

# 5th Regional Study on Cadastre and Spatial Data Infrastructure

Željko Bačić and Vesna Poslončec-Petrić

In the aftermath of the 5th Regional Conference on Cadastre and Spatial Data Infrastructure (Banja Luka and Laktaši, Bosnia and Herzegovina, June 6–8, 2012), the Republic Authority for Geodetic and Property Affairs of the Republic of Srpska and the Federal Administration for Geodetic and Real Property Affairs published the 5th Regional Study on Cadastre and Spatial Data Infrastructure. The study was produced in the frame of the Project *INSPIRATION – Spatial Data Infrastructure in the Western Balkans*, which is being realized for the benefit and with cooperation of representatives of eight geodetic administrations in the region (Albania, Bosnia and Herzegovina, Montenegro, Croatia, Kosovo, Macedonia, Serbia) by consortium led by German company GFA of Hamburg, in cooperation with GDI GISDATA of Zagreb, experts from the Austrian Environmental Agency and German company *con terra GmbH* and financed from the European Union IPA funding programme for 2010.

Prof. Dr. Željko Bačić and Dr. Vesna Poslončec-Petrić are the authors of the Study, for which the final report was submitted at the 5th Regional Conference on Cadastre and Spatial Data Infrastructure. Representatives of geodetic administrations in the region at the Permanent Technical Commission of the Regional Conference on Cadastre and Spatial Data Infrastructure played an important role by collecting necessary information for the survey questionnaire, as well as by communicating and discussing its content with a team of consultants.

The format of the book is A4 and it is printed bilingually (in Croatian and English, while contributions

from the institutions in the 5th chapter are in their original languages). It has 116 pages in hardcover and on coloured paper. The book was reviewed by Dragan Macanović and Antonija Sikimić, MSc, text proofreading was done by Sanja Coraza, and translation into English by Corinne Enquist.

The study provides an overview of the state of the geodetic-cadastral system, as well as the state of development of national spatial data infrastructures in the region, with focus on four areas:

- Status of fundamental activities of the institutions (cadastre, information services, GNSS and cartography)
- Legal framework of land administration
- Status of key registers
- Status of NSDI establishment and alignment to the EU INSPIRE Directive

The content of the study is divided into five chapters:

- 1 Executive Summary
- 2 Definitions and Abbreviations
- 3 Introduction and Background
- 4 Study Results
- 5 Land Administration Institutions Contribution to the Sustainable Development

In addition to the list of references, the study contains a CD with supplements (list of participants of the 5th Regional Conference of Cadastre and Spatial Data Infrastructure, questionnaires with responses of the institutions, presentations and official photographs from the conference).

The Regional Study on Cadastre and Spatial Data Infrastructure has been the platform for the Regional Conference of Cadastre and Spatial Data Infrastructure in recent years, a source of valuable information and

encouragement in making decisions. This form of cooperation among institutions began in Opatija in 2008, followed by regional conferences in Ohrid, FYRO Macedonia (2009), Bečići, Montenegro (2010), Bled, Slovenia (2011) and Banja Luka, Bosnia and Herzegovina (2012).

In the past 12 months, certain trends could be spotted through activities of the institutions in the region and their focus on specific topics. Due to the global economic crisis and changes in the management and conduct of the countries' administrations, a clear trend is visible of adopting new or changing existing legislation, in accordance with needs of governments and communities. The newly adopted or amended laws include the National Spatial Data Infrastructure (NSDI) and mainly promote responsibility of land administration institutions in the region for that area.

Since this is already the fifth study of the Regional Conference on Cadastre and Spatial Data Infrastructure in South-Eastern Europe, it proves the region has achieved great progress and that the reform, modernization and implementation of new activities incorporated significant human, organizational and financial resources. Events and meetings over the years reflect all of that on the position of geodetic and cadastral profession in individual countries. This profession is recognized as a modern profession which uses latest technologies to collect, classify, organize, maintain and distribute spatial information and register data to all types of users. Cadastral and property registration authorities and agencies can be proud of the results achieved, but they have to be aware of the challenge that customer

