with natural sources, which carry big economic and social value. Croatian Hydrographic Institute deals with the measurement,

keeping and distribution of hydrographic data sets (www.hhi.hr). The spatial data are managed by Hydrographic Information System (HIDRIS), which data are very important in the spatial data infrastructure.

With the support of Ministry of science and technology, the Institute of Engineering Geodesy and Spatial Information Management at Faculty of Geodesy launched in 2002 a scientific project called "Cadastre – the basis of spatial data infrastructure". Work on the project is directed towards the usage of new technologies in the spatial data distribution, as well as towards the appliance of the relevant European and international standards. The ultimate aim of the project is to set up a concept of spatial data infrastructure, and make it available on the Internet. Producers will use the service and users at all levels, by which the efficiency of business connected to spatial data will be raised. During workings on the project, the Metacadastre portal was made (Figure 3).

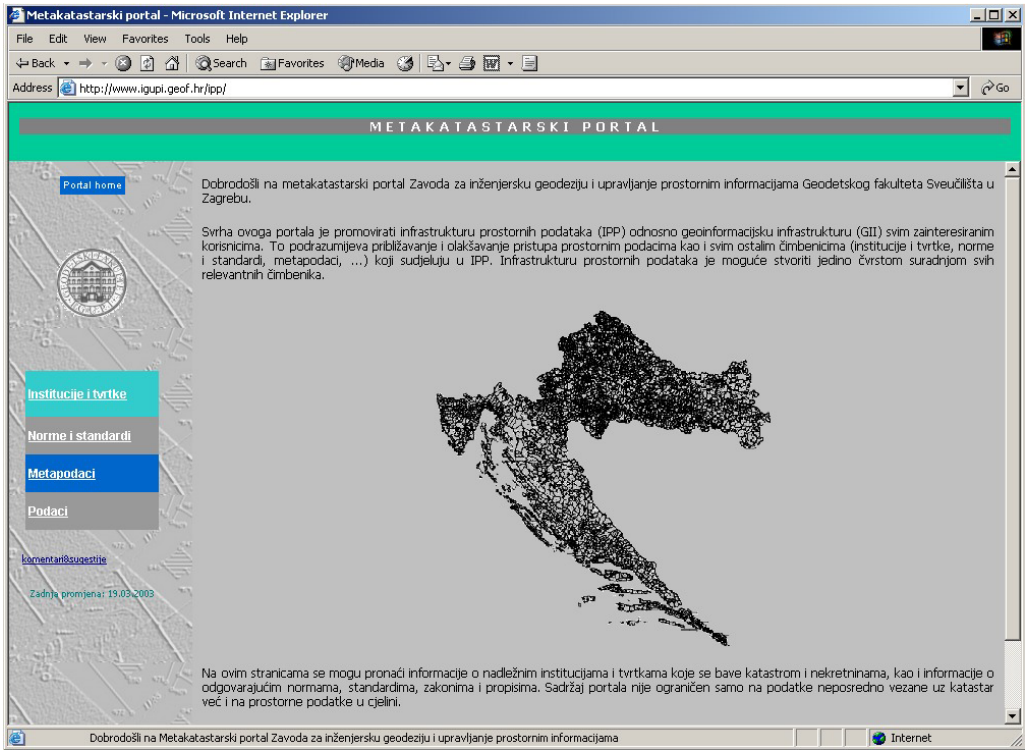

Figure 3: Metacadastre portal (www.igupi.geof.hr/ipp)

The users are able through the portal to view the relevant standards and other legal acts in the field of geoinformation. Access to the competent institutions and organizations has also been made easier. With the information on private companies, the users are enabled to find simply and quickly the closest geodetic company in Croatia, in accord with their needs. The possibility of the international standard (ISO 19115) appliance for the spatial data description by using metadata has also been examined. So it is possible through the portal to view metadata for some spatial data sets that are used on Faculty and for scientific-research purposes at the Faculty of Geodesy in Zagreb.

