

TEORIJA IN PRAKSA UREJANJA PROSTORA

IGRA USTVA RJALNOSTI CREATIVITY GAME

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THEORY AND PRACTICE OF SPATIAL PLANNING

IGRA USTVARJALNOSTI

TEORIJA IN PRAKSA UREJANJA PROSTORA

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CREATIVITY GAME

THEORY AND PRACTICE OF SPATIAL PLANNING

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I.

UVODNIK

EDITORIAL

Alenka Fikfak, Alma Zavodnik Lamovšek

DRUGA ŠTEVILKA

2ND ISSUE

UVODNIK
EDITORIAL

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Pred nami je druga številka revije Igra ustvarjalnosti – revije, ki želi v sebi združevati duh kreativnosti, projektnega pristopa in sproščenosti, hkrati pa ta način dela uveljaviti tudi kot del znanstvenoraziskovalnega procesa. Verjamemo, da je raziskovanje tudi delo, ki ni merljivo samo s številkami in parametri, temveč tudi zanj veljajo načela in načini dela, ko se je treba spoprijeti s “prazno glavo” in vprašanjem, kje in kako začeti. V ta način raziskovalnega dela vsekakor spada področje izkustvenega raziskovanja (izkustveno raziskovanje in ustvarjalno reševanje problemov, ustvarjalno in kritično razmišljanje) pri spopadanju s problemom ali ustvarjalnem projektu. Ta način dela sovпада s programom UNESCO Teaching and Learning Strategies (slov. strategije poučevanja in učenja). Program predlaga osem pomembnih strategij: izkustveno učenje, pripovedovanje zgodb, izobraževanje o vrednotah, učenje s poizvedovanjem, ustrezna presoja, reševanje problemov v prihodnosti, učenje zunaj učilnice in reševanje problemov v skupnosti. Prav zato smo to številko posvetili raziskovanju na doktorskih programih, kjer novi študenti vsako leto pokažejo nov zagon in željo po raziskovanju novega in neznanega. Druga številka revije IU_CG je torej namenjena doktorskim študentom in njihovim prvim izkušnjam na znanstvenoraziskovalnem področju. Predstavljene vizije in ideje si sledijo najprej v preglednih znanstvenih člankih in nato v različnih predstavitvah. Vsebine odražajo raznolikost vključenih šol in študijskih programov, kot so: UL Fakulteta za arhitekturo, UI Fakulteta za gradbeništvo in geodezijo, UL Biotehnična fakulteta in dunajska tehniška univerza TU Wien. Nabor doktorskih šol v Evropi je na tem področju bistveno širši, kot

The second issue of Igra ustvarjalnosti_Creativity Game is here. This is a journal that wants to embody the spirit of creativity, project-based learning, and relaxation, as well as implement this working method as part of scientific research. We believe that research is work, too – one that is measurable not only in numbers and parameters, but rather it is also based on principles and working methods where one needs to overcome the “empty mind” and the question where and how to begin. This type of research includes experiential research and creative problem solving, creative and critical thinking, by working on a problem or a creative project. This working method coincides with UNESCO’s Teaching and Learning Strategies programme. The UNESCO programme proposes eight important strategies: experiential learning, storytelling, values education, enquiry learning, appropriate assessment, future problem solving, learning outside the classroom and community problem solving. As a result, this issue is dedicated to research in PhD programmes, where each year’s new students bring new impetus and desire to explore the new and the unknown. The second issue of IU_CG is thus intended for PhD students and their first experience in scientific research. Their visions and ideas are first presented in review articles, followed by various presentations. The topics reveal the diversity of the schools and study programmes included, such as: UL Faculty of Architecture, UL Faculty of Civil and Geodetic Engineering, UL Biotechnical Faculty, and the Vienna University of Technology. The range of PhD schools in Europe in the field is much greater than presented in this issue; however, this is only our second issue that will be followed by a third one where the basic vision of the journal will be further pursued with even greater international

je predstavljeno v tej številki, vendar je to druga številka, ki ji bo sledila naslednja, kjer bomo s še večjo mednarodno zasedbo sledili osnovni viziji revije, ki sloni na prepletu kreativnosti, reševanja problemov in raziskovanja. Zato je v uvodnih besedah poudarjen pomen študija, na doktorski, dodiplomski in magistrski ravni. Celotni razpon študija gradi osebnosti, ki se spopadajo s problemi v grajenem okolju in ustvarjajo nove vizije prihodnosti.

Irena Ostojič in **Tadej Glažar** v prispevku opozarjata na trajnostni prostorski razvoj, ki je že splošno sprejeto vrednostno načelo urejanja prostora, vendar pa ni celovito vključeno v izvedbene predpise za upravljanje urbanega prostora. V prispevku razčlenjujeta pomene na lokalni ravni preko namenske rabe tal. Predstavljata nabor kriterijev, s katerimi lahko ovrednotimo stopnjo trajnosti zasnove namenske rabe v urbanih območjih.

Nuša Voda predstavlja način evidentiranja in raziskovanja obstoječih vzorcev pozidave v izbranih podeželskih naseljih in ugotavlja povezanost med stanovanjskim objektom in funkcionalnim zemljiščem. Predstavljene so primeri obstoječih vzorcev pozidave v izbranih naseljih (Pomurska regija) in opisani odnosi med posameznim zemljiščem in stanovanjskim objektom ter sosednjimi zemljišči in stanovanjskimi objekti.

Mia Crnič predstavlja prostor Slovenije kot mrežo središčnih krajev različne hierarhične stopnje. S tematiko vplivnosti središč, njihovih povezovanj, značilnosti in podobno so se ukvarjali že mnogi raziskovalci, vendar Crničeva v svojem prispevku razglablja o možnosti meril razvrščanja, ki bi jih, glede na grajene in programske značilnosti javnih odprtih površin, lahko povezali v večje zaokrožene celote s podobnimi značilnostmi.

Anja Jutraž in **Tadeja Zupančič** v prispevku prikazujeta pomembnost interdisciplinarnega sodelovanja pri arhitekturnih projektih, vlogo arhitektov v tem procesu ter različne načine sprejemanja odločitev v interdisciplinarnem sodelovanju. Raziskava temelji na programu AEC Global Teamwork Course, ki poteka na Univerzi Stanford.

Znanstvenim prispevkom sledijo še predstavitve natečajev, delavnic, posvetov ter diplomskih in magistrskih del, kar je v tej številki nova vsebina. V ta del so vključene naloge različnih študijskih programov, ki so bile izbrane kot presežek v študijskem letu 2013/14. Menimo, da bo ravno ta del v reviji predstavljal tisto vizijo, v katero smo vpeti tako študentje diplomanti, magistri, doktorandi kot mentorji v akademskem in pedagoškem delu.

Povabljeni k branju in novim prispevkom k naslednji, tretji številki revije IU_CG, ki pa bo tematska. Tematika revije bo še vedno usmerjena v preplet raziskovalno izkustvenega dela. Vsebinska bo na spletni strani objavljena v začetku leta 2015.

participation, based on an interplay of creativity, problem solving, and research. This is why the introduction emphasises the significance of studies at the doctoral as well as Bachelor's, and Master's levels. Throughout the course of studies, people's personalities evolve by dealing with the problems in the built environment to create new visions of the future.

Irena Ostojič and **Tadej Glažar** drew attention to sustainable spatial planning, a generally accepted spatial planning principle which is, however, not fully included in the implementing rules of urban spatial management. In their paper they analyse the concepts at the local level on the example of intended land use. They present a set of criteria to assess the level of sustainability regarding the concepts of intended land use in urban areas.

Nuša Voda presents a method of recording and studying the existing settlement patterns in selected rural settlements, and identifies the connection between residential buildings and appertaining land. The existing development patterns in selected settlements (in the Pomurska region), and the relationships between land plots and residential buildings, and the adjacent land and residential buildings are discussed.

Mia Crnič presents the territory of Slovenia as a network of central places of various hierarchical levels. The topic exploring the impact of central settlements, their connections, characteristics, etc., has already been addressed by many researchers; however, Crnič discusses the possibility of classification criteria that would allow for grouping of central settlements into larger units with similar features according to the built and programme characteristics of public open spaces.

Anja Jutraž and **Tadeja Zupančič** show the importance of interdisciplinary research in architectural projects, the role of architects in the process, and the different methods of decision-making in interdisciplinary collaboration. The study is based on the AEC Global Teamwork Course established at Stanford University.

The scientific articles are followed by presentations of competitions, workshops, conferences, and Bachelor's and Master's theses – which is a new section in this issue. This part of the journal includes a selection of outstanding works from various study programmes in academic year 2013/2014. We feel that this section will present the vision that the students at Bachelor's, Master's and doctoral levels, and mentors are part of in our academic and teaching work.

Happy reading! The contributions for the next, third and thematic, issue of IU_CG issue are welcome. The combination of research and experiential work will remain the main theme of the journal. It will be published on the webpage in beginning of 2015.

Miha Dešman

PREDSTAVITEV PETIH DIPLOMSKIH DEL ŠTUDENTOV IN ŠTUDENTK ARHITEKTURE, KI SO DIPLOMIRALI V PRVI POLOVICI LETA 2014

PRESENTATION: FIVE THESES BY THE ARCHITECTURE STUDENTS WHO GRADUATED IN THE FIRST HALF OF 2014

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Ko bodoči/-a študent/-ka arhitekture prvič stopi skozi visoka vrata pod stebri Plečnikovega portika, ki je hkrati nadstrešek in tempelj, lahko fizično začuti – če je občutljiv/-a za arhitekturno sporočilnost klasike –, kako je zapustil/-a dotedanje življenje za sabo in vstopil/-a v »čarobni svet Arhitekture«. Pred njim/njo je pet ali osem let študija, ki ga/jo bo privedlo (ali pa ne) do diplome, krone študija na fakulteti.

Študij poteka v predavalnicah in risalnicah seminarjev, kjer vlada ustvarjalni vrvež, in pred študentom/-ko se postopoma razkriva dialektična narava arhitekture: med sodobnostjo in preteklostjo, med večnostjo in efemernim, med umetnostjo in tehniko in tako naprej. Velika predavalnica, knjižnica, bife v kleti, podstreha, pa tudi dvorišče, ulica in mesto so prostori, v katerih študent/-ka dela, misli, se druži in postopoma osvaja sposobnosti in znanje, da si bo znal/-a predstavljati še neobstoječe stavbe, jih zasnovati, sprojektirati in miselno obvladati celoten proces gradnje.

Finale študija, diploma, pa se odigra v sobi z velikim oknom in podo-bo mojstra na steni – Plečnikovi sobi, kjer so v omari s steklenimi vrati zaklenjene Plečnikove knjige. Klasika in sodobnost, trajnost (lat. perennis) in trajnostnost (angl. sustainability) se prepletajo v častitljivem in hkrati dinamičnem miljeju. Nato pa diplomant/-ka sestopi v realnost profesije, ki je obetavna in grozeča, vabljliva in negotova.

Vloga arhitekture v družbi se spreminja. Vse težje je precizno določiti obseg znanj in kompetenc, ki bi jih bodoči/-a arhitekt/-ka moral/-a pridobiti

When the future students of architecture walk for the first time through the high doors under Plečnik's portico supported by columns, i.e. a canopy and a temple at the same time, they can physically sense – if they are at all sensitive to the architectural message of the Classics – as if they had left their previous lives behind and entered the 'magic World of Architecture'. They have between five and eight years of studies ahead of them, leading (or not) to a diploma, the crown of studies at the faculty.

The study is conducted in classrooms and Design Studio art rooms amid the creative hustle and bustle; gradually, the dialectic nature of architecture is revealed to the student: between the present and the past, between the eternal and the ephemeral, between art and technique etc. The great lecture hall, the library, the basement café, the loft, and also the courtyard, the street and the city are the spaces where the students work, think, socialise and gradually build the skills and knowledge enabling them to imagine the yet non-existing buildings, to conceptualise and design the buildings and to command the overall building process.

The grand finale of the studies, the diploma, happens in a room with a large window and with the picture of the maestro on the wall – in Plečnik's room where his books are locked behind the glass fronted cabinet. The classical and the contemporary, the perennial (perennis) and sustainability are intertwined in a venerable but also dynamic milieu. Then the graduate is confronted with the reality of the profession, which is both promising and threatening, alluring and uncertain.

med študijem. Velikokrat je arhitektovo/-kino delo reducirano na površna razumevanja s strani javnosti, drugih strok in celo samih arhitektov/-k, pa naj gre za simbolno in etično dimenzijo, tehnologijo, ekologijo, nostalgijo, vpetost v kontekst, zgodovino ali avantgardnost.

Na UL FA je živa in cenjena tradicija, da so profesorji/-ice ob tem, da so pedagogi/-nje in raziskovalci/-ke hkrati tudi arhitekti/-ke v praksi. Zanesljiva roka profesorjev/-ic s praktičnimi izkušnjami je še kako pomembna, da študent/-ka pridobi miselno strukturo, s pomočjo katere se lahko giblje po nepreglednih in širnih prostorih študija in vstopa v poklicno kariero, ne da bi pri tem izgubljal/-a profesionalni in etični kompas.

A kakovost šole se ne meri po delu profesorjev/-ic, pač pa po delu svojih diplomantov/-k. Diplome postavljajo letvico, ki velja za naslednje generacije. Pri tem je pomembna raven doseženega znanja, veščine in discipline, a samo to še ni dovolj. Verjamem, da vloga šole ni le, da podpira in razvija arhitekturna znanja in talente, pač pa tudi eksperimentalno in raziskovalno strast, iz katere izhajajo nove arhitekturne ideje, vizije in projekti.

Predstavljene diplome se odlikujejo prav po tem, da se diplomant/-ka ni zadovoljil/-a z doseženim, pač pa razvija nove koncepte in ideje ter postavlja nove meje. Izbranih je le pet letošnjih diplom, a v knjižnici in na spletnem portalu <http://fadiploma.info/> najdemo še mnogo takih, ki razveseljujejo avtorje, mentorje in študente ter odpirajo prostor za študij, primerjanje in tekmovanje.

The societal role of architecture is changing. It is increasingly difficult to define the range of knowledge and competence that the future architect should acquire during the studies. Often the architect's work is reduced to superficial understanding by the public, other disciplines and even architects themselves, whether it is in the symbolic or ethical sense, or with regard to technology, ecology, nostalgia, contextualisation, history or avant-garde.

At the UL FA, there is a strong and valued tradition that the professors fulfil the roles of teachers, researchers and practitioners at the same time. The reliable hand of the professors with practical experience is all the more important for the students to acquire a mindset, which helps them to move across the vast space of the studies, before entering the professional career, without losing their professional and ethical compass.

However, the quality of a school is not measured by the work of the teachers, but by the work of its graduates. The undergraduate theses set the bar for future generations. The level of knowledge, skills and discipline is important, but this by itself is not enough. I believe that the role of the school is not only to support and develop architectural knowledge and talents, but also the experimental and research passion that gives rise to new architectural ideas, visions and projects.

The presented theses was distinguished by the fact that the graduates refused to be satisfied by their achievement only, but rather they developed new concepts and ideas and created new boundaries. Only five undergraduate theses from 2014 were chosen for this presentation; however, in the library and the web-portal at <http://fadiploma.info/> there are many others that bring joy to the authors, mentors and students, and make room for further studies, comparison and competition.

Mojca Golobič

DOKTORSKI ŠTUDIJ S PODROČJA KRAJINSKE ARHITEKTURE

DOCTORAL STUDY PROGRAMME IN LANDSCAPE ARCHITECTURE

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Zakaj doktorski študij krajinske arhitekture? Ker je krajina zapleten sistem, ker pomeni kakovost bivanja, ker je osnova za samobitnost in kulturno dediščino ... morajo naše odločitve o njej temeljiti na teoretično trdnih konceptih in empiričnih podatkih.

Doktorski študij s področja krajinske arhitekture poteka v okviru študija Bioznanosti na Biotehniški Fakulteti. V okviru doktorskega študija izobražujemo strokovnjake za raziskovalno in akademsko delo na področju krajinske arhitekture ter na interdisciplinarnih področjih, ki se ukvarjajo z urejanjem prostora in varstvom okolja. Čeprav to v osnovi niso znanosti, pa odgovornost do javnosti in kompleksnost problemov zahtevata argumentirane in verodostojne odločitve, ki morajo biti osnovane tudi na rezultatih raziskovalnega dela. Temeljni področji raziskovanja sta *teorija stroke*, na primer teorija oblikovanja, oblike, struktur, vzorcev v krajini, teorija doživljanja krajine in *metodologija stroke*, raziskovanje in razvijanje novih postopkov/metod načrtovanja. Kot ena izmed planerskih dejavnosti krajinska arhitektura vstopa v izrazito interdisciplinarne raziskave z različnimi naravoslovnimi in družboslovnimi disciplinami, na primer geografijo, ekologijo, hidrologijo, prostorsko sociologijo, ekološko psihologijo itd., z njim lastnimi raziskovalnimi metodami. Zato je doktorski študij priložnost za razvijanje specifičnih znanj, ki združujejo posamezna

Why the doctoral study programme in Landscape Architecture? Acknowledging that landscape is a complex system, that the quality of landscape means the quality of life, and that it is the basis of independence and cultural heritage, we should make our decisions about landscape based on theoretically sound concepts and empirical data.

The doctoral study programme in Landscape Architecture is carried out in the framework of the doctoral studies in Biosciences at the Biotechnical Faculty of the University of Ljubljana. Within the doctoral study programme we aim to train and educate experts for research and academic work in landscape architecture and in interdisciplinary fields concerned with spatial planning and environmental protection. Although these fields are not necessarily sciences in their essence, the responsibility to the public and the complexity of problems ask for well argued and reliable decisions that must be based on research results. The basic research fields are *theory of landscape architecture*, e.g. theory of design, form, structure, landscape patterns, theory of landscape experience, and *methodology* of the profession, research and development of new planning procedures/methods. As part of planning activities, landscape architecture has entered distinctly interdisciplinary research, which involves different natural and social sciences, such as geography, ecology, hydrology, spatial sociology, ecological psychology etc., with their own research methods.

raziskovalna področja. Doktorski študij s področja krajinske arhitekture je usmerjen v prepoznavanje teh potreb ter razvoj uporabe znanstvenega instrumentarija za interdisciplinarno raziskovanje.

Sednji študijski program je sestavljen iz organiziranega pouka (predavanja, vaj, predstavitve teme doktorske disertacije idr.) v obsegu 60 kreditnih točk, preostalih 120 kreditnih točk pa je namenjenih individualnemu raziskovalnemu delu za doktorsko disertacijo. Predavanja sestavljajo temeljni (10 KT) in izbirni (5 KT) predmeti. Za področje krajinska arhitektura sta temeljna predmeta Teorija krajinskega oblikovanja in Teorija varovalnega planiranja, izbirni predmeti pa so: Teorija oblike, Krajinsko oblikovanje, Presoja vplivov na okolje, Metode v prostorskem planiranju, Tipologija kulturne krajine, Participativno prostorsko načrtovanje in Krajinska antropologija. Doktorand izbere predmete skupaj z mentorjem in koordinatorjem področja in glede na raziskovalno področje doktorske disertacije. Potreben je vsaj en temeljni predmet s področja, na katerega se doktorand vpiše. Izbor preostalih predmetov je možen izmed vseh ostalih temeljnih in izbirnih predmetov študija in iz drugih primerljivih programov domačih in tujih univerz.

V postopku je prenova doktorskega študija Bioznanosti, po kateri ne bo več obveznih predmetov in bo študent lahko svobodno izbral med predmeti na vseh 16 področjih, ki jih vključuje študij Bioznanosti. Med njimi so poleg krajinske arhitekture še npr. agronomija, ekonomika naravnih virov, hortikultura in varstvo naravne dediščine. Na prenovljenem študiju krajinske arhitekture bomo zmanjšali število predmetov ter ponudili predvsem vsebine, ki jih ne predavamo na II. stopnji in ki so na ustrezni ravni zahtevnosti za III. stopnjo. Predvidoma bomo izvajali en predmet s področja teorije oblikovanja krajine ter predmet Strateško planiranje in analiza politik. V pripravi je še en izbirni predmet s področja zahtevnih prostorskih (računalniških) analiz.

Ker doktorsko delo temelji na raziskovalnem delu, spodbujamo študente, da se na študij vpišejo z okvirno predstavo o raziskovalnem vprašanju, ki ga nameravajo obdelati v svoji disertaciji. Če je le mogoče, študente vključimo v delo na potekajočih projektih ali jim pomagamo pri pridobivanju projektov ter s tem pogojev za izvedbo raziskave, ki je potrebna v okviru disertacije. V zadnjih letih so bile na študiju KA izdelane disertacije z naslednjimi naslovi:

- Vloga posameznih čutil pri oblikovanju regionalne identitete Dalmacije,
- Zeleni sistem v razvoju odprtih površin izbranih mediteranskih obmorskih mest,
- Simulacija razvojnih procesov v prostoru z uporabo tehnik strojnega učenja,
- Kompleksnost oblikovane krajine,
- Scenarij razvoja kulturne krajine kot dejavnik spreminjanja stališč in ravnanja deležnikov,
- Krajina kot dejavnik usmerjanja urbanizacije pri načrtovanju stanovanjskih območij.

In the context of the doctoral studies lies the opportunity to develop the specific knowledge that combines the knowledge in other specific research fields. The doctoral study programme in Landscape Architecture is focused on the recognition of these needs and on developing the use of scientific instruments for interdisciplinary research.

Currently, the study programme consists of organised lessons (lectures, practicals, presentations of PhD topics etc.) totalling 60 credits (ECTS), while the remaining 120 credits are devoted to individual research work for the PhD thesis. The lectures comprise basic (10 ECTS) and elective (5 ECTS) courses. For the programme in Landscape Architecture, the basic courses are Theory of Landscape Design and Conservation Planning Theory. The elective courses are: Theory of Design, Landscape Design, Environmental Impact Assessment, Methods of Spatial Planning, Typology of the Cultural Landscape, Participative Spatial Planning, and Landscape Anthropology. A doctoral student selects the courses together with the supervisor and field coordinator, in relation to the research field of the PhD thesis. The choice of at least one basic course from the selected field of study is required. The choice of other courses is possible from among all other basic and elective courses and from other comparable programmes of domestic and foreign universities.

The doctoral study programme in Biosciences is currently being revised; there will be no more compulsory courses and the student will be free to choose among the courses in all 16 fields that are part of the Biosciences study programme. Along with Landscape Architecture, other fields include Agronomy, Economics of Natural Resources, Horticulture, and Protection of the Natural Heritage. In the revised programme in Landscape Architecture the number of courses will be reduced; it will mostly consist of the contents that are not delivered at level II, but rather have the complexity required for level III. A course in the field of theory in landscape design and the course Strategic Planning and Policy Analysis will be introduced. Another elective course in the field of complex spatial (computer) analyses is also being prepared.

Since the PhD work is mainly research-based, we encourage the students who enrol to already have a general idea about the research question that they intend to address in their thesis. If possible the students are included in ongoing projects or we help them in applications for projects, to secure the necessary conditions for their PhD research. In recent years, the following PhD theses were prepared as part of the programme in Landscape Architecture:

- The role of certain senses in creating the regional identity of Dalmatia,
- Green systems in the evolution of the open space of selected Mediterranean towns,
- Simulation of spatial development processes using machine learning techniques,
- Designed landscape complexity,
- Influence of landscape scenarios on stakeholder attitudes and actions,
- Landscape as a factor in directing urbanisation in housing planning.

Aleksander Saša Ostan

ARHITEKTURNA USTVARJALNOST IN

IZOBRAŽEVALNI PROCES V ČASU GLOBALNE KRIZE

ARCHITECTURAL CREATIVITY AND EDUCATIONAL
PROCESSES IN A TIME OF GLOBAL CRISIS

Uvod

UVODNIK

EDITORIAL

ČLANEK

ARTICLE

RAZPRAVA

DISCUSSION

RECENZIJA

REVIEW

PROJEKT

PROJECT

DELAVNICA

WORKSHOP

NATEČAJ

COMPETITION

PREDSTAVITEV

PRESENTATION

DIPLOMA

MASTER THESIS

Arhitektura je dejavnost, za katero sta potrebni tako igriva ustvarjalnost kot tudi vztrajna disciplina. Medtem ko pri umetnostih prevladuje prva in pri znanostih druga značilnost, je za snovanje kakovostne arhitekture nujni pogoj dopolnjujoče se, dinamično ravnovesje med njima. Zato je celovito preseganje različnih dualizmov in razločnih antagonizmov v ustvarjalnih procesih imanentno naši stroki. Za pedagoge to predstavlja poseben izziv, saj morajo študentom odpirati senzibilnosti in percepcije, ki vzpostavljajo ustvarjalne vezi med različnimi komplementarnostmi: med analitskim in sintetičnim mišljenjem, centralnim in lateralnim vidom, med levo in desno možgansko hemisfero, miselnimi in čustvenimi procesi, moškimi in ženskimi principi, med aktivnimi in kontemplativnimi plastmi ustvarjanja, doživljanja in delovanja. Prevedeno v arhitekturni kontekst: te dialoge lahko beremo tudi kot vezi med starim in novim, med tradicijo in eksperimentom, vrednotenjem in raziskovanjem, varovanjem in iznajdbo. Dajanje prednosti le enemu od obeh polov delovanja ne more vzpostaviti zdravih, uravnoteženih strokovnih in človeških temeljev oz. pogojev za zrel, ustvarjalen vzgojno-izobraževalni proces in tudi ne za kasnejše celovito, polno in uspešno udejstvovanje v praksi.

Preletimo za hitro še nekaj tem, ki nam pomagajo uvideti, v kakšen svet dandanes pošiljamo mlade diplomante.

Introduction

Architecture is an activity that requires both playful creativity and persistent discipline. The former is prevalent in arts, and the latter more prevalent in sciences; however, the complementary and dynamic balance between both characteristics is the condition necessary for the design of quality architecture. Therefore, the overall transcendence of the different dualisms and distinct antagonisms in creative processes is immanent in our discipline. This is a particular challenge for teachers whose role is to enhance students' sensibilities and perceptions, forging creative links between different complementarities: between analytical and synthetic thinking, central and peripheral vision, between the left and right cerebral hemispheres, mental and emotional processes, male and female principles, active and contemplative layers of creativity, experience and work. Translated into the architectural context, these dialogues can be seen as the links between the old and the new, tradition and experiment, valuation and research, protection and invention. To push forward only one of both poles of work is to prevent the establishment of healthy, balanced, professional and human bases, i.e. conditions for a mature and creative education process, as well as for future comprehensive, fulfilling and successful work in practice.

Let us touch on some other topics to learn about the kind of world we send our young graduates into.

1. Naš planet se nevarno nagiba iz ravnovesja

Edini resni skupni imenovalac vseh globalnih kriz, ki se neposredno dotika prostora, je globalna ekološka kriza, ki je zaskrbljujoča. Sega od Arktike do Antarktike (segrevanje planeta), od Katrine do Fukušime, od evropskih megapoplav do afriških hipersuš, od norih zažiganj gozdov v Amazoniji do »fucking frackinga« na Aljaski, od rušilnih sirijsko/iraško/afganistanskih vojn do rapidnih kitajskih megaurbanizacij ... Krizo je nedvomno povzročil sam človek s svojim nenasitnim pohlepom, s svojim imperativom o nujni, nenehni ekonomski rasti. Vsakdo, še posebej pa študent arhitekture, se mora zavedati dolgoročne kavzalnosti človekovih posegov v prostor.

2. Kako se spopasti z nenasitno hiperurbanizacijo planeta?

Akutni problem sodobnega sveta, ki se bolj neposredno dotika naše stroke, je prenapihnjena, rapidna, globalna (sub)urbanizacija, ki pljuska preko vseh celin. Ne le da briše razlike med različnimi naravnimi in kulturnimi konteksti, temveč uničuje tisto dobrino, v kateri se odvijajo vse človekove dejavnosti, torej prostor. Ob tem je zaskrbljujoče tudi to, da je kakovost teh novodobnih urbanih eksplozij, ki jih povzroča predvsem gon po dobičku, večinoma zelo nizka. Alternativa lahko predstavlja le sonaraven, vzdržen, trajnostni prostorski razvoj: paradigma zaježitve patološke, razpršene urbanizacije s kakovostno, notranjo rastjo in nadgradnjo mest. Takšni so procesi reurbanizacije, regeneracije in revitalizacije naselbinske dediščine sveta. Zato je v študijskem procesu treba odpirati široke poglede, vzgajati odprto komunikacijo, gojiti celosten pristop. Učiti, kako posegati v prostor na (bolj) usklajen način, da ne bomo pokurili vseh planetarnih »resursov«. Parcialna ali partikularna znanja so lahko le dopolnitev, ki napaja celoto, kot so posamezni predmeti lahko predvsem dobra podpora celovitemu in povezanemu seminarskemu oz. študijskemu delu.

3. Ali arhitektura in urbanizem sploh še lahko pomagata reševati probleme sveta?

Kaj nam sploh še pomenijo »luštna hiška«, »odštekan muzej« ali le še eno novo »generično naselje« na planetarni ladji, za katero se zdi, da se potaplja? Ali so vse sile in ves čas, ki jih usmerjamo v izolirane delčke celote, sploh še vredni vseh velikih naporov? Kje je pravo razmerje med »vedeti skoraj vse o skoraj nič ali vedeti skoraj nič o skoraj vsem«? Mar naj še naprej vodimo izobraževalne napore predvsem v smeri bega od resničnih problemov; v bolj ali manj izpraznjene formalizme, ki ne le, da ne zmorejo, temveč tudi nočejo sodelovati pri reševanju kompleksne problematike sveta? Verjamem, da je mogoče povezati oboje: se kot majhen »demiurg« ustvarjalno lotiti strokovne naloge ob kritični zavesti, da nad nami visi Damoklejev meč usihanja sveta! A za tak odnos študentje/-tke nujno potrebujejo povabilo v ozaveščen, kritičen, celosten, interdisciplinaren, participativen in timski pristop, ki odpira ustvarjalnost in hkrati podpira posameznikovo samozavest. Začeti je treba že zgodaj v izobraževalnem procesu, fakulteta pa lahko na zdravi splošni osnovi ponudi vrhunsko strokovno in intelektualno dopolnitev oz. nadgradnjo.

1 Our planet is dangerously out of balance

The global ecological crisis, a cause for concern, is the only true common denominator of all global crises that are directly concerned with space. It extends from the Arctic to the Antarctic (global warming), from Katrina to Fukushima, from European extreme floods to African mega-droughts, from crazy forest burning in the Amazon to 'fucking fracking' in Alaska, from devastating Syrian/Iraqi/Afghan wars to the rapid megacity growth in China etc. Without doubt, the crisis is a product of man's insatiable greed, the human imperative of the necessary, permanent economic growth. Anyone, particularly any student of architecture, must be aware of the long-term causality of human interference.

2 How to tackle the insatiable hyper-urbanisation of our planet?

The acute problem in the world today, which is more or less the concern of the profession, is the overblown, rapid global (sub)urbanisation, spanning over all continents. Not only that it erases the differences between different natural and man-made contexts, but it also destroys the resource where all human activities take place, i.e. space. The quality of these present-day urban explosions, generated and driven by profit, is mostly low. Only sustainable spatial development can provide an alternative: paradigm of restricting the pathological, disperse urbanisation with quality, organic growth and upgrading of cities. These processes include reurbanisation, regeneration and revitalisation of the settlement heritage worldwide. Therefore, it is necessary to broaden the views, to teach open communication, and to cultivate an integrated approach in the study process. To teach how to develop space in a (more) harmonious way, without using up all Earth's resources. Partial or particular knowledge can only be complementary knowledge feeding the whole, in the way that the individual courses can only be a good support to a comprehensive and integrated seminar or study work.

3 Can architecture and urbanism still help to solve the problems of the world?

What is the significance of a 'cute little house', a 'funky museum', or yet another 'generic settlement' on the planetary ship that seems to be sinking? Are all our efforts and the time dedicated to the isolated particles of the whole still worth all our considerable efforts? What is the correct relationship between 'knowing almost everything about almost nothing, and knowing almost nothing about almost everything'? Will we still orient our educational efforts towards escaping from real problems; leaning on more or less empty formalisms that not only cannot, but will not participate in solving the complex problems of the world? I believe that we can connect both: to creatively tackle the professional tasks as the small Demiurge, as it were, along with being critically aware that the Sword of Damocles of the perishing world is hanging above us! However, for such a relationship, the students need an invitation to an informed, critical, comprehensive, interdisciplinary, participatory team approach, which opens creativity and supports the individual's confidence. An early start in the educational process is necessary; the school can build on the healthy general basis and offer state-of-the-art professional and intellectual completion or upgrading.

4. Pojava urejanja prostora in kakovostne arhitekture sta v Sloveniji povsem neprepoznana

Pri nas se družba – od političnih odločevalcev do različnih javnosti – sploh ne zaveda velikega pomena arhitekture in urejanja prostora za kakovost bivanja, psihično in fizično zdravje državljanov, socialno kohezivnost ali alienacijo skupnosti, stimulacijo ali destimulacijo človekove ustvarjalnosti ... Težka, skoraj polstoletna dediščina kolektivne sistemske pozabe, samo-in črnograditeljstva, cepljena z brezbržno permisivnostjo in deregulacijo tranzicije, so pogojili topo, »atopično« mentaliteto, ki ni občutljiva za vprašanja lepega, javnega, ustvarjalnega prostora, v katerem živi. In vendar naj bi bili arhitekti, urbanisti, krajinski arhitekti in prostorski načrtovalci predvsem kreativni varuhi in snovalci prostora, njegova občutljiva vest in zavest hkrati. Arhitekt bi zato moral biti tudi pri nas reguliran poklic, ki deluje v imenu in v zaščito javnega dobra, kot je običajno povsod drugod po razviti Evropi (razen še v Bolgariji in Albaniji ... hm).

Resnični prostor je navsezadnje edina prava posoda za bivanje, ki jo na tem planetu premoremo (njegova virtualna različica je lahko le boljši ali slabši medij ali surogat): je univerzalna dobrina, s katero mora družba skrajno skrbno, racionalno, seveda pa tudi ustvarjalno ravnati! Zavedati bi se morali, kaj družbi prinesejo kakovostni urbanizem, prostorsko načrtovanje ali arhitektura, zakaj jih v razvitih državah cenijo kot dolgoročni »nacionalni interes« v razponu od ekonomije in energije do ekologije. Med varovanjem in (so)oblikovanjem prostora je namreč še cela paleta ustvarjalnih možnosti, s pomočjo katerih družba lahko poskrbi za boljše ali slabše pogoje za zdravo, odprto, ustvarjalno življenje!

5. Kako poučevati arhitekturo v teh burnih časih?

»There is hope in honest error. None in the icy perfections of the mere stylist.« (Charles Rennie Mackintosh, Glasgow, 1901)

Časi tranzicijske konjunktore, ki so podpirali prenapihnjene projekte, ki niso bili v skladu z realnimi zmožnostmi družbe, so mimo; zato je nujno stimulirati inovativnost v stroki, a ne toliko v smislu potratnih formalističnih eksperimentov, temveč celostnih, ekoloških, socialnih, energetskih in drugih raziskav. V arhitekturnih šolah je treba ponovno poučevati širše, celovito, integralno branje prostora in se nanj vedno znova navezovati; to je temeljna razsežnost kakovostne, vzdržne, kontekstualne, regionalne arhitekture. Jasno je, da se mesta ne smejo več v nedogled širiti v naravni prostor, temveč morajo primarno nadgrajevati svojo »notranjo rast«: zato bodo vse več dela v bližnji bodočnosti predstavljale prenove obstoječega fonda: reurbanizacije, revitalizacije, regeneracije in reciklaže ... Tudi pri nas bi bilo treba več pozornosti posvetiti tem temam.

Študente v končni fazi pripravljamo na samostojno delovanje v stroki: zato je njihovo razumevanje in občutljivost bolj smiselno odpirati v smeri ustvarjalnih branj, procesov, principov, kot pa k izdelavi popolnega končnega produkta (poučevanje arhitekture še vedno servilno sledi povpraševanju globaliziranega, generičnega trga, ki je osredotočen zgolj

4 The phenomena of spatial planning and quality architecture in Slovenia are completely unrecognized

The society – from political decision-makers to different publics – is not aware of the great significance of architecture and spatial planning for quality of living, psychological and physical health of citizens, social cohesion and alienation of the society, stimulation and de-stimulation of human creativity. The difficult, almost 50-year old heritage of collective systemic oblivion, of self-build and illegal building, split with indifferent permissiveness and deregulation of transition was the basis of the blunt, 'atopic' mentality insensitive to the questions of the beautiful, public and creative space that it occupies. And yet, architects, urban designers, landscape architects and spatial planners are supposed to be the creative guardians and spatial designers, the sensitive conscience and awareness at the same time. The profession of an architect in Slovenian should be regulated, operating in the name, and for protection, of the general good, as is the case elsewhere in the developed Europe (except for maybe in Bulgaria and Albania ...).

Ultimately, our real space is the only true vessel of living that we have on this planet (its virtual version can only be a better or worse medium or a surrogate): it is a universal good with which the society has to deal with carefully, rationally, and, of course, creatively! We should be aware of the contribution of quality town planning, spatial planning and architecture, and why in developed countries these disciplines are recognised as the long-term 'national interest', ranging from economy, energy to ecology. Between protection and (co)design of space there is, in fact, a range of creative possibilities, which can help the society to improve or worsen the conditions of a healthy, open, creative life!

5 How to teach architecture in these turbulent times?

»There is hope in honest error. None in the icy perfections of the mere stylist.« (Charles Rennie Mackintosh, Glasgow, 1901)

The transitional conjuncture that supported bloated projects, which were not within the actual abilities of the society, is over; we should stimulate innovation in the profession, not so much in the sense of wasteful formalistic experiments, but as comprehensive, ecological, social, energy studies etc. Schools of architecture should reintroduce the broader, comprehensive, integrated comprehension of space, and reconnect with it; this is the basic dimension of quality, sustainable, contextual, regional architecture. It has become clear that cities should not go on expanding ad infinitum into natural areas, but should primarily upgrade their 'organic growth': therefore, more and more future work will involve renovating the existing stock: reurbanisation, revitalisation, regeneration, recycling etc. In Slovenia more attention should be given to these topics.

Ultimately, the students are being prepared for independent work in the profession: it seems reasonable to open their understanding and sensitivity towards creative understanding, processes, and principles, rather than to produce the perfect end product (teaching architecture still servilely

na objekt ali večkrat še ožje, na oblikovanje fasadne opne objekta ...). Zrel končni izdelek se vzporedno s posameznikovo osebnostno rastjo po navadi izoblikuje šele s strokovnim dozorevanjem kasneje v praksi. Zato mlade ljudi in strokovnjake vzgajamo tudi v smislu osebnostne zrelosti in pokončnosti, ne le v akademsko-strokovnem smislu. V nepredvidljivih in ustvarjalno burnih kriznih časih je posameznikova avtonomnost ena najboljših popotnic za kreativno preživetje, saj se bodo službe vse manj ponujale ali prinašale »na pladnju«, poklic pa si bo v kombinaciji sledenja »notranjemu klicu« in odzivanja na družbeno situacijo mladi strokovnjak vedno bolj sooblikoval kar sam!

6. Nujnost odpiranja in povezovanja arhitekture

Če hočejo biti prostorske stroke, še posebej arhitektura, v družbi ponovno prepoznane kot relevantne ali celo nepogrešljive, moramo po eni strani poglobljati znanja in raziskovanja znotraj lastnega ustvarjalnega polja, po drugi pa se odpirati v sodelovanja z drugimi, predvsem sorodnimi strokami. Zato mora študij omogočiti in vzpodbujati širjenje in poglobljanje vedenja tako v sodelovanju s tehničnimi disciplinami in znanostjo (od raziskav v gradbeništvu do eksperimentov v vrhunski fiziki) kot tudi z umetnostnimi disciplinami in humanističnimi vedami. Med bližnjimi, a spregledanimi, so za nas še posebej pomembne arhitekturna teorija, arhitekturna in umetnostna zgodovina, etnologija in antropologija, filozofija in psihologija, sociologija in etika in druge. V sodobnem svetu se vse omenjene stroke, ki hočejo ustvariti presežke, povezujejo in dopolnjujejo, a vsaka ima svoje težišče in deluje primarno znotraj tega. Arhitektura pa že vsaj od Vitruvija naprej po svoji generalistični naravi povezuje in preči vsa omenjena polja. Seveda pa arhitektura v strokovnem in tudi človeškem smislu ne sme postati le servis politiki, spornemu kapitalu ali drugim partikularnim interesom, kar se pri nas vse preveč rado dogaja ...

Čas krize je torej optimalni čas, da se preverijo izhodišča in poslanstvo stroke, da se vzpostavi zavest o nujnosti poglobljenega znanja v arhitekturi in modrosti o njej sami. In čeprav primarno poslanstvo arhitekture ni v izdelovanju izoliranih, zgolj »lepih« objektov, temveč v celovitem, odgovornem in ustvarjalnem delovanju v polju arhitekturne kulture, se del njenega smisla zrcali prav skozi njih: podobno kot se vsaka dobra, iskrena misel zapiše nekam v duhovno prostorčasje človeštva, tudi vsako zrelo arhitekturno dejanje, ki na Zemljo prinese vsaj za drobec več lepega in resničnega – pa naj gre za še tako majhno hiško – predstavlja kamenček v ogromnem mozaiku, ki ga gradimo za boljši jutri tega planeta.

follows the demands of the globalised, generic market focused only on the structure, or even less than that, e.g. the design of its façade membrane). Along with the individual's personal growth, a mature end product can be normally achieved only with professional maturity that comes at a later stage of work. This is why young people and professionals are raised in the sense of personal maturity and uprightness, not only in the academic and professional sense. In unpredictable and creatively turbulent times of crisis, the individual's autonomy is one of the best companions to creative survival, since less and less jobs will be there waiting, while the profession, combined with responding to one's 'inner calling' and the social situation, will be shaped by the young experts themselves!