## 5. regionalna studija o katastru i infrastrukturi prostornih podataka

Željko Bačić i Vesna Poslončec-Petrić

Nakon 5. regionalne konferencije o katastru i infrastrukturi prostornih podataka (Banja Luka i Laktaši, Bosna i Hercegovina, 6–8. lipnja 2012.) Republička uprava za geodetske i imovinsko pravne poslove Republike Srpske i Federalna uprava za geodetske i imovinsko pravne poslove Federacije Bosne i Hercegovine izdale su 5. regionalnu studiju o katastru i infrastrukturi prostornih podataka. Studija je izrađena u okviru projekta *INSPIRATION – the SDI in the Western Balkans*, kojeg za potrebe i uz suradnju predstavnika osam geodetskih uprava u regiji (Albanija, Bosna i Hercegovina, Crna Gora, Hrvatska, Kosovo, Makedonija, Srbija), realizira konzorcij na čelu s njemačkom tvrtkom GFA iz Hamburga u suradnji s tvrtkom GDI GISDATA iz Zagreba, stručnjacima austrijske Agencije za okoliš i njemačke tvrtke *con terra GmbH*, a financira se iz sredstava programa IPA Europske unije za 2010. godinu.

Autori studije, čije je završno izvješće podneseno na 5. regionalnoj konferenciji o katastru i infrastrukturi prostornih podataka, su prof. dr. sc. Željko Bačić i dr. sc. Vesna Poslončec-Petrić, a važnu ulogu imali su i predstavnici geodetskih uprava u regiji pri Stalnoj tehničkoj komisiji Regionalne konferencije o katastru i infrastrukturi prostornih podataka koji su dali svoj doprinos prikupljanjem potrebnih informacija za anketni upitnik te komunikacijom i diskusijom njegova sadržaja sa savjetničkim timom.

Knjiga je formata A4, tiskana dvojezično (na hrvatskom i engleskom jeziku, dok su prilozi institucija u 5. poglavlju na njihovim izvornim jezicima). Knjiga ima 116 stranica u tvrdom uvezu i na koloriranom papiru. Recenzirali su je Dragan Macanović i mr.sc. Antonija Sikimić, tekst je lektorirala Sanja Coraza, a na en-

gleski jezik prevela Corinne Enquist.

Studija daje pregled stanja geodetsko-katastarskog sustava i stanja izgradnje nacionalnih infrastruktura prostornih podataka u regiji s naglaskom na četiri područja:

- status temeljnih aktivnosti institucija (katastra, informacijskih servisa, GNSS-a i izrade karata)
- pravni okvir sustava zemljišne administracije
- status ključnih registara
- status uspostave NIPP-a i prilagodbe INSPIRE direktivi EU-a.

Sadržaj studije podijeljen je u pet osnovnih poglavlja:

1. Sažetak (Executive Summary)
2. Kratice i definicije (Abbreviations and Definitions)
3. Uvod i pozadina (Introduction and Background)
4. Rezultati studije (Study Results)
5. Doprinos institucija zemljišne administracije održivom razvoju (Land Administration Institutions Contribution to the Sustainable Development)

Uz popis literature, studija sadrži i CD s prilogima (popis sudionika 5. regionalne konferencije o katastru i infrastrukturi prostornih podataka, upitnici s odgovorima institucija, prezentacije i službene fotografije s konferencije).

Regionalna studija o katastru i infrastrukturi prostornih podataka u proteklih godina bila je platforma za Regionalnu konferenciju o katastru i infrastrukturi prostornih podataka, izvor vrijednih informacija te poticaj u donošenju odluka. Taj oblik suradnje institucija počeo je u Opatiji 2008. godine, a slijedile su regionalne konferencije u Ohridu (2009), Bečićima (2010), Bledu (2011) i Banjoj Luci (2012).

U proteklih 12 mjeseci jasno se očituju određeni trendovi kroz aktivnosti institucija u regiji i njihov fokus na određene teme. Uslijed globalne



ekonomske krize i promjena u upravljanju državama i vođenju državne administracije vidljiv je jasan trend prihvaćanja novog ili izmjena postojećeg zakonodavstva u skladu s potrebama vlada i zajednica. Novousvojeni ili promijenjeni zakoni obuhvaćaju nacionalnu infrastrukturu prostornih podataka (NIPP) te većinom promoviraju odgovornost institucija zemljišne administracije u regiji za to područje.

