

ABOUT SPATIAL PLANNING IN ALBANIA

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SUMMARY

Albania has a complex history of spatial planning that dates from the last century (1950 year) and has experienced a dramatic transformation due to changing political and economic regime in 1990. The first attempts to create a new system of territorial planning in Albania began in 2006 with the preparation of a policy document for planning. The process for preparation of the law on territorial planning began after the adoption of the policy document in 2007. On April 23, 2009, was passed by the Parliament, the Law no. 10119, "On Territorial Planning". This law has been amended six times since it was approved.

Territorial planning authority in Albania resides at the national and local level. The national territorial planning authority resides in the central government, which (under the current legislation) is with the Territorial Planning Council of the Republic of Albania that adopts and approves or rejects different urban and spatial planning studies. The relevant ministry handling territory planning activities through the Territory Planning Directorate co-ordinates work among Territorial Planning Council, state bodies and local government bodies in the field of spatial planning. This presentation addresses these problems:

- Territory Plan overview
- Territorial planning in Albania
- National authorities of territorial planning
- Coordination of territorial planning documents
- GIS Technique for Territorial Analysis
- Data for Spatial Planning in Albania
- Current problems related to spatial planning in Albania

The purpose of this paper is to present, in short, the existence in Albania of various SIS/GIS and databases, the most important cartographic products, technologies, data extraction and data strings for the needs spatial planning.

The main limitations of using GIS in spatial planning in Albania, not dealing with technical issues, but with the availability of data, organizational changes and training of specialists. The lack of available data and their quality, including mapping, remains one of the biggest obstacles to the use of GIS in spatial planning.

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1. INTRODUCTION

Spatial planning refers to the methods used by the public sector to influence the distribution of people and activities in spaces of different levels. Discrete professional disciplines that involve spatial planning include: land use, urban and regional planning, transportation and environmental planning. Other important areas related to' are planning economic and community.

Spatial planning has a strong international dimension. EU has become an important framework for planning practice, research and teaching. Spatial planning in Europe is being "Europeanized" with corresponding changes in the role of planners. EU policies in areas such as environment, transport, agriculture and regional development have significant effects on spatial development patterns and planning procedures.

The need for spatial planning is particularly important in countries in transition, as well as Albania. Due to the rapid growth in the development of residential areas and industrial zones, infrastructure requirements, in many transition countries, have been too great. The rate of urbanization in countries in transition in Europe is growing and expected to continue to grow in the future.

Albania has a history of troubled complex spatial planning that dates from the last century (1950) and has experienced a dramatic transformation due to changing political and economic regime in 1990. Spatial planning in Albania has territorial basis, legal and institutional. Planning institutions at central and local level are essential elements in the organization and functioning of the planning activity.

Currently, the law no. 10119, dated 23.04.2009, "On Territorial Planning" harmonize policies and territorial planning law principles of territorial planning of the EU (inclusive territorial planning that combines all the political issues at all territorial levels). The new planning system in Albania lists a number of principles that comply with the European philosophy of planning and include almost all the features of other models. The law does not stop only to territory planning, but pays significant attention to the development of the territory and its control.

Today, in accordance with national and regional spatial planning in Albania is trying to ensure careful management of territory. Therefore, it is supported not only in studies of various types such as environmental

(geological studies, agricultural studies - forest, etc.) etc., but also in cartographic materials that help define new perspectives on landscape analysis and project selection.

The research, based on cartographic basis, reveals that our territory possesses a rich natural, historical and environmental. Analyzes in detail underline the extreme fragmentation of the property, with the abandonment of agricultural and pressure of twenty years of indiscriminate urbanization, disfigures territory. Therefore, trying not to lose any particular characteristic historical - cultural, productive landscape and environmental features should be useful hypotheses formulated in order to use space / territory of our country.

2. SYSTEM SPATIAL / TERRITORIAL IN ALBANIA

Planning and regulation in Albanian territory who performed under levels: a) planning at the state level (national strategic spatial plan and state spatial plan), b) planning at the local level (municipal spatial plan / Municipal - part strategic and the operational plan urban; detailed spatial plan municipality / municipal), c) inter local level planning (regional spatial plan), and d) the integrated planning level, based on the law nr.10119 , dt.23.0.2009 "On territorial Planning", as amended and in -laws: DCM nr.1190 dated . 13.11.2009 "On the organization and functioning of the National Agency for Territorial Planning", CMD nr.480, dated 22.06.2011 "On the approval of the Planning Model", amended CMD Nr.481 dated. 22.06.2011 "On approval of the regulation uniform planning instruments", CMD Nr.502 dated. 13.07.2011 "On approval of the regulation uniform development control of territory", DCM No.87, dt.07.02.2012 "On the composition of the National Council of Territory", CMD Nr.459, dt.16.06.2010 "On approval of geodetic standards and GIS", CMD Nr.460, dt.1.6.2010 "on the organization and functioning of the Registry of Territorial Planning".