6 The necessity to open up and connect architecture

If the professions concerned with space, particularly architecture, want once again to be recognised as relevant and, indeed, indispensable, we should, on the one hand, deepen our knowledge and research within our own creative field, and, on the other hand, open ourselves to cooperation with other, particularly related, professions. Hence, the study must enable and promote expansion and deepening of knowledge in cooperation with technical disciplines and science (from research in the building industry to experiments in cutting edge physics), as well as with art disciplines and human sciences. The related and often overlooked disciplines are architectural theory, history of architecture and arts, ethnology and anthropology, philosophy and psychology, sociology and ethics etc. Today, all these professions, wanting to transcend their field, are connected and complementary to each other; however, each has its own centre and mostly functions within it, while architecture due to its generalist nature, at least since Vitruvius onwards, connects and moves across all these fields. Of course, architecture in both the professional and human sense must not end up only in the service of politics, controversial capital and other particularistic interests, which is all too often the case.

The time of the crisis is the optimal time to check the baselines and mission of the profession, to establish the awareness about the necessity of in-depth knowledge in architecture and, indeed, the wisdom about it. Even though the primary mission of architecture is not production of isolated, merely 'beautiful' objects, but comprehensive, responsible and creative work in the field of architectural culture, a part of its significance is reflected through them: similarly to the way that any good and honest thought is inscribed in the spiritual space-time of humanity, each mature architectural activity brings to Earth another fragment of beauty and truth – may it be the smallest of houses –, which is yet another piece in the mosaic created for a better tomorrow of the planet.

Thomas Dillinger DOKTORSKI ŠTUDIJSKI PROGRAMI S PODROČJA PROSTORSKEGA NAČRTOVANJA NA TEHNIČNI UNIVERZI NA DUNAJU

DOCTORAL STUDIES IN SPATIAL PLANNING AT THE TECHNISCHEN UNIVERSITÄT WIEN

Tehnična univerza na Dunaju (Technische Universität Wien) je prve doktorske nazive podelila leta 1902. Danes doktorski program večinoma traja šest semestrov. Trenutno veljavni program določa, da morajo doktorski kandidati zbrati 180 kreditnih točk po ECTS iz modulov (od tega je 162 točk po ECTS doktorska disertacija). Doktorski program se oceni ustno, kot splošni izpit pred komisijo, in vključuje tudi kandidatov zagovor disertacije. Doktorji iz tehničnih znanosti pridobijo naziv »Dr. techn.«, doktorji iz naravoslovja naziv »Dr. rer. nat.« in doktorji iz humanistike in ekonomije naziv »Dr. rer. soc. oec.«. Na Fakulteti za arhitekturo in prostorsko načrtovanje (Fakultät für Architektur und Raumplanung) se večinoma podeljuje naziv »Dr. techn.«.

Učni načrt s področja prostorskega načrtovanja je bil zasnovan in sprejet v 1970. letih (takrat petletni program za pridobitev akademskega naziva »Dipl.-Ing.«). Prvi naziv »Dr. techn.« na področju prostorskega planiranja je bil podeljen že leta 1972. Do danes je doktoriralo 80 kandidatov. Na doktorskem programu prostorskega načrtovanja je sicer vpisanih okoli 70 študentov. Doktorske teme z različnih področij prostorskega planiranja kandidati lahko izbirajo sami, dokončno pa se glede teme dogovorijo z mentorjem. Fakulteta za arhitekturo in prostorsko načrtovanje je v sodelovanju z drugimi fakultetami, univerzami in ustanovami v zadnjih letih razvila naslednje doktorske programe:

Mednarodni doktorski program: Spatial Research Lab (laboratorij prostorskega raziskovanja)

Doktorski kolegij (nem. Doktorandenkolleg) je Tehnična univerza na Dunaju razvila leta 2007, skupaj z univerzo HafenCity Universität v Hambur-

In the year 1902 the Technische Universität Wien awarded the first doctoral degrees. Nowadays the doctoral programme usually lasts for six semesters. In addition to the dissertation, the current standardised programme for doctoral students stipulates that a total of 180 ECTS of modules (162 ECTS of which are the dissertation) must be completed. The doctoral programme is assessed in the viva voce, a general examination by a committee involving defence of the dissertation by the candidate. Graduates of a doctorate in the technical sciences are awarded the title Dr. techn., graduates of a doctorate in the natural sciences are awarded the title of Dr. rer. nat. and graduates of a doctorate in the social and economic sciences are awarded the title of Dr. rer. soc. oec.. In the Faculty of Architecture and Planning the Dr. techn. is the dominant awarded title.

The curriculum of Spatial Planning (at that time a five years programme awarding the academic title Dipl.-Ing.) was founded in the seventies. Already in the year 1972 the first Dr. techn. in the field of Spatial Planning was awarded. Since now 80 doctoral students graduated. Actually about 70 students are registered in a doctoral programme in Spatial Planning. The topics include various fields of Spatial Planning and are in general free of choice by the candidate and finally negotiated with the advisor of the thesis. In the last years the Faculty of Architecture and Planning developed with other faculties, universities and institutions the following four specific doctoral programmes:

International Doctoral College: Spatial Research Lab

This college was established in 2007 together with HafenCity University of Hamburg, Karlsruhe Institute of Technology, Swiss Federal Institute of

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gu, tehnološkim institutom Karlsruher Institut für Technologie, švicarskim zveznim institutom za tehnologijo ETH Zürich, Univerzo v Stuttgartu in Tehnično univerzo v Münchnu. Mednarodni doktorski program je namenjen kandidatom, ki so visoko kvalificirani v širokem spektru disciplin, povezanih s prostorom, in želijo sodelovati v intenzivnem, akademsko ustvarjalnem diskurzu o pomembnih prostorskih vprašanjih v okviru doktorske disertacije (PhD), s ciljem izdelave izvedljivih in inovativnih rešitev.

Prvi program se je osredotočil na možnosti prostorskega razvoja v evropskih metropolitanskih območjih. Izbrani rezultati raziskav so objavljeni v publikaciji Forschungslabor Raum_Das Logbuch.

Okvirna tema drugega doktorskega kolegija v obdobju 2013–2016 je »Preobrazba mest in krajin«. Različne spremembe v življenjskih okoljih, usmerjene na notranji razvoj naselij, spremembe na področjih mobilnosti, krajine, demografije in energije, ter ne nazadnje podnebne spremembe zahtevajo razvoj celostnih in vidnih strategij ter konceptov za celostno, holistično preobrazbo. Pri raziskovanju in razmejitvi raziskovalnih tem doktorski študenti z različnih univerz in ustanov visokošolskega izobraževanja preučujejo pomembne prostorske probleme, povezane s preobrazbo mest in krajin nacionalnega in evropskega pomena v Švici, Nemčiji in Avstriji (<http://www.forschungslabor-raum.info>).

Doktorski program: Ozaveščenost o energetskih vprašanjih in vprašanjih, povezanih z viri, v urbanem in regionalnem razvoju

Ta doktorski kolegij je del raziskovalne usmeritve »Energija in okolje« na Tehnični univerzi na Dunaju in ponuja 10 doktorskih mest pod mentorstvom profesorjev Fakultete za arhitekturo in prostorsko načrtovanje. Program se je začel izvajati 2013, osredotoča pa se na deset tem ozaveščenosti glede energije in virov:

- infrastruktura ekonomika in politika ter trajnostna poraba virov: modeliranje in odpravljanje netrajnostnega učinka zaprtega sistema (angl. lock-in)
- urbano in regionalno planiranje in obnovljivi viri energije – strateški izzivi, potenciali, orodja in izvajanje
- strategije za spodbujanje nizkih emisij ogljika v urbanem in regionalnem planiranju – izzivi, potrebe, potenciali, orodja in izvajanje
- pametno mesto (angl. Smart City) kot družbeno-tehnični inovativni postopek
- strateško načrtovanje energijsko učinkovitih pametnih mest in regij
- socialno vedenje na področjih porabe energije, potreb po energiji in mobilnosti
- strateški prostorski koncepti za energetsko osveščeni notranji razvoj naselij (angl. infill development)
- modelno zasnovana računalniška podpora odločanju pri obsežnih ukrepih za spodbujanje energetske učinkovitosti v grajenem mestnem okolju
- spodbujanje povezovanja energetskih politik in politik mobilnosti prek upravljanja – struktur in procesov

Technology Zurich, University of Stuttgart and the Technical University of Munich. The International Doctoral College is open to excellently qualified candidates from a wide range of spatially relevant disciplines who would like to engage in an intensive, academically creative discourse on difficult, spatially relevant problems within the framework of a doctoral thesis (PhD) and with a view to elaborating viable and innovative attempts at solutions.

The first College was concentrated on perspectives of Spatial Development in European Metropolitan Areas. Selected research results are published in Forschungslabor Raum_Das Logbuch.

The framework theme for the second Doctoral College in the period 2013–2016 is »Transformation of Cities and Landscapes«. The diverse changes taking place in living environments with the predominantly inward focus on infill development, changes in the fields of mobility, landscape, demographics, energy, and not least climate change, call for integrated, demonstrable strategies and concepts for comprehensive, holistic transformation. In order to explore and delimit their research topics the doctoral students at the various universities and institutes of higher education will analyse significant spatial issues relating to the transformation of cities and landscapes of national and European importance in Switzerland, Germany and Austria (<http://www.forschungslabor-raum.info>).

Doctoral College: Energy and Resource Awareness in Urban and Regional Development

This Doctoral College is part of the Research Focus »Energy and Environment« of the Technischen Universität Wien and offers 10 doctoral positions under specific supervision of professors from the Faculty of Architecture and Planning. It started 2013 and concentrates on the following ten different topics on Energy and Resource Awareness:

- Infrastructure economics and policy, and sustainable resource consumption: Modelling and overcoming the unsustainable »lock-in«
- Urban and regional planning and renewable energies – strategic challenges, potentials, tools And implementation
- Low - carbon strategies in urban and regional planning – challenges, needs, potentials, tools and implementation
- Smart City as a socio-technical innovative process
- Strategic Planning of energy efficient Smart Cities and Regions
- Social behaviour in the fields of energy consumption and mobility
- Strategic spatial concepts for an energy-conscious infill development of settlements
- Model-based computational decision support for large-scale energy efficiency measures in the built urban environment
- Promoting the integration of energy and mobility policies through governance – structures and processes
- Mobility Management in the Smart City Context

(<http://raum.tuwien.ac.at>)

■ upravljanje mobilnosti v okviru pametnega mesta

(http://raum.tuwien.ac.at)

Doktorski program: Urbani energetske sistemi in sistemi mobilnosti

Program »Urbani energetske sistemi in sistemi mobilnosti« je bil razvit v sodelovanju z dunajskim javnim podjetjem Wiener Stadtwerke Holding AG in ponuja 10 doktorskih mest. Cilj so raziskave in razvoj scenarijev za »trajnostno in finančno dostopno mesto, ki ima zanesljivo oskrbo in je prijazno za bivanje«, na primeru mesta Dunaj, s celostnim in interdisciplinarnim pristopom. V tem doktorskem kolegiju sodeluje šest fakultet dunajske univerze.

Program vključuje modeliranje dunajskega potniškega sistema prevoza, analizo energetskih vzorcev stavbnega fonda, simulacijo razdelitvenih omrežij, skladiščenje, točke dovajanja toplotne energije, plina in elektrike ter preučevanje zahtev IKT glede pametnih omrežij (Smart Grids). Na podlagi tega se bodo razvijale možnosti, ki se bodo porajale po celotnem sistemu v prihodnjih stoletjih, predvsem v povezavi z vmesnikom za ponudbo in povpraševanje na področju energetike zgradb (http://urbem.tuwien.ac.at).

Doktorski program: CI-ENERGY Smart cities with sustainable energy systems (pametna mesta s trajnostnimi energetskimi sistemi)

Pred kratkim se je dunajska univerza pridružila mreži CI-Network; na voljo sta dve doktorski mesti. Cilj mreže CI-ENERGY Marie Curie Initial Training Network (ITN) je usposabljanje mladih znanstvenikov za razvoj programskih orodij za podporo odločanju in operativni optimizaciji pri zmanjšanju uporabe neobnovljivih virov energije v mestih. Usposabljanje bo potekalo v tesnem sodelovanju šestih najboljših raziskovalnih centrov in štirih vodilnih industrijskih podjetij iz energetskega sektorja in sektorja za tehnologijo programske opreme (Siemens, WienEnergie, EDF/EIFER in IES). Raziskovalci bodo svoje rezultate uporabili na dveh študijah primera (Ženeva in Dunaj), ki sta bili izbrani zaradi zelo ambicioznih trajnostnih ciljev. Mreža CI-ENERGY bo multidisciplinarno usklajen doktorski program na področju urbane energetske trajnosti in bo pokrival ključne urbane izzive, povezane z nizkoogljično prihodnostjo (http://www.hft-stuttgart.de).

Kot je razvidno, gre razvoj študija v smer tematskih programov (kolegijev) za zainteresirane doktorske študente. Velika prednost te strategije je, da študentje svoje disertacije razvijajo v »raziskovalnem grozdu«, z drugimi univerzami in ustanovami v mednarodnem okolju. Univerza doktorske raziskave zato lažje vsaj delno sofinancira. Pri pridobivanju najboljših »mladih raziskovalcev« ima zato Univerza na Dunaju veliko prednost pred drugimi univerzami. Kljub temu pa doktorski študent podporo za ustrezn pristop k oblikovanju raziskovalnega problema še vedno najde v prostorskem načrtovanju. Zagotavlja širok razpon doktorskih raziskav.

Fakulteta za arhitekturo in prostorsko načrtovanje spodbuja vrsto dejavnosti za pospeševanje doktorskih raziskav. V prostorskem načrtovanju, ki je v primerjavi z drugimi znanstvenimi vedami mlada stroka, je spodbu-

Doctoral College: Urban Energy and Mobility Systems

In Cooperation with the Wiener Stadtwerke Holding AG (Vienna Public Utilities Company) the course entitled »Urban Energy and Mobility Systems« (URBEM-DK) has been developed and offered 10 doctoral positions. The goal is the research and development of scenarios for the path to a »sustainable, supply-secure, affordable and liveable city«, using the example of the city of Vienna with an integrated and inter-disciplinary approach. Six faculties from the University work together in this college.

The College includes modelling of the Vienna passenger transport system, analysis of the energy patterns of the building stock, simulation of the distribution networks, storage, feed-in points for thermal energy and gas and electricity, and the study of the ICT requirements by urban Smart Grids. Building on this, perspectives will be developed that will arise across this whole system over the coming centuries, in particular with regard to the interface with buildings-related energy supply and demand (http://urbem.tuwien.ac.at).

PhD Programme: CI-ENERGY Smart cities with sustainable energy systems

Just recently the University joined the CI-Network and offers two doctoral positions. The CI-ENERGY Marie Curie Initial Training Network (ITN) aims to train young scientists to develop urban decision making and operational optimisation software tools to minimise non-renewable energy use in cities. The training will be carried out by a close collaboration of six of the best academic research centres and four leading industrial companies from the energy and software technology sector (Siemens, WienEnergie, EDF/EIFER, and IES). The research fellows will apply their results in two case study cities (Geneva and Vienna), which were chosen for their very ambitious sustainability goals. The CI-ENERGY network will be a highly multi-disciplinary coordinated PhD programme on urban energy sustainability, covering the key challenges in cities related to a low carbon future (http://www.hft-stuttgart.de).

As shown there is a trend to offer thematic Colleges for interested doctoral students. This strategy has the big advantage that the students can develop their theses in a »research cluster« with other universities and institution in an international environment. Through these clusters it is also easier for the University to offer at least partly financed doctoral research work. This is a big advantage in the competition among the universities to get the best »young researcher« in this field. Nevertheless the appropriate approach that a doctoral student formulates his research question is very much supported in the field of Spatial Planning. It guarantees a wide spectrum in doctoral research.

The Faculty of Architecture and Planning is very much encouraging all kind of activities, which help to bring forward doctoral research. Especially in the – compared to other scientific disciplines – young discipline of Spatial Planning the promotion of doctoral degrees is considered more and more as very important element for the future scientific development.

janje pridobivanja doktorske stopnje izobrazbe vse bolj pomemben del prihodnjega znanstvenega razvoja.

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III.

ČLANKI

ARTICLES

Irena Ostojić, Tadej Glažar

KRITERIJI ZA VREDNOTENJE IN USMERITVE ZA NAČRTOVANJE NAMENSKE RABE Z VIDIKA TRAJNOSTNEGA RAZVOJA URBANIH OBMOČIJ

CRITERIA FOR EVALUATION AND GUIDELINES FOR LAND USE PLANNING IN TERMS OF SUSTAINABLE URBAN DEVELOPMENT

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IZVLEČEK

Trajnostni prostorski razvoj je splošno sprejet vrednostni cilj in načelo urejanja prostora. Operacionaliziran je predvsem z ukrepi za izvedbo v predpisih posameznih sektorjev upravljanja z naravnimi viri, ne pa tudi celovito v izvedbenih predpisih za upravljanje z urbanim prostorom. Med najpomembnejše inštrumente politike urejanja prostora na lokalni ravni sodi namenska raba tal, za katero ni opredeljene celovite sistematizacije ukrepov za uresničevanje trajnostnih ciljev prostorskega razvoja v urbanih območjih. Skladno s pregledom in kritično analizo literature so v prispevku predstavljeni štirje ukrepi: zaščita naravnih virov in zmanjševanje okoljsko-podnebnih tveganj, strnjena urbana struktura, mešane rabe in dostopnost urbanih funkcij. Izkazalo se je, da naštetni ukrepi omogočajo trajnostni razvoj urbanih območij, vendar le pod pogojem, če se načrtujejo in izvajajo skladno s podpornimi prostorskimi, socialnimi in ekonomskimi elementi urbanega prostora. V sklepu je predstavljen nabor kriterijev, s katerimi lahko ovrednotimo stopnjo trajnosti zasnove namenske rabe v urbanih območjih ter usmeritve za prestrukturiranje namenske rabe obstoječih poselitvenih območij.

KLJUČNE BESEDE

trajnostni prostorski razvoj, urbani prostor, raba tal, naravni viri

ABSTRACT

Sustainable spatial development is a generally accepted objective and principle in spatial planning. It is implemented mainly by regulations in the sectors for management of natural resources, but not comprehensively in implementing regulations for urban space management. One of the most important instruments of spatial planning at local level is land use, for which there is no comprehensive framework of implementing measures for achieving sustainable spatial objectives in urban areas. In accordance with the review and critical analysis of literature, there are four measures presented in the paper: protection of natural resources and reduction of environmental-climate risks, compact urban structure, mixed-use and accessibility of urban functions. The review and analysis have shown that the listed measures enable sustainable development of urban areas, but only if they are planned and implemented in accordance with supporting physical, social and economic elements of urban space. In the conclusion, indicators which can assess the level of sustainability in land use design are presented and guidelines for restructuring land use in existing settlement areas are described.

KEY-WORDS

sustainable spatial development, urban space, land use, natural resources

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1. INTRODUCTION

Sustainable spatial development has become a generally adopted value system and compulsory format of all planning interventions, yet it hasn't been neither defined nor standardised. Fons et al. (2010) emphasise that the concept of sustainable urban development in most cases does not have clearly defined empirical and conceptual baseline. Therefore it is difficult to determine objectively measurable and comparable data, which could evaluate status and trends in terms of sustainable development. Sustainable spatial development is defined as strategic objective in a number of international, European and national documents, such as: Agenda 21, the Habitat Agenda, Rio +20, the Lisbon Strategy, the European Sustainable Development Strategy, the Europe 2020 Strategy, Spatial Development Strategy of Slovenia (Zavodnik Lamovšek, 2003; Rebernik, 2008; Perez-Soba et al., 2012). Sustainable spatial development objectives are operationalized through measures to be realised mainly in the sectors of natural resources management (biodiversity, soil protection, water protection, agriculture, etc.), but not comprehensively and adapted to management of urban space. The problem of sustainable urban development can therefore be defined as deficiency of links between global strategic objectives and a comprehensive system of implementing measures and control criteria for regulating urban space at local level.

Among the most important instruments of spatial planning at local level, according to Pogačnik (1999), is land use. This instrument coordinates protective and developmental aspects of spatial-environmental, social and economic development of urban areas. Land use defines areas for (Perez-Soba et al., 2012):

- agriculture, forestry and exploitation of natural raw materials, which are traditionally economic categories of land use;
- nature conservation, natural resources and rural tourism as predominantly protective categories of land use;
- areas for settlements, transport and municipal energy infrastructure as predominantly urban land use.

According to Rydin (2011) land use is defined in a multi-disciplinary process and participation of lay and professional publics, whereby the interests of various stakeholders are made instrumental in planning documents. The starting point of the process should be stimulation of local well-being and economic prosperity, while the result is the definition of areas of different land uses, which accelerate their mutual positive effects, diminish negative effects and increase the economic value of land.

However, the characteristics of land uses in today's cities are different. According to a number of authors (Rebernik et al., 2008; Fons et al., 2010; Rydin, 2011) they are dominated by dispersed urbanization, extensive monoprogramic areas and fragmented areas of natural habitats which cause a number of environmental, social and economic problems, such as: high consumption of resources, environmental pollution, suburbanization, inefficient mobility, high cost of public infrastructure, social stratification, etc.. Many spatial models and best practices in sustainable spatial deve-

lopment are described in professional and scientific literature, but they are not systemised or methodologically introduced into a day-to-day urbanistic practice (see also: Williams et al., 2001; Mostafavi and Doherty, 2010; Meijer et al., 2011). The purpose of the article is therefore to systematically review and critically analyse expert and scientific literature in order to identify comprehensive measures for achieving objectives of sustainable spatial development by instrument of land use.

Spatial measures in the instrument of land use which enhance sustainability are (see e.g. Williams et al., 2001; Marušič and Mlakar, 2004; Park and Andrews, 2004; Plut, 2006; Pogačnik et al., 2006; Rebernik et al., 2008; Zavodnik Lamovšek et al., 2008; Garcia et al., 2012):

- safeguarding of natural resources and diminishing environmental-climate risks;
- compact urban structure;
- mixed use;
- accessibility of urban functions.

The article argues that the listed measures are efficient only when planned and implemented into urban areas together with supporting spatial, social and economic measures (see e.g. Gehl et al., 2006; Goličnik et al., 2008; Rydin, 2011; Leduc and Van Kann, 2013).

Based on the reviewed literature, the article first presents the concept of sustainable spatial development and its effect on land use planning, and then outlines particular underlying measures. Each measure is described and critically analysed from the perspective of achieving sustainable impacts on natural environment and urban space. A set of criteria which can be applied to assess the level of sustainability of land use in urban areas and guidelines for restructuring land use in extant settlement areas conclude the article.

2. DEFINITION OF SUSTAINABLE SPATIAL DEVELOPMENT AND ITS EFFECTS ON LAND USE PLANNING

In their concept of sustainability and equilibrium, Pogačnik et al. (2006) distinguish four aspects:

- environmental aspect, focusing on the functionality and capacity of natural equilibrium, orientation to environmental carrying capacity, safeguarding of natural resources, sustainable exploitation of natural resources and preservation of landscape variety;
- social aspect, manifested by changes in societal values, inter- and intra-generational justice, ensuring levels of sufficiency, increasing qualitative aspects of social welfare (e.g. health, quality of life, social justice, landscape variety);
- economic aspect, which is conditioned by safeguarding of natural resources and manifested by balanced economic growth and level of exploitation of natural resources, increasing efficiency of economic development, ensuring specific levels of self-sufficiency, stimulating circular economic development which reduces the use of natural resources and replaces them with continuous recycling of waste products;

- cultural aspect, which is seen as respect for cultural particularities, safeguarding regional identity and cultural variety.

As it is evident from the objectives listed the sustainable spatial development is possible through intertwining actions at all levels of urban space. It is a complex and interdependent network of elements and corresponding measures. Čerpes (2010, p. 108) states: "The sustainable city/.../ is not a physical phenomenon or spatial form. It is a social process of constant, gradual realisation of sustainability goals, nature- and humanity-friendly development in all aspects of social life".

Becker et al. (1997 in: Kos, 2004) defined the relations between environmental-spatial, socio-cultural and economic factors with the concept of three levels of sustainable development that have to be observed simultaneously: analytical, normative and strategic. The analytical level brings empirical measuring of consequences of societal actions on the use of natural resources and carrying capacity of the natural environment, the normative level checks the level and mode of societal responses to these findings, while the strategic level defines goals and measures for achieving sustainable development. Kos (2004) points out that interpretation of sustainable development must (ibid., p. 335): "/.../ also consider the 'motivation capacity' of humanity, which encompasses both cognitive and value-related dimensions. Therefore for the enforcing of 'sustainable development' it is of utmost importance to 1) structure very complex ideas and 2) achieve concordance on the dynamics of introducing new, inevitable measures." These findings give a clear answer to the question why sustainable development cannot be globally standardised. It can be standardized on the analytical level, where the level of burdening of natural environment can be measured empirically, but when it comes to societal responses (normative level) or the definition of achieving goals and strategies (strategic level), these are conditioned by their pertaining socio-cultural-economic environments.

Despite the complexity and mutual interdependence of components in sustainable cities the article focuses on its spatial-environmental level and impacts on natural resources. Sustainability performance of urban area in terms of burdening natural resources can be evaluated by the method of urban metabolism. Spatial-structural parts of the city are defined as flows of energy and material, which demand inputs of energy and material and produce a defined quantity of products – material and energy emissions. Sustainable development demands reduction of burdening of natural resources, therefore cities pursuing the sustainable course have to diminish quantities of energy-material inputs and efficiently use energy from renewable sources. Thus the quantity of energy-material products is diminished and also returned to the system as recycled – secondary inputs (Plut, 2006). According to Meijer et al. (2011), energy-material inputs which are necessary for the functioning of urban systems are water, soil, energy, resources or raw materials, while the products are hard waste and emissions into the air, water and soil, which directly pollute natural resources (picture 1). Inefficient use and pollution of natural resources decrease the suitability of the environment for settlement and carrying capacity for the functioning of the urban system. They also have negative economic consequences because of the necessary investment in remediation of environmental damages and negative effects on the health of population.

The variable which can evaluate the amount of inputs into the urban system, the processes within and the quantity of products is the use of energy (Liu et al., 2009; Pincetl et al., 2012). The indicator of energy use in urban areas is objective when calculated with the LCA method (Life Cycle Assessment), which provides control over environmental impacts of cities on the local and global levels (Liu et al., 2009).

The article proposes principles of land use planning, which we have, following Becker, grouped at the analytical level of sustainable development. They diminish the burdening of natural environments, i.e. they preserve the environment's natural potential, enable rational use of land, decrease the use of energy, water and materials and cause less pollution.

3. PRINCIPLES OF SUSTAINABLE LAND USE PLANNING IN URBAN AREAS

3.1 Safeguarding natural resources and diminishing environmental-climate risks

Safeguarding and efficient management of natural resources and potential environmental risks were amongst the first measures when environmental-sustainability aspects were introduced to spatial planning. In member states of the European Union they are officially adopted within national legislative frameworks. In Slovenia safeguarding conditions are stipulated for drinking water aquifers, aquatic areas, agricultural land and forests, areas with natural values, flood plains, landslides and for the exploitation of natural resources. Many authors criticise the departmental and regulatory approach, since the quality and dynamics of ecosystems are not sufficiently observed, nor is placing activities optimised (e.g.: Williams et al., 2001;



Picture 1: Scheme for sustainability principles of urban areas by the method of urban metabolism (adapted from Meijer et al., 2011)

Marušič and Mlakar, 2004; Carter et al., 2005). Marušič and Mlakar (2004) estimate that effective and comprehensive spatial planning is possible only through the assessment of space for safeguarding and development of particular spatial elements, which can be provided by analytical spatial planning tools, such as e.g. the vulnerability analysis.

In the evaluation analysis of protection and development of spatial features the following should be considered (Williams et al., 2001; Marušič and Mlakar, 2004; Carter et al., 2005; Pogačnik et al., 2006; Vrščaj and Vernik, 2010; Garcia et al., 2012):

- elements of nature protection: legally protected natural areas, landscape and ecosystem functions of the environment, connectivity and integrity of natural habitats;
- elements of nature protection as natural resource: forest areas, areas of surface and underground waters, areas for food and biomass production, safeguarding soil for its environmental role in matter-energy cycles, areas for exploitation of the renewable energy sources and the natural resources;
- elements of quality of living: mitigation of environmental risks (floods, storms, landslides, droughts, explosions, fires) and climate change mitigation.

The issue of climate change and connected risks isn't dealt with adequately in spatial planning. Urban planning can be instrumental in alleviating the causes and consequences of climate change. The cause demands a global measure: decrease in use of fossil fuels. Land use planning can affect changes in use of energy for transport, construction, use and maintenance of buildings and utilities-energy infrastructure. The consequences of climate change demand local measures, adapted to local climatic conditions and scenarios of climate changes. According to Kajfež Bogataj (2012) urban planning in Slovenia has to predict measures to:

- decrease temperatures of urban heat islands in the summer,
- retain precipitation and flood water,
- prevent consequences of higher sea levels in coastal areas,
- manage water supply for the population and for agriculture,
- adapt to decreased quantity of snowfall in the winter.

In the research project Adapting to climate change with spatial planning tools, Golobič et al. (2012) developed a method of analysing vulnerability of space to climate change and standing spatial measures for adaptation to climate change.

3.2 Compact urban structure

Compact or dispersed urban areas are determined by physical (morphological) and functional characteristics. Galster et al. (2001 in: Fons et al., 2010) have identified a dispersion of urban areas with low levels of some of the eight parameters: density, connectivity, concentration, clustering, centrality, nuclearity, mixed-use and proximity. Physical compactness depends on spatial distribution of land uses, while the functional depends on density and

mixing functions. Zavodnik Lamovšek et al. (2008) define also population density as a criterion for compactness of urban areas. The authors have developed a methodology for defining borders of compact urban areas, which is an operational planning tool for preventing dispersed urbanization.

The effects of compactness of urban areas on the use of natural resources, particularly energy use, are subject to numerous studies. Park and Andrews (2004) proved that the use of energy for transport decreases when urbanised areas are more compact, when higher variety and density of urban functions, housing and work places is ensured (mixed use) and positioned at shorter distances (accessibility to urban functions). The authors establish that negative effects of increased car-mobility cannot be dispatched only by technical innovations (hybrid vehicles, cleaner technologies, intelligent information systems on the transport network, etc.). However, Fons et al. (2010) point out that the difference between energy use in transport is essential only in extreme urban patterns of compactness and dispersion. They note that the impact of land use on energy use in transport and consequently on air pollution is strongly conditioned by the effectiveness of public transport, the corresponding density of population, local geographic and climatic conditions.

Prevalent strategies for preventing urban sprawl are reuse of degraded urban areas, quality densification of housing estates and compact development of already urbanised areas (Koželj, 1998; Rebernik et al., 2008; Garcia et al., 2012). Strategies of contemporary sustainable cities are directing development into corridors with high-capacity, competitive public transport, with the nodes of programmatically self-sufficient compact urban areas (Šašek Divjak, 2004).

Inner city development can also have negative effects. In the research on effects of density on sustainable urban development Dempsey et al. (2012) conclude that in the compact city model it is necessary to establish optimal population densities with short distances to sufficiently large open green areas. They advocate that the compact city model is not universal and has to be adapted to local contexts. Urban regeneration of inner city areas is also much more demanding and complex than building on greenfield areas. It has to be promoted by land tax policy and public co-investment. According to Rebernik et al. (2008), land policy determines taxation levels, which stimulate development of degraded areas and hinder development on greenfield sites on the urban fringe.

Rydin (2011) defines two models of urban regeneration: the free market and the social model. In the free market model the city or state initiates development of urban degraded areas with public investments into remediation of pollution, providing high quality public spaces and constructing public facilities. The goal is to attract private investors, who would invest and exceed the share of public funding, thus trigger a process of increasing land and property values. Within this approach it is important to initiate private ventures by public investments, while insuring the needs of local community are met within the spatial plan and partly financed by profits of private investors. The social model is based on a 'bottom-up' approach and active participation of local community. This approach also requires an

active public sector, especially for direction and coordination. It differs from the first model mainly in the regeneration rationale, which grows from local community needs and not private investment agenda. Public finance mechanisms of urban regeneration should stimulate the development of local economy, for example the establishment of time banks for non-monetary exchange of services, urban farming which stimulates healthy food and sale of low-priced food products, micro-crediting schemes for the development of small entrepreneurial initiatives for the financially less-capable groups, initiatives for renewable energy sources, improving the energy performance of buildings, waste recycling, etc. The goal of such projects is economic regeneration of the local population with their own activities and local resources, often underestimated and overlooked in classical market systems. Besides their economic role, non-profit activities have a significant social role and contribute to co-creation of communities and alleviation of social tensions.

3.3 Mixed use

Functionally compact urban areas imply adequate density, variety, disposition and distances between urban functions. Higher levels of functional compactness are ensured by mixed use, which includes housing, offices, retail, services, cultural, sports, administration and production programmes in functional entities and with respect to the needs of local age and social groups and cultural characteristics of the area (Dempsey et al., 2012). Contrary to mono-programmatic positioning of retail and employment capacities on the urban fringe, mixed use physically and socially enriches the urban structure and has synergetic social, economic and environmental effects. Mono-programmatic areas increase car mobility (Uršič, 2006) and also induce the closing of shops and services in urban centres. Plut (2006) states that research conducted in Great Britain in the 1990s proved that the market share of city centres decreased by up to 70 percent after out of town shopping centres were developed.

The execution of planned mixed use areas in cities has been put in the domain of market mechanisms, and is therefore largely dependant on the regulation of mono-programmatic areas and the scope of possibilities enabled by planning documents for realising market interests of investors. Rebernik et al. (2008) state that the effects of defined mixed use in plans can be optimal only if a main activity is proscribed, coupled with complementary or additional and/or dedicated uses. Mixing and variety inevitably cause conflicts (Goličnik et al., 2008), therefore it is necessary to check the mutual effects of activities beforehand. However, the vicinity of compatible functions increases economic activity and has positive effects, but only if optimal settlement density is maintained, which ensures adequate demand and economic viability of programmes (Mladenovič, 2011). Gehl et al. (2006) claim that public programmes should be positioned on the city ground floor and connected to the network of public open areas intended for pedestrians and cyclists, previously relieved of parked and moving cars. Such areas are conditioned by good accessibility and sustainable mobility modes, i.e. cycling, walking and public transport.

From the technical point of view, mixed use is the primary condition for achieving cost efficiency of systems for distant heating or cooling, which

require 24-hour operation. The present technical approach to mixed use is their material-energy balance, whereby waste and surplus energy are used as resources. In the study EU-LUPA European Land Use Patterns (Garcia et al., 2012) the measure is proposed as a policy instrument to increase sustainable land use in regional and urban scale, especially for areas with a high degree of urbanization and large environmental footprint. The described approach requires a new multidisciplinary and comprehensive approach to energy and urban planning as well as management of urban space.

3.4 Accessibility of urban functions

Sustainability as the concept for planning transport systems has changed the rationale from enabling mobility for motor cars to ensuring accessibility to programmes by sustainable transport modes, i.e. walking, cycling and public transport (Bertolini et al., 2005). Sustainable mobility is not only a change in travel patterns in the city. It is the result of integrated planning of programmes and transport systems, with emphasis on non-car forms of transport (Aftabuzzaman and Mazloumi, 2011). Vale (2013) states that such spatial development in itself is not sufficient and has to be supported by complementary measures, which will stimulate users to change their travel habits. An important measure for increasing sustainable mobility is the limiting of car mobility, but as Uršič (2006) points out, such measures, e.g. extending pedestrian areas, higher parking rates, reducing the quantity of parking spaces, etc. have the opposite effect and limit city development if not balanced with alternative modes of public transport, which enable access of people, goods, information and capital to an urban area.

According to Curtis (2008), activities vary in frequency of use and size of gravitational areas of users, from neighbourhoods, urban quarters, to the city and region. Gehl et al. (1987 in: Curtis, 2008) emphasises that planning of land use, programmes and transport systems have to take onboard the notion that all activities have to be accessible by sustainable transport systems, according to Bertolini et al. (2005), within half an hour travelling time. In the recommendations of the Commission for architecture and the built environment in Great Britain, accessibility to functions (picture 2) is determined according to distance, quantity of potential users and frequency of the programme's use (Internet 1):

- on the neighbourhood level: public transport stops (300 m), children's playgrounds (400 m), primary school with day care (400 m), local shop (400 m);
- on the city quarter level: railway station (600 m), sports fields for ball games and recreation (800 m), parks (800 m), health care centres (800 m), secondary schools (1 km), district centres (1,5 km), leisure centres (1,5 km);
- on the city level: faculties (2 km), larger natural open areas (2 km), cultural institutions (5 km), large retail - commercial centre (5 km), general hospital (5 km).

In Copenhagen, the so called pocket parks, covering up to 5000 m², are distributed throughout the city perimeter, thus allowing the inhabitants access to green surfaces at a walking distance of five minutes, i.e. at a



Picture 2: The recommendations of the Commission for architecture and the built environment in Great Britain for accessibility of urban functions (adopted by Internet 1)

distance of less than 300 m (Internet 2). Different norms concerning accessibility in Copenhagen (300 m) and Great Britain (800 m) follow socially acceptable norms and point out the differences in normative or strategic levels of sustainability, as was also mentioned by Becker et al. (1997 in: Kos, 2004). Different norms are a consequence of varying cultural, social and economic environments, as well as prevalent values and life patterns. Thus they cannot be transferred from one environment to another and have to be adapted to local contexts.

4. CONCLUSION

In accordance with the reviewed literature, we find that land use planning for sustainable urban development has to take into account the following principles:

1. Sustainable spatial development in terms of protecting natural resources requires minimising energy use in all life situations of inhabitants and life-cycle stages of products or services.
2. Energy consumption in urban areas is indirectly conditioned by the land use structure, which affects energy use in transport, construction and use of buildings as well as in construction and maintenance of communal-energy infrastructure.

3. Parameters of land use structure which reduce energy consumption in urban areas are: compact urban structure, mixed uses on the level of building blocks and city districts, accessibility of urban functions by sustainable mobility systems, protection of natural resources and mitigation of environmental-climate risks.

Established categorization of land uses and mixed use principles based on functionality, compatibility and exclusion of negative factors needs to be upgraded by energy efficiency criteria. This is important both in terms of shorter travel paths for transport of goods and people, as well as shorter distances between energy production and end-users. An important aspect is also local and efficient re-use of waste products, i.e. materials, energy, and water.

This type of land use regulation and deployment of urban functions is established, for example, in:

- Denmark, where for the past 20 years legislative regulations have prevented the development of hypermarkets on the outskirts of the city; commercial areas are channeled into shopping complexes in the city and local centers (Internet 3);
- the UK, where legislative regulations stipulate that at least 70% of public investment (public facilities, housing, etc.) has to be situated in degraded urban areas (Williams, 2010);
- Copenhagen and Zürich, where incinerators are designed as the central city facility for heat - electricity production and are placed at the edge of the city center due to efficient energy transport. In Copenhagen the roof of the incinerator is designed as a ski slope which will provide the inhabitants of the city with unique opportunities for winter recreation and enrich the urban social infrastructure (Internet 4);
- the Netherlands, where in the town of Kerkrade leisure and mixed use programmes are planned to be inserted into the existing industrial area in order to increase density of built structures, provide the missing programmes within walking distance to the adjacent residential neighborhood and to effectively recycle waste energy, water and materials (Leduc and Van Kann, 2013).

Sustainable urban development requires properly managed programme contents (picture 3) and structural characteristics of land use patterns (picture 4). Considering the programme content, it is necessary to ensure diversity and density of programmes that allow residence, employment and spending leisure time for different social and age groups as well as combine programmes that efficiently recycle waste materials, water and energy. Daily functions (kindergarten, school, shop with basic supplies, public transport stops, playground) need to be located within a walking distance of 400 - 800m, access to other programmes should be provided within a half-hour distance by bike or public transport. Structurally it is necessary to manage land use patterns from: dispersed to compact, from monofunctional to functionally mixed, from large-grained¹ to fine-grained, from sparsely connected into densely connected. An important aspect of

¹ Grain structure is by Koželj (1990) defined as the ratio between the number of parts and the area of the structural field.



Picture 3: The programme content of land uses that increase the level of sustainability in urban areas (source: authors)

sustainable urban development is also protecting natural resources and mitigating environmental-climate risks by natural environments, which are reflected in the interweaving and connectivity of natural areas in the settlement area.

