Goran Buble, Master of Science

with major in the Built Environment specialised in Land Management

Goran Buble graduated on Master of Science in Land Management studies at the Royal Institute of Technology (Kungliga Tekniska Hogskolan – KTH) in Stockholm, Sweden. His Master thesis titled *Unauthorized building activities in Croatia and their registration in Cadastre and Land Registry* was presented on January 23rd 2005. The Master thesis had been supervised by univ. lect. Leif Eidentstedt.

The Agency for Science and High Education of the Republic of Croatia decided that the acquired diploma is equal in rights to the Republic of Croatia diploma of graduate university study, upon the completion of which one obtains the title master (mag.) of geodesy.

Goran Buble was born on May 29th 1979 in Split, Croatia. He finished elementary school and Gymnasium for Natural and Mathematical sciences in Split. In 1997, he enrolled undergraduate studies at the Faculty of Geodesy, University of Zagreb. During the studies, he worked as student tutor in following subjects: Theory of Errors and Adjustment Calculus, Higher Geodesy, Physical Geodesy, Mathematics, Satellite Geodesy, Practical Geodesy, and Geodesy (course at the Faculty of Civil Engineering). Also, during the studies, he worked part-time on professional projects in geodesy. In March 2003, he graduates with grade "excellent (5)" with a diploma thesis titled *GPS network of city Rab and DMR of the island Rab.* Goran Buble was awarded with the Dean's award for a student project titled *Analysis of the DMR of the island Rab with the GPS measurements*. In 1997, he was awarded with scholarship for talented students.

Since January 2004, he is employed at the Faculty of Geodesy in Zagreb as a research assistant on the research project *Geomatica Croatica*. He is responsible for student exercises under the subject Physical Geodesy at Faculty of Geodesy. In February 2005, he participated in the *International Geoid School for use and determination of geoid* in Budapest, Hungary. He participated in several GPS campaigns, in measurements of gravimetric network of Zagreb, project on datum transformations, development of DEM produced from Shuttle Radar Topography Mission (SRTM) data.

Master thesis *Unauthorized building activities in Croatia and their registration in Cadastre and Land Registry* consists of 59 pages, an index of figures and tables, references and an appendix. The thesis was written in English and consists of following chapters:

1. Introduction
2. General facts about Croatia
3. Physical planning system in Croatia
4. Physical planning system in Sweden
5. Unauthorized building activities in Croatia, past and present
6. Cadastre and Land Registry
7. Conclusion
8. References
9. Appendix: Explanation of used terms

The objective of this thesis was to investigate the connection between unauthorized building activities on one side and physical planning, cadastre and land registry on the other side. The aim was to investigate sources of unauthorized building activities and possible solutions to this acute problem in Croatia. Unfortunately, Croatia has a long history of unauthorized building activities. Unauthorized building activities are an economical, environmental and social problem, and have been on the rise in the recent decades, and it has become mandatory to look at that problem from several perspectives.

The second chapter summarizes important facts about Croatia in the context of unauthorized building activities. It explains the problems inherited from communistic ages, problems in transition to market economy, poverty, high land values, devastation of seaside and complicated building permit approval procedures.

The third chapter describes the complicated physical planning system in Croatia and the system of implementation of planning regulations. Formal procedures for drafting of physical plans have been described. The procedure of building permit approval has been described in detail. Influence of corruption on unauthorized building activities has been discussed on the basis of recent research (Global Corruption Research 2003).

Goran Buble, magistar geodezije

Goran Buble završio je 23. siječnja 2005. studij *Master of Science with major in the Built Environment specialised in Land Management* na Kungliga Tekniska Hogskolan u Stockholmu u Švedskoj, obranom rada pod naslovom *Unauthorized building activities in Croatia and their registration in Cadastre and Land Registry* (Bespravna gradnja u Hrvatskoj i njezin upis u katastar i zemljišnu knjigu). Rad je izrađen pod mentorstvom univ. lect. Leif Eidentstedt, a u povjerenstvu za ocjenu i obranu rada bio je još i prof. dr. Hans Mattsson. Studij je financirala Swedish Independent Development Agency – SIDA.

Agencija za znanost i visoko obrazovanje RH donijela je rješenje kojim je dobivena diploma izjednačena u Republici Hrvatskoj u pravima s diplomom diplomskog sveučilišnog studija čijim se završetkom stječe naziv magistar (mag.) geodezije.