Budući da je ovo već peta studija Regionalne konferencije o katastru i infrastrukturi prostornih podataka u Jugoistočnoj Europi, ona dokazuje da je u regiji ostvaren velik napredak te da su u reforme, modernizaciju i provedbu novih aktivnosti ugrađeni značajni ljudski, organizacijski i financijski resursi. Događanja i skupovi proteklih godina pokazuju koliko se to odrazilo na položaj geodetsko-katastarske struke u pojedinim zemljama. Prepoznata je kao moderna struka, koja se koristi najsuvremenijom tehnologijom za prikupljanje, sistematizaciju, organizaciju, održavanje i distribuciju prostornih informacija i

expectations are high and are growing rapidly, testing capabilities of institutions to provide new services and information.

For the first time in the annual study, descriptions were added of the most important institutional projects or activities implemented by institutions, serving the cause of capital projects of economic development and growth of countries in the region. The reason for this step lies in the economic crisis, due to which governments mobilized all their capacities

in order to support sustainable economic development of their countries. This includes land administration institutions, especially due to the fact that capital projects are mainly related to land, infrastructure, ownership, etc. The fifth chapter contributes to a better understanding of the contribution of institutions and the land administration profession to overall welfare of society and to the progress of economy and citizens, since one of the purposes of the Regional Conference of Ca-

dastre and Spatial Data Infrastructure is the promotion of these institutions and the profession by presenting their activities in very specific development projects.

The book was printed in 200 copies. In order to obtain a printed copy, one can ask the publisher, the Republic Authority for Geodetic and Property Affairs of the Republic of Srpska. The book is also available in digital form (PDF) on the website of the project INSPIRATION: [www.inspiration-westernbalkans.eu](http://www.inspiration-westernbalkans.eu).

Ivica Skender ■

## Cadastral of Solin and Surrounding Area in 1831

Milan Ivanišević and Đenko Ivanišević

**A map is always interesting and attracts observers. Old maps are especially interesting because of colours, rich cartouches, vignettes, compass roses and other details. Their authors attempted to make them as accurate and attractive as possible. Gradually, special maps appeared. They were often not very attractive, but make up for it with their content. In any case, one is probably going to want to inspect a map in more detail. As inscriptions and documents tell tales of times they were produced in, maps tell us about represented space. The older a map is, it is more interesting because it often reveals forgotten toponyms, lost settlements, old fortresses, churches, etc.**

At first, cadastral maps are not especially attractive because they are not meant to be a decoration or a textbook, but an official document with a clear goal of determining real property ownership. They are accompanied by owner lists (*katastici*), so that one could tell who owns what. Maps and *katastici*

from 17th and 18th century are not like that because they are often adorned with baroque decorations, views, coat of arms, etc. In contrast, cadastral maps of the 19th century appear dry and uninteresting, but this is not the case. They are a real mine of toponyms, a source of information about development of a settlement; they represent spatial relations, communication, economy, etc. In order to demonstrate how they can be pretty, the exhibition Croatian Treasure from the Archive of Maps for Istria and Dalmatia was organized in Split in 1992 and in Zagreb, Rovinj and Pula in 1993.

Owing to fact that Solin is a successor to old Salona, it has been present in cartography since ancient times. Let us mention only the famous Tabula Peutingeriana, a medieval copy of a map of the Roman Empire from the 4th century and the new age map of Split and surrounding area by Martin Kolunić Rota from about 1570. Since the time of Kolunić, Salona and Solin have intertwined, especially in maps similar to views, because they contain remains of the ancient city.

Solin is fortunate to have its development documented relatively well in maps and views since the 17th century, although many of them are just sketches.

In contrast, the cadastral plan from 1831 is much more accurate and detailed. It was produced during the second Austrian administration and represents a clearly formed settlement which would continue to change in the decades to come. It shows houses, churches and mills, paths and bridges, as well as streams and the Jadro River. The fact the plan shows remains of Salona, making this cadastral plan an archaeological map is especially important. It represents ramparts, remains of amphitheatre and theatres, Gradina, etc. which helps archaeologists in research. The cadastral plan from 1831 is a firm base point for moving through space and time. If we take a similar map of Solin and surrounding area produced by Viennese officer Zorzi Calergi in 1675, we can clearly see changes in terrain, as well as changes in population from names of land and house owners.

podataka registara svim tipovima korisnika. Katastarske, odnosno imovinsko-pravne uprave i agencije mogu biti ponosne na ostvarene rezultate, ali pritom moraju biti svjesne izazova očekivanja korisnika koja su velika i rastu brzo te stavljaju na kušnju mogućnosti institucija da osiguraju nove servise i informacije.