Based on the analysed research and studies we can define the guidelines for sustainable planning or restructured land use in urban areas:

compact urban areas with mixed use and sustainable accessible urban functions can be effectively developed on spatially limited territories, where a 30-minute access by bicycle or public transport can be ensured;

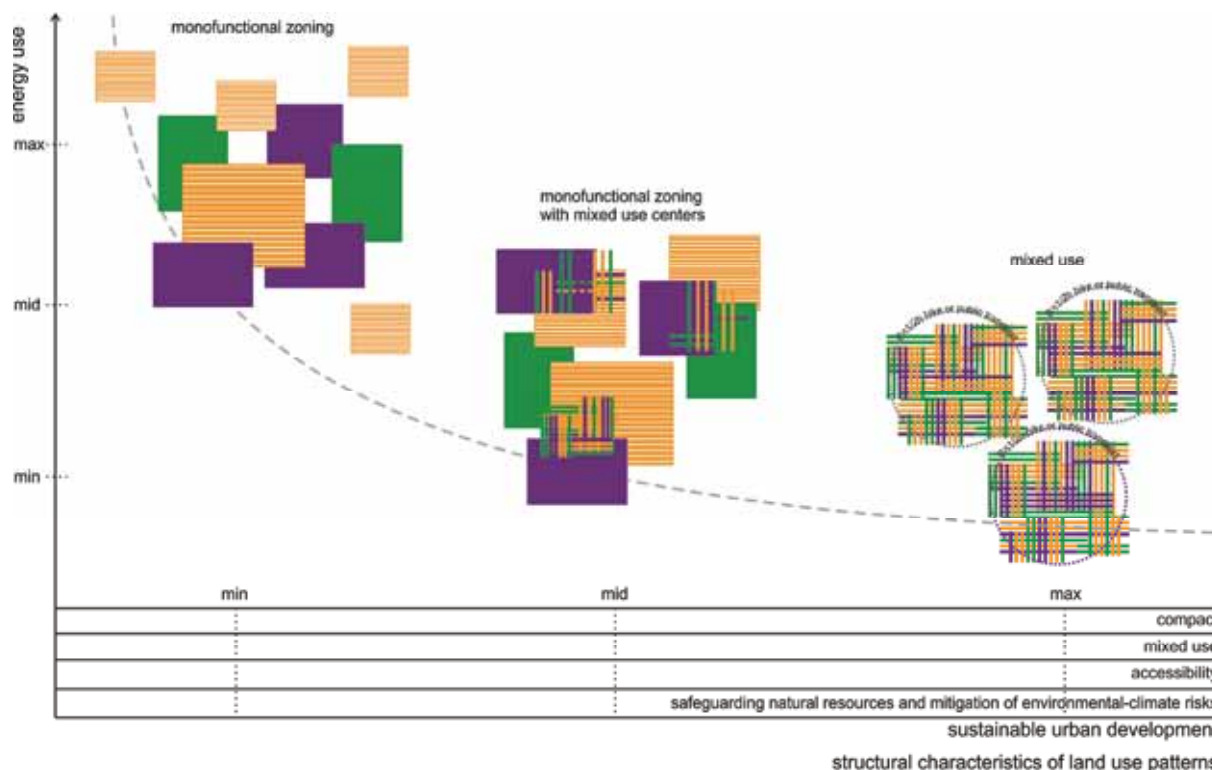
larger urban areas should be restructured into a network of programmatically autonomous “medium-sized” cities, defined by the half-hour isochronous accessibility with sustainable mobility systems and interconnected with efficient public transport systems;

smaller and less densely populated urban areas should be oriented towards integrating into the before mentioned spatial-programmatic-transport structure or a new model of efficient public transport should be developed, which would be adapted to a lower quantity of spatially dispersed users in a functional region.

Achieving sustainability goals by land use restructuring as described above is conditioned by planning and implementation of supporting spatial, social and economic measures. Supporting spatial measures are:

- providing optimum population density, which enables viability of commercial programmes and public social, transport and utility infrastructure, i.e. at least 50 dwellings / ha (Power, 2004), and at the same time provides access to sufficiently large open green spaces at short distances;
- allocating settlement areas, urban functions and mixed-use onto the network of cycling routes and stops of effective public transport;
- regulating high quality public open space in mixed-use areas.

At the same time it is necessary to carry out social support measures which affect travel and consumer habits of the inhabitants, to promote public



Picture 4: Structural characteristics of land use patterns as a function of energy use and the level of sustainability of urban areas (source: authors)

participation in the development of local environment and provide a proactive approach of public administration in revitalizing degraded urban areas. Two models of proactive approach are possible. In the market model of urban renewal, a city or a country initiates the development of degraded areas through public investments into public infrastructure, public space and public institutions. Its aim is to attract private capital to generate the process of enhancing property values and good quality of urban space. In the social model, public investments stimulate development of local entrepreneurship in order to economically regenerate local population, alleviate social problems and reintegrate the community. Other economic support measures include land, tax and investment policies that foster internal development of brownfield sites and inhibit the development of dispersed settlement and monoprogrammatic commercial and business areas on the outskirts of the city.

The discussion in the article proves that sustainable land use planning in urban environments can have positive environmental, spatial, social and economic effects, the condition being that it is introduced to the planning and implementation process harmonised with support measures and adapted to the local context. It also proved that there is a lack of measurable planning and defined target values for compactness of urban areas, mixed uses and accessibility of urban functions as well as interdependent supportive measures, such as densities, which would support planning decisions concerning sustainable land use design in urban areas.

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Anja Jutraž, Tadeja Zupančič

VLOGA ARHITEKTA PRI INTERDISCIPLINARNEM ARHITEKTURNEM PROJEKTIRANJU

THE ROLE OF ARCHITECT IN INTERDISCIPLINARY COLLABORATIVE DESIGN STUDIOS

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IZVLEČEK

Arhitekturno projektiranje je kompleksni proces, v katerega so vključeni različni akterji. Med študijem arhitekture študentje le redkokdaj dobijo priložnost delati s študenti drugih disciplin. Posledično lahko med njimi opazimo pomanjkanje poznavanja dela drugih disciplin ter hkrati pomanjkanje veščin komuniciranja in sodelovanja z njimi. Glavni cilj tega članka je pokazati pomembnost interdisciplinarnega sodelovanja pri arhitekturnih projektih, vlogo arhitektov v tem procesu, ter različne načine sprejemanja odločitev tekom interdisciplinarnega sodelovanja. Predstavljena raziskava temelji na programu AEC Global Teamwork Course, ki poteka na Univerzi Stanford pod vodstvom prof.dr. Renate Fruchter. Študentje iz različnih delov sveta delajo na arhitekturnem projektu od začetnih stopenj dalje (od ideje do projekta za izvedbo). Na začetku in ob koncu projekta se študentje srečajo na Univerzi Stanford, v vmesnem obdobju pa delajo na daljavo s pomočjo različnih digitalnih orodij za virtualno sodelovanje. Članek prikazuje tri študije primerov, kjer je glavni poudarek na arhitektu in njegovem delu ter na izzivih in priložnostih, ki jim jih predstavlja interdisciplinarno delo.

KLJUČNE BESEDE

Interdisciplinarno sodelovanje, projektno učenje, sodelovanje na daljavo, odločanje

ABSTRACT

Architectural design is a complex process involving different actors. While studying architecture, students usually work alone, and they do not have many opportunities to collaborate with other professions. Consequently, they end up lacking the knowledge regarding other professions, as well as regarding communication and collaboration with other professionals. The main focus of this article is to determine the importance of interdisciplinary collaboration in architecture projects through the process of studying architecture, the role of the architect within this process, and the manner in which decisions are usually made within an interdisciplinary team. The following research is based on the AEC Global Teamwork Course, which took place at Stanford University under the leadership of Prof. Dr. Renate Fruchter. Students from all around the world worked together on an architectural project from its initial stages. There were three case studies examined for the purposes of this article in which the main focus was placed on architects, more specifically on the challenges and the problems they were facing, the knowledge architects gained through interdisciplinary collaboration, and lessons learned in such a course that could help them with their professional careers.

KEY-WORDS

interdisciplinary collaboration, problem-based learning, long-distance collaboration, decision making

1. INTRODUCTION AND PROBLEM BACKGROUND

During their studies, students of various disciplines or professions are currently getting familiarized with the basics of other disciplines, but they do not get many opportunities for active collaboration with students from other disciplines to work on concrete architectural projects. The knowledge of other disciplines is necessary for an architect to develop the quality of his/her architectural design. The lack of active collaboration between different actors from the early stages of design process onwards is also seen later in practice. We are facing a shortage of interdisciplinary knowledge and acquisition of communication skills through work on different projects in co-operation with other disciplines. The mentioned professionals are all very good in their respective fields, but they do not collaborate with each other.

Future architects are expected to possess a wide range of competencies, from mastering design to acting as technical specialists, they should be able to synthesize knowledge from different professions and work on an integrated project. As Lattuce (Lattuca & Knight, 2010) said, "interdisciplinarity can be defined as a process of answering a question, solving a problem, or addressing a topic that is too broad or complex to be dealt with adequately by a single discipline or profession ... and [that] draws upon disciplinary perspectives and integrates their insights through the construction of a more comprehensive perspective". Moreover, the integration process is initiated by a specific problem and its context the team should identify and align with the disciplinary contributions; coordination among disciplines is therefore very important. Because several professionals from different fields are solving specific problems in specific situations, we can describe this process as a problem-centred work where various professions with various types of knowledge work together in order to solve problems resulting from the ever changing situations and requirements. (Gnaur, Svidt, & Kaae, 2012)

Different firms like Arups and Buro Happold discovered that collaborative team-work, or team-work across several disciplines is essential in order to produce innovative work, and find new solutions as a result of collaborative efforts put forth by all players. As Dong states (Dong & Doerfler, n.d.), "the collaborative efforts can produce new and original ideas not possible in a uni-disciplinary settings", so the potential of developing integrated projects worked on by interdisciplinary teams should be taken into consideration. Based on the study involving architecture and interior architecture students, using web-based collaborative learning, Karakaya (Karakaya & Şenyapılı, 2006) states that integrating interdisciplinary work into the design curricula would be beneficial.

A number of collaborative interdisciplinary courses have been developed over the last decades in which students worked long-distance, geographically distributed over several countries, with the help of advanced information technology solutions. Students from different disciplines such as engineering, industrial design, urban design, landscape architecture, architecture, and interior design worked together, and at the same time, the authors of different courses studied students' interaction within the distributed teams, while the insights gained from such work helped them to improve distributed collaborative learning courses scheduled for each

individual year. 21 years ago, Fruchter (Fruchter, 1999) developed a distributed learning environment and included different universities from Europe, Japan, and the United States. Also, Hussein and Peña-Mora (Hussein & Peña-Mora, 1999) created a similar class for distributed learning conducted jointly by MIT and by CICESE in Mexico, and Devon (Devon, Saintive, Hager, Nowé, & Sathianathan, 1998) developed a French-American collaborative design project. Several other universities developed their own collaborative design courses, e.g. the University of Sidney (Simoff & Maher, 1997), University of Illinois at Urbana-Champaign and the University of Florida (Brien, Ph, Soibelman, & Elvin, 2003), The Penn State Stuckeman School of Architecture and Landscape Architecture (Holland, Wing, & Goldberg, 2012), Notre Dame University – Louaizé in Lebanon (Asmar & Mady, 2013) etc.

This article focuses on interdisciplinary collaboration in architectural design projects with a special focus on the architect's role in them. It is a challenge for an architect to work on an architectural project together with other professions from the initial stages onwards. The AEC Global Teamwork course shall be presented at Stanford University as an example of interdisciplinary long-distance collaboration and project-based learning.

The study is based on experience gained through participation as a participant, owner and mentor in the AEC Global Teamwork Course (PBL project) over the last 6 years, which takes place this year for the 21st consecutive year under the leadership of Prof. Dr. Renate Fruchter, director of PBL laboratory at Stanford University, ZDA (Graaff, Kolmos, & Fruchter, 2003; Ožbolt, 2008). PBL Lab is the so-called educational laboratory, based on the problem, project, product, process and people involved in this process ("problem, project, product, process, people-based learning"). Based on a learning process that focuses on problem- and project-oriented work, the result represents an integrated project. The project involved students coming from different parts of the world: from Europe, Asia, Central America to the United States (e.g. University of California, Berkeley, University of Wisconsin - Madison, California State University – Chico, University of Puerto Rico, Bauhaus – University Weimar, TU Delft, Aalborg University, University of Ljubljana etc.). More than 20 different universities have already participated in this program; the University of Ljubljana has been involved since 1999 (more on www.pbl.si). In addition to basic student group work, various researches on intercultural cooperation are also taking place within the PBL laboratory, using various digital tools, innovative learning processes, interactive work environments, asynchronous collaboration etc. The program is based on team-work involving an international, interdisciplinary project team, which leads the project preparing a concrete building that meets all conditions of the client (owner). In each group, the owners guiding the group are also presented. The owners also convey their wishes, limitations and requirements to the group members. The aim of the project is to simulate real environment where designers have to be constantly ready to make changes to the project. The purpose of this program is to prepare students for interdisciplinary collaboration, which will present later in practice and in real life situations, adapting the architecture to other factors and overall design of various professions. One project team consisted of students of architecture, structural engineering, a construction manager, MEP and a life-cycle financial manager. The course also includes industry representa-

tives, designers from practice to which students can turn at any time for advice and opinion. The course is designed mostly as a long-distance type of collaboration, students meet at Stanford only at the beginning and at the end of the project. In the meantime, they meet virtually at group meetings or individual meetings (subgroup meetings). Students work six months out of a year remotely using modern tools for design and communication such as SketchUp, Revit, Skype, GoToMeeting, Brainmerge, Box, Dropbox, GoogleDocs, Terf etc., and they finally produce a comprehensive integrated project for public buildings. The results of the project are presented at the final presentation, which takes place every year in May at Stanford where industry representatives are also invited to express potential criticism of the proposed solutions and provide students with up-to-date guidance for their future work. The aim of the AEC Global Teamwork course is to educate architects and engineers who will tackle major projects, to promote international team-work to integrate and exploit the advantages of innovative technologies for the preparation of collaborative projects of higher quality. (Fruchter, 2003; Zolin, Hinds, Fruchter, & Levitt, 2004)

2. AIMS AND OBJECTIVES

This paper serves as a report on an exploratory study that examined the collaborative interdisciplinary course, more precisely, the architects participating in the AEC Global Teamwork course. The aim of the study was to determine whether architects learn anything new through interdisciplinary collaboration, and how such collaboration could be improved. At the same time, we wanted to find out how different professions can be motivated to work together from the beginning of the design process. The main objective is to determine the importance of the architect in the process of collaborative architectural design.

The study was guided by three main research questions:

1. Importance of interdisciplinary collaborative course for students of architecture: Should the Master's study program of architecture also include an interdisciplinary design studio? How much do the students learn for their future professional lives throughout the program?
2. Role of the architect in an interdisciplinary collaborative design studio:

problems and challenges architects are faced with, impact of other members on architectural design, benefits of involving different professions from the beginning of design process.

3. The process of decision-making: How did the team make decisions? What was the role of the architect in the decision-making process?

3. METHODOLOGICAL FRAMEWORK

As a research method, we opted for case studies supported by a short survey among architects who participated in the interdisciplinary collaborative course (Fink, 1995; Flick, Kvale, Angrosino, & Barbar, 2007; Kristof, Brown, Sims Jr., & Smith, 1995). As a case study, we chose groups from the last three years, with a member from the University of Ljubljana, Faculty of Architecture, since as the mentor and owner of the groups, we were able to have a deeper insight into the dynamic of teams and into their team processes. The basic characteristics of all three teams are presented in table 1.

Students used digital tools for online collaboration such as GoToMeeting and 3D ICC (Figure 2).

Our research was divided into the following stages: (1) Results and evaluation: Our observations throughout the design process of the AEC Global Teamwork course, analysis of the final report prepared by the team, short survey at the end of the course. (2) Discussion and conclusion.

4. RESULTS AND EVALUATION

The results will be presented separately: first, the case studies which enabled us to analyse groups and team dynamics and the role of the architect through observation and a report students prepared at the end of the class; and second, a short survey, which is based on the architect's opinion and experiences.

4.1 Case studies

The following table 2 features a comparison between three case studies where we highlighted certain challenges the teams were facing. Each year,



Figure 1: Kick-off event at Stanford University at the beginning of the AEC Global Teamwork course



	Team Atlantic 2012	Team Atlantic 2013	Team Express 2014
Team members: number	6	8	7
Team members: discipline	A, SE 3x, MEP, CM	A, Aa, SE 2x, MEP, CM 2x, LCFM	A, SE 3x, SEa, CM, MEP
Team members: faculty	University of Ljubljana, Stanford University 3x, Bauhaus University, Wisconsin	University of Ljubljana, Stanford University 5x, Bauhaus University, KTH Royal Institute of Technology	University of Ljubljana, Stanford University 3x, Bauhaus University, Georgia Tech, Technical University of Denmark
Number of architects in the team	1	2	1
Architects: faculty	University of Ljubljana	University of Ljubljana, Stanford University	University of Ljubljana
Location of a project	Madison, USA	Madison, USA	Ljubljana, SLO
Owners: number	2	3	4
Owners: discipline	A, CM	A, LCFM, CM	A, MEP, SE, CM
Owners: faculty	University of Ljubljana, Stanford University	University of Ljubljana, Bauhaus University, Stanford University	University of Ljubljana, Stanford University 2x, KTH Royal Institute of Technology
Swinerton Sustainability Challenge	Biomimicry	Leapfrog Sustainability	Healthy Building
DPR Challenge	Product – Organization – Process (POP)	Value for Money	Total value for the Client

Table 1: Comparison of three case studies (A – architect, SE – structural engineer, CM – construction manager, MEP – mechanical, electrical and plumbing engineer, LCFM – life-cycle financial manager, a - apprentice)

a team had to create a building engineering design for a building at a specific location, and at the same time, it had to solve two challenges: Biomimicry and Product-Organization-Process (case study 1), Leapfrog Sustainability and Value for Money (case study 2), and Healthy Building and Total Value for the Client (case study 3).

In case study 1, the team did not have any particular problems with designing the building; they had a well-founded, compelling idea from the beginning, and the team provided the architect with support when making decisions. It can actually be said that the other disciplines served as support for the architect and not vice versa, like for example in case study 3 where

the architect did not have any power to make decisions, and often, the architect was there to support others. The team dynamic in case study 1 was very good. They did not have any special problems with communication and collaboration, and they also remained friends after the conclusion of the project. Also, the presence of two owners was received really well, as they presented two different disciplines and together they offered complete professional support to the team. The coordination between the owners was easy, with their opinions being unified.

The process of designing their compelling idea was closely connected with the first challenge – biomimicry. The team members wanted to incorporate an organism that presented a special meaning for the University of

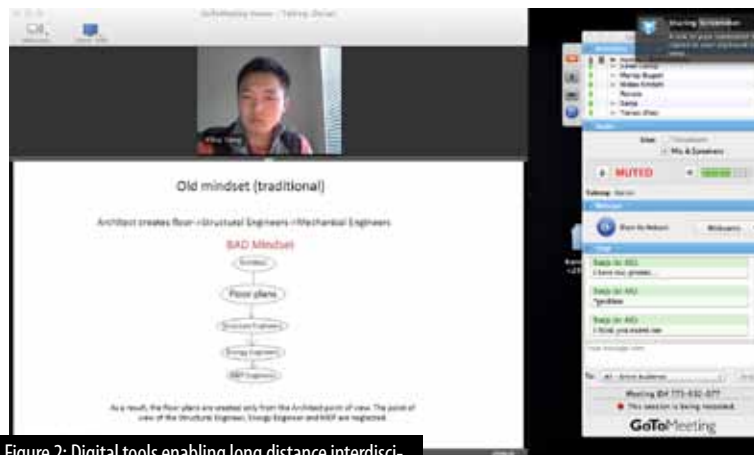


Figure 2: Digital tools enabling long distance interdisciplinary collaboration (GoToMeeting and 3D ICC)



	Case study 1 Team Atlantic 2012	Case study 2 Team Atlantic 2013	Case study 3 Team Express 2014
Challenge: the project	How to involve biomimicry into design? (Team members had to think about this challenge from the beginning of the project.)	How to design a wooden building? (Team members did not have any experience with wooden design.)	How to design a building as a piece of a entire urban network? How to connect the building with its surroundings and the entire city?
Challenge: team process	Interdisciplinary group.	Interdisciplinary group. Two architects, one of them was apprentice, how to divide work among them. Really big team: 8 members.	Interdisciplinary group. Different cultures and ways of communication: more than half of the team members were from Asia.

Table 2: Case studies: comparison through our observation

Winsconsin. Badger, the school mascot, uses the heat from the earth 90 per cent of the time during the winter to keep warm, and also use it in the summer to cool down. Thus, to save energy costs, they wanted to put the building into the ground. The second challenge was: Reduce, Re-use, Recycle. Their idea was to reduce on-site material storage through on-time delivery, pre-fabrication, and recycling of wood and concrete, as well as to re-use excavated soil for ramp construction, implement effective utilization of machinery and formwork to reduce or eliminate waste.

In case study 2, the biggest problem that was noticed was the presence of two architects (one architect and one architectural apprentice) who failed to define their roles in the team at the beginning, which lead to many problems later on. Decisions were made mostly by one architect while the second architect was not even aware of the reasons for decisions made. Consequently, the other team members did not know the reasons either. Sometimes they would spend a week or two working in circles before they would make a joint decision. The main problem was also that the second architect did not work on this project all the time, and he did not participate intensively in the design process from the beginning. The group had a lot of subgroup meetings, discussions with mentors from the industry, and through instant interdisciplinary collaboration, they designed an integrated project, which all the team members liked at the end and were quite satisfied with it.

The team members worked on two challenges and also managed to overcome both of them, which could be seen as a consequence of really good

teamwork on the one hand, and a big interdisciplinary team on the other hand (8 members, they had also LCFM, which the teams in case studies 1 and 3 did not have). In the first Swinerton challenge Leapfrog, they came up with a disruptive sustainable technology, a new smart system (app), which could connect human activities and behaviour, especially in terms of how to design and operate their buildings, with the building itself, and the materials used within a linked system. The smart system within the building is meant to provide a living laboratory for the researchers. Its main purpose is to optimize the performance of the building and educate users on how their decisions impact that performance, and moreover, it can be used as a troubleshooting system. The second, DPR challenge, presented them with a task of finding a way to bring better “Value for Money” to the end users of the building by looking at the life-cycle of the facility. They stated that through the implemented technology they could reduce life-cycle impacts on the facility. They looked carefully at different user perspectives when deciding on the design, as well as construction and operation techniques for the building.

The third case study deals with the most challenging group, which was faced with more difficulties in terms of communication and collaboration than the teams in the first and the second case study. Firstly, the nationality mix of the team members was quite interesting: more than half of them were Asians who are used to being quiet, polite, and not as impulsive as perhaps their European counterparts (members from Croatia, Romania and Germany). During conversations, they would mostly step back and listen,

Figure 3: Case study 1, Team Atlantic 2012





Figure 4: Case study 2, Team Atlantic 2013

and they would not express their opinions, and sometimes the conversation would only unfold between the three members from Europe (especially at the beginning). Surprisingly, there were really strong characters noticed among them who were confident, with large egos; and even they did not express their opinions. They would behave in accordance with their personalities and were not ready for compromises. Through the process, the team learned how to listen, be patient, communicate, step aside and accept other members. It was a hard task, with a lot of fights and heated discussions, but in the end they learned several valuable lessons for their future lives, not only their professional careers.

In comparison to the first two groups, they spent more time on developing the first compelling idea, their first architectural concept, and consequently, they ran out of time for the second idea, which was therefore not developed as well as it could have been. They spent more time on communication rather than on the project. The biggest problem was that the design process switched from “architect-other disciplines” mode of operation to the “other disciplines-architect” mode of operation: structural engineers actually designed the grid first, followed by the structure, and then the architect designed the building. Architecture thus became a supporting element for the structure, and not vice versa. It was a decision made in stressful moments and was not thought through. However, they managed

to design an amazing building in the end. Moreover, there were 4 owners in the team, telling them their wishes. Although they had separate conversations with the members, they did not hold a unified opinion, and this caused some additional problems.

The team worked mostly on the Swinerton Challenge Healthy Building, and they tried to transfer the health issue from urban design through architecture and interior to the furniture and other details. They formulated five ultimate design goals to achieve an overall health concept: impact health (health culture as in community gardens, injury prevention as in traffic calming and lighting, healthy environment as in air ventilation), influence health (health suggestions like recreational activities, recreational connections as in workout park, health culture as in healthy food options), reflect health (environment as in temperature sensing, emotion as in happiness meter, awareness as in collaborative space and interactive virtual wall), maintain health (recreational space as in bike connections and workout park, meditative space offering quietness and connection with nature, social channels like graffiti wall and community garden), generate health (connectivity as in social networks and bike paths, cohesion as in connection with community, visibility). They designed a system of health, which is in balance with its inhabitants and its surroundings through interrelated networks and connections. A health network should consist of different networks, encompassing physical, mental, social and community health. Moreover, they worked on designing a healthy building by using healthy materials, obtaining LEED certificate, following sustainable issues. In order to connect

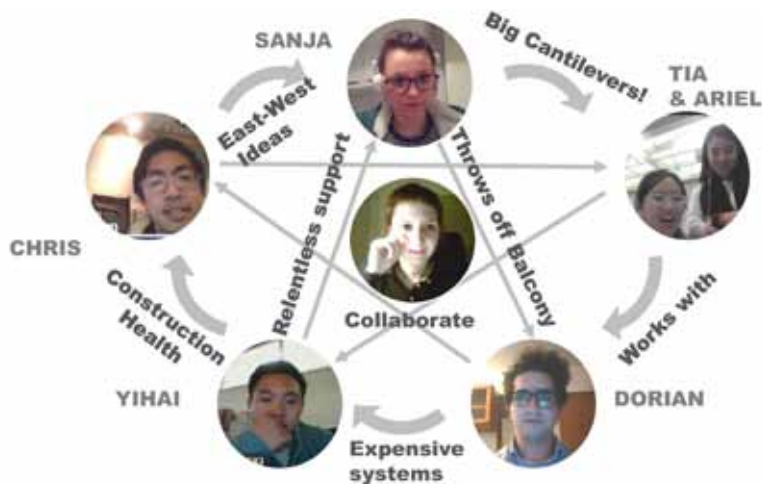


Figure 5: Case study 3, Team Express 2014



this challenge with the second one, Total Value for the Client, they designed a new app for smart phones and iPads in which they combined the aspects of building and health: how you feel (your physical and mental health) depends directly on the inner conditions in the building (sound, air quality, temperature, light, colours of the walls, chosen materials) and outside the building (urban design, connection to the surroundings).

4.2 Survey

The results of the short survey conducted among architects showed that an interdisciplinary course incorporated in the study of architecture is very important for students' professional and personal lives, as it provides them with a variety of skills and knowledge, from communication skills, collaborative methods and tools for gaining knowledge from different disciplines. Overall, all architects described the AEC Global Teamwork as a great experience, "a great learning and networking opportunity", where they used advanced technologies and where they also managed to learn a lot about themselves. They learned about communication and organizational skills that were crucial for successful team-work. As one architect said: "If a good idea isn't communicated well enough, it can get misunderstood and even discarded." They also learned a lot about other disciplines, and how important it is to involve all disciplines in the project from the very start, as this reduces problems in the later stages, as well as about the importance of collaboration among all construction disciplines. Furthermore, one of them also mentioned that they learned a lot about themselves, i.e. how to handle different situations, cope with pressure, present ideas to others. The biggest challenges for the architects queried were: co-located teams (different time zones, schedules, habits, cultures, and languages), how to fit the entire requirement program inside the given footprint, how to stay calm in different situations, and how to compromise on things you know in your field that are wrong. Only one architect claimed that there were major problems in the team, associated with communication and poor response. The others did not notice any substantial problems, except things like adjusting to different schedules, habits, ways of doing things, which differ

from what they were used to from previous experiences, and the collaboration with apprentice architect. They did not find it hard working with other professions. Actually, they thought it was crucial for all the professions to be involved in the construction process in order to have an insight into what each of the team members goes through. They said that rather than working with different professions, working with different cultures and characters was challenging for them.

All architects explained that they made decisions together with the team, within all disciplines, and they listened to the opinions of professionals and also made pros-and-cons charts. However, sometimes outcomes would depend on good argumentation – if the architect had better arguments than the other professionals, such architect would also have more power than the other professionals, otherwise not.

All of the architects agreed that the AEC Global Teamwork course will have a huge impact on their future professional lives, as they acquired several different skills and experiences: use of BIM technology, global cloud-based architecture practice, knowledge about collaboration, how to cope with other disciplines, how to communicate through different media, how to represent ideas. One of them later described one of the best personal final realizations: "It is important to be aware that the best design can be created when all the disciplines are working together since day one."

At the end, we asked the architects about the importance of interdisciplinary design studios for students of architecture and about the role of architects in interdisciplinary collaborative design studios. They all believe they should be integrated in the learning process at some point during the studies and they should be available for all students. An architect should be involved in all stages of the project, "overseeing the entire design/building process integrating ideas from all the professions and combining them into one logical, functional and aesthetical design". He should understand other disciplines, but at the same time, he should be faithful to his/her values and explain his/her idea to the other team members using compelling arguments.



Figure 6: The final presentation at Stanford University at the end of the AEC Global Teamwork course



5. DISCUSSION AND CONCLUSION

Through the interdisciplinary collaboration in the AEC Global Teamwork course, the architects gained new knowledge, which will help them in their future professional lives. If we look back at the research questions, we can conclude:

(1) The course about interdisciplinary collaboration is really important for students of architecture. Knowledge gained can be divided into two main levels: non-professional and professional level. Interdisciplinary collaboration can be seen as a method for preparing architects for their future professional lives, as it helps them learn the following things:

- communication skills: listening and hearing others, overcoming cultural barriers;
- collaboration skills: working together, deciding together (how you can work with other professions from early stages of the project onwards);
- personality features: respect, patience, tolerance etc.

Moreover, long-distance work can improve their computer skills and they can also learn about new digital programs for online architectural collaboration.

(2) Architects have a special role in interdisciplinary collaborative design studios, as they are the so-called mediators between different professions and they have to monitor the progress of the project from its initial stages onwards. By involving different professions from the beginning of design process onwards, we can shorten the duration of the project, and by working together and exchanging different pieces of knowledge, a project of higher quality (testing new solutions, materials, working on sustainability issues etc.) can be designed. Moreover, architects can also gain new knowledge from other professions:

- Working with mentors from around the world, from faculty mentors to industry partners, architects can improve their way of thinking, their ability to solve problems, and they can improve their argumentation skills (how to defend their proposals). Moreover, architects thus get used to being faced with requirements (the exact program of the building with exact square footage), building limits (ground floor) and wishes from the owners.
- They learn the basics of structural design of buildings; they learn about the different construction materials, and the entire process of construction, and about construction management. They acquire communication skills for collaboration with structural engineers and construction managers.
- They acquire knowledge of mechanical installations and the principles of sustainable construction of buildings.
- They get a deeper insight into the total cost of a particular investment; they learn how the choice of materials and the implementation of specific architectural details affect the price of the maintenance of the building.

(3) Special attention should be paid to decision-making, which requires participation of the whole team, every member should express their opinion. The best solution should be chosen by defining pros and cons of different options, and through quality argumentation. Teams should determine their respective leaders in the decision-making process. The leading position can either be assumed by an architect or any other team member, whereby it is recommended the person with best leadership skills be chosen.

Last but not least, we should mention that the process in this kind of courses is usually more important than the project itself. Also, the atmosphere within the team is really important; how the members work together, communicate, if they respect each other. This is why it is important that team members also get to know each other, spend time together and not work only on the project. The course should be fun, and not only full of stressful situations.

To conclude, the interdisciplinary long-distance collaborative course is important because of the following things: integration of various universities from all around the world; preparation of students for interdisciplinary collaboration, which will be present later in practice, real life; adapting architecture to different requirements and wishes of the owners; creation of designers who will be able to tackle major projects; exploitation of innovative technologies for collaboration; acquiring knowledge of other disciplines through active work on architectural projects; collaboration with representatives from other disciplines and creating interdisciplinary networks that will serve as support for further professional work; learning about communication and collaboration skills; learning to use different tools for interdisciplinary team-work; co-operation with designers from practice and representatives from the industry, as well as acquisition of their practical experience.

There were several important lessons learned which were mentioned by students at the end of the class, and they should be highlighted here: "be clear with communication; meeting time is precious; complex problems are easier to solve in a team; communicating at the right moment is crucial for success; compromises can sometimes result in better solutions; make sure everyone is aware of your perspective from your discipline".

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Nuša Voda

EVIDENTIRANJE VZORCEV POZIDAVE NA PODEŽELJU: primer Podravske regije

RECORDING OF BUILDING DEVELOPMENT PATTERNS IN RURAL AREAS: case of Podravska region

DOI: 10.15292/IU-CG.2014.02.044-053 ■ UDK: 711.3 ■ 1.02 Pregledni znanstveni članek / Scientific Article ■ SUBMITTED: May 2014 / REVISED: June 2014 / PUBLISHED: October 2014

IZVLEČEK

Podeželski prostor, kot ga vidimo danes je splet različnih aktivnosti. Na eni strani zaznamo to kot spremembe, ki se kažejo v pogosto manj intenzivno obdelanih kmetijskih površinah oziroma v spremenjenih kulturah rabe prostora, na drugi strani pa v stalnem preoblikovanju podobe naših vaških naselij in v likovno-estetski preobrazbi grajene strukture (Fikfak, 2008). Tako lahko zaznamo tudi, da se je povezava med stanovanjsko hišo na podeželju in pripadajočim zemljiščem v zadnjih desetletjih razvrednotila z vidika kakovosti bivanja in funkcionalnih povezav tako znotraj objekta kot tudi v povezavi z zunanjimi površinami.

Glavni cilj raziskave je bilo evidentiranje obstoječih vzorcev pozidave v izbranih podeželskih naseljih in ugotavljanje povezanosti med stanovanjskim objektom in funkcionalnim zemljiščem tudi v odnosu do sosednjih objektov in zemljišč. Raziskovanje vzorcev pozidave na slovenskem podeželju je bilo opravljeno z aplikacijo na izbranem testnem primeru – v treh izbranih podeželskih naseljih Podravske regije. Metodologija raziskave je temeljila na sistematični izdelavi prikazov iz geografskega informacijskega sistema, geodetskih podlagah in na terenskem opazovanju ter fotografiranju pojavnosti treh različnih tipov gradnje (tradicionalna podeželska hiša, individualna tipska hiša in sodobna podeželska hiša). Evidentirani so bili obstoječi vzorci pozidave v izbranih naseljih in opisani odnosi med posameznim zemljiščem in stanovanjskim objektom ter sosednjimi zemljišči in stanovanjskimi objekti.

KLJUČNE BESEDE

podeželska naselja, vzorci pozidave, funkcionalno zemljišče, stanovanjski objekt, Podravska regija

ABSTRACT

The rural areas of today involve a range of different activities. On the one hand, this is perceived as changes that are reflected in the frequent abandonment of utilised agricultural areas or in the changed land use, and, on the other hand, in the continuous transformation of the image of our villages, and the artistic and aesthetic transformation of the built form (Fikfak, 2008). We can see that the connection between the house in the countryside, and the land on which it stands, has been devalued in the last decades in terms of the quality of living and functional connections inside the building and with exterior areas.

The primary objective of the research was the recording of the existing patterns of development in selected rural settlements and to find the connection between the residential buildings and appertaining land, and, furthermore, the connection with adjacent structures and land. The research into development patterns in the Slovenian countryside was performed through the application on a case study, i.e. on three rural settlements of the Podravska Region (the region along the Drava River). The research methodology was based on a systematic elaboration of presentations from the geographic information system (GIS), surveying groundwork, field observations and photography of incidence of three different types of building (a traditional rural house, a standard detached house design and a contemporary rural house). The existing development patterns in the settlements were recorded and the relationships between the respective land plots and residential buildings, and the adjacent land and residential buildings, were described.

KEY-WORDS

rural settlements, patterns of building development, appertaining land, residential building, Podravska Region

UVODNIK
EDITORIAL
ČLANEK
ARTICLE

RAZPRAVA
DISCUSSION
RECENZIJA
REVIEW
PROJEKT
PROJECT
DELAVNICA
WORKSHOP
NATEČAJ
COMPETITION
PREDSTAVITEV
PRESENTATION
DIPLOMA
MASTER THESIS

1. INTRODUCTION

Extensive research has been conducted regarding the built environment in the countryside, the shape of residential structures, traditional homesteads, standard single-family buildings etc., while much less attention has been given to exterior areas, the relationship between the house shape/façade and the residential parts of the house, the land on which it stands, and the relationship with other buildings on the appertaining land, and with adjacent buildings and land/plots. In terms of quality of living, the link between the building, and the land on which it stands (and adjacent buildings and land), is important. In the past, not enough attention was paid to the issue. However, in the recent decades, much more consideration has been given to appertaining land, as we have recognised the importance of an organised environment to the quality of life. The connection of open spaces with the living space of a house has been gaining in importance.

In terms of rural planning today, the underlying values have been changing, pursuing the goals of sustainable development. This includes the raising of awareness on conservation and protection of the physical environment, rational use of rural areas, increase in the quality of the living environment and a healthy environment for rural residents. Sustainable development ensures a slowdown in the use of goods, while rural development follows the goals of ecology, including economic, social and environmental sustainability. In rural areas, sustainable development is used to encourage the conservation of the traditional settlement structure and the protection of the existing landscape and settlement identity of the area, hence preventing the deterioration of rural settlements and the decline of life in the countryside.

The purpose of the research is the recording of the existing building development patterns in three selected rural settlements of the Podravska Region, and the identification of improved connectivity of the residential building (housing) with other parts of the land on which it stands. The research into the planning of external areas appertaining to the residential rural buildings could provide insight into several inseparably connected research subject matters, which are directly or indirectly linked to the issues of rural areas, dwelling culture, sustainable development and management of external (including green) areas and rural architecture.

2. EXPLORING THE RELATION BETWEEN THE RURAL HOUSE AND THE APPERTAINING LAND FROM THE 20TH CENTURY ONWARDS

2.1 Relation between the rural house and appertaining land according to the type of building

In the past, construction and siting of residential buildings in rural areas, particularly of standard buildings in the 1970–1990 period, received much less attention than urban developments. This was a period of major growth and new constructions in Slovenia, including in the countryside. The connection between the country house and its appertaining land has been undermined in terms of living quality and functional connections within both

the building itself and its exterior areas. The introduction of the standard single-family detached house into the rural landscape changed not only the siting of structures, in the narrow and broader sense, but it was also followed by the disappearance of the traditional rural culture, dwelling culture and landscape features. The protection of fertile soil, self-supply needs and the overall ecological protection of environmental complexity necessitate that more attention is focused on the organisation of contemporary rural developments (Prosen, 1993; Fister et al., 1993). However, extra-urban areas have been neglected and urban development schemes were indiscriminately implemented in rural areas as well.

The research of the evolution of the appertaining land of the residential building was focused on the analysis of the elements connecting the interiors with appertaining land and buildings in the Podravska Region from the 20th century onwards (based on the analysis of rural residential building typology and morphology). In the classification of historical development of residential buildings in Slovenian rural areas, I refer to Fikfak (2008, p. 28): *»The biggest change in rural areas happened after 1970 when under the influence of external factors (social policy, population migrations, industrialisation and degradation etc.) everywhere in Slovenia, mass construction of single-family detached houses (i.e. following standard plans) began. The housing problems were solved in a seemingly simple way: with the prevalence of the standard single-family house, i.e. the house for every Slovene ... Indeed, socialism was beginning to recede. At the same time, Slovenia declared its independence from Yugoslavia and adhered to the principles of internal democratisation. In the plebiscite of December 1991, a uniform view regarding Slovenian sovereignty and future was achieved. This was the beginning of independence of the new state, which had yet to be fully won ...«* Hence, 1990 is seen as the transition to the era of contemporary residential building. In the period, the building code was consistently enforced in extra-urban areas as well, and a major change in residential construction was brought about by the Housing Act of 1991 (ibid.). In reference to the aforementioned definitions, the evolution of housing typology in Slovenian rural areas was divided into three periods:

- traditional rural building (according to the research definitions: between 1900 and 1970),
- standard detached building (from 1970 to 1990),
- contemporary rural building (from 1990 onwards).

We found that, historically, the traditional rural Slovenian house was never a detached, stand-alone building, but always part of a whole, which included accessory buildings that were part of a discrete economic and housing whole (residential house, farm buildings, woodsheds, gardens, orchards etc.) (ibid.). For the traditional rural Slovenian house, the builders considered the characteristics of the area and the relevant regulations, which is why the land with the traditional rural house was exploited well. The connection between the building and the relevant area was optimised from both the housing and economic aspects. According to Kregar (1946), in the organisation of spaces the influence of the landscape, economy and the material is felt.

These principles are not adhered to by the so-called standard single-family houses, which were built without the symbiosis with the environment and without the knowledge of their future users. As pointed out by Fikfak (2008), after 1970 the rural residential house was the result of many influences; on the one hand, it was inspired by the suburban single-family villa with balconies, fences and staircases, and, on the other hand, it was based on the use of simple, easily manageable technology that allowed for self-build housing. The elaboration of standardised housing plans was based on general principles, irrespective of the location and its distinctive features. The structure, shape and site selection and placement were selected with no consideration of the traditional formats.

In reference to the standardised type of building, which was, indeed, transferred from the urban to the rural areas, the residential buildings were positioned in the middle of the land/plot, with no space left for ancillary and farm buildings. The residential gardens, or courtyards in the strict sense of the word, were missing or they had a very low practical use. The use of space was irrational and unfunctional. The relationship to open spaces was different than in traditional building design, as the outside areas were not defined. The standard detached house did not consider or preserve the characteristics and regulations of the area in which it was situated. The access to the residential building was located in the middle of the plot, thus dividing the plot into two separate parts. Hence, the typical standard building was characterised by irrational land use, with houses situated in the middle of the plots, making a functional use of space difficult, if not impossible. In the standardised rural building and placement of the house, not enough attention was given to the integration of the building and its land plot. The potential offered by the plot/appertaining land was underexploited, which is still the case today. Regarding the quality of living, the integration of the house and the residential garden is of high importance; hence, the development of the living environment is significant. This is not only a matter of shape and siting of the residential structure, but also the consequence of the inappropriate layout (plan view/house design), which is the fundamental mistake in the building of a standard house. As Vatovec (1989) points out, the living areas of the standardised building are mostly placed on the first floor, thus preventing an uninterrupted transition from the living areas to the appertaining land. Hence, the direct contact with the land is disrupted. The land loses its important function of a living space. The transitions to the land/plot through a terrace or stairs devalue the usefulness of land, while the living part of the land/plot remains under-designed and is hardly ever used. The same level of the plot, i.e. the appertaining land, and the living areas in the house provides the most appropriate connection between the house and land, frequent use of appertaining land, thus justifying its existence.