All the started-up initiatives, in the first place in the spatial data sets digitalization and distribution, should make an environment that will provide the undisturbed data transfer from the producer to the final user. With further support of the Government, the public and private sector, and the academic community, it is necessary to form, as soon as possible, a strong coordination body for the SDI, which will provide requisites for the efficient spatial data infrastructure establishment.

2.2 Spatial Data Standardization

Standards in the field of spatial data are necessary for everyone who deals with spatial data collection, elaboration, distribution and usage, either detached from or together with some information not linked with land (Østensen 2001). Generally, a big number of standards linked with spatial data are still in a specific phase of development. Of great importance for spatial data infrastructure are the standards that have to do with spatial data exchange and distribution, and the standards linked with metadata. In order for data transfer from the producer to the user to be unique, it is necessary to standardize the processes and procedures of spatial data defining and description, the methods of data structuring and coding, as well as the processes of data distribution and preservation.

In the January of 2003, there was established a technical committee, TO 211 Geoinformation/Geomatics by the State Office for Standardization and Metrology (www.dznm.hr), in accord with ISO/TC211. The aim of the committee work is the establishment of the set of standards on objects or phenomena that are linked directly or indirectly with their locations with regard to the Earth. The standards should define methods, tools, and services for data management, collection, elaboration, and analysis, access to data, and the review and transfer of such data in the digital format between different users, systems and places. With the signing of Agreement on stabilization and joining the European Union, the Republic of Croatia took the obligation to do all the necessary arrangements in order to reach gradually the accord with the Union technical regulative and European standardization, measurement, and ownership, and the procedures for compatibility evaluation. It is to be expected for the committee work to de directed mainly towards the acceptance and accordance of the existent European and international (ISO) standards.

The bigger and bigger user requests for spatial data, as well as the bigger and bigger spatial data quantities with regard to modern technologies of their collection, demand for the forming of spatial data catalogue. Considering other countries' experience, such catalogue has to include metadata about spatial data, in order to be useful to the interested users in data finding. So it is urgent to, as soon as possible, to adopt the relevant European and international standards.

3. SUSTAINABLE DEVELOPMENT, PLANNING AND SDI

The global challenge of sustainable development, and the realization of its environmental, social, and economic component, has become the basic imperative set in front of the world governments. Physical planning is traditionally an activity the purpose of which is development arrangement and land protection. It, as a part of a wider land management

system, has to make the prerequisites for the sustainable management of natural resources. To that points also the Bathurst declaration, which stresses additionally the importance of access to high-quality spatial data as a prerequisite for the achievement of better land policies, better management and finally, better land use (FIG 1999). An efficient access to spatial data, through spatial data infrastructures at global, national, and local level, therefore has become an important prerequisite for the realization of sustainable development (FIG 2001).

A wide range of specific factors, as the transition of social order, the after-war recovery, and the link-up with European integrations, together with global factors, influenced the physical planning system in Croatia. The Physical planning law, which is a basic legal act that regulates that area was passed in 1994, and with some changes and additions, it is still valid today. That law is a sequel of the 40-year-old unbroken Croatian modern legislative-legitimate tradition in the field of physical planning, by which there were attempts to answer to the social circumstances at the beginning of 1990s. It defined the structure of the documents of physical condition monitoring, and the physical planning documents. In that context, the role of spatial data management, and the spatial data infrastructure in physical planning are twofold:

- The insurance of access to the existent spatial data infrastructures, and their usage for planning demands
- The modelling and production of own spatial data sets (for example, physical plans), and their integration within the spatial data infrastructure at local and national level.