One of the main factors affecting the progress of the planning area / territory and land development in Albania are the stakeholders (individuals, groups or institutions), with multiple roles and interests of different, among which are: the Council of Ministers National Council of Territorial Ministries, MPPT, NTPA, municipalities and communes, Tirana municipality, county, civil society organizations, donors, citizens / communities, landowners. Besides municipalities and other entities territorial planning, created by the Law on Territorial Planning, there are a number of national institutions with responsibility in the maintenance of spatial information and maps related to spatial or territorial planning.

3. CARTOGRAPHIC BASE FOR SPATIAL PLANNING

3.1. Coordination of territorial planning documents

Conception of territory through spatial imagery is an integral part of planning. In many traditions of spatial planning in Europe, planning policy documents include a symbolic representation of the territory in the form of icons, diagrams and maps. Illustration of space policy options through maps and other cartographic representations can be very valuable in the planning process and in communicating key messages strategy planning. Drawn images are used to support verbal statements of policy or policies for directly, through their communicative power and simplicity/clarity, drawn images can contribute more than legal and financial instruments to achieve certain political goals. Geographic visualization of urban landscapes is a powerful technique for involvement of various stakeholders in decision - making. Developed tools can empower equally, practitioner and citizens in making well-informed decisions. Geographic visualization products are different and are available in the planning process and in the scientific communication.

In recent years in Albania, is a development noted, although slow and troubled, Spatial Information Systems (GIS and LIS) in management and administration. Adjusting range of spatial technologies, such as Geographic Information Systems (GIS) in the Planning Support Systems (CMS) with layers of spatial data easily available and continuously improve the performance of the computer, have led recently, in addition the capability to generate 3D shape, spatial scenarios of existing images and pictures provided in the future (Lovett 2005). Recently there have been a large number of applications of 3D geographic visualization to assist in collaborative planning processes in the context of urban, rural, etc. (Pettit. et al 2004).

Visualization can be applied as a planning tool to take Visual Impact Assessment, as discussed in ESRI Virtual Campus "Urban and Regional Planning" using Arc View GIS (<http://campus.esri.com/>). Also, landscape visualization has become an important part of the process of Environmental Impact Assessment (EIA) (Macfarlane et al. 2005). Such forms existing scenarios visualizing geographic or spatial forecast, although not at levels more mature, realized in various institutions or territorial spatial planning in Albania (institute of urban studies, urban different studios, offices in urban municipalities different etc.).

Territorial planning documents are master plans, specific plans and detailed plans, which are defined in writing and graphically, information

about territories, land parcels or their groups, needs and requirements for the management and development.

Spatial planning documentation reflects economic, social, cultural and ecological area giving them the geographical interpretation and Visualization. Spatial or geographical information in the form of maps, plans, aerial photographs, etc., forms the physical basis on which development planning is undertaken space.

From the foregoing, it is understood that the mapping section is an important part of spatial planning documentation. It includes two sets of maps: Maps that reflect the current status and conditions of use of the area; Maps that reflect project proposals for land use zoning, boundary changes and resource allocation, location capital projects, etc.

Plans for territorial regulation at all levels are associated with document analysis and in-depth evaluation along with maps that contain:

- information on topography;
- engineering - geological maps;
- hydro - geological maps;
- macrozonimin and seismic micro-zoning;
- solvency of land, based on the certificate issued by the appropriate authority under the definition of a special law, whether in the territory of the local government unit has agricultural areas;
- natural resources and forest environments;
- if in the territory of the local government unit has woods, pastures, surface water, ponds, mines, and other related;
- if in the territory of the local government unit has protected natural areas and cultural and historical heritage, and other such objects.