The connection between the rural house and its appertaining land has been somewhat improved by the contemporary standardised building, but functionally it is still not optimal. Nowadays, the organised environment is getting increased attention, since it affects the quality of live and thus provides the cultural and aesthetic comfort of living. The connection between open spaces and structures is gaining in importance (relationship between exteriors and interiors). It is of crucial importance that exteriors and interi-

ors intertwine functionally and programmatically, making the optimum use of the appertaining land possible in all seasons. On this basis, the research will focus on the understanding of possible connections between the residential building and land, and the site selection and placement of the buildings in a broader sense [general evaluation based on land use: intimate, private, social and public space; »the role of personal space«, definitions by Mlinar (1994) and Rapoport (1991)].

2.2 Connection between the rural house and its appertaining land in view of the layout of buildings and the shape of land/plot

Based on the building typology, we can visually assess the changing of components of our rural settlements. The mix of the whole/part relationship and the assembly of these basic »cells« into ever new combinations is the evolution process of changing the settlement patterns in the settlement system (Fikfak, 2008). However, the basic residential unit does not include only the »residential house«, but a set of visible and »invisible« ways between the individual elements shaping the appearance of the individual functional unit, as well as the composability of the different units into a formation called the rural settlement.

The main starting point in the classification and definition of the types refers to the type of development and the arrangement of buildings into the basic living unit (Drozg, 1995):

- nucleated (clustered) arrangement of buildings,
- linear arrangement of buildings.

Here, we have to consider many external and internal influences, such as site selection and placement (morphology, relief, vegetation ...), relationship to public space (roads, squares ...), relationship to the open space of a homestead (courtyards), relationship between the homestead and agricultural land (hinterland) and also the relationship between the structures forming the homestead or house unit (detached or connected structures). The analysis of communication relationships (and the breakdown to different land uses at the level of the basic living unit) represents the basis, where each unit is evaluated separately and as a unique experience of the experiential space (Fikfak, 2008). In fact, these distinctive features create a unique format of each residential house, farm or the basic living unit. This is also influenced by the shape of the land on which the residential building stands as an independent element or in a group with ancillary structures (parts of homestead).

The principle of proper development of both building and land, shown as the relationship between the individual elements, is reflected in:

- spiritual values,
- way and culture of life,
- connection of social and economic functions (separation of use),
- technology of economy,
- social institutions that take on the role of regulating and organising the life of a society (legal, ownership, production, financial system) etc.

Another important aspect of the connection between the residential house and land is the shape of the land on which the building is situated. The basis of cropland distribution in Slovenia was set by Svetozar Ilešič in the 1950s (1950). Mušič (1947) and later Durjava (1986) connected the system of cropland distribution with architecture and morphology of farm buildings. These studies clearly show the connection between the shape of the agricultural home and the plot pattern, that is, as a rule, transferred from the fields to the settlement. Fister (1993) also stressed that plot shape and positioning are among the important criteria in the design of settlements. Gabrijelčič (1985; Gabrijelčič and Fikfak, 2002) pointed out to the dependence of plot shapes, landscape typology in Slovenia and settlement.

3. WORKING METHOD

The research into the patterns of appertaining land in relation to residential building development in Slovenian rural areas from the 20th century onwards was performed through the application on a test case study from the Slovenian countryside, i.e. on three rural settlements of the Podravska Region. There were two major factors that affected the structure of built-up areas in the past (before World War II): the need to respond to the natural conditions and terrain configuration. Having in mind the importance of terrain configuration in the siting of buildings, in the narrow and broader sense, we included the settlements that were situated in lowlands (Lovrenc na Dravskem polju), on the slopes (Vitomarci) and on a hilltop (Ločki Vrh) (Figure 1).

The analytical part of the research methodology was based on repeated field observations and photography of natural geographical, cultural and spatial features of the Podravska Region and the selected settlements, and a systematic elaboration of presentations from the geographic information system, surveying groundwork and field observations, and photography of incidence of three types of building (a traditional rural house, a standard detached house design and a contemporary rural house). The recording of the existing development patterns in the selected settlements in the initial stage was performed using a GIS map. We systematically reviewed the existing patterns of detached housing construction and intended use of buildings on the plot (residential buildings, business facility and non-business facility) and different combinations of buildings. For example, we recorded the combination of a detached residential building with a business facility and another non-business structure (garage, canopy) and two detached residential buildings on a plot. The shapes of plots were adopted from survey maps and plans and divided into three groups, i.e. branched plot, elongated plot and regularly shaped plot. In the next step of the research, on the basis of the GIS maps, we recorded the location of the building on the land plot relevant to the road (beginning, middle or end of the plot). When recording development patterns using the geographical information system, we also looked at the state or organisation of adjacent plots. We determined the state of development and the presence of agricultural land on adjacent land plots.

In the studying and recording of existing development patterns, repeated field observations and photography were of crucial importance. Field observations were important in the recording of existing types of buildings.



Figure 1: Sites of selected rural settlements in the Podravska Region.

In the first stage, we defined the intended use of the structure (residential, business, non-business), while in the second stage the type of building was defined. In most cases it was difficult to determine the type of building only on the basis of the geographic information system or survey maps and plans. In the case of lowlands, it was easier to identify traditional buildings, since they had a typically elongated shape and a typical layout of ancillary structures (residential structure by the side of the road, with farm buildings and agricultural areas in the rear). On the slopes and on the hilltop, the layout was somewhat different, i.e. it adjusted to the local topography.

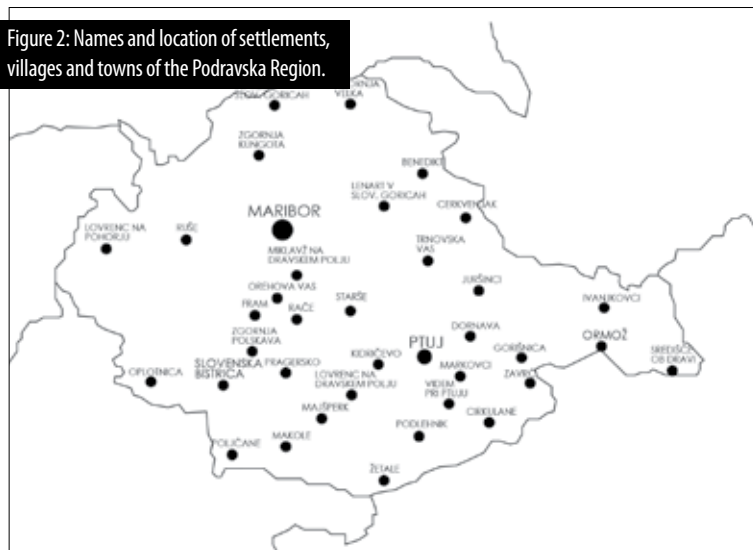
The recorded patterns were drawn and systematically combined in a table; each plot with its buildings was represented separately and in a group with adjacent plots and buildings, including the description of relationships between the plots and residential buildings, and adjacent plots and residential buildings. This part of the research was presented in section 3.3 Development patterns in selected settlements.

3.1 Spatial inventory in the Podravska Region

»The Podravska Region is characterised by continental climate. The two basic landforms are extensive plains and hills. In lowlands, the landscape pattern involves distinctly open and broad field areas with a distinctive ribbon land allotment. This is clearly noticeable wherever the original field pattern was not changed by the contemporary land restructuring. The settlement in the lowlands is in the form of agglomerations, while in hilly areas it stretches along the ridge.« (Marušič, 1996, p. 37)

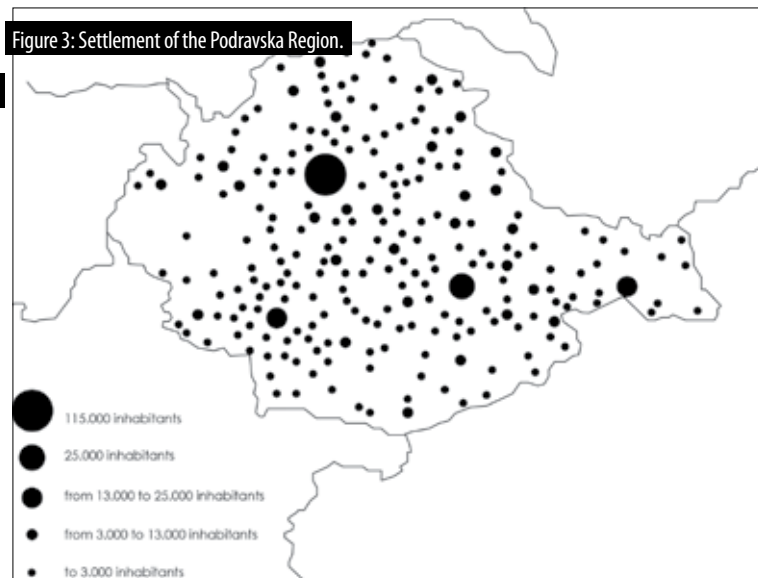
Despite the fact that there is an abundance of natural and cultural heritage in the Podravska Region, we must acknowledge that the region is losing its cultural heritage, cultivated landscape, and regional identity, thus becoming less identifiable. We are referring to the deterioration and abandonment of old rural settlements (settlements in Slovenske gorice) and buildings (e.g. the *cimprana hiša*, a traditional Pannonian house) which

Figure 2: Names and location of settlements, villages and towns of the Podravska Region.



should be renovated to preserve the traditional rural cultural heritage (Figure 2). To improve the current state, in the future rational and prudent use of natural resources should be promoted in the settlement area of the Podravska Region, and the population (Figure 3) should be encouraged to preserve and develop cultural diversity. Also, the preservation of tradition should not be forgotten. All of this would promote a greater visibility of the Podravska Region. The degraded areas of the Podravska Region could be rehabilitated by shifting new developments to the already degraded areas, while the existing settlements should be developed or rehabilitated using the principle of dispersed concentration with densification into several nucleated settlements or agglomerations, taking into consideration the architectural and landscape characteristics. According to Fister (1993, p. 202),

Figure 3: Settlement of the Podravska Region.



»the distinct relationship between natural characteristics and land use and the format of layout and design of architectural identity is the criterion underlying any future developments«.

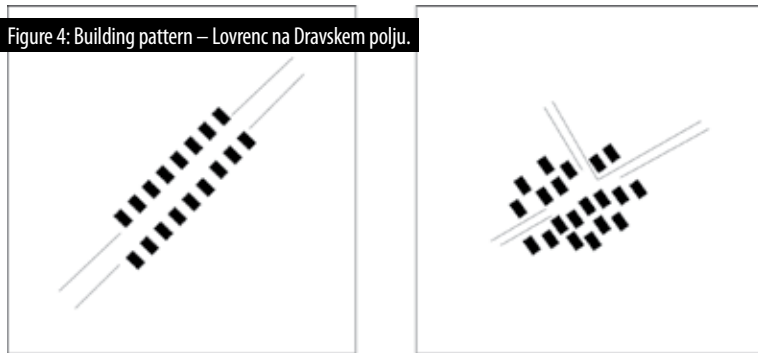
3.2 Spatial inventory in the selected settlements

As already mentioned, the period after World War II in the Slovenian rural areas was characterised by the progressively decreasing consideration of the natural factors and local characteristics, which is why the problem of degradation of rural areas and cultivated landscape has grown. These buildings are inappropriately sited and designed, residential buildings untypical for the rural landscape, with ill-proportioned volumes, improper orientation, improper façade colour and installations, and unsuitable architectural elements. This leads to the disappearance of the classical rural culture, living culture and the loss of identity of traditional settlements. The problem of rural areas of the selected settlements is reflected not only in built-up areas, but also in green areas, which are extremely important for a quality living environment. This problem has not received enough attention, as we can see that in the settlements and on the fringes of settlements there are not many green areas for leisure activities, as an expression of rural aesthetics. This is, indeed, not understandable in the view of increasing non-agricultural rural population who have more leisure time than agricultural population; the way to improve the quality of living is to increase common green areas. Green areas have many positive effects on rural areas and the quality of living. By preserving the existing green areas and through proper placement and design of new ones, we can create a better living environment and improve the image of the area. According to Prosen (1993), the planting along the roads and squares helps to contextualise and alleviate the density of built-up areas.

Lovrenc na Dravskem polju

Lovrenc na Dravskem polju is a rural settlement in the lowlands of the Podravska Region, lying in the south of the plain of Dravsko polje; it is an example of good practice of a rural agglomeration. The settlement is characterised by a continuous, nucleated roadside development (church, store, catering facility, post office, organised sports grounds with a sports facility) (Figure 4). In the past, the settlement was distinctly agricultural. Today, the number of people in agriculture is declining, while a growing number of population

Figure 4: Building pattern – Lovrenc na Dravskem polju.



is not engaged in agriculture; hence, the settlement can be characterised as non-agricultural. A major part of the settlement is represented by the standard type of building (on the plot there is a residential building with no outbuildings), whose structure, shape and site selection is not part of the traditional format. There is a distinct trend of disappearance of traditional development patterns and landscape features (improper choice of installations, vivid colours of the façade, improper materials and building orientation). To a large degree, the area is introduced by urban settlement patterns.

Vitomarci

The rural settlement of Vitomarci is a distinctly dispersed and nucleated settlement located on the slopes (church, post office, store, catering facility) (Figure 5). Vitomarci are a case in point of development that responded to the terrain configuration. Along with topographical features, the building structure was influenced by the proximity of the flood-prone Pesnica river, so the dwellings were moved to higher elevations. Along with the introduction of non-traditional buildings, vivid colours, improper installations and materials, there is another major problem regarding the preservation of traditional rural development patterns in Vitomarci, i.e. the conversion and adaptation of the existing traditional buildings that are restored without consideration of characteristic traditional forms. This also means the disappearance of the classical rural culture, dwelling culture and the loss of identity of the traditional settlement.

Figure 5: Building pattern – Vitomarci.



Ločki Vrh

The rural settlement of Ločki Vrh is located in the northern hills of the Pesnica Valley. The development in the area of the settlement surrounded by forest is mostly found along the ridgeline (roadside development), while elsewhere it is distinctly dispersed (Figure 6). The infrastructural connectivity is fairly unregulated and nonfunctional. The individual housing structures remote from the main connecting roads are abandoned, while agricultural land is set aside or overgrown, since the settlement is only developed in the proximity of communication routes. The settlement is adversely affected by the introduction of urban types of building and incorrect approaches to the siting and design of structures. Extensions and restorations of the existing traditional structures are being made. There are many traditional residential buildings (e.g. *cimprana hiša*, the typical Pannonian house), which are all deteriorating. To preserve cultural heritage and spatial identity, it is neces-

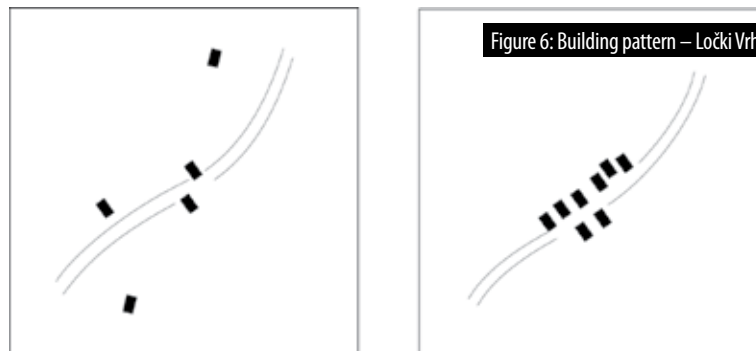


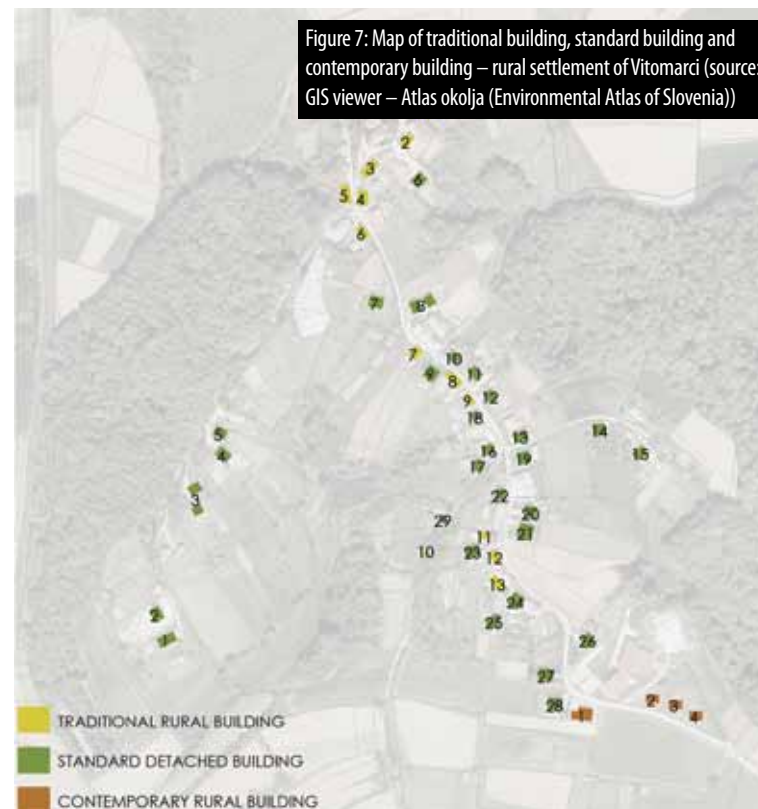
Figure 6: Building pattern – Ločki Vrh.

sary to restore the buildings that can still be protected from deterioration. We can still recognise and detect traditional patterns and forms that we can use as the basis and inspiration for the design (shape, volume, materials, colours, site orientation etc.). As it is, it is only a question of time when the traditional image will disappear completely.

3.3 Development patterns in selected settlements

The existing building patterns in each selected settlement were recorded and the relationships between the individual plots, residential buildings, and adjacent plots and residential buildings were described. Field obser-

Figure 7: Map of traditional building, standard building and contemporary building – rural settlement of Vitomarci (source: GIS viewer – Atlas okolja (Environmental Atlas of Slovenia))



vations were of crucial importance when determining the type of building and the intended use of the ancillary buildings (business, non-business). Based on the recording methodology, the list of patterns of the existing developments for the case of the rural settlement of Vitomarci (Table 1), for three different types of building, is given below (Figure 7). The same research methodology was applied to the settlements Lovrenc na Dravskem polju and Ločki Vrh.

In the selected settlements, there are no contemporary rural buildings that would lean on traditional patterns, shapes, local distinctive features and properties and native building materials. There are cases of contemporary

standard building, which, however, is universal for all regions in Slovenia. As mentioned before, this type of building is not preferred from the aspects of spatial identity, landscape features, classical rural culture and dwelling culture. We need to create a contemporary type of building that will consider the traditional patterns and shapes, and which will be designed in line with the requirements of contemporary living, i.e. agricultural population on the one side, and non-agricultural rural population on the other side. Traditional formats should be reinvented and given a new function, which would adapt to the needs of the modern man in the countryside. The functional design of the traditional building for agricultural population can be significantly

TRADITIONAL RURAL BUILDING						STANDARD DETACHED BUILDING						CONTEMPORARY RURAL BUILDING					
PLAT	ADJUNCT PLAT	NOTE	PLAT	ADJUNCT PLAT	NOTE	PLAT	ADJUNCT PLAT	NOTE	PLAT	ADJUNCT PLAT	NOTE	PLAT	ADJUNCT PLAT	NOTE			
1			9			1			14			1					
2			10			2			15			2					
3			11			3			16			3					
4			12			4			17			4					
5			13			5			18			5					
6			14			6			19			6					
7			15			7			20			7					
8			16			8			21			8					
9			17			9			22			9					
10			18			10			23			10					
11			19			11			24			11					
12			20			12			25			12					
13			21			13			26			13					
14			22			14			27			14					
15			23			15			28			15					
16			24			16			29			16					
17			25			17			30			17					
18			26			18			31			18					
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22			30			22			35			22					
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70			78			70			83			70					
71			79			71			84			71					

different that the one for non-agricultural rural population. With agricultural population, the housing requirements are closely connected to economic activity, while the non-agricultural population primarily needs to satisfy its accommodation needs. In both cases, the form of the contemporary rural building is the same, while it differs in the functional layout of spaces and outbuildings and in the connection between the house and the land/plot.

As early as in the design stage, the designer and the builder should have in mind the connection between the house and its appertaining land, in order to achieve a useful and functional connectivity, i.e. a functionally uniform area. According to Ogrin (in: Vatovec, 1986, p. 4): *«If we do not take advantage of extending our living environment from the inside of building to the outside/ garden, the main quality potential of living is lost and the detached house loses its social significance. If the detached house fails to enable the diversity, layers and the richness of forms of living, it cannot justify the presence of land, which is often irrationally exploited, nor can it justify the relatively high costs of building and maintenance».*

4. RESULTS

Finally, we provide the general observations based on the existing research into the building patterns in the rural areas of the Podravska Region for three selected settlements. In the first part of the research we focused on the problem of connection of the residential building with the appertaining land, and the relationship with outbuildings on the appertaining land, as well as with adjacent buildings and land/plots. In the selected rural settlement standard building prevails, which is universally present in all Slovenian regions; however, this type of building does not respond to local particularities and features (traditional patterns, native building materials), furthermore, there are no contemporary rural buildings in the selected settlement, but rather the type of building can be defined as contemporary standard building. Field observations in the selected settlement showed that there is a decline in the number of agricultural population, and a rise in non-agricultural population, which is reflected in the organisation and intended use of the buildings on the land, as well as in the connection with adjacent buildings and plots.

Based on the recording and systematic plotting of the existing development patterns, the results were elaborated in tables, and then the patterns were systematically arranged in categories/groups related to:

- siting or location of the building on the land (beginning, middle or end of the plot) (Table 2),
- shape of the plot (regularly shaped plot, elongated plot, branched plot) (Table 3),
- type of intended use of the buildings on the plot (residential building with a (non-)business facility, other outbuildings ...) (Table 4).

TRADITIONAL RURAL BUILDING			STANDARD DETACHED BUILDING			CONTEMPORARY RURAL BUILDING		
beginning of plot	middle of plot	end of plot	beginning of plot	middle of plot	end of plot	beginning of plot	middle of plot	end of plot
1	2	3	4	5	6	7	8	9
10	11	12	13	14	15	16	17	18
19	20	21	22	23	24	25	26	27
28	29	30	31	32	33	34	35	36
37	38	39	40	41	42	43	44	45
46	47	48	49	50	51	52	53	54
55	56	57	58	59	60	61	62	63
64	65	66	67	68	69	70	71	72
73	74	75	76	77	78	79	80	81
82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99
100	101	102	103	104	105	106	107	108
109	110	111	112	113	114	115	116	117
118	119	120	121	122	123	124	125	126
127	128	129	130	131	132	133	134	135
136	137	138	139	140	141	142	143	144
145	146	147	148	149	150	151	152	153
154	155	156	157	158	159	160	161	162
163	164	165	166	167	168	169	170	171
172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189
190	191	192	193	194	195	196	197	198
199	200	201	202	203	204	205	206	207
208	209	210	211	212	213	214	215	216
217	218	219	220	221	222	223	224	225
226	227	228	229	230	231	232	233	234
235	236	237	238	239	240	241	242	243
244	245	246	247	248	249	250	251	252
253	254	255	256	257	258	259	260	261
262	263	264	265	266	267	268	269	270
271	272	273	274	275	276	277	278	279
280	281	282	283	284	285	286	287	288
289	290	291	292	293	294	295	296	297
298	299	300	301	302	303	304	305	306
307	308	309	310	311	312	313	314	315
316	317	318	319	320	321	322	323	324
325	326	327	328	329	330	331	332	333
334	335	336	337	338	339	340	341	342
343	344	345	346	347	348	349	350	351
352	353	354	355	356	357	358	359	360
361	362	363	364	365	366	367	368	369
370	371	372	373	374	375	376	377	378
379	380	381	382	383	384	385	386	387
388	389	390	391	392	393	394	395	396
397	398	399	400	401	402	403	404	405
406	407	408	409	410	411	412	413	414
415	416	417	418	419	420	421	422	423
424	425	426	427	428	429	430	431	432
433	434	435	436	437	438	439	440	441
442	443	444	445	446	447	448	449	450
451	452	453	454	455	456	457	458	459
460	461	462	463	464	465	466	467	468
469	470	471	472	473	474	475	476	477
478	479	480	481	482	483	484	485	486
487	488	489	490	491	492	493	494	495
496	497	498	499	500	501	502	503	504
505	506	507	508	509	510	511	512	513
514	515	516	517	518	519	520	521	522
523	524	525	526	527	528	529	530	531
532	533	534	535	536	537	538	539	540
541	542	543	544	545	546	547	548	549
550	551	552	553	554	555	556	557	558
559	560	561	562	563	564	565	566	567
568	569	570	571	572	573	574	575	576
577	578	579	580	581	582	583	584	585
586	587	588	589	590	591	592	593	594
595	596	597	598	599	600	601	602	603
604	605	606	607	608	609	610	611	612
613	614	615	616	617	618	619	620	621
622	623	624	625	626	627	628	629	630
631	632	633	634	635	636	637	638	639
640	641	642	643	644	645	646	647	648
649	650	651	652	653	654	655	656	657
658	659	660	661	662	663	664	665	666
667	668	669	670	671	672	673	674	675
676	677	678	679	680	681	682	683	684
685	686	687	688	689	690	691	692	693
694	695	696	697	698	699	700	701	702
703	704	705	706	707	708	709	710	711
712	713	714	715	716	717	718	719	720
721	722	723	724	725	726	727	728	729
730	731	732	733	734	735	736	737	738
739	740	741	742	743	744	745	746	747
748	749	750	751	752	753	754	755	756
757	758	759	760	761	762	763	764	765
766	767	768	769	770	771	772	773	774
775	776	777	778	779	780	781	782	783
784	785	786	787	788	789	790	791	792
793	794	795	796	797	798	799	800	801
802	803	804	805	806	807	808	809	810
811	812	813	814	815	816	817	818	819
820	821	822	823	824	825	826	827	828
829	830	831	832	833	834	835	836	837
838	839	840	841	842	843	844	845	846
847	848	849	850	851	852	853	854	855
856	857	858	859	860	861	862	863	864
865	866	867	868	869	870	871	872	873
874	875	876	877	878	879	880	881	882
883	884	885	886	887	888	889	890	891
892	893	894	895	896	897	898	899	900
901	902	903	904	905	906	907	908	909
910	911	912	913	914	915	916	917	918
919	920	921	922	923	924	925	926	927
928	929	930	931	932	933	934	935	936
937	938	939	940	941	942	943	944	945
946	947	948	949	950	951	952	953	954
955	956	957	958	959	960	961	962	963
964	965	966	967	968	969	970	971	972
973	974	975	976	977	978	979	980	981
982	983	984	985	986	987	988	989	990
991	992	993	994	995	996	997	998	999
1000	1001	1002	1003	1004	1005	1006	1007	1008
1009	1010	1011	1012	1013	1014	1015	1016	1017
1018	1019	1020	1021	1022	1023	1024	1025	1026
1027	1028	1029	1030	1031	1032	1033	1034	1035
1036	1037	1038	1039	1040	1041	1042	1043	1044
1045	1046	1047	1048	1049	1050	1051	1052	1053
1054	1055	1056	1057	1058	1059	1060	1061	1062
1063	1064	1065	1066	1067	1068	1069	1070	1071
1072	1073	1074	1075	1076	1077	1078	1079	1080
1081	1082	1083	1084	1085	1086	1087	1088	1089
1090	1091	1092	1093	1094	1095	1096	1097	1098
1099	1100	1101	1102	1103	1104	1105	1106	1107
1108	1109	1110	1111	1112	1113	1114	1115	1116
1117	1118	1119	1120	1121	1122	1123	1124	1125
1126	1127	1128	1129	1130	1131	1132	1133	1134
1135	1136	1137	1138	1139	1140	1141	1142	1143
1144	1145	1146	1147	1148	1149	1150	1151	1152
1153	1154	1155	1156	1157	1158	1159	1160	1161
1162	1163	1164	1165	1166	1167	1168	1169	1170
1171	1172	1173	1174	1175	1176	1177	1178	1179
1180	1181	1182	1183	1184	1185	1186	1187	1188
1189	1190	1191	1192	1193	1194	1195	1196	1197
1198	1199	1200	1201	1202	1203	1204	1205	1206
1207	1208	1209	1210	1211	1212	1213	1214	1215
1216	1217	1218	1219	1220	1221	1222	1223	1224
1225	1226	1227	1228	1229	1230	1231	1232	1233
1234	1235	1236	1237	1238	1239	1240	1241	1242
1243	1244	1245	1246	1247	1248	1249	1250	1251
1252	1253	1254	1255	1256	1257	1258	1259	1260
1261	1262	1263	1264	1265	1266	1267	1268	1269
1270	1271	1272	1273	1274	1275	1276	1277	1278
1279	1280	1281	1282	1283	1284	1285	1286	1287
1288	1289	1290	1291	1292	1293	1294	1295	

Table 4: The type/intended use category of the buildings on the plot.

SEASONAL RURAL BUILDING											
1	2	3	4	5	6	7	8	9	10	11	12

Further studies should focus on the possibility of defining minimum plot areas of a contemporary residential house in the countryside of the Podravska Region needed for quality housing, and on the elaboration of a proposal of a contemporary design approach to the planning of external areas and construction of contemporary detached residential houses in the area under question. The improved connectivity between the buildings and the area would help to optimise the exploitation of the appertaining land in all seasons, while also provide quality cultural and aesthetic comfort. The research into the planning of external areas appertaining to the residential rural buildings provides insight into several connected research subject matters, which are directly or indirectly linked to the issues of rural areas, dwelling culture, sustainable development and management of external (including green) areas and rural architecture. The studying of these connections helps towards a comprehensive understanding of the residential house/land/appertaining land relationship and the influence of the relationships between the individual physical and man-made elements, which help to create the »living cell«, the basic unit, i.e. the building block of rural areas in Slovenia.

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Mia Crnič

JAVNI ODPRTI PROSTORI MANJŠIH SREDIŠČNIH NASELIJ: raziskovanje tipologije javnega ODPRTEGA prostora in njegove pojavnosti v prostoru Slovenije

PUBLIC OPEN SPACES OF SMALL CENTRALISED
SETTLEMENTS: researching the typology of public open
spaces and their occurrence in the area of Slovenia

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IZVLEČEK

Prostor Slovenije je dokaj gosto prepleten z mrežo središčnih krajev različne hierarhične stopnje. S tematiko vplivnosti središč, njihovih povezovanj, značilnosti, itd. so se ukvarjali že mnogi raziskovalci (Drozg, Ravbar, Vrišer, tudi Fister, idr.), ki so postregli z naborom različnih vhodnih podatkov in temu primernimi rezultati. Da neko naselje živi, mora imeti program, s katerim oskrbuje svoje prebivalstvo. Prav tako pa vsakršno naselje potrebuje s svojimi značilnostmi in sestavinami, tako na ravni zasnove naselja, kakor grajenega tkiva. S slednjim se je ukvarjal Fister, P. (1993), med tem ko je pri Vrišerju, I. (1998) prednjačila funkcija naselij in njihova vplivnost na gravitacijsko zaledje. Pri tem se pojavljata vprašanji, ali je moč najti zvezo med Fistrovo kategorizacijo slovenskega prostora z vidika značilnosti grajenega tkiva in Vrišerjevo razdelitvijo glede na program in njegovo pomembnost ter ali za vsa naselja, ki so razporejena po celotnem prostoru, obstajajo kriteriji razvrščanja, ki bi jih, glede na grajene in programske značilnosti javnih odprtih površin, lahko povezali v večje zaokrožene celote s podobnimi značilnostmi?

Kot osnova za raziskovanje opredeljenega problema je bila primerjava Fistrovega in Vrišerjevega modela. Dobljeni rezultati so bili iztočnica za nadaljnjo raziskovanje javnih odprtih površin, ki povezujejo grajeno tkivo v naseljih z drugo stopnjo središčnosti po Vrišerju.

KLJUČNE BESEDE

javni odprti prostor, manjša središča, vzorec, tipologija, Slovenija

ABSTRACT

The area of Slovenia is rather widely intertwined with a network of centralised areas of various hierarchies. Several researchers (Drozg, Ravbar, Vrišer, Fister, and many others), who used a variety of input data and received adequate results, have been dealing with the topic of the influence of centres, their connections and characteristics. For a settlement to exist, it has to possess a program for the provision of its citizens. At the same time such a settlement has its own characteristics and ingredients at the level of the design of the settlement as well as construction. Fister (1993) dealt with the latter topic while Vrišer (1998) focused on the functionality of settlements and their influence on the catchment areas. In this context the question arises as to whether there is a connection between the categorisation of the Slovenian area in regards to the characteristics of construction by Fister and classification in regards to the program, its importance and the question whether classification criteria exists which could be connected into larger rounded off units with similar characteristics in regards to the building and similar program characteristics of public open spaces by Vrišer.

The basis for researching the problem in question was the comparison of the model by Fister with the model by Vrišer. Acquired results formed the basis for further research of public open spaces connecting constructions in settlements with centres of second level by Vrišer.

KEY-WORDS

Public open space, small centres, pattern, typology, Slovenia

UVODNIK
EDITORIAL
ČLANEK
ARTICLE

RAZPRAVA
DISCUSSION
RECENZIJA
REVIEW
PROJEKT
PROJECT
DELAVNICA
WORKSHOP
NATEČAJ
COMPETITION
PREDSTAVITEV
PRESENTATION
DIPLOMA
MASTER THESIS

1. INTRODUCTION

Natural conditions and historical development contributed largely to the development of numerous small and dispersed settlements in the area of Slovenia. Two million people live in almost 6000 settlements, nearly one half in the countryside. Due to the uneven distribution and density of the population, the topography of the surface, political and administrative division of land and historical development almost 600 settlements were formed with various hierarchies of centralisation (Vrišer, 1998, p. 308) supplying its own wide and narrow areas.

Researching the topic of centralised settlements in Slovenia interested several researchers in the past, e.g. Vrišer (1968) on the network of centralised settlements in Yugoslavia, Kokole (1971) on the network of centralised settlements in Slovenia and many others, however, there has been a drop in interest to some extent in the present day. This is due to the changes in the socioeconomic status, politics and gradual depopulation from cities into suburbs and the nearby countryside, etc. Hence it is possible to expect that the actual situation is somewhat different today (Cigale, 2002, p. 44).

A research regarding the characteristics of Slovenian architecture or rather buildings and settlements was carried out in 1993 by Peter Fister et al. He states to have created an inventory of identity/quality inventories. He divided the area of Slovenia into 74 architectural landscapes and named them according to the name of locations from which patterns and guidelines for architectural identity were originating from. He found four centres of various sizes. He merged architectural landscapes with similar or identical characteristics into regions (14) with names corresponding to already established geographical, ethnological or other designations. In the search for ingredients which determine general and recognizable characteristics (termed by Fister as architectural identities) of designing architectural landscapes, farm buildings were primarily subject to observation. Since (farm) buildings were the main criteria for designing common characteristics and connecting those into larger groups with similar characteristics (hereinafter architectural landscapes) morphological content is certainly in the foreground (building typology, position, volume, fragmentation of architectural elements, etc.). He also focuses on settlements within components of individual architectural landscapes. The primary criteria determining the characteristics of individual settlements arise from morphology and topography (adapting to the relief, scheme, fragmentation of the building line, position, partly by vedute, etc.). As a result of rounding off the main components on the level of buildings and settlements, dialectological, ethnological and geographical regionalisations have to be taken into consideration (Fister, 1993, p. 5–33).

As opposed to research by Fister, which is based on building and settlement morphology as well as surface topography, Vrišer (1998) researched the area of Slovenia on the basis of influential areas of individual location and their role in space. The function of settlements has changed over the years; the last century especially lead to changes in regards to historical development, urbanization, industrialisation, increase in the standard of living, polycentric development, etc. These changes influenced the creation of locations with various hierarchical levels. Vrišer names 7 levels. Functionality of a location is the main criteria of the categorisation and importance of an individual centre:

- Centre of the First Level: complete or incomplete primary school, grocery store, inn;
- Centre of the Second Level: primary school, post office, medical practice, bank, police station, pharmacy;
- Centre of the Third Level: medical practice, cinema, hotel, several specialised stores and trades, library, subsidiary court, etc.;
- Centre of the Fourth and Fifth Level: secondary schools, hospital, theatre, etc.;
- Centre of the Sixth and Seventh Level: university, court house, opera, etc.

Individual centralised settlements are connected into greater influential areas. His definition of geographical influential areas arises from the location of centres of third or higher levels and thus shows their catchment force. In addition to the level of centralisation he also defines a corresponding level of influence. By and large he defines 15 influential areas, among those seven with the fourth level of influence (and corresponding to centres of the fourth level) and eight with the fifth level of influence (corresponding to centres of the fifth level or higher). A high level of connecting centres and influential areas is shown while defining two major influential areas comprising the area of Slovenia. The northeast area of the country falls under the influential area of Maribor (influential area of the sixth level) while the remainder belongs to the influential area of Ljubljana (highest influential area of the seventh level) (Vrišer, 1998, p. 308, 309).

Fister's and Vrišer's divisions of the area of Slovenia into smaller units have the research of individual influential areas in common. However, they differ regarding the main criteria influencing the results of their research. Fister prefers a farm building and its morphology (with the topography of the surface) while Vrišer's research is based solely on the function of settlements. As Vrišer states (1998), the image and role of settlements has changed over the years solely because of the changes of functions. Fister rules out the function of a location and solely observes changes in the form. He neglects relations between volumes, functions of individual buildings, etc. (with the sole exception of dominating features, which he describes according to the position in the settlement). He also excludes the fragmentation of open areas of individual settlements, which are not only morphologically determined but serve a purpose in the settlement which makes them the main connectors of construction (Goličnik Marušič, 2010). The development of locations throughout the history has definitely been influenced by the function of these locations which enabled their existence and development. Taking into account the classification criteria of locations according to Vrišer, Slovenia is split into manageable 15 influential areas, while the morphological method by Fister is less applicable since it splits the area of Slovenia into 74 influential areas (or rather architectural landscapes). This raises questions as to whether Fister's fragmentation can possibly be merged into larger closed groups of settlements according to Vrišer's functional provisions of individual influences and their corresponding areas, and which criteria is most suitable for the classification of settlements according

to their common characteristics: morphological or functional and whether a connection between them exists.

The reasons behind researching the typography of public open spaces of settlements are findings indicating that a system of sufficient quality summarising common characteristics and general categorisation for various areas does not exist. The results of the categorisation shall provide a link between the morphological and functional criteria and shall show which criteria type precedes the research of public open spaces. Two types of results shall be given. Of great interest is on the one hand the main criteria influencing the design of public open spaces and on the other hand the categorisation/typology of public open spaces of smaller centralised settlements. Categorisation of settlements will provide a basis for further research and set the guidelines for development and management of public open spaces.

2. MATERIALS AND METHODS

The starting point for the research of the problem in question is the Fister's model of classification of settlements into architectural location in regards to morphology and topography, and Vrišer's functional research (described in the introduction).

All stages of research share a common criteria for the selection of patterns. They namely deal with settlements that fall into the category of "small" centralised settlements. "Small" centres are very difficult to define and do not represent a criteria according to which their size could be established. The term "small" does not exclude or condition the meaning of provincial, urban, rural or tourist (Fikfak, 2009, p. 24). Thus while defining the term "small centres", the relationship between the centralised settlement and its catchment areas as well as its relationship toward neighbouring centres influencing and supplementing it, is of great importance.

"Small centres" can accordingly be defined with the following criteria:

- Are all settlements with the role of (municipal) centres, with less than 5000 inhabitants in its catchment area (SPRS, 2004) (this criteria also limits the creating of new municipalities (Official Gazette of the Republic of Slovenia, No. 44/96)),
- In addition to their centralised significance they also have administrative significance,
- The basic activities of the centre are the following: post office, primary school, petrol station, bank, general physician, pharmacy, police station (should the centre be located near the border), grocery store, inn (Cigale, 2002, p. 46),
- The exception in regards to their activities are centres in close proximity of larger centres; there is a division of function in such cases (Cigale, 2002, p. 53)
- Generally smaller than 3000 inhabitants (Criteria for designing cities (Gabrijelčič et al., 2004, p. 17)),
- Are typically provincial settlements (urban or semi-urban provincial settlements; "urban" as a way of life not as a sign of an urban city area), villages and tourist villages (Fikfak, 2009, p. 24),

- Fall into the 2nd category of centralisation according to Vrišer (Vrišer, 1998).

In the further stages of research where settlements were analysed in more detail, in addition to criteria mentioned above for the selection of settlements according to their size and function, a criteria of great importance was also public open space. It is namely the main criteria connecting construction with public spaces. As Jankovič (2011, p. 2, 3) states, the public areas are open to everyone and make socialisation, play, creating, etc. possible. They include traffic areas and other common areas, such as squares, platforms, parks, greens, embankments, etc.

Choosing the methodological approach depends largely on individual parts of the research which should not be strictly separated but instead intertwined and supplementing each other. The first and second step are based on the comparative method of the models by Fister and Vrišer, while the third and fourth steps aim to analyse and synthesise public open spaces in settlements all around Slovenia.