3.1 The usage of Spatial Data Infrastructure in Planning

Physical planning is probably the biggest individual user of different spatial data sets. How big span of data is in question is easy to determine if we look at the prescriptive contents have the physical planning maps in Croatia:

- boundaries (administrative, sectorial, and natural)
- land usage and function
  - land use zoning
  - traffic (road, railway, air, sea, river)
  - post and telecommunications
- infrastructure systems and networks
  - energetic (oil, gas, electricity)
  - water management (water, wastewater, water flow regulation)
  - waste management
- conditions for land usage and protection
  - nature preservation
  - cultural and historic goods preservation
  - geology
  - water protection
  - land organization
  - physical reorganization
  - building forms
  - building conditions

The degree of spatial data infrastructure development in the area of which a plan is being made becomes an important factor of plan production speed and quality. It is a legal obligation of the institutions that manage certain data to give them for the physical plan production without compensation, which is a collective interest of the society in general, as well as of certain subsystems. However, certain problems occur in practice, as in data payment (data for which it has already been paid by taxpayers), so because of the incompatibility or inexistence of digital database, which demands for a relatively expensive and temporally extended operation of digitalization. With the establishment of a transparent institutional structure of spatial data infrastructure the range of such instances would diminish.

The most important part of spatial data infrastructure when it comes to planning are cadastral and topographic data. Their role is to serve as a spatial basis for georeference of all other spatial data, as a source of physical information, and as a basis for occurrence location and planning in a physical case in point. The physical planning system results in defining concrete physical projects (for example, building), so it is clear that the quality and efficiency of cadastre and topographic data influence indirectly the performance of sustainable development settings which is held in plan documents. The basic cadastral and topographic maps in Croatia needed for each type of physical plan are defined by an executive regulation (Table 1).

Table 1: Base maps for planning

base map	***scale***	***physical plan****
topographic-cadastral map cadastral map	1:500, 1:1000, 1:2000,	DPU, UPU
cadastral map	1:5.000 (diminished original scale)	PPUO/G, PPGZ
croatian base map	1:5.000, 1:10.000	UPU, GUP, PPPPO
topographic map	1:25.000	PPUO/G, PPPPO, PPGZ
topographic map	1:100.000	PPPPO, PPŽ
digital orthophoto	different scales, it is used if there is no other base maps, or as an addition to the existent	
* *- On the structure of physical plans thoroughly in the next chapter*		

Unsatisfactory condition of those data is often one of the main obstructions to the efficient physical planning and its execution. The Ministry of environment protection and physical planning, which is a leading body for physical planning activities in Croatia, in cooperation with State Geodetic Administration, provided the spatial data of chiefly smaller scales (topographic maps) for all subjects that make plans. That is about digital raster maps, based upon map editing produced by the former Yugoslav army geographical institute. Their problem is content out of date, and State Geodetic Administration started up with the organization of the production of new generation topographic maps, in accord with standards of the STOKIS project, and the CROTIS project. The maps are made on the basis of aerophotogrammetrical recording, analytical and digital photogrammetrical methods, and the aim is to establish parallel a topographic information system in which physical objects, which are the objects of topographic mapping, would be saved in digital vector database. Table 2 shows a review of the current condition of basic maps used in planning.

Table 2: Base maps conditions in planning in Croatia

base map	*condition (years)*	*covered surface (%)*	*in digital format (%)*
topographic map 1: 100.000	1980-1984	100 %	100 %
topographic map 1:25.000	1971-1990	100 %	100 %
new topographic map 1:25.000	1996-2003	cca. 10 %	100 %
croatian base map 1:5.000	1954-2003	cca. 90 %	< 10 %
digital orthophoto 1:5.000	2000-2003	cca. 7 %	100%
cadastral maps	1820-	100 %	cca. 20 %

When it comes to large-scale base maps, most often the local self-government units, as the physical plan production executives in their areas, procure the necessary data on their own. It is often the case that, in cooperation with State Geodetic Administration and other interested subjects, they co-finance new base maps production, or the existent data digitalization. Such approach is in accord with spatial data infrastructure principles, and it enables expense decrease for all engaged parties. Most often the production or digitalization of Croatian base map on the scale of 1:5000 is in question, the production of digital orthophoto or the cadastral maps digitalization. In this way physical planning stimulates the creation of basic spatial data infrastructures. There is a problem with smaller and poorer municipalities, most often in rural and mountain areas, for which production of physical plans and the obtaining of necessary spatial data is a big burden on the budget.