3.2. Spatial / territorial planning and GIS. Mapping Section of spatial development plan

Basis for decision-making in the design and spatial planning are spatial data, first of all mapping data, such as cadastral, topographic and thematic maps, statistical data and then all documentation regarding available. In the last decade of the twentieth century, these documents are changed geospatial data (in digital format) organized in a GIS environment, suitable for processing and visualization of data for all user data. Progress in information technology, and the technology revolution in data collection (GPS, digital photogrammetry, laser scanning, InSAR, etc.), play a key role in managing spatial database. The end result is a change in technology access, storage and processing of spatial data. The term "spatial data" refers

to data about the positions, attributes, and relationships of features in space (Morrison, 1995).

Various sources of spatial data lead to different levels of data quality. A large amount of data obtained from coding analog maps at different scales or from satellite images of different resolutions. The scale and resolution have a major impact on some elements of data quality (Openshaw, 1994). Topographic information, which is usually followed topographic maps is an essential information and very important for spatial planning and sustainable development of the environment. It provides information on natural terrain, land cover, including the extent of land, basic land use (such as houses, transportation facilities, location of sewer and drainage facilities and infrastructure, etc.), environmentally sensitive areas that require protection and conservation and showing areas prone to natural disasters (floods, etc.) in which settlements should be avoided, as well as potential development areas. Topographic maps are used as base maps from physical planners, engineers, architects and developers in planning infrastructure to support and manage the development of settlements. For this reason, the planning of sustainable human settlements requires reliable topographic information.

Among the major categories of spatial information required for sustainable spatial planning and development management, mention or census data census and related activities, data / information topography, land and related uses, including housing, transport and other services, natural resources and cadastral information (including location, size, value, etc.), etc.

Creating database/topographic information ("spatial") has traditionally been the responsibility of surveying and mapping agencies of government. But today, for the manufacture of this product is also contracted private entities. Production of topographic maps is the job and responsibility of the profession of surveyor.

Another category of spatial information, crucial for the planning of sustainable human settlements, etc., and information management development is on land (use). Land is the basic framework for the development of residence (urban or rural) and economic growth and therefore on land information is important for planning sustainable settlements. Knowledge and information about the land - its location, size and boundaries, availability, features and general characteristics - including the nature and condition of its resources - are important for its appropriateness, effective planning and management of development. This information is available again through relevance and mapping land. In planning law Maturity is introducing the concept of Territorial Registry, as a means by which lay the basis for sustainable development in the territory.

Register, under the law, is a multidimensional database of Geographic Information System and in addition the transparency tool "control", since all important projects, including licenses, published in the and only then can enter into force.

Spatial data necessary for spatial/territorial planning, obtained from state institutions in Albania, but not all included in the GIS, generally meet the requirements of quantity, completeness, compliance, quality, accuracy, spatial/geographical accuracy and appropriateness of content. These data, in Albania are: [a] topographic (scale maps - 1:250.000 - raster, vector, topographic data - 1:5.000 - vector, construction, traffic, land cover, topographic maps state - 1:25.000 - raster, state topographic maps 1:50.000 - raster, vector, topographic base maps - 1:5.000, 1:10.000; digital model of relief - 5 m, 12.5 m, 25 m and 100 m; digital orthophoto - 1:5.000, filmed in 2007, the register of geographical names, etc.) [b] land and real estate (land cadastre); consolidated cadastre of public infrastructure - traffic, electricity, sewage, water, natural resources environmental data, other public buildings, real estate registry (ASCII); cadastre of buildings - associated with the land cadastre and land register, the register of population; registry of businesses; registry of space units, [c] ecology (environment - industrial, municipal, wastewater, sensitive areas, gatherings, air quality, climate - air temperature, precipitation, snow cover, solar radiation , wind speed, phenological stages, water - water protection areas, water management, concessions, ecological types, flood protection, water bath, basin, geological maps, nature - important ecological areas, protected areas, forest reserves...).