Po prvi su put u godišnjoj studiji dani opisi najvažnijih institucijskih projekata, odnosno aktivnosti koje institucije provode u funkciji kapitalnih projekata ekonomskog razvoja i rasta

zemalja u regiji. Razlog za taj korak može se razumjeti u svjetlu ekonomske krize zbog koje vlade mobiliziraju sve kapacitete kako bi poduprle održiv ekonomski razvoj svojih zemalja. To uključuje i institucije zemljišne administracije, pogotovo zbog činjenice da su kapitalni projekti većinom vezani uz zemljište, infrastrukturu, vlasničke odnose i sl. Peto je poglavlje prinoso boljem razumijevanju prinosa institucija i profesije zemljišne administracije sveukupnom blagostanju društva te boljitku gospodarstva i građana, budući da je

jedna od svrha Regionalne konferencije o katastru i infrastrukturi prostornih podataka promocija spomenutih institucija i struke kroz prikaz njihovih aktivnosti u sasvim konkretnim razvojnim pothvatima.

Knjiga je tiskana u 200 primjeraka. Tiskano izdanje moguće je zatražiti od izdavača, Republičke uprave za geodetske i imovinsko-pravne poslove Republike Srpske, dok je u digitalnom obliku dostupna u PDF-u na web-stranici projekta INSPIRATION: [www.inspiration-westernbalkans.eu](http://www.inspiration-westernbalkans.eu).

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## Katastar Solina i okolice u godini 1831.

Milan Ivanišević i Đenko Ivanišević

Zemljopisna karta, zemljovid ili naprosto karta uvijek je zanimljiva i privlači pažnju promatrača. Stare karte osobito su interesantne zbog boja, bogatih kartuša, vinjeta, ruža vjetrova i drugih detalja. Njihovi autori trudili su se da one budu ne samo što točnije već i vizualno privlačne. S vremenom se javljaju i specijalne karte koje često puta ne name svojim izgledom, ali to nadomještaju sadržajem koji nude. U svakom slučaju teško da ćemo prema karti biti ravnodušni i da se nećemo barem malo udubiti u nju. Kao što natpisi i dokumenti pričaju o vremenu u kojem su nastali tako i karte na svoj način govore o prikazanom prostoru. Što je karta starija to je zanimljivija jer često otkriva zaboravljene toponime, nestala naselja, nekadašnja utvrđenja, crkve itd.

Katastarske karte nisu u prvi mah osobito privlačne jer njihov cilj nije da budu ukras niti učilo već su one službeni dokument s jasno određenim ciljem utvrđivanja stanja vlasništva

nepokretnih dobara. Njih prate popisi vlasnika – katastici, tako da je lako vidjeti tko što posjeduje. Karte i katastici iz XVII. i XVIII. st. nisu takvi jer su često zaodjenuti bogatim baroknim ukrasima, vedutama, grbovima i slično. Nasuprot njima katastarske karte iz XIX. st. doimlju se suhoparno i nezanimljivo, ali nije tako. One su pravi rudnik toponima, izvor podataka o urbanističkom razvoju nekog mjesta, govore o prostornim odnosima, komunikacijama, gospodarstvu i drugom. Da one mogu biti i ugodne oku pokazala je pak izložba Blago Hrvatske iz Arhiva mapa za Istru i Dalmaciju koja je 1992. bila priređena u Splitu, a iduće godine u Zagrebu, Rovinju i Puli.

Zahvaljujući činjenici da je baštinik stare Salone, današnji je Solin prisutan u kartografiji još od antičkih vremena. Ovdje ćemo spomenuti samo znamenitu Tabulu Peutingerianu, srednjovjekovni preris karte Rimskog Carstva iz IV. st., a od novovjekih kartu Splita i okolice Martina Kolunića. Rote nastalu oko 1570. godine. Od



Kolunićeva vremena Salone i Solin će se ispreplitati, osobito na kartama koje imaju vedutistički karakter jer će na njima biti ucrtani ostaci antičkoga grada. Solin ima sreću da je od XVII. st. njegov razvoj relativno dobro