3.2 Physical Plans – a Part of Spatial Data Infrastructure

Data on the land use of specific areas, and rights, responsibilities, and restrictions that go with physical plans are in direct interaction with land tenure, land valuation, and land development. Physical plans are an inseparable part of land management infrastructure as a tool of sustainable development support. The authorities have to ensure a transparent process of the production of physical plan enactment with public participation, the possibility of public insight in the valid physical plans, and their efficient execution.

Physical planning documents in Croatia make an overall system by which the whole state territory is covered. They define the expedient physical organization and use, measures and guidelines on planning and protection of the territory of state, counties, municipalities, and cities. The strategy of physical planning is a document at national level that defines long-term aims, guidelines, and development priorities. Physical plans make a hierarchical totality of the documents of narrower range and bigger detail attention. The obligation of the compatibility between lower-rank and higher-rank plans ensures the vertical integration of the whole structure of physical plans. The physical plans of counties (PPŽ), of the City of Zagreb (PPGZ), and the municipal spatial plans (PPUO/G) are linked with the administrative territory, and they ensure the minimum of physical planning documentation in that area. Other plans are prepared for areas with additional needs because of their special features, for example, for national parks and parks of nature (PPPPO), larger city areas (GUP), narrow urban areas (UPU), and smaller areas that need detailed regulation (DPU). Figure 4 shows the hierarchical structure of physical plans in Croatia. Since the enactment of Physical planning law all the county spatial plans have been made, most of the national park spatial plans, and a big number of other plans is in preparation or production.

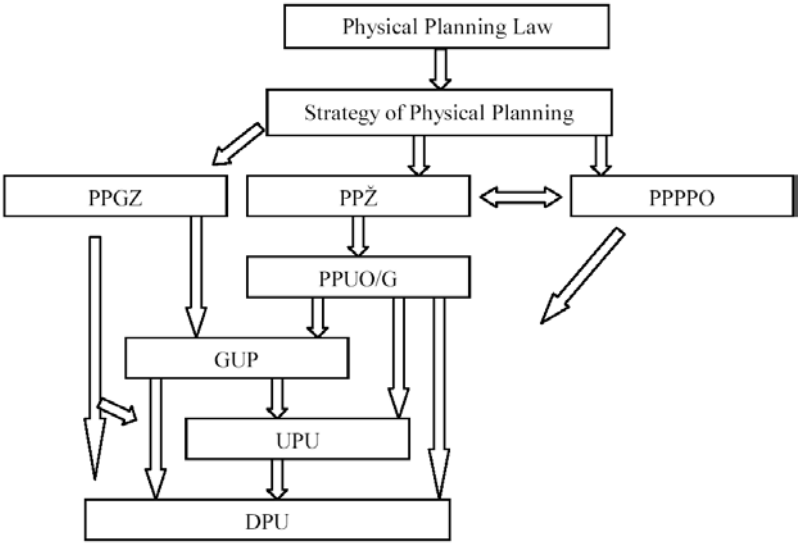

Figure 4: Hierarchy of physical plans in Croatia

A new generation of physical plans is made by the appliance of digital technologies, and the contents of textual and cartographic part is regulated. For the purpose of the production of digital cartographic reviews, a rulebook in digital format was issued in 1999, by which certain standards in the domain of digital cartography were tried to be set. The rulebook was in accord with the work in software packages of the leading companies in the field of CAD and GIS (AutoDesk, Bentley, ESRI). It functioned only partly in practice. Unfortunately, it has not been supported by standards in the domain of geoinformation till the present day, and the physical plans are primarily a cartographic, and not a geoinformation product.