Most important systems of Spatial Information, necessary for spatial planning in Albania, must consist of:

- in the field of technical infrastructure:
 - ✓ National Information System based on land and land cadastre maps construction and large -scale numerical (partially constructed)
 - ✓ Information system of roads and bridges,
 - ✓ Systems management branch for gas and electricity supply, water, communications networks, etc.
- In the sphere of the natural environment, and use his defense:
 - ✓ The system of integrated environmental information,
 - ✓ Information system of the state of forests,
 - ✓ environmental monitoring system (soil, water, air), the central base of geological data;
 - ✓ GIS needs Geological map of Albania (partially constructed)
 - ✓ Systems of Meteorology and Water Management (partially built),
 - ✓ GIS for sharing hydrographic needs of the country,
 - ✓ GIS about wetlands and pasture / meadow,
 - ✓ Database mapping of soils (partially constructed)

- In the other fields / areas:
 - ✓ public statistics systems (administration, population, enterprises), (partially constructed)
 - ✓ GIS to protect historic sites (partially constructed)
 - ✓ Integrated control system of agriculture,
 - ✓ Integrated Information System of productive agricultural areas, etc.

The structure of spatial database and GIS applications, including interactive maps of the area, should be developed for the Planning Scheme. To create the database should be used data sources and digital paper. All original cartographic material available in paper form should be digitized and recorded in the corresponding coordinate system. Based on the analysis of the data base, new layers drawn map for the development of cartographic documentation of spatial planning scheme:

Zoning construction 1 : 100000

Zoning of land use 1 : 50,000

Proposals to change the category of land 1 : 50,000

Sustainability recreational territory 1 : 100000

Changes in the boundaries of populated areas 1 : 50,000

Proposed areas for industrial buildings 1 : 50,000

Proposed areas for relaxation 1 : 50,000

The proposed development of the road network 1 : 100000

The proposed organization of the territory 1 : 100000

In connection with the use of GIS in spatial planning in Albania, has different problems. For example:

- data available to institutions, including the amount and particulars, except topography, are not sufficient,
- statistics for municipalities, counties and local units are generally not sufficient,
- lacks accurate data for large scale,
- lacks sufficient monitoring of environmental data etc.,
- major shortage of data attributes,
- major legal problems concerning copyright for different spatial data,
- More data are based on different reference systems must therefore make their conversion, etc.
- The main limitations of using GIS in planning, in Albania, not dealing with technical issues, but with the availability of data, organizational changes and training of specialists.

4. CONCLUSIONS

- Law on Territorial Planning System, and its regulations came into force in September 2011. Today, in accordance with national and regional spatial planning in Albania should ensure careful management of territory. Therefore, he must also rely on cartographic materials that help define new perspectives on landscape analysis and project selection. In this context, analyzing the necessary cartographic basis for spatial planning in Albania.
- National Agency of territorial planning should assess the workload and expenses related to the review of GIS platform in the Territorial Registry, eventually making it to comply with all legal requirements in Albania and thus usable.
- We must build a foundation for dynamic digital mapping throughout Albania in 1:50000 scale to 1:100.000, which can then become part of the Albanian national mapping system for use by government agencies and the private sector in conducting activities.
- GIS technology automates the process of creating and processing documentation for mapping the spatial scheme at all stages, from preparation and data analysis in the development of GIS applications used in the field of spatial planning and territorial management. However, the lack of data available and their quality remains a major obstacle to the effective use of GIS in urban planning in Albania.
- In addition to data coming from direct question in offices, institutions and local government units, contemporary spatial planning in Albania widely used existing databases and information systems, various documents mapping, aerial photography and remote sensing documents. Hence arises the necessity of mapping the analog processing of documents in digital form, creating modern GIS. On the basis of distributed systems must be created Albanian GIS in Albania, meeting required standards and conditions of spatial information, such as reliability, completeness, contemporaneity and access. Albanian GIS will facilitate the management and administration processes at different levels and will be an effective tool of economic development and socio - spatial Albania within the EU structures.
- In connection with cartographic base has enough problems as:
 - ✓ data / information are not always available in digital form, and, if you are in this form, often in a variety of formats.
 - ✓ Spatial reference objects and phenomena often expressed in different coordinate systems.

- ✓ The first task is the conversion of all information regarding the territory in digital form, and integration of all data sources in a database of spatial data and attributive.
- ✓ The second task is the development of GIS applications for spatial planning, which allows operation with interactive maps included in the scheme of territorial plan and produce copies of their paper.
- ✓ Group maps in spatial planning projects often are not strictly defined. This often depends on the particular characteristics of the area. Thus, one of the challenges faced by project developers is determining spatial planning and justification documentation cartographic group.
- ✓ Should be provided in a server - based solution for publishing dynamic maps, geographic data / attributive information and services on the Internet or intranet. Thus it is possible to realize the qualitative interactive maps that allow the disclosure of information and metadata on top attributive geographic information.

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