3. RESEARCH

3.1 Matching/Not matching

The results of both researchers are verified on the basis of matching or rather not matching: Vrišer's map of centralised settlements and influential areas of important centres from the year 1994 (Vrišer, 1998, p. 309) is overlapped by Fister's map of Architectural landscapes and regions (Fister, 1992, p. 246). In regards to the question whether Fister's classification can be merged into larger closed groups of settlements in accordance with Vrišer's functional provisions of individual influential areas, a comparative analysis of both maps was created: to what extend do influential areas coincide with architectural regions (does an appropriate architectural region fit inside one influential area or can one influential area hold several regions) and later on with architectural landscapes and as to whether within one influential area, landscapes from one or several architectural regions can exist.

3.2 Comparison

On the basis of results from the previous point, a further comparative analysis followed (Table 1). In regards to the previous hypothesis that settlements can be merged into larger groups on the basis of functionality, the foundation for the creation these larger groups was represented by an influential area according to Vrišer (Table 1, column 1). In accordance with the previous step, there were several architectural landscapes – all belonging to various architectural regions – within one influential area (Table 1, column 2). A characteristic overview followed (as determined by Fister, 1993) for each architectural landscape at the level of settlements and farm buildings (Table 1, column 3). Based on this overview of main characteristics the column 4 in the Table 1 was created and it presents common characteristics of landscapes (even if located in various regions) regardless of its corresponding influential area.

INFLUENTIAL AREA ACCORDING TO VRIŠER	ARCHITECTURAL LANDSCAPES ACCORDING TO FISTER (1993, p. 42–225)		COMMON CHARACTERISTICS
	Architectural landscape	Characteristics	
KOPER	5, 7, 8, 9		
	5: Karst – Sežana (Architectural region Karst – Primorje)	Settlements: (a) gently sloping hills with central dominating features, (b) larger groups of buildings instead of individual farm buildings Farm buildings, buildings: (a) individual as part of irregular sets, storey, pitched roof, convex tiles, stone details (b) farm buildings in groups and around courtyards, at ground floor or storey, longitudinal ground plans, pitched roofs covered with convex or stone tiles.	Table 1: Matching of certain influential areas by Vrišer with architectural landscapes at building and settlement level. Settlements: Irregular groups, buildings form a street line, accentuated dominating features, mostly on the edge. Farm buildings, buildings: Irregular line, longitudinal ground plans, gradual pitched roofs covered with convex tiles or stone detail.
	7: Koper (Architectural region Karst – Primorje)	Settlements: (a) in dominant areas, in groups, (b) on a ridge or near older clustered centres, buildings parallel to the infrastructure Farm buildings, buildings: (a) individual buildings, longitudinal ground plans (1:1.8), storey, gradual pitched roofs covered with convex tiles, stone details, (b) clustered complexes, closed courtyards, elongated ground plan (1:3.5), gradual pitched roofs or single pitched roofs with convex tiles, stone details, (c) individual buildings in common street lines, storey, pitched roofs with convex tiles, stone detail.	
	8: Koštabona (Architectural region Karst – Primorje)	Settlements: (a) small cluttered settlements without dominating features on hills or slopes, (b) on ridges or slopes, along infrastructure forming street lines, dominating features on the edges. Farm buildings, buildings: (a) clustered complexes joined by connected buildings, gradual pitched roofs covered with convex tiles, stone detail, (b) buildings in short, irregular sets, storey, gradual pitched roofs with convex tiles, stone details.	
	9: Brkini and Markovščina (Architectural region Inner Carniola – Brkini)	Settlements: (a) undulating land, built clustered near the infrastructure, farm buildings spread unevenly, dominating features not very pronounced. Farm buildings, buildings: (b) merged complexes, single-story or storey buildings, longitudinal ground plans (1:1.6), pitched roofs covered with convex tiles, stone details.	
KRŠKO - BREŽICE	48, 51		
	48: Brežice (Architectural region Lower Carniola)	Settlements: (a) settlements located on faults and near infrastructure, clustered farm buildings, not pronounced dominant features, farm buildings hidden in the greens, (b) settlements located on flat land, along infrastructure, irregular in small groups, dominating features not pronounced Farm buildings, buildings: (a) Buildings in groups around open courtyards, near roads, longitudinal ground plan (1:1.4), single-story, wooden, plastered, pitched roofs covered with crown tiles, (b) Farm buildings are unified, square to the road, residential buildings elongated into commercial buildings (1:1.5 – 1:2), storey, pitched roofs covered with crown tiles.	Settlements: Clustered settlements, also scattered (however, buildings located relatively in close proximity to one another), along infrastructure, dominant features not pronounced or located outside of settlements. Farm buildings, buildings: Longitudinal ground plan, clustered, modest without details, pitched roofs covered with crown tiles.
	51: Podsreda – Bizeljsko (Architectural region Savinjsko – Kozjansko)	Settlements: (a) On the border of two cultures, along infrastructure, spread out buildings, farm houses hidden in greens, dominating features in certain parts of settlements or outside. Farm buildings, buildings: (a) Clustered and modest, longitudinal ground plan (1:2.2), steep pitched roofs covered with crown tiles, common hipped roofs, (b) Complexes in groups, longitudinal ground plans, steep pitched roofs covered with crown tiles and hipped roof.	
PTUJ	61, 66		
	61: Ptuj (Architectural region Drava)	Settlements: (a) on flat land, near infrastructure, regular, one-sided design, parcel oriented square to the road, dominating features not pronounced or non-existent, (b) on rising grounds or gentle slopes, near infrastructure. Farm buildings, buildings: (a) Farm houses in shape of the letter L or elongated buildings, narrow parts of the building square to the road, single-story buildings, single, double or multiple pith roof covered with shear tiles, (b) Buildings in groups, elongated ground plans (1:2.5), single-story buildings, pitched roof covered with shear tiles.	Settlements: On flat land, located near roads, parcels square to the communication axle, dominating features not pronounced. Farm buildings, buildings: Longitudinal ground plans, the short side of the building next to infrastructure, steep pitched roofs covered with shear tiles.
	66: Ormož – Ljutomer (Architectural region Pomurje)	Settlements: (a) on flat land, regular settlements, one or two-sided design, linear settlements, parcels oriented square to the road, forming streets lines, dominating features rarely stand out. Farm buildings, buildings: (a) Regular with squared or parallel commercial buildings, elongated ground plan (1:2), single-story, steep pitched roofs covered with crown tiles or shear tiles.	

3.3 Sampling public open spaces

Further research (step 3) was based on determining public open spaces in a settlement. Sample selection increased and included the entire area of Slovenia. The observed patterns were represented by three locations of all 15 influential areas, since previous research showed that settlements may be merged in regards to their influence of functions.

Observing settlements on the basis of morphology of open spaces, or more precisely: where construction connects and intertwines. According to previously determined criteria for pattern selection, three locations from its own influential area (in regards to the map by Vrišer, 1998, p. 309) and all in all 48 samples from all over Slovenia were chosen. Based on orthophotographs the design of public open spaces (traffic surface and other common surfaces, such as squares, platforms, parks, greens, embankments) and how these appear in space were observed. Two patterns emerged: linear and star-shaped.



Figure 1a: Designing public open spaces in the influential area of Koper. Source: Internet 1



Figure 1b: Designing public open spaces in the influential area of Kranj. Source: Internet 1



Figure 2a: Designing public open spaces in the influential area of Novo mesto. Source: Internet 1



Figure 2b: Designing public open spaces in the influential area of Nova Gorica. Source: Internet 1



Figure 3a: Designing public open spaces in the influential area of Jesenice. Source: Internet 1



3b: Designing public open spaces in the influential area of Postojna. Source: Internet 1



Figure 4a: Designing public open spaces in the influential area of Krško-Brežice. Source: Internet 1





Figure 4b: Designing public open spaces in the influential area of Celje. Source: Internet 1

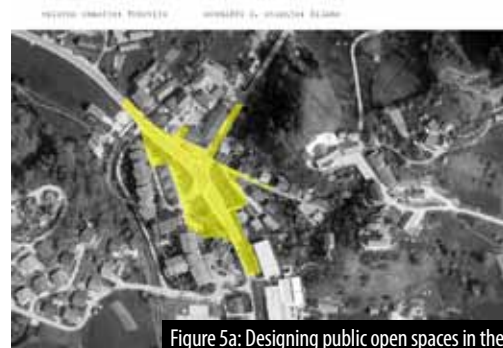


Figure 5a: Designing public open spaces in the influential area of Trbovlje. Source: Internet 1



Figure 5b: Designing public open spaces in the influential area of Ravne na Koroškem – Slovenj Gradec. Source: Internet 1



Figure 6a: Designing public open spaces in the influential area of Velenje. Source: Internet 1

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Figure 6b: Designing public open spaces in the influential area of Maribor. Source: Internet 1



Figure 7a: Designing public open spaces in the influential area of Ptuj. Source: Internet 1



7b: Designing public open spaces in the influential area of Murska Sobota. Source: Internet 1



Figure 8a: Designing public open spaces in the influential area of Ljubljana – north of rivers Ljubljanica and Sava. Source: Internet 1



Figure 8b: Designing public open spaces in the influential area of Ljubljana – south of rivers Ljubljanica and Sava. Source: Internet 1



3.1 Width of public open spaces

In the fourth step the preceding steps were supplemented. On the basis of acquired patterns, the width of each pattern was observed in the first phase while the next phase dealt with width of public open spaces regardless of occurring patterns.

4. RESULTS

This section presents general findings on the basis of a research of characteristics of settlements with the second level of centralisation according to Vrišer (1998) from the standpoint of public open spaces and morphological characteristics. Overlapping maps of settlement classification according to

INFLUENTIAL AREAS ACCORDING TO VRIŠER (1998, p. 309)	ARCHITECTURAL REGION (1993, p. 246)
Koper	Karst – Primorska, part of Inner Carniola – Brkinska
Nova Gorica	Soško – Vipavska, Idrijsko – Trnovska, part of Upper Carniola
Postojna	Inner Carniola – Brkinska
Jesenice, Kranj	Upper Carniola
Ljubljana	Ljubljanska, Ribniško – Kočevska, part of Lower Carniola
Novo mesto	Lower Carniola, Belokranjska
Krško - Brežice	part of Lower Carniola, part of Zasavje, part of Savinjsko – Kozjanska
Trbovlje	Zasavje
Celje	Savinjsko – Kozjanska, part of Dravska
Velenje	Savinjsko – Kozjanska
Ravne na Koroškem – Slovenj Gradec	Carinthia
Maribor	Part of Carinthia, part of Dravska
Ptuj	Part of Dravska, part of Pomurska
Murska Sobota	Pomurska

Table 2: Merging/overlapping of maps on the basis of architectural regions. Remark: 'part of' refers to the fact that an architectural region is only partly represented.

morphologically-typological criteria (Fister) and functional criteria (Vrišer) concluded that the borders of individual complete areas are not harmonized and that there is considerable fragmentation according to the method by Fister. Solely the influential area of Murska Sobota by Vrišer coincided with the architectural region by Fister. In other examples several architectural regions are joined into one functional influential area or the other way around – one architectural region is divided into two influential areas.

INFLUENTIAL AREAS ACCORDING TO VRIŠER (1998, p. 309)	ARCHITECTURAL LANDSCAPES ACCORDING TO FISTER (1993, p. 246)
Koper	Koper, Kaštabona, Kras – Sežana, Brkini z Markovščino
Nova Gorica	Brda, Nova Gorica, Vipava, Trnovska planota, Idrija, Cerklje, Tolmin, part of Bohinj
Jesenice	part of Bohinj, Mojstrana, Radovljica,
Kranj	Kropa, Tržič, Jezersko, Kranj, Železniki, Škofja Loka, Žiri
Ljubljana	Tuhinjski, Kamnik – Domžale, Lukovica (črni Grabenji), Moravče, Litija, Ljubljana Moste, Ljubljana Barje, LjubljanaVrhnikija, Ljubljana Polhov Gradec, Ljubljana Šentvid, Višnja Gora, Ribnica, Kočevje, part of Bloke, Logatec, part of Planina - Cerknica
Postojna	Postojna, Pivka, Ilirska Bistrica, part of Planina – Cerknica,
Novo mesto	Metlika, Novo mesto, Kostanjevica, Trebnje, Šentrupert – Mokronog, Suha Krajina, part of Kočevje
Krško -Brežice	Brežice, Podsreda –Bizelsko, part of Sevnica
Trbovlje	Trbovlje, part of Sevnica
Celje	Podčetrtek – Kozjansko, Rogatec, Šmarje – Celje, Laško – Celje, part of Sevnica, Žalec – Celje, Vojnik, part of Slovenska Bistrica, part of Gornja savinjska dolina
Velenje	Velenje, part of Gornja savinjska dolina
Ravne na Koroškem – Slovenj Gradec	Ravne – Dravograd, Slovenj Gradec, part of Pohorje, Vuzenica
Maribor	Part of Pohorje, Ruše – Maribor, Pesnica - Maribor, Lenart, Fram, part of Slovenska Bistrica
Ptuj	Part of Lenart, Ptuj, Ormož – Ljutomer
Murska Sobota	Gornja Radgona, Murska Sobota – Lendava (Ravensko + Dolinsko), Cankova - Domanjševci

Table 3: Merging/overlapping of maps on the basis of architectural landscapes. Remark: 'part of' refers to the fact that an architectural region is only partly represented.

Table 2 shows that several architectural landscapes can be merged within a single influential area according to Vrišer. Three adequate samples of influential areas (Ptuj, Koper and Krško-Brežice) were gathered with their corresponding architectural landscapes (Karst – Sežana, Koper, Koštabona, Brkini and Markovščina, Brežice, Podsreda – Bizeljsko, Ptuj, Ormož – Ljutomer). Samples were gathered so that one influential area by Vrišer contained architectural landscapes from various architectural regions. This pattern selection enabled a greater diversity of input data and made possible to analyse whether settlements could be merged into groups with identical characteristics in regards to functional influential areas. The results indicated that architectural regions and landscapes by Fister (which belong in an architectural region or represent landscapes from various regions) could be merged into functional influential areas by Vrišer. There were no deviations within individual landscapes, what confirms the theory that settlements may be categorised according to characteristics of buildings and characteristics of the function of the entire settlement. The results of the first two steps, moreover, showed that the system of Vrišer's influential areas may be a start of a classification according to which settlements (and consecutively buildings) could be classified into closed systems with common or very similar quality with the focus being on the function and not the shape.

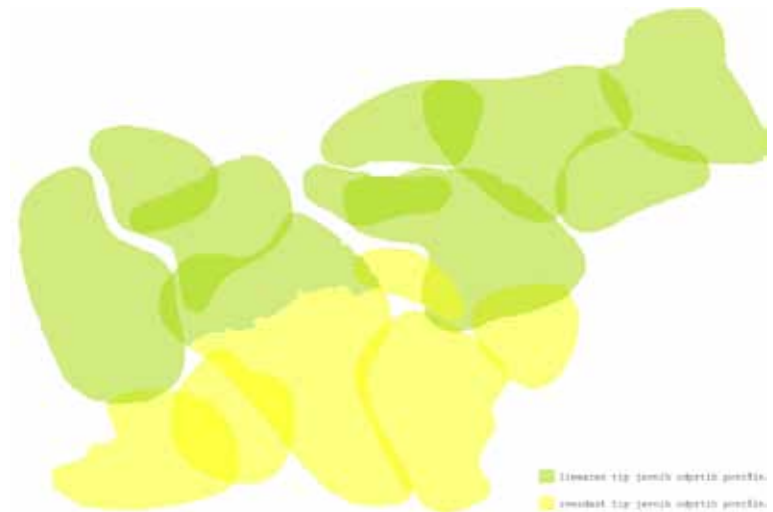
Among all patterns in question (altogether 48 patterns) two patterns of public open spaces which define and connect construction emerged – namely a pattern of linear and star-shaped settlements. The linear pattern shapes the public open spaces longitudinally, in a straight line or in a curved line. The star-shaped pattern on the other hand shapes a location as small groups of individual buildings among which star-shaped open spaces occur (Figure 9).



Figure 9: above – linear patterns, below: star-shaped patterns in public open spaces.

While observing dispersal of both patterns in space, a clear border is noticeable between the north and south part of Slovenia. The border moves from east to west through the middle of the country, through Ljubljana. For settlements north of Ljubljana a linear pattern of public open spaces is typical while settlements lying south of Ljubljana exhibit star-shaped patterns of public open spaces (Figure 10).

Figure 10: Division of Slovenia regarding the occurrence of the star-shaped and the linear pattern of open spaces.



Observing the width of public open spaces it became clear that they were wider in the northeast of the country and exceptionally also in the influential area of Kranj (Figure 11). These results can be compared with influential areas by Vrišer, since wider public areas coincide with the influential area of Maribor while narrower are found in the influential area of Ljubljana.

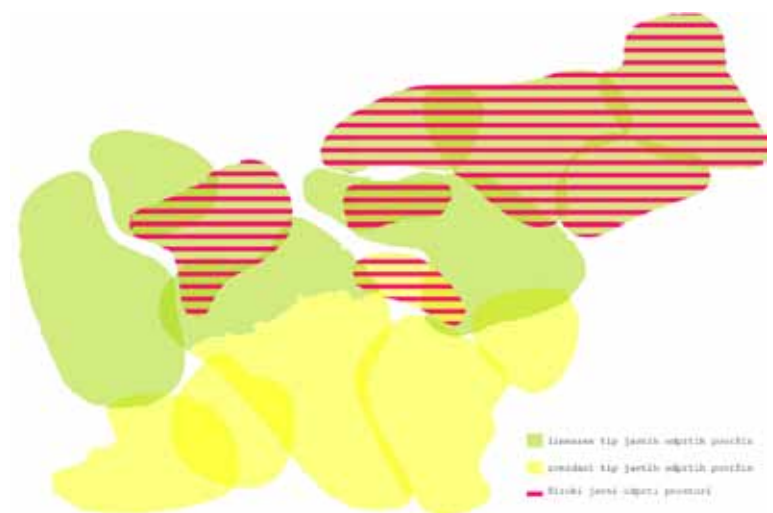


Figure 11: Narrow and wide public open spaces.

5. DISCUSSION

In the last couple of years the function of settlements has changed drastically. Once focused on agriculture, the settlements have markedly changed since the invasion of middle-class mentality (Drozg, 1998). New demands for programs which once did not exist (new social programs, higher standard of living, higher standards of teaching and health institutions, different mentalities, etc.) brought about changes in the planning and designing of settlements. A village was once an agricultural community based on self-sufficiency whereas today it serves mostly as a sleeping settlements where services are offered (ibid.). Spatial planning is thus adapted to the functions or rather services, which are connected to the economy and socio-economic structures (Drozg, 2002, p. 20). Planning settlements means linking buildings, morphological elements and all ingredients that suit the demands of citizens (ibid.). The importance of functions for the planning of the settlements can also be seen while comparing architectural regions with influential areas. Architectural regions which are based solely on geographically closed areas can be summed up into influential areas, since among the latter the criteria of function, which had one of the most important roles in the development of settlements, is prevalent (Table 2).

The reason that only two patterns of public open spaces appear (linear and star-shaped) in Slovenia can be found in the design of settlements. As Drozg (1998, p. 300) notes, the regional unity of settlement type can be discerned from their corresponding location in regards to natural conditions, limiting factors and visual exposure of the settlement. Since limiting factors are similar in the entire region, the position and ground plan design of the settlement are also similar (precisely there).

The results of the research regarding the arrangement of linear and star-shaped pattern of public open spaces also coincide with the following findings:

- Types of urbanization in the first half in 1990s (Ravbar, 1998, p. 311): northern part of the Slovenian area is taken over by urbanized countryside with a dispersed population (the results of the research also showed that there is a prevalence of star-shaped open spaces), while the southern part represents urbanized countryside with condensed population. This map of urbanization can also be used to analyse where wide and where narrow open public spaces are prevalent.
- Type of colonisation (Drozg, 1998, p. 299): the northern part is represented by dispersed settlements and the southern part by nucleated settlement, confirmed by this research.

6. CONCLUSION

As is the past, in the future settlements shall also be divided into groups on the basis of their function which they have in the network of settlements. Notwithstanding the wide dispersal of colonisation and prevalent small settlements in Slovenia, they can be merged into typical closed groups on the basis of program equipment of the settlement and its functional value for providing for its citizens in the catchment areas. Topographical and

morphological factors are of great importance for the categorisation of settlement from the standpoint of vedute, greens, orientation, infrastructure in public spaces, etc., and therefore these should be the object of further research which will enable us to draw new conclusions in this field.

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Mojca Foški, Gašper Mrak, Alma Zavodnik Lamovšek ŠTUDENTSKE DELAVNICE KOT PRIMER PROJEKTNEGA UČENJA

STUDENT WORKSHOPS AS AN EXAMPLE OF PROJECT BASED LEARNING (PBL)

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IZVLEČEK

Študentske delavnice so oblika projektnega učenja in sodelovanja med izobraževalnimi institucijami in lokalnimi skupnostmi. Cilj takšne oblike učenja je, da obe strani pridobita pozitivne izkušnje medsebojnega sodelovanja. Izobraževalne institucije na ta način pridobijo realno okolje, v katerem študentje iščejo odgovore na konkretna vprašanja prostorskega razvoja, učitelji jih pri tem vodijo skozi teoretično zasnovane metodološke pristope. Lokalnim skupnostim pa tovrstno sodelovanje prinese odprto razpravo o vprašanjih prostorskega razvoja z vsemi zainteresiranimi deležniki, predvsem s širšo strokovno in laično javnostjo. Dejanski odnos lokalnih skupnosti do študentskih delavnic smo preverili z anonimno spletno anketo, s katero smo zgornje ugotovitve potrdili. Prošnjo po izpolnitvi anketnega vprašalnika smo poslali vsem 212 slovenskim občinam. Na anketo je odgovorilo 56 (26 %) občin. Analiza odgovorov kaže veliko stopnjo zadovoljstva lokalnih skupnosti s študentskimi delavnicami ter pridobljenimi rešitvami na zastavljena vprašanja prostorskega razvoja na območju sodelujoče občine. Rezultati so tudi jasno pokazali, da se lokalne skupnosti zavedajo, da nabor predlogov in idej še ne predstavlja neposrednih strokovnih podlag za izdelavo konkretnega prostorskega akta, temveč le podlago za odprto razpravo in izhodišče za nadaljnje delo. Hkrati se lokalne skupnosti zavedajo, da so delavnice oblika študijskega procesa, in jih podpirajo ter si želijo nadaljnjega poglobljenega sodelovanja z izobraževalnimi institucijami.

KLJUČNE BESEDE

študentska delavnica, učenje s projektnim delom (PBL), anketa, lokalna skupnost

ABSTRACT

Student workshops are a form of Project Based Learning (PBL) and cooperation among educational institutions, and local communities. The purpose of this is that both parties gain positive experiences. For educational institutions this is a good way to be challenged with a real-life case where students seek answers to real-life questions in spatial development. The mentors are their guides through a theory-based methodological approach. For local communities this cooperation opens a public discussion on the local challenges in spatial development with all the interested stakeholders, but mostly with the general professional and »lay« public. To gain insight into the actual opinion on student workshops of the local communities we created an anonymous on-line questionnaire, whose results confirmed the aforementioned statements. All 212 Slovenian municipalities were asked to complete the survey. The responses were received from 56 municipalities (26%). The results show a high satisfaction rate of the local communities with the student workshops and with the results regarding the local spatial development challenges in the area of the municipality involved. Moreover, the results clearly demonstrated that the local communities are, in fact, aware that the proposals and ideas are far from actual professional designs of spatial planning documents, but rather a basis for open discussion and a starting point for further work. Moreover, they are also aware that the student workshops are a form of learning process – they are very supportive of it, and have high hopes for future in-depth cooperation with educational institutions.

KEY-WORDS

student workshop, project based learning (PBL), survey, local community

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1. UVOD

Korak h kakovostnejšemu študiju je postavljanje smiselnih in primerno zahtevnih nalog in strokovnih ter raziskovalnih vprašanj (Puklek Levpušček, Marentič - Požarnik, 2005). Ali kot pravi Linn (2006), glavni cilj poučevanja je pomoč študentom, da po korakih spoznavajo stališča strokovnjakov in v svojih možganih povezujejo koščke znanja drugega za drugim.

Številni avtorji poudarjajo, da je treba klasični izobraževalni proces nadgraditi s sodobnimi prijemi in drugačnimi metodami podajanja znanja. Ena naprednejših metod je projektno učenje (angl. project-based learning – PBL) (Medmrežje 2; Thomas, 2000; Larmer, Mergendoller, 2010; Blumenfeld et al., 1991; Ayas, Zeniuk, 2001), torej učenje, ki temelji na izdelavi projektne naloge. Opredelitve so si podobne v različnih virih in, kot navajajo avtorji v različnih priročnikih za učitelje (Jones, Rasmussen, Moffitt, 1997; Thomas, Mergendoller, Michaelson, 1999; v Thomas, 2000), so projekti kompleksne naloge, zasnovane na zahtevnejših vprašanjih ali problemih, ki vključijo študente v oblikovanje, reševanje problemov, odločevalske ali raziskovalne aktivnosti, dajo priložnost študentom za samostojno delo v daljšem časovnem razdobju in se na koncu izdelajo v enaki obliki kot pravi projekti ali predstavitve.

V članku predstavljamo študentske delavnice kot obliko projektnega učenja, ki ga izvajamo na Fakulteti za gradbeništvo in geodezijo Univerze v Ljubljani (UL FGG). Gre za obliko projektnega dela v izobraževalnem procesu, kjer se študenti seznanijo s problemi na lokalni ali regionalni ravni. Cilj takšne oblike učenja je, da vse vpletene strani pridobijo pozitivne izkušnje medsebojnega sodelovanja. Izobraževalne institucije in študenti na ta način pridobijo realno okolje, v katerem mentorji in študentje iščejo odgovore na konkretna vprašanja prostorskega razvoja ter preizkušajo teoretične dileme. Lokalne skupnosti pridobijo ideje in vizije prostorskih, arhitekturnih in okoljskih rešitev ter k razpravi in razmisleku aktivirajo tudi lokalno prebivalstvo.

Pri delu se upoštevajo vsi elementi projektnega učenja (Medmrežje 2). Na začetku delavnice se jasno podajo izhodišča naloge ter s predavanji strokovnjakov in lokalnih deležnikov predstavi vprašanja prostorskega razvoja, ki zadevajo sodelujočo lokalno skupnost. S kreativnim iskanjem idej in rešitev v daljšem časovnem obdobju (prek enega ali dveh semestrov) študenti ob podpori mentorjev izluščijo rešitev in jo ustrezno predstavijo ter zagovarjajo pred širšo strokovno in laično javnostjo v sodelujoči lokalni skupnosti. Delavnice izvajamo že deseto leto zapored z različnimi študentskimi študijskimi programi in praviloma v povezavi s sorodnimi oddelki na drugih fakultetah Univerze v Ljubljani (Filozofska fakulteta – Oddelek za geografijo, Fakulteta za arhitekturo, Biotehniška fakulteta – Oddelek za krajinsko arhitekturo) in na Tehniški univerzi na Dunaju (Oddelek za regionalno planiranje in regionalni razvoj).

Projektno delo v obliki študentskih delavnic je na Katedri za prostorsko planiranje Fakultete za gradbeništvo in geodezijo Univerze v Ljubljani vključeno kot način dela v rednem izobraževalnem procesu predvsem v višjih letnikih poučevanja, medtem ko imajo nekatere fakultete v Sloveniji,

kot na primer Fakulteta za arhitekturo Univerze v Ljubljani, delavnico – kot obvezno obliko izobraževanja – umeščeno v redni študijski program (Medmrežje 1).

Projektno delo temelji na realno oblikovanih problemih (Thomas, 2000), zato je uspešnost študentskih delavnic odvisna od sodelovanja med izobraževalnimi institucijami (univerzami in fakultetami) ter lokalnimi skupnostmi. Delo na dejanskem problemu pozitivno vpliva na razvoj študenta, bodočega ustvarjalca, saj prestopi meje učilnice ter se sooči z realnim delovnim okoljem. Četudi je projektno delo lahko oblikovano na teoretičnih ali izmišljenih problemih, si izobraževalne institucije želijo sodelovanja z lokalnimi skupnostmi, saj na ta način teoretična znanja lahko prenašajo v lokalno okolje in jih približajo študentom na praktičnih primerih, hkrati pa lokalne skupnosti pridobijo rešitve in usmeritve za reševanje lokalnih vprašanj prostorskega razvoja.

Praviloma se delavnice zaključijo z uradno predstavitvijo in razpravo z lokalnim prebivalstvom, za temeljito ovrednotenje dela s strani lokalnih skupnosti pa pogosto zmanjka časa ali pa vrednotna ocena ni globlja od vpljudnostnega zadovoljstva ali nekritičnega nezadovoljstva. V članku smo zato želeli preveriti zadovoljstvo lokalnih skupnosti z že izvedenimi študentskimi delavnicami ter preveriti delovno hipotezo, da tovrstno sodelovanje prinaša koristi vsem sodelujočim.

2. METODA DELA IN RAZISKAVA

Kot je poudarjeno že v uvodu, smo želeli čim bolj nepristransko ovrednotiti rezultate sodelovanja med izobraževalnimi institucijami in lokalnimi skupnostmi. V ta namen smo pripravili anonimno spletno anketo. K sodelovanju smo povabili vseh 212 slovenskih občin, saj smo želeli preveriti, koliko občin je že sodelovalo na tak način z izobraževalnimi institucijami, ali je sodelovanje v obliki študentske delavnice zanje koristno in analizirati prednosti in slabosti tovrstnega sodelovanja in povezovanja med lokalnimi skupnostmi in izobraževalnimi institucijami.

Anketa je bila dostopna na spletni strani Google Docs, oblikovana v programskem okolju Google Forms in posredovana vsem 212 občinam po elektronski pošti, ciljno na oddelke za urejanje prostora. Če elektronski naslov oddelka za urejanje prostora posamezne občine ni objavljen na spletu, smo prošnjo za izpolnjevanje anketnega vprašalnika naslovili na direktorje občinskih uprav, župane ali pa smo uporabili skupni e-naslov občine. Anketa je bila anonimna in kratka, anketiranec je zanje potreboval od 5 do 8 minut. Spletna anketa je bila izvedena maja 2014.

Anketni vprašalnik je bil sestavljen iz petih vsebinskih sklopov:

- SKLOP 1 – splošni podatki o izpolnjevalcu ankete (delovno mesto), ali je v lokalni skupnosti že bila izvedena študentska delavnica ter od kod so pridobili informacije o študentskih delavnicah; štiri vprašanja,
- SKLOP 2 – vsebinska vprašanja, povezana z izvajanjem delavnic in sodelujočimi deležniki; štiri vprašanja,
- SKLOP 3 – ovrednotenje delavnic ter pomen delavnic za lokalno skupnost; štiri vprašanja,

- SKLOP 4 – priporočila za nadaljnje delo ter lastna opažanja izpolnjevalca anketnega vprašalnika; tri vprašanja,
- SKLOP 5 – vprašanja za občine, ki še nimajo izkušenj s študentskimi delavnicami; tri vprašanja.

Pri devetih od osemnajstih vprašanjih je bila uporabljena štiristopenjska vrednostna lestvica, pri čemer 1 pomeni najnižjo vrednost ali »se ne strinjam«, 2 »se delno strinjam«, 3 »se strinjam« in 4 najvišjo vrednost oziroma »se popolnoma strinjam«. Ostala vprašanja so imela vnaprej podane odgovore in možnost izbire. Na posamezna vprašanja je bilo možno podati tudi več odgovorov.

Lokalne skupnosti, ki so že imele izkušnje s študentskimi delavnicami, so odgovarjale na prvi, drugi, tretji in četrti sklop vprašanj, na prvi in peti sklop vprašanj pa tiste, ki tovrstnega sodelovanja z izobraževalnimi institucijami še ne poznajo.

Prejeli smo 56 odgovorov. Predpostavili smo, da je v eni lokalni skupnosti izpolnila anketo ena oseba, in tako število prejetih odgovorov predstavlja 26 % vseh lokalnih skupnosti. Ocenili smo, da je vzorec prispelih odgovorov dovolj velik, da lahko izvedemo analizo rezultatov ankete.

V 55 % od prejetih odgovorov so anketo izpolnjevali predstavniki oddelkov za prostor in v 18 % direktorji občinskih uprav. Zaradi visokega deleža pristojnih oseb ocenjujemo, da so rezultati ankete verodostojni in da lahko na njihovih odgovorih temeljijo tudi naši zaključki.

3. ANALIZA IN REZULTATI

Vrnjene anketne vprašalnike smo obdelali in rezultate predstavili v grafični in tabelarični obliki. V članku so neposredno (z grafično ali tabelarično ponazoritvijo) ali neposredno (v vrednotenju celostnega obravnavanega sklopa) predstavljeni odgovori na vsa zastavljena vprašanja.

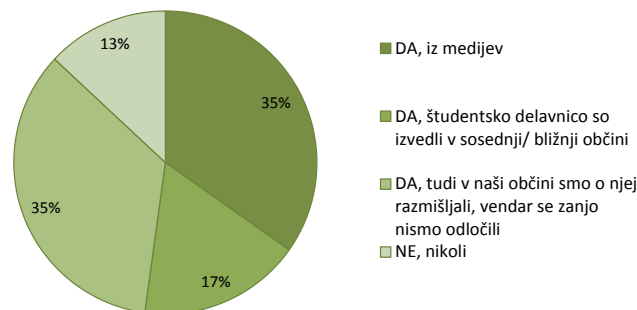
V zadnjih 15 letih je študentske delavnice izvedlo 52 % lokalnih skupnosti, ki so izpolnile anketo, 28 % lokalnih skupnosti delavnic ni izvedlo, v 20 % pa se anketiranec ni spomnil ali ni imel dovolj informacij, da bi lahko pritr dil ali zanikal izvedbo študentske delavnice.

Lokalne skupnosti, ki delavnice niso izvedle, so za študentske delavnice slišale bodisi iz medijev (35 %) ali iz izkušenj v sosednjih/bližnjih občinah (17 %). Kar v 35 % so lokalne skupnosti o izvedbi urbanistične delavnice tudi razmišljale, vendar se zanjo nato niso odločile. Le 13 % lokalnih skupnosti (v absolutni vrednosti 3 lokalne skupnosti) za delavnico še niso slišale (grafikon 1). 81 % lokalnih skupnosti, v katerih delavnica še ni bila izvedena, se je opredelilo, da bi v prihodnosti želele sodelovati z univerzitetnimi institucijami, med interesnimi področji sodelovanja pa je največ zanimanja za urejanje podeželskih naselij (28 %), sledijo krajinska arhitektura in urbanizem (19 %) in okoljska infrastruktura (18 %).

Med lokalnimi skupnostmi, ki so študentsko delavnico že izvedle, je 37 % takih, ki so jo izvedle trikrat ali večkrat, 33 % jo je izvedlo dvakrat, 30 % pa

Grafikon 1: Poznavanje študentske delavnice kot oblike dela in sodelovanja med lokalnimi skupnostmi in univerzitetnimi institucijami.

Ali in kje ste že slišali za študentsko delavnico kot obliko sodelovanja med lokalnimi skupnostmi in univerzitetnimi institucijami?



enkrat (grafikon 2). Študentske delavnice so bile najpogostejše izvedene v sodelovanju s Fakulteto za arhitekturo (46 %), ki ji sledita Fakulteta za gradbeništvo in geodezijo (21 %) in Biotehniška fakulteta (19 %), vse članice Univerze v Ljubljani. Obravnavana so bila raznolika vprašanja prostorskega razvoja lokalnih skupnosti, kot so urbanistične ureditve za del ali celotno mesto (24 %), urejanje vaških naselij in podeželja v celoti (skupaj 23 %), krajinske ureditve (13 %), arhitekturne rešitve (12 %), prostorsko načrtovanje na ravni občine (9 %) in prometna in okoljska infrastruktura (skupaj 10 %) (preglednica 1).

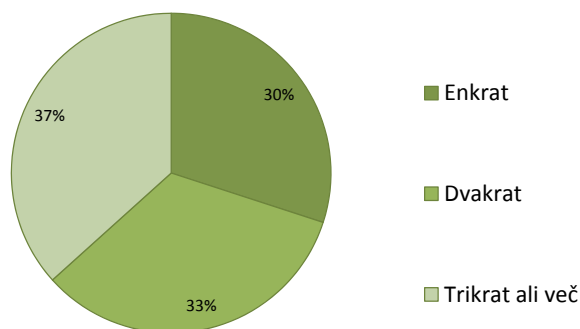
Preglednica 1: Prikaz deleža obravnavanih tematik v lokalnih skupnostih, ki so v zadnjih 15 letih že izvedle študentske delavnice.

	Področje, na katerem se je izvedla študentska delavnica	Odstotek odgovorov
1.	Urbanistična rešitev dela mesta	24 %
2.	Urejanje manjših vaških naselij	15 %
3.	Krajinsko oblikovanje oz. arhitektura	13 %
4.	Arhitektura	12 %
5.	Prostorsko načrtovanje (na ravni občine)	9 %
6.	Urejanje podeželja	8 %
7.	Umeščanje infrastrukturnega objekta/-ov v prostor	6 %
8.	Urbanistična zasnova celotnega mesta	5 %
9.	Iskanje prometnih rešitev	4 %
10.	Drugo	5 %

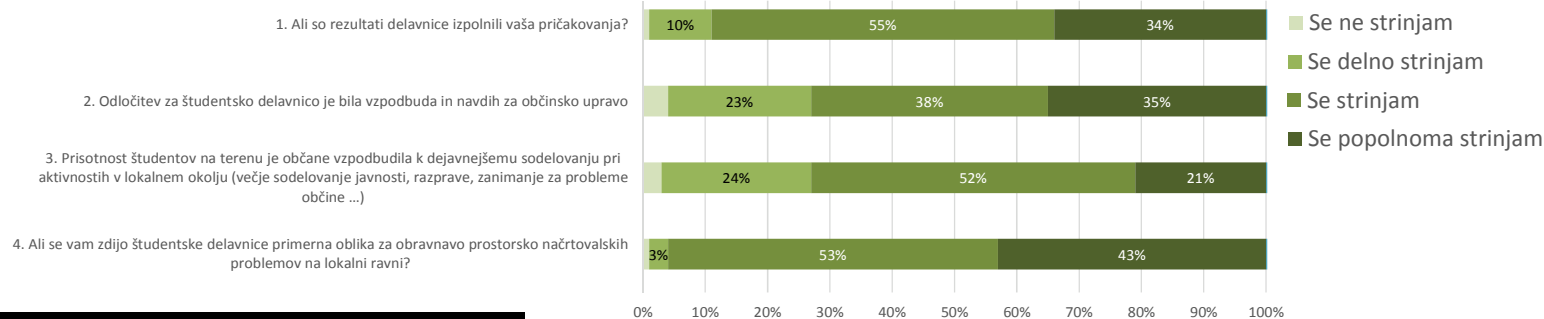
Iz odgovorov lahko sklepamo, da so lokalne skupnosti imele s študentskimi delavnicami pozitivne izkušnje, saj je 70 % lokalnih skupnosti ponovno pristopilo k tej obliki sodelovanja. Planersko-urbanistične delavnice so za lokalne skupnosti bolj zanimive kot delavnice z arhitekturnim in/ali okoljskim načrtovanjem. Sklepamo, da se za ta vsebinska področja odločajo predvsem zaradi perečih prostorskih problemov ter večje zahtevnosti (interdisciplinarnosti) dela.

Grafikon 2: Lokalne skupnosti glede na število izvedenih študentskih delavnic v zadnjih 15 letih.

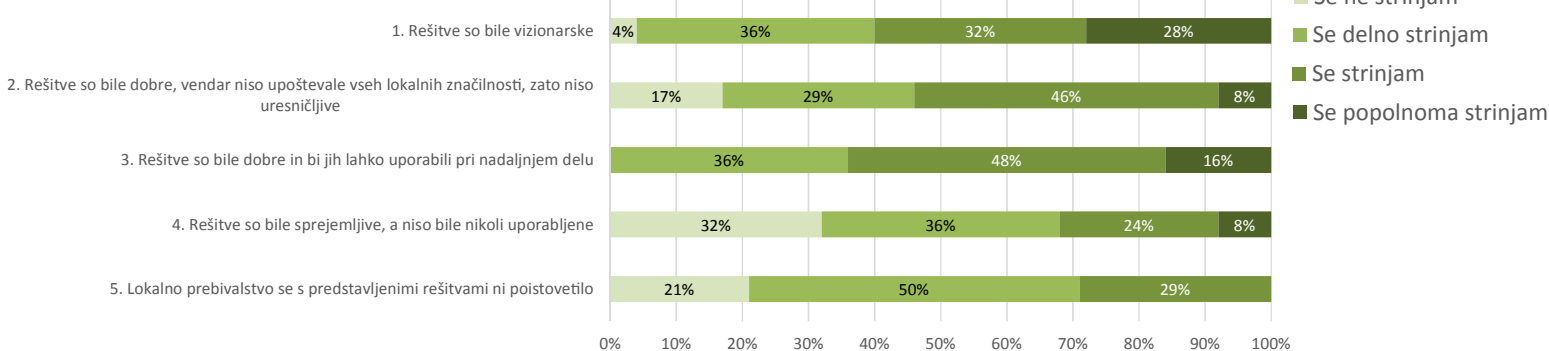
Kolikokrat ste že uporabili študentsko delavnico kot način dela za obravnavanje prostorsko načrtovalskih problemov?



Grafikon 3: Zadovoljstvo lokalnih skupnosti z izvedenimi študentskimi delavnicami.