In the City Bureau for development planning and environment protection, in the end of 1990s, they started to make two strategic physical plans – the spatial plan of the City of Zagreb, and the Master plan (GUP) of the City of Zagreb. The City of Zagreb with its population of 800000 inhabitants (over a million in the wider area), and the biggest urban concentration in Croatia, has a special status in the administrative state division, and it is a city with the county status. Therefore the spatial plan of the City of Zagreb has mostly the characteristics of county spatial plan, while the GUP refers to the development defining of the narrow urban city area. Considering that the existent topographic base maps were out-of-date and inefficient, the production of new maps, in cooperation with State Geodetic Administration, started. Having in mind the settings of CROTIS (the topographic information system), there were made a topographic map on the scale of 1:25000, and Croatian base map on the scale of 1:5000 in the format of digital vector topographic database, and also a digital orthophoto of the whole city area. That ensured a high-quality physical basis of planning. An advantage in plan production was a relatively well-developed spatial data infrastructure at corporation level in the city public utilities (waterworks, sewerage system, gasworks, etc.), and in the city cadastre office. The cartographic part of the plans was made in the format of digital vector database, with the aim to enable entry of those data in the spatial information systems at local or national level. Figure 5 shows a segment of the Master plan (GUP) of the City of Zagreb, the land use plan.

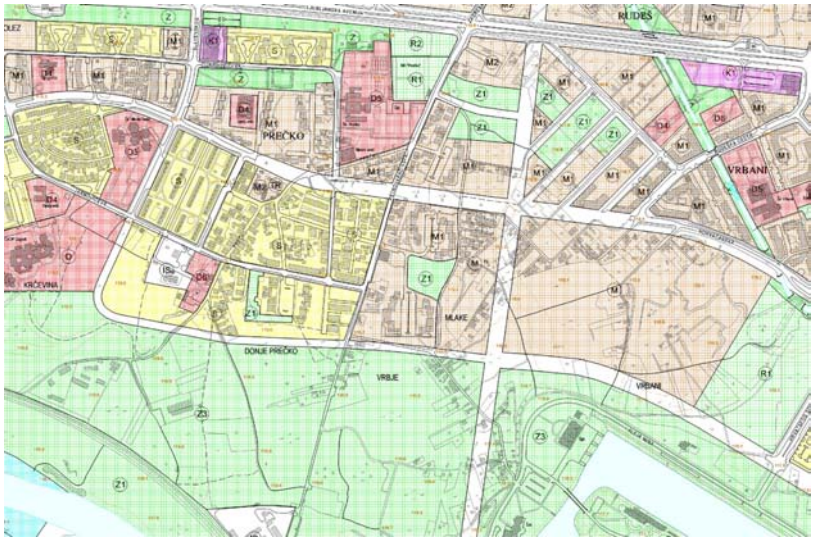

Figure 5: A segment of the Master plan (GUP) of the City of Zagreb – land use plan

With the aim of the assurance of public access to plan data, the Ministry of environment protection and physical planning has enabled on its Web pages the insight into all county spatial plans, as into the part of textual decrees for execution, so into the cartographic part (in the raster format) (www.mzopu.hr). Some of the national park spatial plans are also available. Several bureaus of physical planning made also certain shifts in that way, by giving insight into the physical plan data of their administrative areas (mapserver.zavod.pgz.hr/zpp/, www.edubrovnik.org/www.osjecko-baranjska-zupanija.hr/hr/rasnat/prostorni/home_set.htm)

3.3 Information System of Physical Planning

With the aim of the establishment of spatial data infrastructure in the area of its administration, the Ministry of environment protection and physical planning started up with activities of the establishment of information system of physical planning. The first guidelines on the need for information system establishment were already defined in 1989 in the spatial plan of the Republic of Croatia. With the enactment of the new Physical planning law in 1994, the establishment of spatial information system for the purposes of planning, usage, and environment protection is defined by one of the principles upon which physical planning is based. In the Strategy of physical planning of the Republic of Croatia from 1997 there are the basic strategic sources for information technology introduction specified, and the priority procedures defined, in the fields of methodology, legal and strategic aspects, standards, technology, and human resources (MPUGS 1997). However, it could be said that in the last decade it was done relatively little on the practical establishment of information system of physical planning, to an extent because of the justified planning system singleness towards other urgent topics (the establishment of the basic physical plan system).