Goran Buble rođen je 29. svibnja 1979. u Splitu. Osnovnu školu i Prirodoslovno-matematičku gimnaziju završio je u Splitu. Godine 1997. upisao se na dodiplomski studij na Geodetskom fakultetu Sveučilišta u Zagrebu. Tijekom studija bio je demonstrator za predmete Teorija pogrešaka i račun izjednačenja, Viša geodezija, Fizikalna geodezija, Matematika, Satelitska geodezija, Praktična geodezija i Geodezija (kolegij na Građevinskom fakultetu). Tijekom studija zaposlio se u geodetskoj tvrtki *Geodetika–Zagreb* kao suradnik na stručnim geodetskim projektima. U ožujku 2003. diplomirao je s ocjenom izvrstan (5). Diplomski rad *GPS mreža grada Raba i DMR otoka Raba* je izrađen pod mentorstvom prof. dr. sc. Tomislava Bašića. Za studentski rad *Analiza DMR-a otoka Raba pomoću GPS* mjerenja dobio je Dekanovu nagradu. Primao je stipendiju Ministarstva znanosti, obrazovanja i športa kao nadareni student.

Početkom 2004. zaposlio se na Geodetskom fakultetu kao asistent-znanstveni novak u Zavodu za geomatiku, na projektu *Geomatica Croatica*, gdje je glavni istraživač prof. dr. sc. T. Bašić. U nastavi drži vježbe iz kolegija Fizikalna geodezija. Sudjelovao je na *International Geoid School for Use and Determination of Geoid* u Budimpešti u veljači 2005. Sudionik je nekoliko GPS-izmjera, izmjere gravimetrijske mreže grada Zagreba, suradnik na stručnim projektima međudatumskih transformacija i izrade DMR-a na temelju podataka satelitske misije Shuttle Radar Topography Mission (SRTM).

Rad *Unauthorized Building Activities in Croatia and Their Registration in Cadastre and Land Registry* sadrži 59 stranice formata A4, popis slika i tablica, popis literature i objašnjenje pojmova. Rad je u potpunosti napisan na engleskom jeziku i podijeljen u devet poglavlja:

1. Uvod
2. Opće karakteristike Hrvatske
3. Sustav prostornog planiranja u Hrvatskoj
4. Sustav prostornog planiranja u Švedskoj
5. Problem bespravne gradnje u Hrvatskoj, prošlost i sadašnjost
6. Katastar i zemljišna knjiga
7. Zaključak
8. Popis literature
9. Dodatak: Objašnjenje korištenih pojmova

Uvod naglašava cilj rada – ispitivanje povezanosti bespravne gradnje sa sustavom prostornog planiranja u Hrvatskoj, stanjem katastra i zemljišnih knjiga. Nažalost, Hrvatska ima dugu povijest borbe s bespravnom gradnjom – ekonomskim, društvenim i socijalim problemom koji je doživio nagli razvoj u proteklom desetljeću i za čije je rješavanje potrebno sagledati problem s više stanovišta. Jedan od glavnih razloga naglog širenja problema bespravne gradnje je što glavni uzroci još uvijek nisu u potpunosti otkriveni.

Drugo poglavlje iznosi osnovne činjenice o Republici Hrvatskoj bitne u kontekstu problema bespravne gradnje. Spomenuti su svi problemi koji su naslijeđeni raspadom Jugoslavije, nedaće tranzicijskog doba, siromaštvo, atraktivnost zemljišta, apartmanizacija obale i složenost

The fourth chapter describes the simple and efficient physical planning system found in Sweden, which should serve as a model. Control procedures have been described, as well as procedures for building permit approval.

The current situation in unauthorized building activities in Croatia has been described in the fifth chapter. All efforts aimed at fighting the complex problem of unauthorized building have not produced the satisfactory outcome. It is one of the fields in which state planning and control have totally failed. Building work in all highly developed western countries necessarily requires a building permit and it is unthinkable that someone would start to build something without one. Nowadays, unauthorized building work in Croatia is more of a rule than an exception and authorities concerned with the problem do not seem to be able to cope with that. One of the main reasons for the present conditions is that real causes of the problem have not been detected. Only secondary causes, such as the lack of detailed plans and lack of inspection services have been pointed out. To understand the causes of the unauthorized building activities, we could ask ourselves the following question: "*What are the causes of the paradox that can occur in the surroundings of the old cities like Dubrovnik, Split or Trogir, examples of order in urbanism, unauthorized building activities ?*" Unauthorized building activity in Croatia passed from the dominantly social category in the sixties and seventies of the last century to the aggression of the capital today. Informal housing patterns show that the actors included in the process are drafted from all classes of society. Informal housing patterns in Croatia reveal that the rich, as well as the poor, take an active part in the informal sector. Most of the informal settlements in Croatia do not have the features of the slums of the Third World countries such as lack of infrastructure, pollution, disease threats, etc. Unauthorized building work is limited to building without license or contrary to the regulations, not to squatting. Most of the informal housing in Croatia is built on the land to which the builder has regulated ownership rights. These houses often do not have any respect to the environment, history and morality.