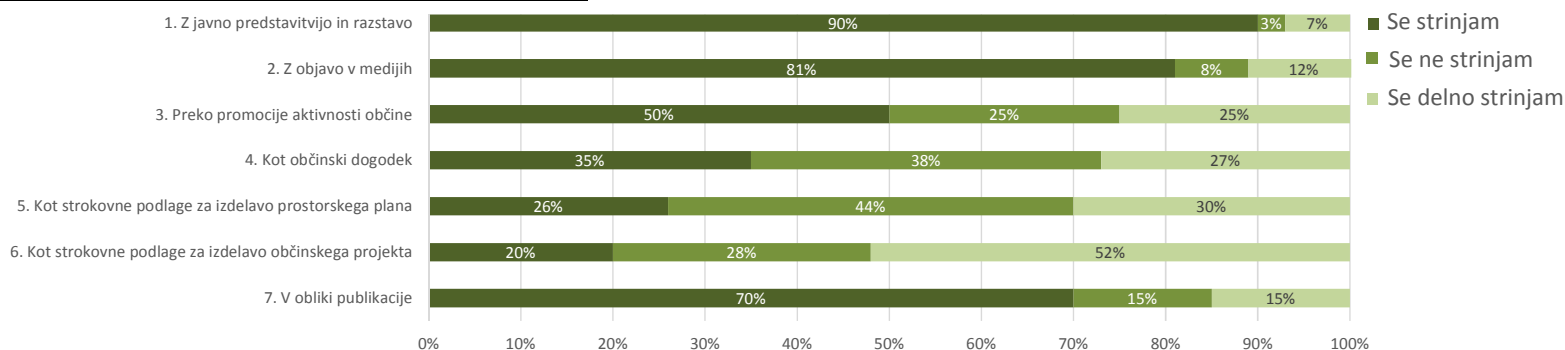


Grafikon 4: Pomen rezultatov študentskih delavnic za lokalno skupnost.



V sklopu vprašanj glede pomena študentskih delavnic za lokalno skupnost so bile študentske delavnice ocenjene zelo visoko, saj je kar 96 % občin menilo, da so študentske delavnice primerna oblika za obravnavo prostorsko načrtovalskih problemov (odgovori na četrto vprašanje/trditev, grafikon 3) ter da je prisotnost študentov popestrila lokalno okolje in zanimanje lokalnega prebivalstva ter tudi navdihnili delavce občinske uprave (83 %). Z rezultati delavnice so bila izpolnjena pričakovanja lokalne skupnosti kar v 89 %, v 10 % so bile občine le delno zadovoljne.

Lokalne skupnosti so pomen in rezultate študentskih delavnic ocenile kot zelo dobro (grafikon 4). 64 % lokalnih skupnosti meni, da so rezultati tako dobri, da bi jih lahko uporabili tudi pri nadaljnjem delu (odgovor na tretje vprašanje/trditev, grafikon 4), hkrati pa 54 % občin ugotavlja (odgovor na drugo vprašanje/trditev, grafikon 4), da v rezultatih delavnic niso upošteevane vse posebnosti obravnavanega prostora, zato kljub dobrim rešitvam rezultati delavnice niso uporabni za neposredni prenos rešitev v prostor. Omejena uporabnost rezultatov delavnice je vidna tudi iz odgovora na vprašanje 4 v grafikonu 4, kjer je 32 % lokalnih skupnosti izpostavilo, da rezultatov študentskih delavnic niso nikoli uporabile. Lokalne skupnosti, ki so bile z rezultati delavnice zadovoljne, so predlagane rešitve uporabile kot strokovno podlago za izdelavo prostorskega akta ali občinskega projekta (odgovora na vprašanji 5 in 6 v grafikonu 5). Kar 29 % lokalnih skupnosti pa je bilo mnenja, da se lokalno prebivalstvo s predstavljenimi rešitvami ni povsem poistovetilo (odgovor na vprašanje/trditev 5, grafikon 4).

Grafikon 5: Uporabnost in seznanjanje javnosti z rezultati študentske delavnice.

Lokalne skupnosti so praviloma rezultate delavnice predstavile na javni predstavitvi in razstavi (90 %), 81 % jih je izvedlo objavo v javnih medijih, 70 % pa se je odločilo tudi za izdelavo publikacije (grafikon 5). Visok odstotek lokalnih skupnosti (50 %) je rezultate študentske delavnice uporabil v sklopu promocijskih aktivnosti občine ali ob občinskem dogodku (35 %).

89 % lokalnih skupnosti bi se ponovno odločilo za izvedbo študentskih delavnic (odgovor na vprašanje/trditev 4, grafikon 6), hkrati pa si želijo tudi drugačnih oblik sodelovanja z izobraževalnimi institucijami (22 %). Ne samo da občine preko študentskih delavnic pridobivajo prostorske rešitve, temveč v tej obliki sodelovanja vidijo tudi lastno družbeno odgovornost (odgovor na vprašanje/trditev 2, grafikon 6) in se zavedajo, da je za študente stik z realnimi problemi v lokalnem okolju neprecenljiv (odgovor na vprašanje/trditev 1, grafikon 6).

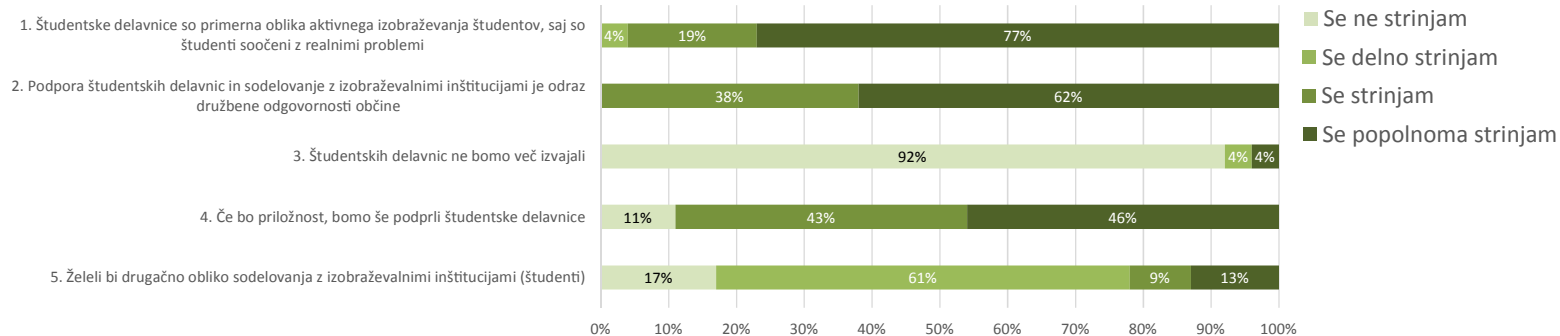
Anketa je omogočila tudi izražanje mnenj o študentskih delavnicah ter napotke za nadaljnje delo in sodelovanje. Pripise smo strnili v vsebinske sklope ter izluščili naslednja mnenja.

Lokalne skupnosti pogrešajo podporo in sofinanciranje tovrstnih projektov s strani pristojnih institucij (ministrstva za prostor, ministrstva za izobra-

ževanje), kar je še posebej pomembno za manjše, kadrovsko in finančno šibkejšje skupnosti. Zavedajo se, da je takšna oblika dela cenovno ugodnejša od primerljivega dela strokovnih institucij, ni pa primerna za reševanje večjih in težjih prostorskih problemov. Kljub omejenim možnostim uporabe dobljenih rezultatov ponuja delavnica dodatne koristi, ki jih vidijo predvsem v odprti javni razpravi. Eden od anketiranih je poudaril, »da so prav študentske delavnice dvignile pričakovanja širše javnosti in so se kasneje dejansko sprejele boljše prostorske odločitve«.

Ne samo v anketnih odgovorih, tudi v pripisih in komentarjih so lokalne skupnosti izrazile veliko naklonjenost in podporo tovrstnemu delu in sodelovanju ter bile z rezultati delavnice praviloma zadovoljne. Kritika ene od anketiranih lokalnih skupnosti je bila predvsem na račun pomanjkljive ustrezne strokovne ravni prikazanih rešitev ter potrebe po večji angažiranosti mentorjev. Ena od anketiranih lokalnih skupnosti pa je poudarila, da se delavnica ni zaključila in bila nad takim razpletom razočarana.

Izpostavljena je bila želja po še močnejšem stiku z izobraževalnimi institucijami (fakultetami), hkrati pa so tudi navedle, da se zavedajo lastne pasivnosti ter nepoznavanja vseh možnih oblik sodelovanja. Želele bi sodelovati in finančno podpreti usmerjene seminarske naloge in tudi diplomske in magistrske naloge.

Grafikon 6: Odnos lokalnih skupnosti do študentskih delavnic.

4. RAZPRAVA

Rezultati ankete odražajo visoko stopnjo zadovoljstva lokalnih skupnosti in željo po nadaljnjem in poglobljenem sodelovanju s fakultetami. Tudi lokalne skupnosti, ki do sedaj še niso izvedle študentske delavnice, poznajo tovrstno obliko sodelovanja ter o njej tudi razmišljajo. Zelo pomembna so pripisana mnenja anketiranih (poljubni komentarji), v katerih navajajo, da bi lokalne skupnosti potrebovale finančno in strokovno pomoč ter več motivacije za pristop k sodelovanju. Finančno pomoč si želijo s strani pristojnih ministrstev, strokovno pomoč in motivacijo pa pričakujejo s strani fakultet.

Gradiva študentskih delavnic so, po rezultatih ankete, dobro izrabljena za strokovno delo ter tudi kot promocijska aktivnost lokalne skupnosti. Zelo veliko lokalnih skupnosti se odloča za izdajo publikacij, kar pomeni, da so rezultati dela študentov trajno zabeleženi in dostopni tudi širši javnosti. Hkrati se tudi zavedajo, da rezultati študentskih delavnic ne morejo in tudi ne dajo strokovnih rešitev, ki bi bile neposredno uporabne kot strokovne podlage ali idejne zasnove za izvedbo projektov, temveč jih razumejo kot priložnost za pridobivanje drugačnih pogledov, vizionarskih rešitev in razmišljanj »out of the box«¹. Študentske delavnice so tako predvsem orodje preveritev prostorskih možnosti ter iskanje drugačnih, še neznanih rešitev, ki predvsem razburkajo razpravo v strokovnih krogih in lokalnih skupnostih ter predramijo lokalno prebivalstvo. Ker imajo predstavljene rešitve tudi strokovne pomanjkljivosti (nepoznavanje vseh lastnosti in značilnosti lokalnega okolja, drugačno razmišljanje in dojemanje prostora, omejen čas izvedbe), se lokalno prebivalstvo, ki praviloma pričakuje izvedljive projekte, s predlaganimi rešitvami težko poistoveti.

Presenetilo nas je, da se lokalne skupnosti zavedajo pomena študentskih delavnic za izobraževalni proces in celo menijo, »da bi morale biti študentske delavnice stalna oblika izobraževanja v vseh letnikih študija, in to na različnih študijskih programih«². Tako mnenje lahko izhaja iz lastnih izkušenj anketiranca ali pa iz spoznanja in zavedanja, da je le dobro izobražen kader, z že nekaj pridobljenimi izkušnjami v lokalnem okolju boljši sogovornik v poizobraževalnem obdobju.

Študentske delavnice so oblika projektnega učenja z učinkom »win-win-win« – koristi imajo vse tri vpletene strani (lokalna skupnost, študenti in fakulteta).

5. ZAKLJUČEK

Izhajajoč iz pozitivnega stališča in naklonjenosti lokalnih skupnosti predlagamo vzpostavitev stičišča idej in predlogov občin in zainteresiranih fakultet, v katerem bi se zainteresirani deležniki medsebojno povezali. Vzpostavitev »borze« študentskih delavnic, na kateri bi lokalne skupnosti predlagale projekte, šole/fakultete pa se preko vzpostavljenega konzorcija odzivale na ponudbe, je možna platforma nabora idej in vzpostavljanja stikov. Odprta dostopnost portala bi aktivirala lokalne skupnosti, ki se za študentske

delavnice še niso odločile, fakultete pa bi z medsebojnim povezovanjem/ali tekmovanjem višale raven svojih storitev.

Priprava ter izvedba delavnice zahteva od pedagogov več naporov kot klasičen način poučevanja, hkrati pa omogoča preizkušanje teoretičnih dognanj v dejanskem okolju, kar je za pedagoge velika dodana vrednost. Znanstveno pomembnim spoznanjem je treba zagotavljati tudi aplikativno odličnost, za kar so delavnice dober učni in strokovni poligon.

Zaradi omejenega časa izvedbe delavnice (prek enega, največ dveh semestrov) ter omejenih možnosti študentov pa so lahko mentorji, ki prevzemajo nase odgovornost za študentsko delo, deležni tudi kritik. Kljub temu menimo, da gre za primerno obliko dela in se strinjamo z enim od mnenj v anketi, ki pravi, »da bi bilo smiselno oblikovati koordinacijsko telo prostorskih šol, ki bi spremljalo, vzpodbujalo in usmerjalo takšno obliko pedagoškega dela«. Koordinacijsko telo prostorskih šol bi lahko poskrbelo tudi za inter- in večdisciplinarnost študentskih skupin in mentorjev ter povezovanje študijskih programov.

Ne nazadnje pa so študentske delavnice v največjo dobrobit študentom. V desetletnem obdobju izvajanja študentskih delavnic na UL FGG in izvajanja mentorstva smo prepoznali predvsem naslednje koristi za študente:

- študentska delavnica je osredotočena na pridobivanje usmerjenih znanj in veščin,
- študenti so usmerjeni v reševanje problemov, kritično mišljenje, sodelovanje, komuniciranje in iščejo inovativne rešitve,
- v projektno nalogo se poglobijo ter na odprta in zastavljena vprašanja tudi poiščejo ustrezne odgovore,
- vzpodbuja se kreativnost in samoiniciativnost,
- vzpostavijo kritično distanco do lastnega dela ter dela drugih v skupini,
- učijo se veščin sodelovanja ter komuniciranja ipd.

Zato menimo, da je treba projektno učenje nadgrajevati in ga redno vključevati v študijski proces.

Na podlagi ankete in lastnih izkušenj s študentskimi delavicami lahko potrdimo delovno hipotezo. Študentska delavnica kot oblika projektnega učenja je koristna za vse vpletene strani (lokalna skupnost, študenti in fakulteta).

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III.

PROJEKT

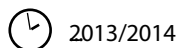
PROJECT

SHAPE – oblikovanje celostnega pristopa k zaščiti morskega okolja in obal Jadrana

*SHAPE – Shaping an Holistic Approach to Protect
the Adriatic Environment between coast and sea*



Slovenska obala



2013/2014

UDK: xxxx ■ 1.03 Kratki znanstveni prispevek / Short Scientific Article ■ SUBMITTED: May 2014 / PUBLISHED: October 2014

TIP PROJEKTA TYPE OF PROJECT

pilotni projekt

DELOVNE SKUPINE WORKGROUP

vodja delovne skupine 1: asist. dr. Gregor Čok u.d.i.a;

člani skupine: Andrej Mlakar u.d.i.a, Mateja Segulin u.d.i.a, Andreja Skubic u.d.i.a

SODELUJOČI PARTICIPANTS

Slavko Mezek, Alberto Manzin, Marko Starman, delovna skupina 2: Janko Rožič, Mitja Suhadolc, Gašper Drašler, predstavniki ribičev, marikulture, turističnih organizacij

INSTITUCIJE INSTITUTIONS

Generalna Direkcija za okolje ter varstvo tal in obale Regije Emilia-Romagna (vodilni partner SHAPE); vključeni v pilotni projekt: Regionalni razvojni center Koper RRA Južna Primorska, Center za pospeševanje podjetništva Piran, Javni zavod Krajinski park Strunjan, Občina Piran, Občina Izola, Krajevna skupnost Strunjan

SPLETNA STRAN WEBPAGE

<http://www.shape-ipaproject.eu/>

<http://www.rrc-kp.si/sl/kdo-smo/aktualni-projekti/shape.html>

GRADIVO PRIPRAVIL MATERIALS PREPARED BY

asist. dr. Gregor Čok

COBISS Slovene Co-operative Online Bibliographic System and Services
ČOK, Gregor, MLAKAR, Andrej, SEGULIN, Mateja, SKUBIC, Andreja. SHAPE: Shaping an holistic approach to protect the adriatic environment between coast and sea = Oblikovanje celostnega pristopa k zaščiti morskega okolja in obal Jadrana, Pilotni projekt : idejna zasnova krajinsko urbanistične ureditve za Strunjan in idejne rešitve posameznih prostorskih ureditev : poročilo zaključne faze. 24 f., ilustr. [COBISS.SI-ID 3020932]

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VSEBINA

V Sloveniji predstavlja obalni pas kompleksno fizično in socialno okolje, v katerega gravitira veliko število interesov. Zaradi dolgoletne ekstenzivne urbanizacije in postopnega uvajanja varstvenih režimov so se na številnih obalnih lokacijah možnosti zelenega kvalitativnega razvoja praktično že izčrpale. Na osnovi sprejetih Evropskih strategij, Protokola o integralnem upravljanju z obalnim območjem (ICZM) in časovnice za uvedbo Pomorskega prostorskega načrtovanja se tudi v Sloveniji pripravljajo posamezna izhodišča in modeli za vzpostavitev integralnega upravljanja obalnega pasu.

Projekt SHAPE je usmerjen v problematiko trajnostnega razvoja na območju Jadrana, natančneje v krepitev institucionalne podpore za varstvo in upravljanje virov (naravnih in kulturnih) ter preprečevanja tveganj. Namen projekta je vzpostaviti večnivojski in medsektorski sistem upravljanja obalnih območij, ki bo usmerjen v racionalno rabo virov in sposoben reševanja konfliktov med različnimi rabami. Projekt je bil izveden ob finančni podpori IPA Adriatic. V njem je sodelovalo 13 partnerjev z obeh obal Jadrana (iz 7-ih Italjanskih jadranskih regij ter Slovenije, Hrvaške, Bosne in Hercegovine, Črne gore in Albanije). Vodilni partner je bila Generalna direkcija za okolje ter varstvo tal in obal Regije Emilije-Romaje. Obsegal je naslednje delovne nsklope: 1- Integralno upravljanje z obalnim območjem, 2 - Uvajanje Pomorskega prostorskega načrtovanja, 3 - Promocija integracije ICZM in morskega prostorskega načrtovanja, 4 - Uvajanje Morskega prostorskega načrtovanja: integracija morskega/kopnega prostorskega načrtovanja ter integralnega upravljanja z obalnim območjem (ICZM). Slovenski partnerji smo v okviru četrtega (4) sklopa pripravili pilotni projekt za prostorsko urejanje Krajinskega parka Strunjan.

Uvod - V okviru projekta SHAPE je bil izdelan pilotni projekt »Idejna zasnova krajinsko urbanistične ureditve za Strunjan in idejne rešitve posameznih prostorskih ureditev« na podlagi katerega smo prepoznali posamezne karakteristike obstoječega sistema planiranja in načrtovanja ter opredelili nabor potrebnih dopolnitev za bodočo vzpostavitev integralnega upravljanja.

Metoda - Raziskava temelji na predpostavki, da so obstoječe problemske situacije v prostoru predvsem posledica neusklajene rabe zemljišč na kopnem in morju, ki temeljijo na različnih sistemskih in upravnih pomankljivostih. V okviru pilotnega projekta smo simulirali izdelavo idejne prostorske rešitve za obalni pas na območju Strunjana, pri čemer smo v posameznih korakih ugotavljali obstoječe pomankljivosti in potencialne rešitve. Uporabljena je bila deskriptivna raziskovalna metoda in polstrukturirani intervjuji.

Projekt je razdeljen v tri vsebinske sklope:

1. faza:

Prva, analitična faza je bila usmerjena v prepoznavanje problemskih situacij v prostoru, razlogov, ki tvorijo konflikte ter interesnih skupin uporabnikov.

2. faza:

V drugi fazi smo na podlagi vmesnih rezultatov izdelali idejne prostorske (programske, urbanistične in arhitekturne) rešitve za pet prostorskih enot ter jih v okviru delavnic prezentirali posameznim deležnikom. Na podlagi pripomb in dopolnitev smo v naslednjem koraku izdelali končne rešitve.

3. faza:

V tretji fazi smo s pomočjo analize izdelane simulacije (in delovnega procesa) opredelili posamezna vsebinska in metodološka izhodišča za nadgradnjo obstoječega sistema, kot priporočila za pripravo sistema integralnega upravljanja z obalnim območjem.

Zaključek - Za vzpostavitev učinkovitega integralnega upravljanja z obalnim območjem bo v Sloveniji v bodoče potrebno predvsem:

- opredeliti območje »vzajemne obravnave« (obalni pas) v katerem je potrebno načrtovanje namenske rabe, režime upravljanja in varovanja v prostoru izvajati skupaj na kopnem in morskem delu. Tako se bo vzpostavila potrebna »strukturna in upravna korespondenca«, ki bo zagotavljala učinkovito umeščanje programov na kopnem in morskem delu,
- vzpostaviti upravni in planerski sistem skupnega načrtovanja,
- vse posege v prostoru izvajati v soglasju s kompetentno stroko, lokalno skupnostjo in drugimi dotičnimi interesnimi skupinami,
- opredeliti širši nabor razvojnih in varovalnih prioritet pri načrtovanju posegov v prostoru: npr. vizualni vidik, širše vplivno območje, sinergija programov, stranski učinki posega v prostoru ipd.

ABSTRACT

Slovenia is in the process of preparing individual reference levels and models for establishing integrated coastal zone management, based on adopted European Strategies, Protocol on Integrated Coastal Zone Management and timelines for implementing Maritime Spatial Planning. To establish efficient integrated spatial management according to the sustainability principles, a system methodology needs to be formed. The said methodology will predominantly upgrade the reference levels spectrum, project goals and the method of their analytical treatment.

A ↓ OMEJENE PROSTORSKE MOŽNOSTI	B ↓ ŠTEVILNI IN RESTRIKTIVNI VARSTVENI REŽIMI	C ↓ NEUSKLAJENO NAČRTOVANJE RABE PROSTORA NA KOPNEM IN MORJU
→ prostorske omejitve na kopnem in morju → številni interesi na omejenem prostoru (lokalna grega) → medsektorsko izboljševanje → KONFLIKT PROGRAMOV → KONFLIKT DOSTOJA → EKOLOŠKI KONFLIKT	→ režimi v programih in prostorskem smislu omejujejo praktično vse obstoječe dejavnosti in pobude posameznih sektorjev → na prostori se morajo prilagajati določenim omejitvam → KONFLIKT RAZVOJNIH MOŽNOSTI → PRILOŽNOST ZA OHRANITEV KOMPARATIVNIH PREDNOSTI LOKACIJE	→ odsotnost usklajenega prostorskega planiranja in načrtovanja na morju in kopnem → izrazito ločene pristopnosti za upravljanje, planiranje in načrtovanje prostora na morju in kopnem → režim upravljanja z morskim okoljem nima primerljive hierarhije, podstopkov, prostorskih aktov in namenske rabe kot prostor na kopnem → posegi na morju se (skladno z namensko rabo) določajo parcialno (s uveljavljenimi) brez celovitega strateškega prostorskega plana → KONFLIKT INTERESOV V PROSTORU → KONFLIKT PRISTOJNOSTI

Slika 1: Temeljni razlogi za obstoječe »problemske situacije« in posledični konflikti v prostoru.

	PROBLEMSKE SITUACIJE KOT POSLEDICA NEUSKLAJENEGA NAČRTOVANJA IN RABE PROSTORA NA MORJU IN KOPNEM 1. Školjišče – lokacija, obseg, dostop in upravljanje 2. Riblštvo – neurejena ribiška infrastruktura 3. Plaža – neurejeno napajanje 4. Navtična infrastruktura – neurejeno stanje 5. Plovne »ožnice« 6. Morski javni potniški promet – ni dostopa na obalo 7. Prostorski razvoj in/ali vizualna degradacija prostora 8. Mirujoči promet – konvencionalne in alternativne rešitve – vplivi na okolje 9. Turistična infrastruktura – vplivi na okolje 10. Prometna infrastruktura v obalnem pasu
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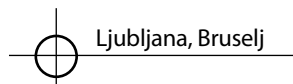
Slika 2: Problemske situacije kot posledica neusklajene rabe prostora na kopnem in morju (območje pilotnega projekta).

III.

DELAVNICE

WORKSHOPS

ECTP – delavnica mladih prostorskih načrtovalcev – *ECTP – YOUNG PLANNERS WORKSHOP* Prostorsko načrtovanje in energija *Spatial planning and energy*



Ljubljana, Bruselj



2014

TIP DELAVNICE *TYPE OF WORKSHOP*

prostorsko - načrtovalska delavnica/angleška

MENTORJI *MENTORS*

prof. dr. Ignacio Gavin Peman

MENTOR SLOVENSKE EKIPE/*MENTOR OF THE SLOVENIAN TEAM*

doc. dr. Alma Zavodnik Lamovšek, univ. dipl. inž. arh.

ŠTUDENTJE *STUDENTS*

Študenti magistrskih študijskih programov Prostorsko načrtovanje in Okoljsko gradbeništvo (UL FGG): Mateja Klun, dipl. inž. grad. (UN), Gašper Okršlar, dipl. inž. gozd.(UN), Maja Weisseisen, dipl. inž. grad. (UN).

ORGANIZATOR *ORGANISATION*

ECTP - CEU - European Council of Spatial Planners

DATUM PREDSTAVITVE *DATE OF PRESENTATION OF PAPERS*

3. 5. 2014 - 5. 5. 2014

GRADIVO PRIPRAVILI *MATERIALS PREPARED BY*

Mateja Klun, Gašper Okršlar, Maja Weisseisen

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VSEBINA

Evropski komite prostorskih planerjev (ECTP - The European Council of Spatial Planners) je letos že tretjič zaporedoma organiziral delavnico za mlade planerje iz držav članic EU. Tema trimesečne delavnice je bila energija in njena vloga v prostorskem načrtovanju. Cilj je bil izdelava prispevkov na izbrano temo, katere smo v procesu nastajanja medsebojno vrednotili in korigirali preko rednih videokonferenc. Zaključek delavnice je potekal v Bruslju na Komiteju regij. Srečanje je bilo namenjeno predstavitvi dela sodelujočih ekip, strokovnemu ogledu Bruslja z opisom njegovih urbanih izzivov in obisku podelitve nagrad s področja prostorskega planiranja (10th European Urban and Regional Planning Awards 2013 – 2014).

Skupina treh študentov FGG-ja, Maja Weisseisen, Gašper Okršlar in Mateja Klun smo se na delavnico pod mentorstvom Alme Zavodnik Lamovšek prijaviли s prispevkom z naslovom »Sodelovanje javnosti pri prostorskem načrtovanju: Študija v občini Šentrupert - mnenje javnosti o energetskega planu občine in o projektu daljinskega ogrevanja«.

Kot izhodišče naše raziskave smo privzeli sledeče predpostavke:

- Javnost se v proces odločanja vključi prepozno, zato ima pogosto negativen odnos do sprememb. Z zgodnjim vključevanjem javnosti bi se temu lahko izognili, saj bi se deležniki lahko dovolj zgodaj opredelili do sprememb, izrazili svoje mnenje ter tako vplivali na odločitve ter jih posledično lažje sprejeli.
- Javnost ni seznanjena z delom občine.
- Zaradi subvencij EU je del prebivalcev zamenjal oziroma posodobil sistem ogrevanja, zato ne bodo zainteresirani za priključevanje na sistem daljinskega ogrevanja.
- Prebivalci ne želijo živeti v bližini objektov energetske infrastrukture (NIMBY efekt).

V okviru študije smo s pomočjo spletnega vprašalnika ugotavljali, v kolikšni meri so občani vključeni v razvoj občine ter kolikšne je interes za sodelovanje. Vprašalnik je bil dostopen na spletni strani Občine Šentrupert od 6. do 19. aprila 2014, občani pa so bili o raziskavi obveščeni tudi po pošti.

Prejeti odgovori so potrdili dve izmed štirih hipotez. Ovrženi sta bili hipotezi, ki sta predpostavljali, da so prebivalci prepozno vključeni v proces odločanja ter da niso informirani o energetskih načrtih občine. Preko 90 % vprašanih je odgovorilo, da so z načrti seznanjeni in da jih zanima nadaljnji razvoj. Kot pravilna se je izkazala hipoteza, da prebivalci ne želijo živeti v bližini kotlovnice (NIMBY efekt), vendar pa je 70% vprašanih sodobne objekte energetske infrastrukture (fotografije v vprašalniku) opredelilo kot estetsko sprejemljive. Večina vprašanih (več kot dve tretjini) meni, da je biomasa eden izmed ekološko prijaznejših načinov ogrevanja, prehod na daljinsko ogrevanje pa se jim zdi pravilna izbira. Potrjena je bila tudi hipoteza, ki predpostavlja, da so mnoga gospodinjstva zaradi dostopnosti pred kratkim prenovila svoje sisteme ogrevanja (70 % sodelujočih je svoje sisteme prenovilo pred manj kot šestimi leti) in jih sistem daljinskega ogrevanja ne zanima.



Slika 1: Sodelujoči na delavnici (foto: Julian Hill, <http://www.ectp-ceu.eu/images/stories/Awards2014/WebPhotos/>).



Slika 1: Zaključni dogodek na Komiteju Regij

V izdelavi je e-publikacija, ki bo vsebovala povzetek delavnice in vse prispevke sodelujočih ekip. Dostopna bo na www.ectp-ceu.eu.

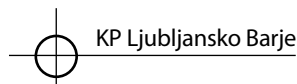
ABSTRACT

The European Council of Spatial Planners (ECTP) organized the Third Edition of ECTP - Young Planners Workshop. The main theme of the workshop was connection of Spatial Planning and Energy. It lasted 3 months, during which, the participating teams (14) from different countries had produced papers on various topics regarding the theme.

Our team participated with the paper Public Participation in City Design; Public Acceptance of Municipality's Energy Plan and The Project of District Heating in Šentrupert, in which we gathered public opinion on the topic using a web based questionnaire. Our research confirmed two out of four hypotheses and showed that in the municipality of Šentrupert, people are acquainted with municipality's energy plan and willing to be part of its realisation. However, due to high availability of EU eco-funds, a large part of respondents changed or renewed their heating system recently and are not interested in becoming a client of district heating system.

Arhitekturna delavnica Krajski park Ljubljansko Barje

Nature park Ljubljansko Barje Architecture Workshop



KP Ljubljansko Barje



2013/2014

TIP DELAVNICE *TYPE OF WORKSHOP*

arhitekturna delavnica/slovenska

MENTORJI *MENTORS*

doc. dr. Matej Blenkuš in strok. svet. Josip Konstantinovič

ŠTUDENTJE *STUDENTS*

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ORGANIZATOR *ORGANISATION*

Mestna občina Ljubljana, Občina Vrhnika, Občina Škofljica, Občina Log – Brezovica in Občina Borovnica, Slovenija

NAROČNIK *CLIENT*

Krajski park Ljubljansko Barje

DATUM IN KRAJ RAZSTAVE *DATE AND LOCATION OF EXHIBITION*

Univerza v Ljubljani, Fakulteta za Arhitekturo, Zoisova 12, Ljubljana

GRADIVO PRIPRAVILA *MATERIALS PREPARED BY*

doc. dr. Matej Blenkuš

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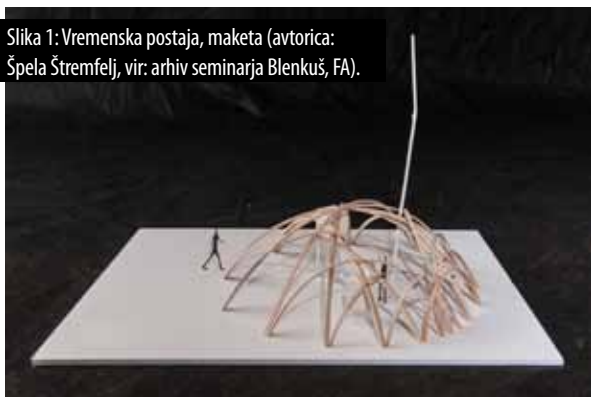
NATEČAJ

COMPETITION

PREDSTAVITEV

PRESENTATION

Slika 1: Vremenska postaja, maketa (avtorica: Špela Štremfelj, vir: arhiv seminarja Blenkuš, FA).



Slika 2: Opazovalnica ptičev in divjadi, pri Črni vasi, maketa (avtor: Tim cestnik, vir: arhiv seminarja Blenkuš, FA).



Slika 3: Razgledni stolp štirih elementov Barja, pri Podpeči, maketa (avtorica: Kaja Pregelj, vir: arhiv seminarja Blenkuš, FA).



Slika 4: Ekološka zeliščna kmetija, Črna vas, maketa konstrukcije (avtorica: Vita Posinek, vir: arhiv seminarja Blenkuš, FA).



Slika 5: Eko-hostel pri Podpeškem jezeru, maketa (avtor: Dominik Košak, vir: arhiv seminarja Blenkuš, FA).



Slika 6: Mladinski hotel pri Goričici, maketa (avtorica: Manca Žugič, vir: arhiv seminarja Blenkuš, FA).



VSEBINA

Zadana naloga je bila zasnovati manjše do srednje velike objekte v sklopu Krajinskega parka Ljubljansko Barje, s katerim so študentje iskali stvarne, zaznavne in simbolne povezave med okoljem, prostorom in arhitekturo. Študentje 2. letnika so preučevali zasnovo opazovalnice za ptiče in divjad, vremenske postaje, razglednega stolpa, postajališča rečne plovbe, izposojevalnice koles, prostore za ribolov ter postojanke za pohodnike in izletnike. V 3. letnik so se osredotočili na naselja vrtov, veslaški center, kopališče na Ljubljani, pasjo šolo ter center za obiskovalce. 4. in 5. letnik pa sta se posvetila jahalnemu centru, ekološki kmetiji, eko-campingu, sistemu mostičkov in mostov preko kanalov na Barju, mladinskemu hotelu, predstavitvenemu center Barja ter lesnemu obratu.

S skupinskim projektom smo želeli opozoriti zainteresirano javnost na nujnost, da se v zaščitene območjih narave poleg varstva biotopov poskrbi tudi za uravnoteženo in premišljeno umeščanje dejavnosti, infrastrukture, objektov in stavb, ne glede na velikost in vsebino. Le na tak način bo Barje postalo prepoznaven ekološki in vsebinski prostor sožitja človeka in narave.

ABSTRACT

Students of various years of study were engaged with a set of different design tasks within the protected environment of the Nature park Ljubljansko Barje. Small and medium sized buildings and infrastructural objects covered the whole range of activities which would eventually be placed into natural settings. The main aim was to inform and warn the management of the Park of the necessity of the combined efforts in vigorous protecting the biological diversity and careful placing and constructing infrastructure.

Slika 7: Postajališče rečne plovbe – interakcijska točka, pri Črni vasi, maketa (avtorica: Karin Bulovič, vir: arhiv seminarja Blenkuš, FA).

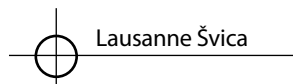


Slika 8: Postojanka za pohodnike in izletnike, pri Črni vasi, maketa (avtor: Sebastijan Cvelbar, vir: arhiv seminarja Blenkuš, FA).



Mednarodna urbanistična študentska delavnica EHL kampus

International Urban-design Student Workshop EHL Campus



Lausanne Švica



2012/2013

TIP DELAVNICE *TYPE OF WORKSHOP*
urbanistična delavnica/mednarodna

MENTOR *MENTOR*
izr. prof. mag. Tadej Glažar

ŠTUDENTJE *STUDENTS*
UL, Fakulteta za arhitekturo: Maša Čuk, Živa Drakulič, Miha Denša, Tina Dolenc, Špela Doles, Gregor Gregorec, Irati Gomez Perez, Primož Kastelic, Marta Lloret, Sabina Marov, Petja Ogrinc, Klara Prošek, Christian Stanovnik, Bruno Šegvič

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UL, Fakulteta za arhitekturo: Primož Kastelic

ORGANIZATOR *ORGANISATION*
Univerza v Ljubljani, Fakulteta za arhitekturo

NAROČNIK *CLIENT*
École hôtelière de Lausanne, Švica

DATUM IN KRAJ RAZSTAVE *DATE AND LOCATION OF EXHIBITION*
Lausanne, Švica, 2013

GRADIVO PRIPRAVILA *MATERIALS PREPARED BY*
asist. Vid de Gleria

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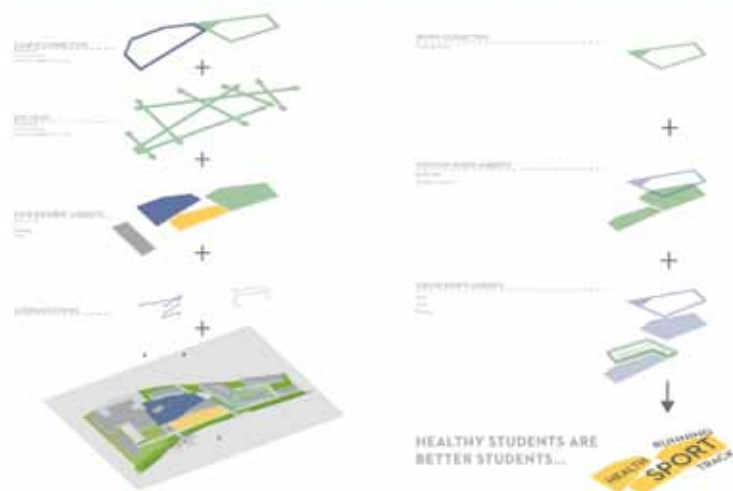
NATEČAJ

COMPETITION

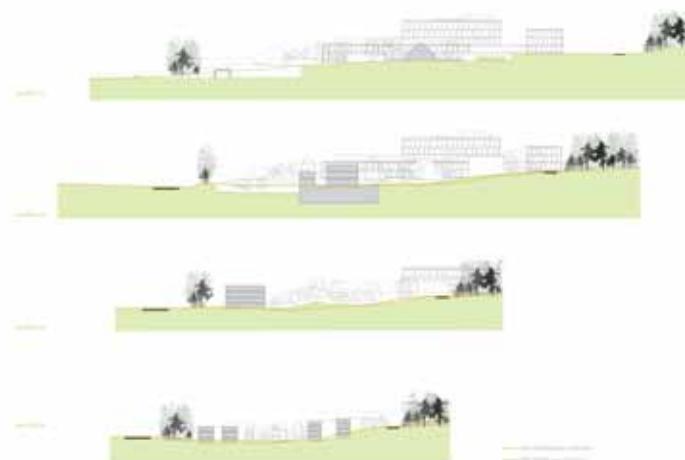
PREDSTAVITEV

PRESENTATION

Slika 1: Koncept



Slika 2: Značilni prerezi



VSEBINA

Osnovna misel projekta kampus EHL je, da je potrebno mladi generaciji študentov prvenstveno zagotoviti kvalitetno bivalno okolje z arhitekturno rešitvijo povezano s svojo naravno okolico, ki bo omogočala kvaliteten študij in bivalno okolje. Kvalitetno učno okolje, bližina narave, celovita športna infrastruktura, vse to doprinese h kvalitetnejšemu življenju, boljšemu počutju in učnemu uspehu študentov kampusa EHL.

Arhitekturna zasnova s svojo veliko gostoto in majhnim odtisom na tleh omogoča, da se med objekte zajedajo velike zelene površine in tako omogočajo preplet grajenega in naravnega okolja. Naravni preplet zunanjih in notranjih površin spodbuja uporabnike, da svoj prosti čas preživijo zunaj objekta.

Projektirano okolje sestavljajo velike zelene površine, raznolike vedute na objekt in njegovo naravno okolico, nova povezava do metro postaje in bližnjega stanovanjskega naselja na S območja ter krožno tekaško stezo, ki se v obliki neskončne zanke vije skozi celotno območje kampusa EHL. Vmesni odprti prostori so razdeljeni na štiri karakterno različna območja. Območja si od zahoda proti vzhodu sledijo: poslovno območje, območje za druženje, območje rekreacije in območje naravnega okolja. Vsako od 4 območij je programsko podrobno razdeljeno in predstavlja zaključeno celoto, ki se urbanistično vključuje v območje študentskih stanovanj

ABSTRACT

Healthier students are better learners. This is the all encompassing idea behind our EHL campus project. A quality environment, the vicinity of nature and comprehensive sports facilities all improve students' learning abilities and enhance the quality of life on campus. The high floor area ratio and low footprint allow for large green areas and encourages students to spend their free time outside. The basic elements of our proposal are: large green areas, interesting views of the site

Slika 3: Prostorski prikaz



and the surrounding environment, a direct path that connects the planned metro station with the housing estate in the north and the iconic circular running path that winds its way all around the campus in a number eight shape. The open area among the buildings is divided into four spaces with distinct ambients. From west to east, they are: official, social, sporty and natural. Each has its own program, that continues into the nearby student housing buildings.

Priložnosti za razvoj opuščenih kočevarskih vasi

The Opportunities for the Development of Abandoned Kočevska Villages



Kočevje



2012/2013

TIP DELAVNICE TYPE OF WORKSHOP

krajinsko-arhitekturna delavnica/slovenska

MENTORJI MENTORS

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ŠTUDENTJE STUDENTS

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študentje 2. letnika magistrskega študija krajinske arhitekture pri predmetu
Tipologija, upravljanje in varstvo kulturne krajine

DRUGI SODELUJOČI

Občina Kočevje, Mihael Petrovič, mag. Jelka Hudoklin, univ.dipl.ing.kraj.arh.
ACER d.o.o. Novo mesto

ORGANIZATOR ORGANISATION

Univerza v Ljubljani, Biotehniška fakulteta, Oddelek za krajinsko arhitekturo

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Nadja Penko Seidl

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ABRAM, Žiga, GOLOBIČ, Mojca (urednik), PENKO SEIDL, Nadja (urednik). Priložnosti
za razvoj opuščenih kočevarskih vasi. V Ljubljani: Biotehniška fakulteta, Oddelek za
krajinsko arhitekturo, 2013. [64] str., ilustr., zvd. ISBN 978-961-6833-08-0. [COBISS.SI-ID
269837824]

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VSEBINA

Kočevsko, poleg oddaljenosti od glavnih prometnih tokov in nadpovprečne gozdnatosti, zaznamuje še ena posebnost – na območju velikem 860 km² je od naselitve okrog leta 1330 pa do druge svetovne vojne živela številčna nemško govoreča skupnost Kočevarjev v kar 177 naseljih. Skupnost je štela največ članov v drugi polovici 19. stoletja, ko naj bi se njihovo število povzpelo na 28000. Zaradi gospodarskih in političnih razmer se je to število že do 2. sv. vojne zmanjšalo na 12500, medtem ko jih je po njej ostalo na območju Kočevske le peščica.