Information system of physical planning (ISPU) should contain data on natural and social features, and the physical contents relevant to physical planning, and physical documentation (physical plans, reports, programs, permits, etc). It is anticipated through the software framework to establish a singular information system core within the competence of the Ministry (with data of mutual interest), linked to a range of subsystems that contain data from

narrower areas (MZOPU 2003). In the establishment of the system the role of county bureaus for physical planning is stressed specifically, and they should be the protagonists of data collecting, filing, and managing in their areas. Figure 6 shows the basic conception of information system of physical planning.

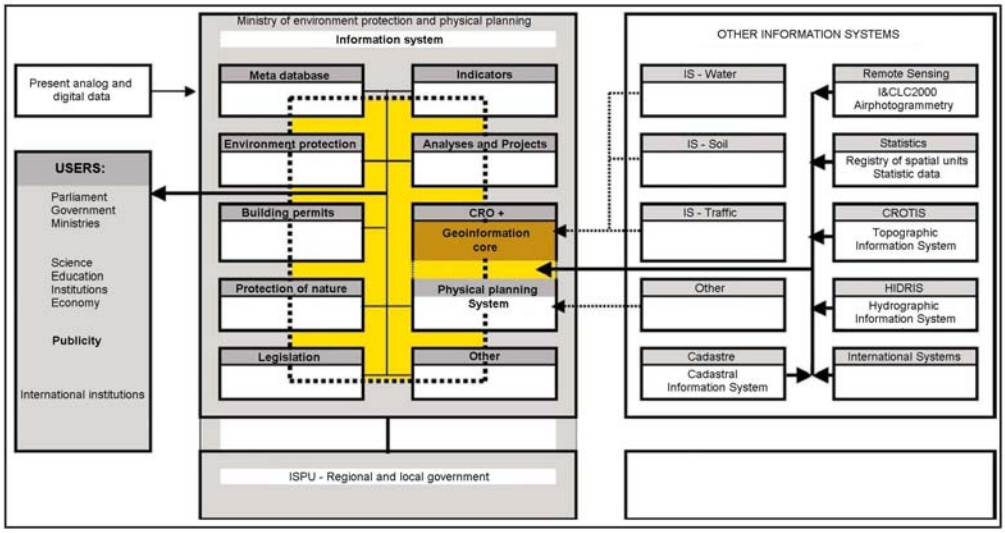

Figure 6: The basic conception of Information System of Physical Planning (ISPU)

An important component is also the link-up to other information systems that make the spatial data infrastructure at national and local level. Through the ISPU the physical planning subjects will be able to access the necessary data – topographic, cadastre, hydrographic, remote sensing imagery, data on waters, soil, and others managed by different proficient institutions and organizations. The physical planning data will also be available to the interested parties. In this way the multiplication of data filing should be avoided, which will lead to expense decrease, and on the whole, to more efficient spatial data management, and indirectly, to better land management.

4. CONCLUSION

The efficient spatial data management is possible only through the development of the SDI. Certain initiatives for that purpose in Croatia have been started up only recently. In the meantime the experience and teaching of other countries should be used. Towards the development of SDI, in the first place, European and international standards that refer to geoinformation have to be accepted and implemented. Furthermore, a national body should be formed as soon as possible, which would coordinate further works on the SDI advancement and establishment. It refers mainly to the education of spatial data producers and users, the modern technologies usage education, especially the Internet.

In the process of physical planning the efficient access to high-quality spatial data is a more and more important factor. Activities on the information system modelling and establishment have been started up, which will enable data access, management, and distribution. In this way one of the basic physical planning prerequisites would be fulfilled, with the aim of the sustainable development as of urban so of rural areas.

Numerous tasks and obligations concerning spatial data files arrangement which are in front of Croatia have to be dealt with conscientiously, and in a reasonable period of time, which is of interest as for the better of the whole country so for the fulfilment of the conditions set in the process of the European Union entrance.

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