The sixth chapter describes the necessity of existence of the Cadastre and land registry, states out their importance in solving the problem of unauthorized building activities and gives a short summary of the cadastres in European Union a well as the visions for future development.

The seventh chapter contains the conclusion, while the eighth contains a list of used references. The last chapter contains the explanation of terms used in the thesis.

Prepared by Tomislav Ciceli

Martina Gucek, MSc in Technical Sciences

Martina Gucek defended her master thesis titled *Determination of normal orthometric heights GPS points of homogeneous fields by means of transformation method* at the Faculty of Geodesy, University of Zagreb on the 15th April 2006. Her mentor was Prof. Dr. Ladislav Feil and other members of the Commission for evaluation and defending of master's thesis included Prof. Dr. Nevio Rožić as president of Commission and Prof. Dr. Tomislav Bašić.

Martina Gucek was born in Zagreb on 8th of November 1976. She attended and finished the primary school in Zagreb. She graduated from the Mathematical Gymnasium *Lucijan Vranjanin* in Zagreb. In the same year, she enrolled the graduate studies of the Faculty of Geodesy, University of Zagreb. She graduated from the Faculty of Geodesy in January 2001 under the tutorship of Prof. Dr. N. Rožić with the thesis titled *First order of optimisation of microtringulation geodetic network*. After finishing the studies, she was appointed as a teaching assistant at the Faculty of Geodesy on the project *Height Systems of Republic of Croatia*. Besides working on the project, she carried out exercises in the courses: *Theory of Errors with Adjustment Calculus I, Theory of Errors with Adjustment Calculus II, Special Algorithms of Adjustment Calculus, Geoinformatics III and Optimisation of Geodetic Networks*. In the same year, she enrolled the postgraduate studies in the field of *Satellite and Physical geodesy*. Since the project *Height Systems of Republic of Croatia* was finished in 2002, she was involved in another scientific project *Compatibility of Height in Republic of Croatia*.

She was also involved in the professional project: Work on essential documentation for the acceptation official Height Datum of Republic of Croatia, publication of bench marks in VIIIth levelling polygon of IInd NVT RH, publication of bench marks in VIIth, IXth, XIth and XIIth levelling polygon of IInd NVT RH. In September 2003, she participated in the conference Programming System *Mathematica* in Science, Technology and Education where she presented a paper titled *Gross Errors Detection in Geodetic Networks* as a co-author. During the year 2004, she was enrolled in a practice program on Istanbul Technical University, Faculty of Civil Engineering, Department of Geodesy and Photogrammetry Engineering where she worked on the projects: *The Comparison of Turkish and Croatian National Networks*, and *Fuzzy Logic Network.*

građevnog kontrolnog mehanizma – ishođenja građevne i lokacijske dozvole.

Treće poglavlje opisuje nepotrebnu složenost sustava za prostorno planiranje u Hrvatskoj. Opisana je zakonska procedura i zakonski okviri za donošenje prostornih planova u Hrvatskoj. Opisan je postupak ishođenja lokacijske i građevinske dozvole. Na temelju provedenih istraživanja (Global Corruption Research 2003) postavljene su teze o utjecaju korupcije na problem bespravne gradnje u Hrvatskoj.

U četvrtom poglavlju opisan je jednostavan sustav prostornog planiranja u Švedskoj koji bi trebao služiti kao uzor po funkcionalnosti i jednostavnosti. Opisani su postupci kontrole stanja u prostoru i postupci ishođenja svih potrebnih dozvola.