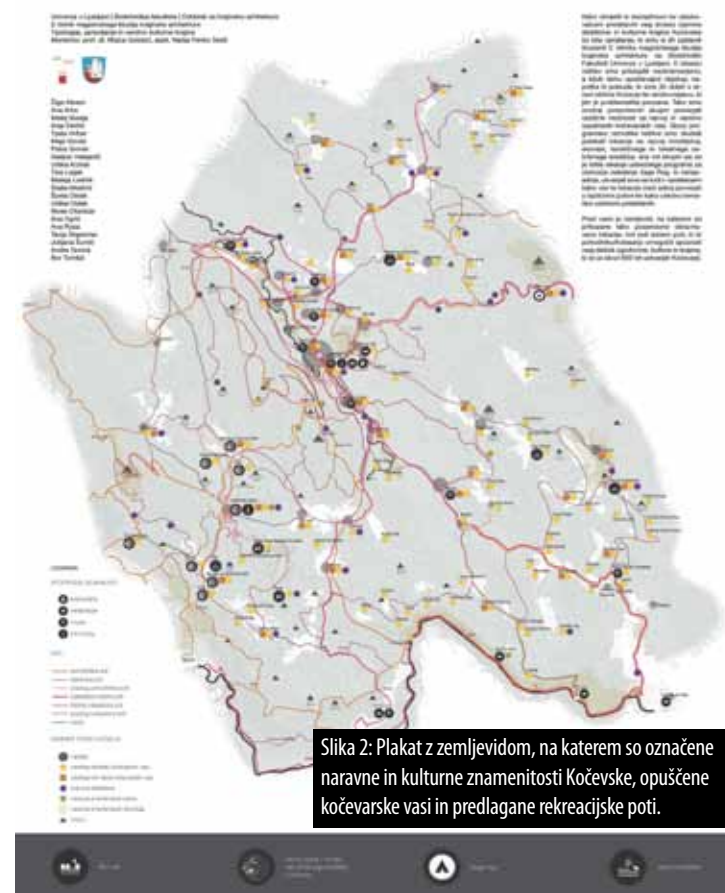
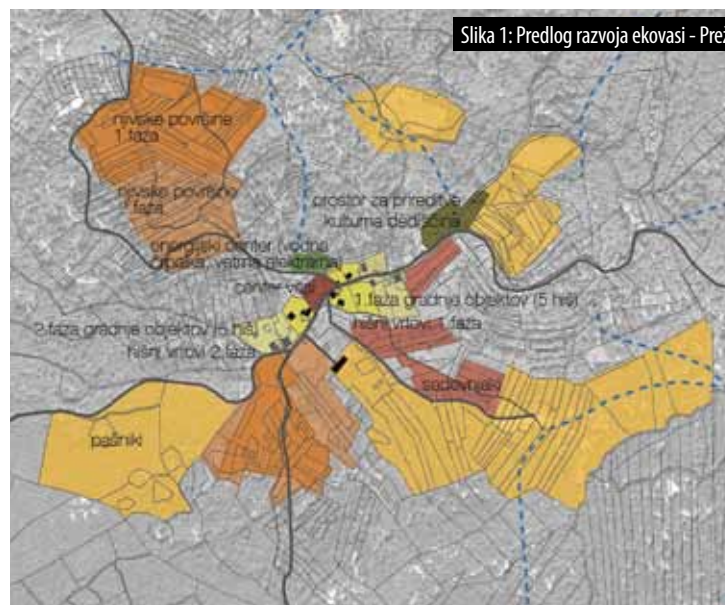
Danes bi večino od teh vasi le težko našli. Sledov nekdanjih hiš skorajda ni več, le tu in tam lahko naletimo na ostanke zidov, preraščene z grmovjem ali gozdom. Od grajenih struktur so se za najbolj trdožive izkazali vodnjaki. Ponekod nas sredi gozda ali pašnikov presenetijo terase, na njih pa ostanki sadnega drevja, dokaz, da so tu nekoč živeli ljudje. In nenazadnje, kljub temu da njihove prisotnosti v prostoru ne moremo več zaznati, so se ohranili toponimi, ki pričajo o življenju nekdanjih prebivalcev tega območja.

Kako ohraniti in domačinom ter obiskovalcem predstaviti vsaj drobec te izjemne dediščine in kulturne krajine so bila vprašanje, ki smo si jih zastavili s študenti 2. letnika magistrskega študija krajinske arhitekture na Biotehniški fakulteti Univerze v Ljubljani. Študentje so – kakor se od njih nekako pričakuje, k iskanju rešitev pristopili neobremenjeno, a kljub temu upoštevali dejstva, napotke in pobude, ki so jih dobili s strani občine Kočevje ter strokovnjakov, ki jim je problematika poznana. Tako so znotraj posameznih skupin preverjali različne možnosti za razvoj in varstvo opuščenih kočevarskih vasi. Skozi programsko raznolike rešitve so skušali poiskati lokacije za razvoj kmetijstva, ekovasi, turističnega in lokalnega oskrbnega središča, ena od skupin pa se je lotila iskanja ustreznega programa za območje nekdanje žage Rog. In nenazadnje, ukvarjali so se tudi z vprašanjem kako vse te lokacije med seboj povezati z različnimi potmi ter kako celotno tematiko ustrezno predstaviti. Zemljevid z vsemi potmi je bil shranjen tudi na portalu <http://www.geopedia.si>. Študentje so poleg gradiva za razstavo oblikovali tudi brošuro, v kateri so predstavili svoje ideje za razvoj, varstvo in predstavitev vsaj drobca dediščine, kulture in krajine, ki so jo skozi 600 let ustvarjali Kočevarji.

ABSTRACT

The landscape of Kočevska was cultivated and managed by German speaking community (Gottscheer) for almost 600 years. At the beginning of the 19th century 28000 people lived in 177 villages and hamlets. Nowadays only a few of these villages are still inhabited. How to preserve and present this unique heritage and landscape was the challenge for the students of the 2nd year of Master programme of Landscape Architecture study at the University of Ljubljana. Students have addressed the problem considering the available information, initiatives and guidance from local community and developed alternative solutions for some of the abandoned villages: eco-villages, the development of farming, the revival of the local centre in Kočevska Reka and the new programme for the area of steam saw Rog. The last challenge for the students was how to mark and connect these locations with foot and bicycle trails and how to present this unique history, landscape and culture that Gottscheer have created through 600 years. An inventory of all abandoned villages, mountain peaks, natural and cultural heritage was made and a system of foot and bicycle trails with different pretentiousness was proposed and presented on a map. The map of all trails was saved on <http://www.geopedia.si> and could be further developed with geocaching. And, last but not least, a system of signs, a proposal for touristic booklet, information tables and memorials which would present and designate abandoned villages were designed.

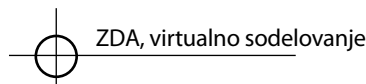
Slika 1: Predlog razvoja ekovasi - Preža



Slika 2: Plakat z zemljevidom, na katerem so označene naravne in kulturne znamenitosti Kočevske, opuščene kočevarske vasi in predlagane rekreacijske poti.

Stanford, Tečaj globalnega timskega dela AEC 2010

Stanford, AEC Global Teamwork Course 2010



ZDA, virtualno sodelovanje



2009/2010

TIP DELAVNICE *TYPE OF WORKSHOP*

interdisciplinarna arhitekturna delavnica/ mednarodna delavnica

MENTORJI *MENTORS*

Super-Coach and Mentor: Renate Fruchter, Stanford University; Architects: Mike Martin, UC Berkeley, Humberto Cavallin, University of Puerto Rico School of Architecture, David Bendet, Perkins and Will, Architects, Robert Alvarado, Charles M Salter Assoc. Inc., Chuck Eastman, Georgia Tech, Paola Sanguinetti, Georgia Tech, Hans Verheij, NACO, Netherland, Dirk Donath, Bauhaus University, Germany, Daniel Gonzales, Design Village, Willem Kymmell, UCS Chico, Wafaa Sabil, Gensler, Jan Slyk, Warsaw University of Technology, Poland; Structural Engineers: Helmut Krawinkler, Stanford University, Ronnie Borja, Stanford University, Greg Luth, GPLA of California, Shilin Yang, GPLA of California, Nick Arenson, D. R. Horton, Karl Beuke, Bauhaus University, Germany, Frank Werner, Bauhaus University, Germany, Larry Bank, University of Wisconsin, Madison, Grace Yamamoto, ARUP, Erik Kneer, Degenkolb, Nick Arenson, D.R. Horton; Construction Managers: Bob Tatum, Stanford University, Martin Fischer, Stanford University, Eduardo Miranda, Stanford University, Henry Tooriany, Microestimating Inc., Henry Tooriany, Hunt Construction, Mark Bartlett, Hunt Construction, Adhamina Rodriguez, Swinerton Builders, Josh Odelson, DPR, Kjell Nilver, KTH, Sweden, Tomo Cerovsek, University of Ljubljana; Life Cycle Financial Management: Hans Wilhelm Alfen, Bauhaus University, Germany, Andrea Jungbeck, Bauhaus University, Germany, Katja Leidel, Bauhaus University, Germany, Matthias Ehrlich, Bauhaus University, Germany, Axel Seifert, LA; MEP/LEED: Adhamina Rodriguez, Swinerton, Alisdair McGregor, ARUP, Cole Robers, ARUP, Afaan Naqvi, ARUP, John Nelson, UW Madison

ORGANIZATOR *ORGANISATION*

Stanford University, PBL Lab, prof.dr. Renate Fruchter

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GRADIVO PRIPRAVILA *MATERIALS PREPARED BY*

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NATEČAJ

COMPETITION

PREDSTAVITEV

PRESENTATION

Slika 1: Skupina Central (foto: Skupina Central)



Slika 2: Prostorski prikaz (foto: Skupina Central)



ŠTUDENTJE STUDENTS

Architects: Astrid Hall, Urszula Koziarska, Joe McCoy, Gabriella Perez, Milosz Romanczuk, Marielis Suarez, Lana Topolovec; Structural Engineers: Mei Ling Chu, Abel Diaz, Brent Ellifson, Mary Ferguson, Raleigh Fisher, Tyler Hoehn, Joanna Huey, Plamen Ivanov, Jaclyn Lee, Frank Scheiber, Martin Tjioe; Construction Managers: Nima Assadi, Michael Barahona, Lena Karlsson, Andrew Keene, Martin Lah, Sandrine Rivoire, Henning Roedel, Dustin Rothwell, Lauren Scammell; Life-Cycle Financial Managers: Sandra Kittler, Sebastian Kohts, Charlotte Thomas; MEP: Hang Yin, Shanie Jensen; Apprentice: Victoria Flores, Alexandra Lipsey-Rahe, Gino Mazzotti, Rith Yoeun

DRUGI SODELUJOČI

Sodelujoče univerze/ universities: Stanford University; Berkeley University of California; University of Wisconsin – Madison; California State University – Chico; University of Puerto Rico; Bauhaus – Universität Weimar; TU Delft; Aalborg University; KTH, Sweden; Danmarks Tekniske Universitat; The Royal Danish Academy of Fine Arts, School of Architecture; Politechnika Warszawska; University Collage Cork; ETH Zurich.

Vodje skupin/ Owners: David Borowicz, Emanuel Bombasaro, Dimitra Ioannidou, Holger Keitel, Erik Kneer, Josh Odelson, Forest Olaf Peterson, Anirudh Rao, Wafaa Sabil

Žirija: 4th Swinerton Sustainability Challenge: Adhamina Rodriguez (Swinerton Builders); 2th DPR Challenge: Atul Khazode, Josh Odelson and Dan Gonzales (DPR Construction)

VSEBINA

Pri virtualni delavnici, z dvema kratkima srečanjima na Univerzi Stanford na začetku in ob koncu projekta, so sodelovali študentje in mentorji iz vsega sveta. Sodelovalo je 7 arhitektov, 11 statikov, 9 vodij gradbišča, 3 LCFM, 2 strojniki in 4 pripravniki. Hkrati je sodelovalo 9 t.i. investitorjev ter številni univerzitetni mentorji in mentorji iz industrije (Perkins+Will, NACO, Swinerton Builders, ARUP, GPLA, DPR, Bechtel, Webor idr.). Študentje so v sedmih interdisciplinarnih skupinah izdelali projekt javne skladbe, v katerem so preizkušali nove tehnološke rešitve in raziskovali inovativne koncepte učenja in zasnove fakultete.

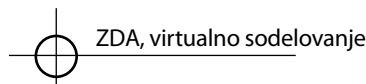
Študentje so se soočili z dvema izzivoma: »Integrated Project Delivery (IPD)« in »Sustainable Performance«. Pri svojem delu so uporabljali virtualne programe za pisanje zapiskov na sestankih (npr. Google Wave), kamor so vsi hkrati lahko vnašali komentarje. Svoje delo so nenehno usklajevali z ostalimi člani ekipe, svoje obveznosti so beležili v koledar, ki je bil vsem dostopen in tako skrbeli za čimbolj transparenten potek dela. Pri drugem izzivu, ki se je nanašal na zasnovo trajnostne zgradbe, so v svoj projekt vključili fotovoltaične panele, naravno prezračevanje, uporabili so opeke za opečne plošče, različne načine varčevanja s pitno vodo in zasnovali fleksibilne tlorise.

ABSTRACT

In 2010, students focused on two challenges: Integrated Project Delivery (IPD) and Sustainable Performance. They used integrated meeting notes in order to write down their goals, and they also used Google Wave that allowed them to take meeting notes in real time. They would constantly coordinate work with other team members, add their obligations to the schedule and thus make the process as transparent as possible. While focusing on the second challenge, there were photovoltaic panels included in their design, along with natural ventilation and thermal mass. They also re-used brick for brick panels, they used a steel structure, and they designed flexible floor plans.

Stanford, Tečaj globalnega timskega dela AEC 2011

Stanford, AEC Global Teamwork Course 2011



ZDA, virtualno sodelovanje



2010/2011

TIP DELAVNICE *TYPE OF WORKSHOP*

interdisciplinarna arhitekturna delavnica/ mednarodna delavnica

MENTORJI *MENTORS*

Super-Coach and Mentor: Renate Fruchter, Stanford University; Architects: Mike Martin, UC Berkeley, Humberto Cavallin, University of Puerto Rico School of Architecture, David Bendet, Perkins and Will, Architects, Robert Alvarado, Charles M Salter Assoc. Inc., Chuck Eastman, Georgia Tech, Paola Sanguinetti, Georgia Tech, Hans Verheij, NACO, Netherland, Dirk Donath, Bauhaus University, Germany, Daniel Gonzales, Design Village, Willem Kymmell, UCS Chico, Wafaa Sabil, Gensler, Jan Slyk, Warsaw University of Technology, Poland, Peter Anderson, CCA, USA; Structural Engineers: Helmut Krawinkler, Stanford University, Ronnie Borja, Stanford University, Greg Luth, GPLA of California, Shilin Yang, GPLA of California, Nick Arenson, D. R. Horton, Karl Beuke, Bauhaus University, Germany, Frank Werner, Bauhaus University, Germany, Larry Bank, University of Wisconsin, Madison, Grace Yamamoto, ARUP, Erik Kneer, Degenkolb, Nick Arenson, D.R. Horton; Construction Managers: Bob Tatum, Stanford University, Martin Fischer, Stanford University, Eduardo Miranda, Stanford University, Henry Tooriany, Microestimating Inc., Henry Tooriany, Hunt Construction, Mark Bartlett, Hunt Construction, Adhamina Rodriguez, Swinerton Builders, Josh Odelson, DPR, Kjell Nilver, KTH, Sweden, Tomo Cerovsek, University of Ljubljana; Life Cycle Financial Management: Hans Wilhelm Alfen, Bauhaus University, Germany, Bjorn Wuendsch, Bauhaus University, Germany, Matthias Ehrlich, Bauhaus University, Germany, Axel Seifert, LA; MEP/LEED: Adhamina Rodriguez, Swinerton, Alisdair McGregor, ARUP, Cole Robers, ARUP, Afaan Naqvi, ARUP, John Nelson, UW Madison.

ORGANIZATOR *ORGANISATION*

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asist.dr. Anja Jutraž, prof.dr. Tadeja Zupančič

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Slika 1: Prostorski prikaz
(foto: Skupina Ridge).



Slika 2: Končne predstavitev
maja (foto: Anja Jutraž)

ŠTUDENTJE STUDENTS

Architects: Maciej Burdalski, Rebecca Diaz, Sinan Mihelchic, Maria Seidel, Gitte Sørensen, Karol Wawrzyniak; Structural Engineers: Pallav Agrawal, Marian Benischke, Graham Brasic, Katelin Patricia Crook, Travis Dufour, Riam Elias Firouz, Carl Gregory Fosholt, Lindsey Koenig, Jeanette Lam, Caroline Lewis, Stephan Salbach, Justin Schwaiger, Michael Christopher Seaman, Colin VanLang, Yuexin Wang (Marina); Construction Managers: Umut Aydin, Ariel Bautista, Catherine Boubekur, Andres Marcos Bours, Fernando Castillo Cohen, Connor Daniel Daly, Codie Davis, Matt Larson, Imke Lewis, Sebastian Meža, Maria Selk, Mike Daren Ryan; Life-Cycle Financial Managers: Constanze Grimm, Sarah-Kristina Merz, Frank Musiol, Sebastian Schönbach; MEP: Linette Bodilsen, Anne-Laure Cuvilliez, Mads Rasmussen, Seale Wong; Apprentice: Nikiya Crisostomo, Kim Dependahl, Chelsea Drenick, Arelano Edmundo, Anemarie Golz, Derek Ouyang

DRUGI SODELUJOČI

Sodelujoče univerze: Stanford University; Berkeley University of California; University of Wisconsin – Madison; California State University – Chico; University of Puerto Rico; Bauhaus – Universität Weimar; TU Delft; Aalborg University; KTH, Sweden; Danmarks Tekniske Universitet; The Royal Danish Academy of Fine Arts, School of Architecture; Politechnika Warszawska; University College Cork; ETH Zurich.
Vodje skupin/ Owners: Eric Borchers, David Borowicz, Joanna Huey, Dimitra Ioanidu, Erik Kneer, Anja Jutraž, Hoss Nasser Nosar, Josh Odelson, Forest Olaf Peterson, Anirudh Rao, Lauren Scammell, Bjorn Wuendsch
Žirija: 5th Swinerton Sustainability Challenge: Adhamina Rodriguez (Swinerton Builders); 3th DPR Challenge: Atul Khanzode, Josh Odelson and Dan Gonzales (DPR Construction)

VSEBINA

Pri virtualni delavnici, z dvema kratkima srečanjima na Univerzi Stanford na začetku in ob koncu projekta, so sodelovali študentje in mentorji iz vsega sveta. Sodelovalo je 6 arhitektov, 15 statikov, 12 vodij gradbišča, 4 LCFM, 4 strojnikov in 6 pripravnikov. Hkrati je sodelovalo 12 t.i. investorjev ter številni univerzitetni mentorji in mentorji iz industrije (Perkins+Will, NACO, Swinerton Builders, ARUP, GPLA, DPR, Bechtel, Webor idr.). Študentje so v sedmih interdisciplinarnih skupinah izdelali projekt javne skladbe, v katerem so preizkušali nove tehnološke rešitve in raziskovali inovativne koncepte učenja in zasnove fakultet.

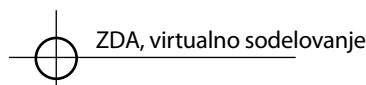
Študentje so se soočili z dvema izzivoma: »Native« in »Target Value Design (TVD)«. Zasnova zgradbe je temeljila na prvem izzivu: kako ustvariti čim bolj naravno stavbo in vključiti v oblikovanje značilnosti Navade in Univerze Reno. Pri tem so raziskovali različne vidike: urejanje zunanje okolice (kaktusi), sodelovanje z lokalnimi in regionalnimi ponudniki, odnos do okolja (oblika strehe se navezuje na bližnje hribe), LEED certifikat, varčevanje z vodo, alternativni prevozi (avtobusi) in pametni sistemi za upravljanje zgradb. Na fasadi so poenotili okna in uporabili lokalni pesek za betonsko fasado, zato da so dobili čim bolj naravni videz. Poleg tega so zasnovali stavbo, ki uči: pokazali so inštalacijske cevi ter umestili interaktivne table, ki prikazujejo, kako stavba deluje. Pri drugem izzivu TVD so določili končno ceno investicije in se ji skušali čim bolj približati.

ABSTRACT

In 2011, students focused on two challenges: Native and Target Value Design (TVD). Their compelling idea was based on their first challenge: how to go native and incorporate Nevada and Reno University characteristics in their design. They explored different aspects of "being native": landscaping (planting cacti), local and regional providers, reflecting the environment (they designed a roof resembling mountains), achieving LEED gold, use alternative transportation (bus) and building management systems. Moreover, they designed a building with a teaching function, they showed plumps, set up smart boards and showed users how the building functions. While focusing on the second challenge, TVD, they determined the final price of the investment and tried to bring the value of the final product as close to it as possible.

Stanford, Tečaj globalnega timskega dela AEC 2012

Stanford, AEC Global Teamwork Course 2012



ZDA, virtualno sodelovanje



2011/2012

TIP DELAVNICE *TYPE OF WORKSHOP*

interdisciplinarna arhitekturna delavnica/ mednarodna delavnica

MENTORJI *MENTORS*

Super-Coach and Mentor: Renate Fruchter, Stanford University; Faculty and Industry Mentors: Architects: Mike Martin, UC Berkeley, Humberto Cavallin, University of Puerto Rico School Architecture Department, David Bendet, Perkins + Will, Architects, Robert Alvarado, Charles M Salter Assoc. Inc. Chuck Eastman, Georgia Tech, Paola Sanguinetti, Georgia Tech, Hans Verheij, NACO, Netherland, Dirk Donath, Bauhaus University, Germany, Daniel Gonzales, Design Village, Willem Kymmell, UCS Chico, Wafaa Sabil, Gensler, Jan Slyk, Warsaw University of Technology, Poland; Structural Engineers: Helmut Krawinkler, Stanford University, Ronnie Borja, Stanford University, Greg Luth, GPLA of California, Shilin Yang, GPLA of California, Tim Schrotenboer, GPLA of California, Nick Arenson, D. R. Horton, Karl Beuke, Bauhaus University, Germany, Frank Werner, Bauhaus University, Germany, Guido Morgenthal, Bauhaus University, Germany, Michael Oliva, UW Madison, Erik Kneer, Degenkolb, Nick Arenson, D.R. Horton; Construction Managers: Bob Tatum, Stanford University, Martin Fischer, Stanford University, Eduardo Miranda, Stanford University, Henry Tooriany, Microestimating Inc., Henry Tooriany, Hunt Construction, Mark Bartlett, Hunt Construction, Adhamina Rodriguez, Swinerton Builders, Daniel Gonzales, DPR, Kjell Nilver, KTH, Sweden, Tomo Cerovsek, University of Ljubljana, Julian Nahan, The Beck Group; Life Cycle Financial Management: Hans Wilhelm Alfen, Bauhaus University, Germany, Bjorn Wuendsch, Bauhaus University, Germany, Axel Seifert, LA; MEP/LEED: Adhamina Rodriguez, Swinerton, Kyle Adams, ARUP, Afaan Naqvi, ARUP, Cole Robers, ARUP, John Nelson, UW Madison

ORGANIZATOR *ORGANISATION*

Stanford University, PBL Lab, prof.dr. Renate Fruchter

DATUM IN KRAJ RAZSTAVE *DATE AND LOCATION OF EXHIBITION*

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PRESENTATION

TEAM ATLANTIC



Slika 1: Člani ekipe Atlantic (foto: Skupina Atlantic).

ŠTUDENTJE STUDENTS

Architects: Kristian Fosholt, Madeleine Campos, María Carrión, Zuzanna Koltowska, Janž Omerzu, Karolina Ostrowska, Nicholas Kampmann Petitmaire; Structural Engineers: Deborah Duan, Jefferson Hang, Annemarie Herrmann, Jennifer Ju, Chris Lee, Aaron Michael McDevitt, Nick Erin Miley, Thomas Petershack, Johannes Solass, Eric Tung, Maryanne Wachter, Chen Wenhao, Curtis Wong, Courtney Wong, Yao Xiao, Leila Zheng; Construction Managers: Jonathan Isaksson, Adrew Long, Diana M Louie, Mike Miller, Ramprassath Palanisamy, Sara Sundelin, Milos Todorovic, Gustav Westphal, Dennise Wolfe; Life-Cycle Financial Managers: Maria Frank, Sabrina Lingemann, Kata Mooafak; MEP: Rob Best, Andrew Eckhart, Bedriye Kaplan; Apprentice: John Dodini

DRUGI SODELUJOČI

Sodelujoče univerze: Stanford University; Berkeley University of California; University of Wisconsin – Madison; California State University – Chico; University of Puerto Rico; Bauhaus – Universität Weimar; TU Delft; Aalborg University; KTH, Sweden; Danmarks Tekniske Universitat; The Royal Danish Academy of Fine Arts, School of Architecture; Politechnika Warszawska; University College Cork; ETH Zurich.
Vodje skupin/ Owners: David Borowicz, Fernando Castillo, Joanna Huey, Dimitra Ioannidou, Anja Jutraz, Sinan Mihelcic, Hossein Nasser, Gitte Sørensen, Forest Olaf Peterson, Anirudh Rao, Lauren Scammell, Michael Christopher Seaman, Maria Selk, Bjoern Wuendsch
Žirija: 6th Swinerton Sustainability Challenge: Adhamina Rodriguez (Swinerton Builders); 3th DPR Challenge: Atul Khanzode, Josh Odelson and Dan Gonzales (DPR Construction)

Slika 4: Priprave na končno predstavitev (foto: Skupina Atlantic).



VSEBINA

Pri virtualni delavnici, z dvema kratkima srečanjima na Univerzi Stanford na začetku in ob koncu projekta, so sodelovali študentje in mentorji iz vsega sveta. Sodelovalo je 7 arhitektov, 16 statikov, 9 vodij gradbišča, 3 LCFM, 3 strojnikov in 1 pripravnikov. Hkrati je sodelovalo 14 t.i. investitorjev ter številni univerzitetni mentorji in mentorji iz industrije (Perkins+Will, NACO, Swinerton Builders, ARUP, GPLA, DPR, Bechtel, Webor idr.). Študentje so v sedmih interdisciplinarnih skupinah izdelali projekt javne skladbe, v katerem so preizkušali nove tehnološke rešitve in raziskovali inovativne koncepte učenja in zasnove fakultet.

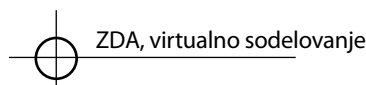
Študentje so se soočili z dvema izzivoma: »Biomimicry« in »Product-Process-Organization (POP)«. Pri prvem izzivu so v zasnovo želeli vključiti organizem, ki predstavlja posebnost za Univerzo Wisconsin, in sicer šolsko maskoto jazbeca. Ta uporablja toploto iz zemlje pozimi, da mu je toplo in poleti, da se ohladi. Podoben princip so predlagali pri zasnovi stavbe in jo tako naslonili ob hrib, tik ob jezeru Madison. Na ta način so skušali zmanjšati stroške energije. Hkrati bi uporabili prefabricirane elemente, reciklirali les in beton ter uporabili izkopano zemljo za gradnjo ploščadi. Njihov cilj je bil tudi zmanjšati količino odpadkov.

ABSTRACT

In 2012, students focused on two challenges: Biomimicry and Product-Process-Organization (POP). When tackling the first challenge – biomimicry – they wanted to incorporate into it an organism that presented a special meaning for the University of Wisconsin. Badger, the school mascot, uses the heat from the earth 90 per cent of the time during the winter to keep warm, and also use it in the summer to cool down. Thus, to save energy costs, they wanted to put the building into the ground. They also applied the principle: Reduce, Re-use, Recycle. Their idea was to reduce on-site material storage through on-time delivery, pre-fabrication, and recycling of wood and concrete, as well as to re-use excavated soil for ramp construction, and implement effective utilization of machinery and formwork to reduce or eliminate waste.

Stanford, Tečaj globalnega timskega dela AEC 2013

Stanford, AEC Global Teamwork Course 2013



ZDA, virtualno sodelovanje



2012/2013

TIP DELAVNICE *TYPE OF WORKSHOP*

interdisciplinarna arhitekturna delavnica/ mednarodna delavnica

MENTORJI *MENTORS*

Super-Coach and Mentor: Renate Fruchter, Stanford University; Architects – Industry: Robert Alvarado, CS & Associates, David Bendet, Perkins+Will, Kristian Fosholt, Perkins+Will, Hans Verheij, NACO, Wafaa Sabil, Gensler, Friedrich Traub, Hanover, Germany; Architects – Faculty: Mike Martin, UC Berkeley, Humberto Cavallin, University of Puerto Rico, Willem Kymmel, UCS Chico, Michael Mullins, AAU, Denmark, Michael Luring, AAU, Denmark, Gitte Sørensen, Copenhagen, Denmark, Jan Slyk, WUoT, Poland, Anja Jutraz, University of Ljubljana, Slovenia; Structural Engineers – Industry: Greg Luth, GPLA, Shilin Young, GPLA, Tim Schrottenboer, GPLA, Erik Kneer, Degenkolb, Geoff Bomba, Forell/Elsesser, Eric Borchers, ARUP, Nick Arenson, D. Horton Developers, Guido Morgenthal, Bauhaus University, Frank Scheiber, Bauhaus University, Justin Schwaiger, Thornton Tomasetti, Riam Firouz, Oakland, Justin Bocian, Hong Kong; Structural Engineers – Faculty: Eduardo Miranda, Stanford University, Ronnie Borja, Stanford University, Martin Tjioe, Stanford University, David Borowicz, USMA West Point, Michael Oliva, UW Madison, Graham Brasic, Atlanta; MEP – Industry: Cole Roberts, ARUP, Afaan Naqvi, ARUP, Kyle Adams, ARUP, Luis Rivera, ARUP; MEP – Faculty: Michael Lepech, Stanford University, John Nelson, UW Madison, Lotte Bjerregaard Jensen, DTU, Denmark, Jan Karlshøj, DTU, Denmark, Annika Feige, ETH Zurich; CM – Industry: Adhamina Rodriguez, Swinerton Builders, Henry Too-ryani, Microestimating Inc., Mark Bartlett, Hunt construction, Dan Gonzales,

DPR, Fernando Castillo Cohen, DPR, Dustin Rothwell, DPR, Mike Miller, DPR, Michael Pearson, DPR, Maria Selk, Mortensen Construction, Julian Nahan, BECK Group, Forest Olaf Peterson, Stanford University, Lauren Scammell, ARUP, Plamen Ivanov, Clark Construction, Ramprasath Palanisamy, Bechtel, Diana Louie, Webcor, Matt Larson, Webcor; CM – Faculty: Tomo Cerovsek, University of Ljubljana, Slovenia, Martin Lah, University of Ljubljana, Slovenia, Milos Todorovic, University of Ljubljana, Slovenia, Martin Fischer, Stanford University, Jochen Teizer, Georgia Tech, Thomas Thorsell, KTH, Sweden; LCFM – Industry: Matthias Ehrlich, CAPGEMINI, Axel Seifert, LA; LCFM – Faculty: Hans Wilhelm Alfen, Bauhaus University, Germany, Bjorn Wuendsch, Bauhaus University, Germany, Maria Frank, Bauhaus University, Germany

ORGANIZATOR *ORGANISATION*

Stanford University, PBL Lab, prof.dr. Renate Fruchter

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PRESENTATION

Slika 1: Vstopna avla (foto: Skupina Atlantic)



ŠTUDENTJE STUDENTS

Architects: Bjarke Apollo, Andrej Kurent, Joanna Pietrzykowska, Joanne Muñiz, Ana Sofia Cardona Fernandez, Pablo Gabrielle Alejandro Cabral Juan, Jorge Silen; Structural Engineers: Elias Chuayffet, Stephanie Chen, Daniel Hall, Stefan Markic, Michael J. Muller, Danielle Peterson, Shihui Qu, Donata Trost, Nanyu Zhao, Minyan Zhang; Construction Managers: Charles Bovet, Ramon Dario Iglesias, Enrique Hernandez, Yang Ji, Niklas Kindahl, Laura Mighetto, Nolan Milord, Kourosh Salehzadeh, Sijie Zhang; Life-Cycle Financial Managers: Felix Bollwahn, Jana Unterschuetz, Mareike Deurloo; MEP: Reinier Kok, Ronnie Piil, Haagensen, Chasapis Kleanthis, Graham Ryan, Ethan Landy; Apprentice: Anran Li, Sijia Tao.

DRUGI SODELUJOČI

Sodelujoče univerze: Stanford University; Berkeley University of California; University of Wisconsin – Madison; California State University – Chico; University of Puerto Rico; Bauhaus – Universität Weimar; TU Delft; Aalborg University; KTH, Sweden; Danmarks Tekniske Universitat; The Royal Danish Academy of Fine Arts, School of Architecture; Politechnika Warszawska; University College Cork; ETH Zurich.

Vodje skupin/ Owners: David Borowicz, Fernando Castillo, Maria Frank, Anja Jutraz, Zuzanna Koltowska, Sinan Mihelcic, Mike Miller, Hossein Nasser, Karolina Ostrowska, Anirudh Rao, Michael Christopher Seaman, Maria Selk, Lauren Scammell, Gitte Sørensen, Bjoern Wuendsch.

Žirija: 7th Swinerton Sustainability Challenge: Adhamina Rodriguez (Swinerton Builders); 4th DPR Challenge: Atul Khanzode, Josh Odelson and Dan Gonzales (DPR Construction)

VSEBINA

Pri virtualni delavnici, z dvema kratkima srečanjima na Univerzi Stanford na začetku in ob koncu projekta, so sodelovali študentje in mentorji iz vsega sveta. Sodelovalo je 7 arhitektov, 10 statikov, 9 vodij gradbišča, 3 LCFM, 5 strojnikov in 2 pripravnikov. Hkrati je sodelovalo 15 t.i. investorjev ter številni univerzitetni mentorji in mentorji iz industrije (Perkins+Will, NACO,

Slika 2: Uvodno srečanje januarja na Univerzi Stanford (foto: Andrej Kurent).



Swinerton Builders, ARUP, GPLA, DPR, Bechtel, Webor idr.). Študentje so v sedmih interdisciplinarnih skupinah izdelali projekt javne skladbe, v katerem so preizkušali nove tehnološke rešitve in raziskovali inovativne koncepte učenja in zasnove fakultet.

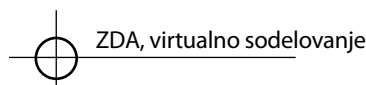
Študentje so se soočili z dvema izzivoma: »Value for Money« in »Leapfrog Sustainability«. Pri prvem so razvijali tehnologije, ki pomagajo pri trajnostnem obnašanju stavbe, in sicer so predlagali nov pametni sistem (app), ki bi povezoval človekove dejavnosti in vedenje s samo stavbo: kako lahko uporabniki sami oblikujejo in upravljajo stavbo. Pametni sistem bi tako predstavljal t.i. živi laboratorij za raziskovalce. Njen glavni namen je optimizirati učinkovitost stavbe in izobraževati uporabnike o tem, kako njihova odločitev vpliva na delovanje stavbe in kako lahko pripomorejo k odpravljanju težav. Te so povezali z drugim izzivom, kjer so ugotavljali, kako dodatna investicija lahko prispeva k večjemu zadovoljstvu končnih uporabnikov. Podrobno so pogledali različne vrste uporabnikov in njihovo vlogo pri odločanju o načrtovanju, gradnji in obratovanju stavbe.

ABSTRACT

In 2013, students focused on two challenges: Value for Money and Leapfrog Sustainability. In the first Swinerton challenge Leapfrog, they came up with a disruptive sustainable technology, a new smart system (app), which could connect human activities and behaviour, especially in terms of how to design and operate their buildings, with the building itself, and materials used within a linked system. The smart system within the building is meant to provide a living laboratory for the researchers. Its main purpose is to optimize the performance of the building and educate users on how their decisions impact that performance, and moreover, it can be used as a troubleshooting system. The second, DPR challenge, presented them with a task of finding a way to bring better Value for Money to the end users of the building by looking at the life-cycle of the facility. They stated that through the implemented technology they could reduce life-cycle impacts on the facility. They looked carefully at different user perspectives when deciding on the design, construction and operation techniques for the building.

Stanford, Tečaj globalnega timskega dela AEC 2014

Stanford, AEC Global Teamwork Course 2014



ZDA, virtualno sodelovanje



2013/2014

TIP DELAVNICE TYPE OF WORKSHOP

interdisciplinarna arhitekturna delavnica/ mednarodna delavnica

MENTORJI MENTORS

Super-Coach and Mentor: Renate Fruchter, Stanford University; Architects – Industry: David Bendet, Perkins+Will, Kristian Fosholt, Perkins+Will, Willem Kymmell, CSU Chico, Hans Verheij, NACO, Wafaa Sabil, Swinerton Builders, Friedrich Traub, Hanover, Germany; Faculty: Mike Martin, UC Berkeley, Humberto Cavallin, University of Puerto Rico, Willem Kymmell, UCS Chico, Michael Mullins, AAU, Denmark, Michael Luring, AAU, Denmark, Gitte Sørensen, Copenhagen, Denmark, Jan Slyk, WUoT, Poland, Anja Jutraz, University of Ljubljana, Slovenia; Structural Engineers – Industry: Greg Luth, GPLA, Shilin Young, GPLA, Tim Schrottenboer, GPLA, Erik Kneer, Degenkolb, Geoff Bomba, Forell/Elsesser, Eric Borchers, ARUP, Nick Arenson, Consultant, Guido Morgenthal, Bauhaus University, Frank Scheiber, Bauhaus University, Justin Schwaiger, Thornton Tomasetti, Riam Firouz, Oakland, Justin Bocian, Hong Kong; Faculty: Eduardo Miranda, Stanford University, Ronnie Borja, Stanford University, Martin Tjioe, Stanford University, David Borowicz, USMA West Point, Michael Oliva, UW Madison, Graham Brasic, Atlanta; MEP – Industry: Cole Roberts, ARUP, Afaan Naqvi, ARUP, Kyle Adams, ARUP, Luis Rivera, ARUP; Faculty: Michael Lepech, Stanford University, John Nelson, UW Madison, Lotte Bjerregaard Jensen, DTU, Denmark, Jan Karlshøj, DTU, Denmark, Annika Feige, ETH Zurich; CM – Industry: Adhamina Rodriguez,

Swinerton Builders, Henry Tooryani, Microestimating Inc., Mark Bartlett, Hunt construction, Dan Gonzales, DPR, Fernando Castillo Cohen, DPR, Dustin Rothwell, DPR, Mike Miller, DPR, Michael Pearson, DPR, Maria Selk, Mortensen Construction, Julian Nahan, BECK Group, Forest Olaf Peterson, Stanford University, Lauren Scammell, ARUP, Plamen Ivanov, Clark Construction, Ramprasath Palanisamy, Bechtel, Diana Louie, Webcor, Matt Larson, Webcor; Faculty: Tomo Cerovsek, University of Ljubljana, Slovenia, Martin Lah, University of Ljubljana, Slovenia, Milos Todorovic, University of Ljubljana, Slovenia, Martin Fischer, Stanford University, Jochen Teizer, Georgia Tech, Thomas Thorsell, KTH, Sweden; LCFM – Industry: Matthias Ehrlich, CAPGEMINI, Axel Seifert, LA; Faculty: Hans Wilhelm Alfen, Bauhaus University, Germany, Bjorn Wuendsch, Bauhaus University, Germany, Maria Frank, Stanford University

ORGANIZATOR ORGANISATION

Stanford University, PBL Lab, prof.dr. Renate Fruchter

DATUM IN KRAJ RAZSTAVE DATE AND LOCATION OF EXHIBITION

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GRADIVO PRIPRAVILA MATERIALS PREPARED BY

asist.dr. Anja Jutraz, prof.dr. Tadeja Zupančič



Slika 1: Ekipa Express (foto: Skupina Express).



Slika 2: Srečanje na Stanfordu na začetku delavnice (foto: Sanja Štimac).

ŠTUDENTJE STUDENTS

Architects: Katarzyna Ałaszewska, Bjorn B. Hansen, Jakob F. Jørgensen, Bianca Morell, Sanja Stimac, Paweł Wolejsza, Alicja Woźniak; Structural Engineers: Rene Gallegos Arratia, Mandy Bugzel, Benjamin Carter, Chris Chan, Jure Česnik, Yue Hua, Jackie Yiyang Jiao, Sebastian Rau, Xu Shohan, Andrew Sang, Qi Wu, Chris Yang, Jingxuan Zhang, Tianao Zhao, Sophia Zhou; Construction Managers: Satej Dhirubhai Desai, Yihai Fang, Erik Karlsson, Kyungki Kim, Erik Lindstrom, Lucas Melquist, Olga Golovina, Randy Schieber, Evelina Widén; Life-Cycle Financial Managers: Norayr Badasyan; Dominik Dietz, Tim Tarek Fergin, Jacqueline Frey; MEP: Anna Heebøll, Pernille Berg, Dorian Curvature, Jinzhi Wang, Flavia Grey, Amy M. Egerter, Eric Chang, Sarah Saxon; Apprentice: Albert Alix, Shiyu Bai, Claire E. Frykman, Asli Kimya, Ben Laboy, Raymond HJ Pierson IV.