U petom poglavlju opisane su trenutne prilike na području bespravne gradnje u Hrvatskoj. Svi napori usmjereni rješavnju toga složenog problema nisu dali zadovoljavajući rezultat. Građevinski radovi u zapadnim civilizacijama nužno podrazumijevaju zadovoljavanje svih zakonskih normi, dok je u Hrvatskoj bespravna gradnja često pravilo, a ne iznimka. Glavni uzroci tog problema još uvijek nisu ustanovljeni, istaknuti su samo sekundarni čimbenici kao što su nedostatak inspekcijskih službi i prostornih planova. U svrhu razumijevanja problema postavlja se pitanje „koji su uzroci da se u okruženju drevnih gradova poput Dubrovnika, Splita i Trogira, primjera urbanističkog sklada, dešava bespravna gradnja?“. Istraživanjem je utvrđen razvoj problema bespravne gradnje iz dominantno socijalne kategorije u šezdesetim godinama prošlog stoljeća do agresije kapitala danas. Akteri u procesu bespravne gradnje dolaze iz svih slojeva društva. Međutim, bespravna gradnja u Hrvatskoj nema obilježja slične gradnje u zemljama Trećeg Svijeta – nedostatak infrastrukture, zagađenje, prijetnja od izvora zaraze i slično. Problem je ograničen uglavnom na gradnju na zemlji na kojoj vlasnik ima regulirano pravo vlasništva, ali ne i potrebne dozvole za gradnju. Takva gradnja nema nikakvog poštovanja prema okolišu, kulturnom nasljeđu i tradiciji.

Šesto poglavlje objašnjava nužnost postojanja katastra i zemljišnih knjiga. Opisane su trenutne prilike na području zemljišne administracije kao i trenutno aktivni projekti za sređivanje katastra i zemljišnih knjiga u Hrvatskoj. Opisan je i način funkcioniranja zemljišne administracije u zemljama Europske unije kao i vizije za budući razvoj katastra i zemljišnih knjiga.

U sedmom poglavlju iznesen je zaključak, pregled spoznaja i provedenih istraživanja. Rad završava pregledom literature i objašnjenjem korištenih pojmova.

Pripremio Tomislav Ciceli

Martina Gucek, magistrica tehničkih znanosti

Martina Gucek obranila je 15. travnja 2005. na Geodetskom fakultetu Sveučilišta u Zagrebu magistarski rad pod naslovom *Definiranje normalnih ortometrijskih visina GPS točaka homogenog polja metodom transformacije visina*. Mentor rada je bio prof. dr. sc. Ladislav Feil, predsjednik Povjerenstva bio je prof. dr. sc. Nevio Rožić i član povjerenstva prof. dr. sc. Tomislav Bašić.

Martina Gucek rođena je 8. studenoga 1976. u Zagrebu. Osnovnu školu završila je u Zagrebu. Maturirala je 1995. na prirodoslovno-matematičkoj gimnaziji *Lucijan Vranjanin*, također u Zagrebu. Iste godine upisuje se na Geodetski fakultet Sveučilišta u Zagrebu. Diplomirala je u siječnju 2001. pod mentorstvom prof. dr. sc. N. Rožića na temi *Optimiranje I-reda mikrotriangulacijske test mreže*. Nakon završenog studija zapošljava se na Geodetskom fakultetu u svojstvu znanstvene novakinje na projektu *Visinski sustavi Republike Hrvatske*. Uz rad na projektu obavlja vježbe iz kolegija: *Teorija pogrešaka i račun izjednačenja I*, *Teorija pogrešaka i račun izjednačenja II*, *Posebni algoritmi računa izjednačenja*, *Geoinformatika III i Optimiranje geodetskih mreža.* Godine 2001. upisuje poslijediplomski znanstveni studij na smjeru *Satelitska i fizikalna geodezija*. Od 2002., završetkom znanstvenog projekta *Visinski sustavi Republike Hrvatske*, zaposlena je na znanstvenom projektu *Kompatibilnost visina u Republici Hrvatskoj.*

Osim na znanstvenim projektima sudjeluje na stručnim projektima Geodetskog fakulteta: Izrada dokumentacije neophodne za usvajanje službenog visinskog datuma Republike Hrvatske, publiciranje nivelmanskih repera u VIII. nivelmanskom poligonu II. NVT RH, publiciranje nivelmanskih repera u VII., IX., XI. i XII nivelmanskom poligonu II. NVT RH. U rujnu 2003. sudjeluje na znanstveno-stručnom skupu Programski sustav *Mathematica* u znanosti, tehnologiji i obrazovanju, gdje u koautorstvu predstavlja rad pod nazivom: *Otkrivanje grubo pogrešnih mjerenja u geodetskim mrežama.* Tijekom 2004. stručno se usavršava na Istanbul Technical University, Faculty of Civil Engineering, Department of Geodesy and Photogrammetry Engineering, gdje radi na temama: *The*