DRUGI SODELUJOČI

Sodelujoče univerze: Stanford University; Berkeley University of California; University of Wisconsin – Madison; California State University – Chico; University of Puerto Rico; Bauhaus – Universität Weimar; TU Delft; Aalborg University; KTH, Sweden; Danmarks Tekniske Universitet; The Royal Danish Academy of Fine Arts, School of Architecture; Politechnika Warszawska; University College Cork; ETH Zurich.

Vodje skupin/ Owners: Anja Jutraz, Karolina Ostrowska, Zuzanna Koltowska, Andrej Kurent, Ana Sofia Cardona, Pablo Gabrielle Alejandro Cabral Juan, Gitte Sørensen, Michael Christopher Seaman, Anirudh Rao, Michael J. Muller, Donata Trost, Maria Selk, Fernando Castillo, Mike Miller, Milos Todorovic, Kourosh Salehzadeh, Niklas Kindahl, Ronnie Haagensen, Ethan Landy, Sebastian Schönbach, Maria Frank, Felix Bollwahn.

Žirija: 8th Swinerton Sustainability Challenge: Adhamina Rodriguez (Swinerton Builders); 5th DPR Challenge: Atul Khanzode and Dan Gonzales (DPR Construction)

VSEBINA

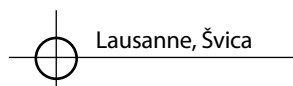
Pri virtualni delavnici, z dvema kratkima srečanjima na Univerzi Stanford na začetku in ob koncu projekta, so sodelovali študentje in mentorji iz vsega sveta. Sodelovalo je 7 arhitektov, 15 statikov, 9 vodij gradbišča, 4 LCFM, 8 strojnikov in 7 pripravnikov. Hkrati je sodelovalo 23 t.i. investitorjev ter številni univerzitetni mentorji in mentorji iz industrije (Perkins+Will, NACO, Swinerton Builders, ARUP, GPLA, DPR, Bechtel, Webor idr.). Študentje so v sedmih interdisciplinarnih skupinah izdelali projekt javne skladbe, v katerem so preizkušali nove tehnološke rešitve in raziskovali inovativne koncepte učenja in zasnove fakultet.

Študentje so se soočili z dvema izzivoma: »Healthy building« in »Total Value for the Client«. Pri prvem so reševali problem zdrave zasnove zgradbe iz urbanističnega in arhitekturnega vidika, tako od umestitve stavbe na lokacijo in navezavo na okolico kot tudi do zasnove interierja in reševanja detajlov. Pri zasnovi so raziskovali uporabo zdravih materialov, se ukvarjali z vprašanji trajnostne gradnje in z LEED certifikatom. Kot rezultat reševanja obeh izzivov so zasnovali novo aplikacijo za tablične računalnike in pametne telefone, kjer so združili vidike zdrave stavbe in zdravega načina življenja (vpliv temperature v stavbi, uporabljenih barv, zvoka, kakovosti zraka, materialov na počutje uporabnikov).

ABSTRACT

In 2014, students focused on two challenges: Healthy Building and Total Value for the Client. They tried to transfer the health issue from urban design through architecture and interior to the furniture and other details. They worked on designing a healthy building by using healthy materials, obtaining LEED certificate, and by keeping track of the issues regarding sustainability. They also designed a new app for smart phones and iPads in which they combined the aspects of building and health: how you feel (your physical and mental health) depends directly on the conditions within the building (sound, air quality, temperature, light, colours of the walls, chosen materials) and outside the building (urban design, connection to the surroundings).

EHL Campus development; natečaj za študentski kampus *EHL Campus development; Student Campus* hotelirske šole EHL v Švici *Competition for Ecole hôtelière de Lausanne, Switzerland*



Lausanne, Švica



2012/2013

TIP DELAVNICE *TYPE OF WORKSHOP*

urbanistično-arhitekturna delavnica/mednarodna

MENTORJI *MENTORS*

doc. mag. Vasa J. Perović, MA (BiA), asist. Anja Vidic, Jure Grohar

ŠTUDENTJE *STUDENTS*

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ORGANIZATOR *ORGANISATION*

Ecole hoteliere de Lausanne (EHL)

NAROČNIK

Ecole hoteliere de Lausanne (EHL)

DATUM IN KRAJ RAZSTAVE *DATE AND LOCATION OF EXHIBITION*

julij 2013, Lausanne

GRADIVO PRIPRAVILA *MATERIALS PREPARED BY*

Maša Mertelj, Ada Finci Terseglav, Matic Vrabič, Boris Vranič

UVODNIK

EDITORIAL

ČLANEK

ARTICLE

RAZPRAVA

DISCUSSION

RECENZIJA

REVIEW

PROJEKT

PROJECT

DELAVNICA

WORKSHOP

NATEČAJ

COMPETITION

PREDSTAVITEV

PRESENTATION

Slika 1: Koncept in programska shema kampusa



VSEBINA

Naloga je bila programska razširitev in povečanje števila študentskih sob šole hotelirstva v Lausanni v Švici. Načrtovati je bilo potrebno 960 študentskih studiev, nov hotel, telovadnico, bazen, start up-e in zunanje zelene površine.

Zaradi omejenega števila kvadratnih metrov se odločimo enoto študentske sobe zmanjšati in "ukradene" kvadratne metre uporabiti v glavnem arhitekturnem in programskem elementu, tako imenovanem "SOCIAL LOOP-u", kjer se zgostijo vsi skupni programi.

Predlagamo ne le pokrito pot do šole, kar je zaradi dolge in hladne zime zaželeno, ampak "programski hodnik" z dodano vrednostjo. Social loop povezuje študentske domove s šolo in je hkrati prostor interakcij in preživljanja prostega časa.

Programska "zanka" je potopljena v teren, znotraj nje oblikujemo tri velike atrije z različnimi karakterji. Študentski domovi se pojavijo v obliki dvanajstih kubusov, ki se dvignejo v štiri nadstropja. Vsaka etaža ima dvajset sob, vsaka soba je namenjena dvema študentoma. Soba sestoji iz dveh velikih polic, ki predstavljata edino pohištvo. Polica omogoča poljubno organizacijo ležišča, delovne mize in omare in tako uporabniku dovoli individualizacijo. Edini ločen objekt je hotel, ki s svojo višino in tankim profilom predstavlja dominantno v prostoru. Vse sobe, od treh zvezdic spodaj do predsedniške suite na vrhu, so obrnjene proti jugu in tako omogočajo najlepše poglede proti mestu Lausanne.

ABSTRACT

The task was to design a campus, sport facilities, start-ups, outdoor space and testing hotel for Ecole hoteliere de Lausanne in Switzerland.

Due to the limited amount of square meters, we decided to 'steal' a part of every student room in order to contribute to the main architectural, programmatical and educational element of the campus - the SOCIAL LOOP. We propose a covered path with added value - a wide programmed hallway connecting student dorms with school and a main event space at the same time. All common programs - 'living' rooms, fitness, study rooms are arranged along the main walkway and easily accessible.



EHL PROFITS
5000 m²
OF COMMON
SPACE



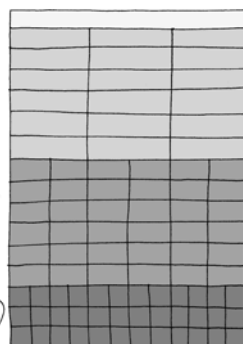
1 x PRESIDENTIAL

24 x ★★★★★

36 x ★★★

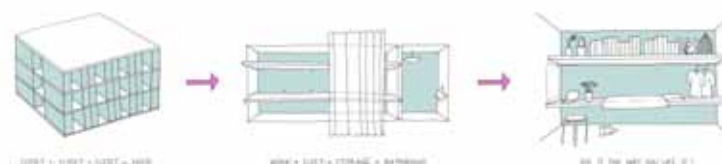
36 x ★★

97 ROOMS



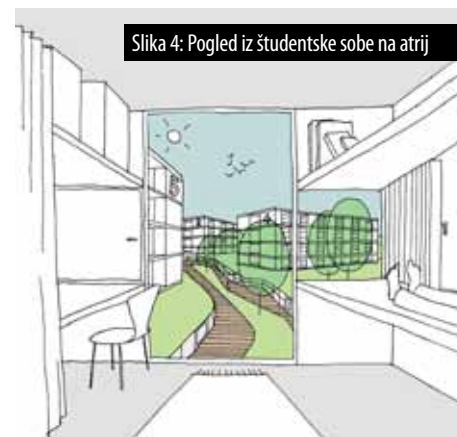
Slika 5: Koncept hotela

Slika 2: Pogled na kampus

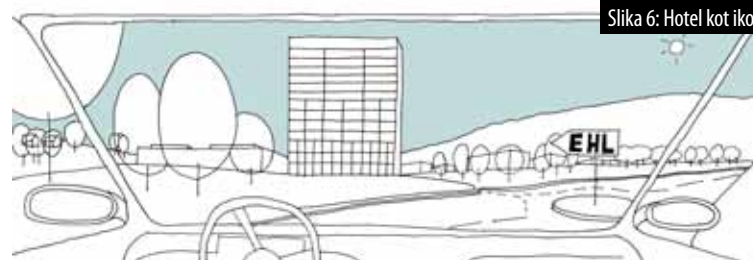


Slika 3: Koncept in organizacija študentske sobe

Slika 4: Pogled iz študentske sobe na atrij



Slika 6: Hotel kot ikona

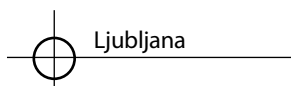


Felicità; Območje Sibirija, Ljubljana:

Felicità: Siberia Area in Ljubljana, Slovenia:

urbana prenova + integracija v mesto

Urban Renewal + City integration



Ljubljana



2012/2013

TIP DELAVNICE TYPE OF WORKSHOP
urbanistično-arhitekturna delavnica

MENTORJI MENTORS
doc. Jurij Sadar, asist. Ana Kreč, tehnični sodelavec: Denis Rovan

DRUGI SODELUJOČI
prof. dr. Ana Kučan, doc. Darja Matjašec

ŠTUDENTJE STUDENTS
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UL, Biotehniška fakulteta, Oddelek za krajinsko arhitekturo : Barbara Prezelj, Marina Kokalj, Lea Kušar

ORGANIZATOR ORGANISATION
UL, Fakulteta za arhitekturo

DATUM IN KRAJ RAZSTAVE DATE AND LOCATION OF EXHIBITION
UL, Fakulteta za arhitekturo, Ljubljana, junij 2013
UL, Biotehniška fakulteta, Oddelek za krajinsko arhitekturo, junij 2013
ter na razstavi simpozija 'Green housing for the future', Nantes, Francija, 2013

GRADIVO PRIPRAVILA MATERIALS PREPARED BY
Jurij Sadar in Ana Kreč

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1. Sadar, Jurij, 1963- 2. Kreč, Ana, 1983- Felicità : območje Sibirija, Ljubljana : urbana prenova + integracija v mesto : Univerza v Ljubljani, Fakulteta za arhitekturo, seminar Jurij Sadar, 2013 COBIS.SI-ID 273372672

Slika 1: Sibirija 5 minutno mesto



VSEBINA

Študentje v seminarju so se ukvarjali z vprašanjem, kako preoblikovati zapostavljeno in degradirano območje Sibirije v Ljubljani v mestni predel, kjer bo možno bivati in delati v skladu z našimi predstavami o mestu kot prostoru interakcije med njegovimi prebivalci. Sibirija je območje znotraj ljubljanske obvoznice in od središča mesta oddaljeno 5 minut z avtomobilom ter 15 minut peš ali s kolesom. Linije mestnega avtobusa se ga izogibajo, območje je v velikem delu poplavno, komunalno neurejeno ter brez kvalitetnih javnih površin. Prometno je navezano na mesto z vzhodnim in zahodnim uvozom na Cesto dveh cesarjev ter v podaljšku Mokriške z mostom za pešce.

Območje je svojevrsten geto odpadov, nenačrtnih gradenj in predmestnih rančev. Na eni strani je hrupna obvoznica, na drugi pa poplavni Mali graben. A vendar ima tudi drugo podobo ostankov barjanske pokrajine z zelenimi poljanami ter drevoredi ob regulacijskih potokih.

Sibirija ima svojo identiteto in šarm, kot ga imajo opuščeni industrijski predeli ali drugi zapostavljeni predeli mesta – ima tudi svoj ritem in urnik, posamezne iniciative. To smo poizkušali razbrati in vključiti v projekte. Atmosfera Sibirije je postala del projekta. Naloga je bila, kako videti ta predel drugače, kaj je njegov potencial, kaj lahko arhitekturni projekt spremeni in kakšne razvojne strategije lahko ponudimo mestnim oblastem ter prebivalcem tega predela. Na ta vprašanja smo odgovorili s serijo posameznih projektov.

Felicità je nekoliko ironično in hkrati provokativno skupno ime vseh projektov, ki ponujajo drugačno podobo Sibirije – veselo, varno, vabljivo za umetnike in mlade, zeleno – kot razvojno možnost upočasnjene in zaspane Ljubljane.

ABSTRACT

Sibirija lies on the southern part of Ljubljana, within the ring road, just 5 minutes from the city centre. It is a buffer zone between the Murgle residential area

Slika 2: Nova cestna mreža

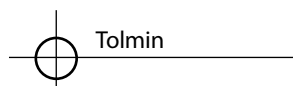


Slika 3: Hibridni objekt ob Barjanski cesti

and the Ljubljana marshes, where people go for a walk, run, and relaxation. The area is often flooded. Sibirija is a ghetto of junkyards, unplanned constructions and suburban ranches with no regulated communal services and lack of public space. Yet it offers another image with remains of marsh landscape with green fields and tree avenues by regulated streams. Sibirija has its own identity and charm, its own pace and schedule, individual initiatives. Felicità is somewhat ironic and at the same time provocative name of all our projects that offer different image of Sibirija - happy, safe, inviting for artists and young people, green - as a development possibility for slow and sleepy Ljubljana.

Prostorski razvoj južnega Tolmina

Spatial Development of the Southern Part of Tolmin



2013/2014

TIP DELAVNICE *TYPE OF WORKSHOP*

urbanistična, krajinskoarhitekturna in arhitektura

MENTORJI *MENTORS*

doc. Darja Matjašec (urbanizem, krajinska arhitektura), doc. Jurij Sadar (urbanizem, arhitektura), prof. dr. Mojca Golobič (vključevanje javnosti), asist. Nejc Florjanc, asist. Ana Kreč

ŠTUDENTJE *STUDENTS*

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2. letnik magistrskega študija krajinske arhitekture: Aljaž Babič, Polona Černe, Luca Eberlinc, Ema Križič. Manca Krošelj, Danijel Mohorič, Sara Novak, Tadeja Pavšič, Danko Puhalo, Jasna Rizvanović, Domen Rus, Tilen Šenk, Saša Štefančič in Nina Uršič

UL, Fakulteta za arhitekturo: 4. letnik magistrskega študija arhitekture: Matic Mohar, Jan Trunkelj, Lara Zukanovič

ORGANIZATOR *ORGANISATION*

UL, Biotehniška fakulteta, Oddelek za krajinsko arhitekturo in Občina Tolmin

NAROČNIK

Občina Tolmin

DATUM IN KRAJ RAZSTAVE *DATE AND LOCATION OF EXHIBITION*

16. – 30. junij 2014, Knjižnica Cirila Kosmača Tolmin

GRADIVO PRIPRAVILA *MATERIALS PREPARED BY*

doc. Darja Matjašec, asist. Nejc Florjanc

UVODNIK

EDITORIAL

ČLANEK

ARTICLE

RAZPRAVA

DISCUSSION

RECENZIJA

REVIEW

PROJEKT

PROJECT

DELAVNICA

WORKSHOP

NATEČAJ

COMPETITION

PREDSTAVITEV

PRESENTATION



Slika 1: Zasnova (Babič, Pavšič, Rus)

VSEBINA

Študenti so se ukvarjali s prostorskim razvojem južnega dela Tolmina. Obravnavali so območje obstoječega športnega parka Brajda, območje Cvetja južno od šole ter festivalsko območje ob načrtovani obvoznici ter na Sotočju ter celoten gozdni prostor na levem bregu Soče od Sotočja do pokopališča. Izhodiščna naloga je bila, da preverijo možnosti zamenjave načrtovane stanovanjske soseske na območju Cvetja in obstoječega športnega parka Brajda in da predlagane rešitve še vedno omogočajo izvedbo množičnih festivalov. Na podlagi analiz in vključevanja javnosti je bilo ugotovljeno, da je zamenjava načrtovane soseske in obstoječega športnega parka smiselna.

Soseska bi se na lokaciji obstoječega športnega parka bolje navezovala na samo mesto tako z vidika povezave mestnih funkcij kot z vidika boljše umeščenosti stavbnega fonda znotraj mestnega jedra. Na robu mesta bi bile mestne funkcije od soseske preveč oddaljene, do konfliktov pa bi prihajalo tudi v času festivalov. Športni park bi se z lokacijo južno od šole bolje navezoval na odprte in zelene površine na Sotočju, ki že imajo rekreacijsko funkcijo. Nova lokacija športnega parka bi omogočala umestitev več različnih programov, ki so se na podlagi ankete med prebivalci, ki so jo opravili študenti, izkazali kot potrebni (na primer pokriti bazen, lokal itd.).



Slika 4: Prostorski prikaz sprehajalne poti ob Soči (Križič, Mohorič).



Slika 2: Prostorski prikaz stanovanjske soseske (Babič, Pavšič, Rus).



Slika 3: Prostorski prikaz stanovanjske soseske (Mohar, Trunkelj, Zukanovič, Krošelj, Novak).

Študenti so pri svojih zasnovah oblikovali različne koncepte. Nekateri so kot izhodišče svoje zasnove upoštevali naravo, ki je značilna za reko Sočo in njeno neposredno okolico, drugi so izhajali iz zgodovinskih značilnosti iz obdobja Soške fronte, kot izhodišče pa je bilo obravnavana tudi poplavna ogroženost.

ABSTRACT

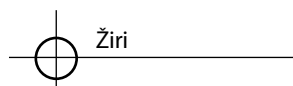
Students were dealing with the spatial development of the southern part of Tolmin between old historical centre and river Soča. One of the goals was also to examine the possibility of replacing locations between the planned residential area and existing sports park Brajda. Furthermore, suggested spatial solutions should still allow organization of mass music festivals on Soča riverbanks. Students based their design solutions on different concepts. Some ideas for design concepts were based on river Soča natural surroundings, others derived from historical events of Isonzo Front.



Slika 5: Prostorski prikaz poplavnega loga ob Soči (Babič, Pavšič, Rus).

Park Žiri

Žiri Parc



Žiri



2013/2014

TIP DELAVNICE *TYPE OF WORKSHOP*

krajinskoarhitekturna in arhitektura

MENTORJI *MENTORS*

doc. Darja Matjašec (krajinska arhitektura), doc. Jurij Sadar (arhitektura), asist. Nejc Florjanc, asist. Ana Kreč

ŠTUDENTJE *STUDENTS*

UL, Biotehniška fakulteta, Oddelek za krajinsko arhitekturo:

3. letnika krajinske arhitekture: Nina Berovič, Vid Bogovič, Eva Celinšek, Vlasta Damjanovič, Davor Dušanič, Nadja Gothe, Jure Gubanc, Andraž Hudoklin, Marko Klemen, Urša Kljun, Saša Kolman, Tina Kralj, Tomislav Krnač, Tomaž Kuret, Maša Legat, Martina Lovrič, Andreja Majnik, Veronika Malik, Sara Matušin, Neža Novšak, Don Papandopulo, Klavdija Peperko, Tom Pogačar, Ana Pšenica, Mojca Seliškar, Maruša Šubic, Nives Vavtar in Simona Vraničar;

UL, Fakulteta za arhitekturo: 4. letnika arhitekture: Primož Černelč, Andreja Korpič in Sara Pirjevec

ORGANIZATOR *ORGANISATION*

UL, Biotehniška fakulteta, Oddelek za krajinsko arhitekturo in Občina Tolmin

NAROČNIK

Občina Žiri

DATUM IN KRAJ RAZSTAVE *DATE AND LOCATION OF EXHIBITION*

19. december – 12. marec 2014, Občina Žiri, 21. marec 2014 – 25. aprila 2014, Biotehniška fakulteta, Oddelek za krajinsko arhitekturo

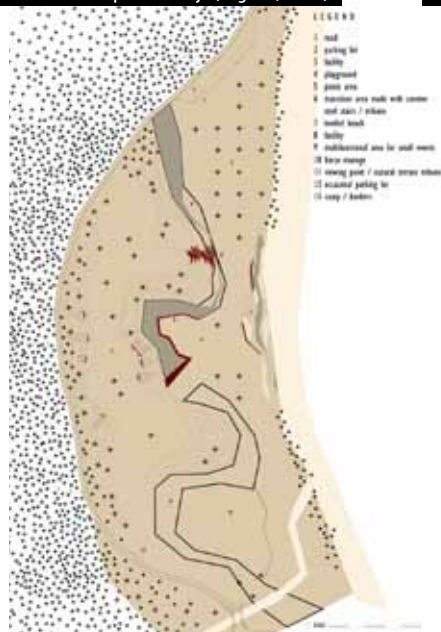
GRADIVO PRIPRAVILA *MATERIALS PREPARED BY*

doc. Darja Matjašec, asist. Nejc Florjanc

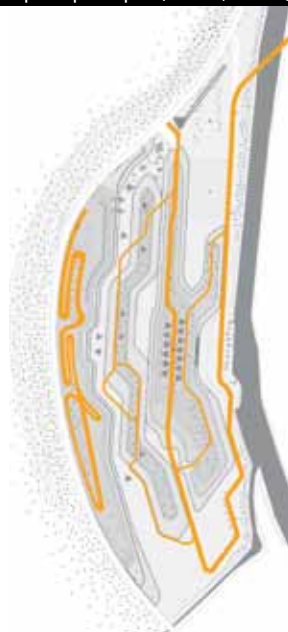
COBISS_Slovene Co-operative Online Bibliographic System and Services oz. ustrezen podatek o vpisu v drugo bibliografsko bazo

Park Žiri : ŠRC Pustotnik / Študentska krajinsko arhitekturna delavnica ; [avtorji Darja Matjašec ... [et al.] ; uredila Darja Matjašec, Nejc Florjanc]. - Ljubljana : Biotehniška fakulteta, Oddelek za krajinsko arhitekturo ; Žiri : Občina, 2013. - 41 str. : ilustr., načrti ; 21 x 22 cm [COBISS.SI-ID 270878208]

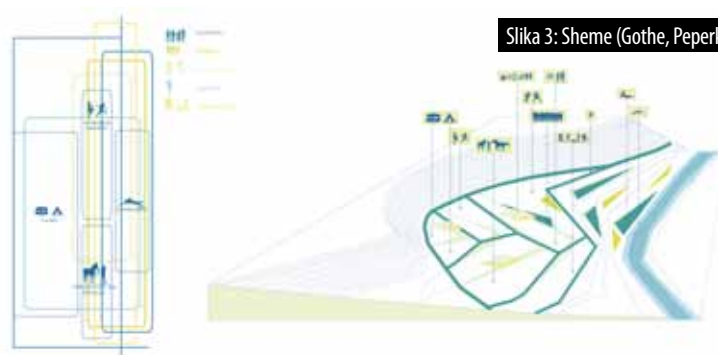
Slika 1: Park Rupnikova linija (Pogačar, Šubic).



Slika 2: Športni park Alpina (Dušanič, Gubanc).



Slika 3: Sheme (Gothe, Peperko).



Slika 4: Sheme in prostorski prikazi (Pogačar, Šubic).



VSEBINA

Na delavnici je bilo preverjeno, kakšne možnosti se ponujajo za preoblikovanje in programsko nadgradnjo območja tako v kontekstu kulturne krajine kot v kontekstu mestne krajine. Različne možnosti so študenti preverjali skozi različne scenarije. Nekateri scenariji so gradili na zatečeni situaciji (bivša deponija gradbenega materiala). S čim manj posegi so poskušali nadgraditi obstoječe rešitve tako v funkcionalnem kot v oblikovnem smislu. Drugi scenariji so gradili izhodišča za celovito prenavo na način, da Žiri postanejo prepoznavne v širšem merilu, kar sicer praviloma zahteva radikalne prostorske preureditve, ki pa se dolgoročno splačajo, saj Žiri pridobijo na novi prepoznavnosti in privlačnosti kraja. Navdih so študenti poiskali v do zdaj na nek način neizkoriščenih potencialih v zgodovini, pa tudi v prepoznavni športni industriji Alpina ali celo v žirovski čipki. Drugi so poskušali navdih poiskati v preprosti lepoti naravnih prvin. Vsi scenariji se lahko v prostoru smiselno udejanjijo, seveda pa zahtevajo različen vložek občine tako v organizacijskem kot v finančnem smislu, občina pa bi morala tudi temeljito razmisliti, kakšen razvoj kraja želi. Od zadržanega, kjer je njena glavna ambicija, da zadovoljuje potrebe svojega prebivalstva, ali pa do nekoliko bolj smelega, skozi katerega se lahko umesti na zemljevid turistično prepoznavnih slovenskih krajev. Obe smeri razvoja sta možni in povsem legitimni.

ABSTRACT

The aim of the workshop was to examine different options for spatial and programmatic redevelopment of the area ŠRC Pustotnik in Žiri. Students examined different options through a variety of scenarios. Some scenarios focused on local recognition and were built on current situation (landfill of construction material), where they tried to upgrade existing solutions with minimal interventions. Other scenarios suggested more radical ideas that would help Žiri gain its recognition and identity also in a wider (national and international) perspective.

Slika 5: Gostinski paviljon (Černelč, Korpič, Pirjevec).

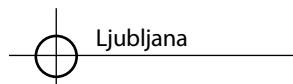


Slika 6: Prostorski prikaz (Dušanič, Gubanc).



Elementi, materiali in oblike 4

Elements, Materials and Form 4



Ljubljana



2014

TIP DELAVNICE *TYPE OF WORKSHOP*
prostorska inštalacija/slovenska

MENTORJI *MENTORS*
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ŠTUDENTJE *STUDENTS*
UL, Fakultete za arhitekturo: Kaja Krebel, Blažka Sevnčnikar, Tajda Češarek (Visoka šola za dizajn), Boštjan Kropinšek, Matic Komel, Lara Baler, Tjaša Barič, Bea Avguštin, Nika Koraca, Lea Oberza, Tjaša Rus, Sanja Daljavec, Mojca Simonič, Lina Skrinjar, Katja Traunšek, Rok Kramarič, Tjaša Kobi, Andrea Jurinčič, Alen Vovk, Peter Nemec, Jan Barič, Ivan Hofman, Bor Kajzer

SODELUJOČI *PARTICIPANTS*
ID:doma - Matevž Frančič, Grom Arch d.o.o. - Janez P. Grom, UL FGG - asist. Gašper Mrak, SMS Stražišar Mirko, s.p., Lucimaster - Urban Modic, UL FA - doc. dr. Tomaž Novljan, Viki Žigon, Urša Kalčič

DATUM IN KRAJ RAZSTAVE *DATE AND LOCATION OF EXHIBITION*
otvoritev razstave 25. aprila 2014, hodnik Fakultete za arhitekturo, 2. nadstropje

GRADIVO PRIPRAVILA *MATERIALS PREPARED BY*
doc. dr. Alenka Fikfak

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Slika 1: Ustvarjalno in kreativno delo na delavnici.



VSEBINA

Delavnica o svetlobi je bila namenjena spoznavanju oblikovanja elementa osvetljevanja: LUČI. Začetek je bil popolnoma nezahteven, vendar smo z vsakim naslednjim korakom ugotavljali, kako je znanje, ki je v ozadju tega zahtevno in kompleksno: tehnične, estetske in predvsem psihološke narave. V nalogi je bila izpostavljena celostna zasnova in oblikovanje modela sodobnega svetila. Izbrani material za izdelavo je bil inox. Glavni cilj delavnice je v preteklih mesecih sledil razumevanju obnašanja materiala in možne vsestranske uporabnosti le-tega. Obravnavali smo različne funkcije in lastnosti svetlobe, mešanje barv in kako vplivajo na vtis in učinek prostora.

Svetloba skozi oči oblikovalca, fotografa, računalničarja, obrtnika. Študentov arhitekture in urbanizma: kompozicija in ustvarjanje atmosfere.

"There is a crack in everything. That's how the light gets in."
Leonard Cohen, *Selected Poems, 1956-1968*

"Darkness cannot drive out darkness: only light can do that. Hate cannot drive out hate: only love can do that."
Martin Luther King Jr., *A Testament of Hope: The Essential Writings and Speeches*

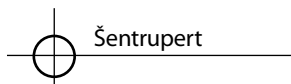
ABSTRACT

Creativity is closely connected to empirical method of learning, where the involvement in the experience and thinking proves to be invaluable for broadening and development of the knowledge of an individual, group and all participants. In order to realize the idea of spatial composition, the key issue was to find the appropriate place (FA) and time (limitation to three days of active work). An additional restriction was manual work without the use of a computer, and minimum costs with the possibility of recycling the material already used. Workshop 3 (April 2013): material – white plastic cups; clipping of elements into curves; stacking and folding of surfaces into a composition; making a 3D composition of a room; finalising the composition of a "leisure room"; shaping the ambient and the individual elements, circle, observation of structure.



Načrtovanje prostora je za vse!

Spatial planning is for everyone!



Šentrupert



2013/2014

TIP DELAVNICE TYPE OF WORKSHOP
tehniški dan na osnovni šoli

MENTORJI MENTORS
doc. dr. Alma Zavodnik Lamovšek, viš. pred. mag. Mojca Foški, asist. Gašper Mrak, Tadej Žaucer

SODELUJOČI PARTICIPANTS
Meta Petrič, Tanja Marn, Urban Jeriha, Špela Žohar, Nadja Kmetič, Maja Weisseisen, Gašper Okršlar, Urša Kalčič
učitelji Osnovne šole dr. Pavla Lunačka, Šentrupert

ORGANIZATOR ORGANISATION
UL, Fakulteta za gradbeništvo in geodezijo; IPOP
Osnovna šola dr. Pavla Lunačka, Šentrupert

NAROČNIK
Osnovna šola dr. Pavla Lunačka, Šentrupert

DATUM IN KRAJ RAZSTAVE DATE AND LOCATION OF EXHIBITION
avla UL FGG, Ljubljana, od 28. 5. 2014 do 4. 6. 2014
avla Osnovne šole dr. Pavla Lunačka, Šentrupert, od 18. 6. 2014 do 23. 6. 2014

GRADIVO PRIPRAVILI MATERIALS PREPARED BY
viš. pred. mag. Mojca Foški, doc. dr. Alma Zavodnik Lamovšek, asist. Gašper Mrak

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Slike 1, 2, 3: Terensko delo in ustvarjanje v učilnicah.

VSEBINA

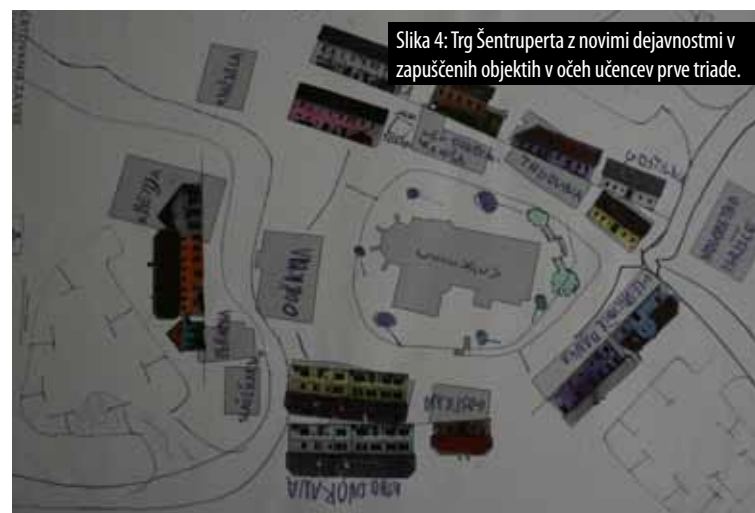
Odnos do prostora se oblikuje že v zgodnjem razvoju otrok. Spoznanje in zavedanje, da je prostor naša skupna dobrina in da ga lahko oblikujemo po meri vseh nas – uporabnikov in s skupnimi močmi, je bilo ključno vodilo pri izvedbi tehniškega dne za učence osnovne šole. S spoznavanjem tematike prostorskega načrtovanja, prilagojene različnim starostnim skupinam, smo naredili enega prvih korakov v vzgoji otrok do boljšega odnosa do prostora.

Oblikovane so bile tri naloge, prilagojene starostnim skupinam učencev v posameznem triletju osnovne šole. V prvem triletju so učenci objektom na trgu v naselju Šentrupert določali dejavnosti in vsebine. Poseben poudarek je bil na razgovoru o odnosu med dejavnostmi v objektih, njihovih uporabnikih in odnosu objektov do odprtega javnega prostora. V drugem triletju so učenci izdelali otroški turistični zemljevid, na katerem so predstavili in izpostavili zanimivosti Šentruperta in ožje okolice ter hkrati vnesli dejavnosti in objekte, ki bi jih v svoji bližnji okolici še želeli. Na podlagi vnaprej pripravljenih gradiv so izdelali zemljevide v obliki zgibanke. Naloga učencev tretjega triletja je bila zasnovati kolesarske poti in pešpoti, s katerimi lahko povežemo deželo kozolcev v Šentrupertu z zanimivostmi v njeni okolici.

Delo je bilo razdeljeno v več faz, ki so potekale pod vodstvom strokovnih mentorjev in učiteljev. V prvem, uvodnem delu so bili učenci seznanjeni s problematiko in nalogami, sledil je terenski ogled, v zadnjem delu pa izdelava predlogov, zgibank, plakatov in drugih gradiv v učilnicah. Učenci so ob koncu tehniškega dne opravili tudi evalvacijo stanja prostora Šentruperta in njegove okolice ter evalvacijo poteka in zadovoljstva s tehničkim dnevom.

ABSTRACT

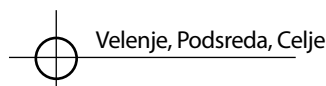
In the education session for primary school pupils, the main consideration was to bring across the understanding and awareness that space is a common good and that, as a joint effort, it can be customised (to suit all users). By looking at the topics of spatial planning, adapted to the different age groups of primary school pupils, we took a first step in the education of children to improve their relation to space. The pupils of the first three-year cycle proposed new uses of the buildings in the square of the town of Šentrupert, a Slovenian municipality, and suggested how to renovate the façades. The pupils in the second three-year cycle devised a tourist map for children, while in the third three-year cycle they designed a bicycle path and a footpath in the area surrounding Šentrupert.



Slika 4: Trg Šentruperta z novimi dejavnostmi v zapuščenih objektih v očeh učencev prve triade.

Niz izobraževanj otrok in mladine o kvaliteta lokalnega prostora

*Educational Programmes about
the Qualities of the Local Space*



Velenje, Podsreda, Celje



2012/2013

TIP DELAVNICE *TYPE OF WORKSHOP*

delavnice za otroke in mladino

MENTORJI *MENTORS*

dr. Mojca Furman Oman, u.d.i.geod., mag. Gorazd Furman Oman, u.d.i.a.

SODELUJOČI *PARTICIPANTS*

Jaka Sedovnik, u.d.i.a, Andreja Džakušič, samostojna umetnica

DRUGI SODELUJOČI *OTHER PARTICIPANTS*

dijaki od 1. do 4. letnika Umetniške gimnazije, Velenje (delavnice mesto... industrija... mesto, Velenje)

učenci OŠ Podčetrtek, OŠ Kozje, OŠ Lesično, OŠ Maksa Pleteršnika Pišce, OŠ Bistrica ob Sotli in OŠ Bizeljsko (delavnice hiša v parku, Podsreda)

učenci II. OŠ Celje (delavnice (p)oživimo ulico, Celje)

učenci II. OŠ Celje, OŠ Lava, III. OŠ Celje in dijaki Gimnazije Center, Celje (delavnice naše mesto, Celje)

ORGANIZATOR *ORGANISATION*

Metro SR, zavod za prostor Savinjske regije, Celje

NAROČNIK

Galerija Veleje, Velenje, Kozjanski park, Podsreda, Mestna občina Celje

DATUM IN KRAJ RAZSTAVE *DATE AND LOCATION OF EXHIBITION*

Razstava in podelitve nagrade Zlata kocka 2014, Ljubljana, 4. 3. 2014.

GRADIVO PRIPRAVILA *MATERIALS PREPARED BY*

Mojca Furman Oman

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Slike 1, 2, 3: Hiša v parku, Podsreda.



Slike 4, 5, 6: Mesto ... industrija ... mesto, Velenje.



VSEBINA

Metro SR razvija lastne programe izobraževanj otrok in mladine o kakovostih lokalnega prostora, ki jih izvaja v obliki delavnic. Za niz izobraževanj otrok in mladine o kakovostih lokalnega prostora, ki smo jih v obliki delavnic izvajali v letih 2012/13, smo prejeli nacionalno nagrado Zlata kocka 2014 (http://www.zaps.si/index.php?m_id=ARHITEKTURA%20IN%20OTROCI).

Skupini imenovalcev izvedenih delavnic z naslovi mesto... industrija... mesto, hiša v parku, naše mesto in (p)oživimo ulico je naslednji:

- udeležence smo seznanili s prostorom, v katerem živijo, s poudarkom na urbanističnem in arhitekturnem razumevanju tega prostora
- udeleženci so razvili kritičen odnos do prostora, v katerem bivajo, se igrajo, izobražujejo
- udeleženci so pridobili nova znanja in veščine, s katerimi lahko izbran prostor izboljšajo
- skozi delavnice smo skušali vzgojiti kritične uporabnike prostora, ki bodo cenili in spoštovali kvalitete grajenega prostora.

Vsako izobraževanje smo razvili za specifično lokalno okolje, s čimer smo motivirali udeležence, jim zbudili pozornost do lokalnega grajenega okolja in na razumljiv način podali kompleksnejša znanja s področja urbanizma in arhitekture. Vsaka od delavnic je bila zasnovana povsem unikatno in tematsko

vezana na problematiko ali kvaliteto prostora, v katerem se je izvajala.

Po mnenju žirije za podelitev Zlate kocke so naše »delavnice prilagojene prostoru (urbano/ruralno) v katerem se odvijajo, navezujejo se na lokalno problematiko in sledijo trajnostnemu cilju: misli globalno in deluj lokalno. Uporabljeni so raznoliki pristopi, tehnike in materiali, vsi prilagojeni okolju in tematiki, ki ju delavnica podpira. Projekt predstavlja vzor za delo z otroki na področju izobraževanja o prostoru in arhitekturi.«

ABSTRACT

Metro SR, The Institute for Space in the Savinja region carries out its own educational programmes about the qualities of the local space for children as well as youth by means of workshops.

Every form of education within the workshops is developed for the purpose of a specific local environment which motivates the participants, arouses their attention to the local constructed space and makes complex knowledge from the field of urbanism and architecture more comprehensible. Therefore, in the years of 2012-2013, a series of workshops based on the local environment were developed. Four thematically different workshops namely A House in the Park, Our City, Revive the Street and City... Industry... City are presented.

Awards: Architecture & Children Golden Cubes Awards 2013/14 (National Nomination)



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LOKACIJE DELAVNIC WORKSHOP LOCATIONS

Lokacije delavnic:

1. Ljubljana, Bruselj	str. 74
2. KP Ljubljansko Barje	str. 76
3. Kočevje	str. 80
4. Ljubljana	str. 94
5. Tolmin	str. 96
6. Žiri	str. 98
7. Ljubljana	str. 100
8. Šentrupert	str. 102

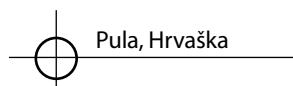
V.

NATEČAJI

COMPETITIONS

Krožno križišče Šijana

Šijana Roundabout



Pula, Hrvatska



2014

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TIP NATEČAJA TYPE OF COMPETITION
krajinsko-arhitekturni

MENTORJI MENTORS
doc. Darja Matjašec

ŠTUDENTJE STUDENTS
UL, Fakultete za krajinsko arhitekturo: Tomislav Krnač, Aljaž Babič, Vlasta Damjanovič, Urša Kljun, Ema Križič, Tadeja Pavšič, Domen Rus in Maruša Šubic

NAROČNIK CLIENT
Občina Pula, Hrvatska

DATUM IN KRAJ RAZSTAVE DATE AND LOCATION OF EXHIBITION
2014, Pula

GRADIVO PRIPRAVIL MATERIALS PREPARED BY
doc. Darja Matjašec

VSEBINA

V vse večji globaliziranosti sveta je pomembno, da se posamezni kraji, še posebej, če je turizem njihova glavna gospodarska panoga, razlikujejo od drugih krajev. Krajina in zeleni sistem kraja lahko nosita pomembno sporočilnost in sta lahko več kot odlična priložnost za identiteto nekega kraja. S študenti smo želeli pokazati, da lahko krajinskoarhitekturne ureditve ob infrastrukturnih koridorjih v urbanih območjih pomembno tvorijo identiteto kraja in s tem postaviti antipod rešitvam, ki smo jim v vsakdanjem življenju ob poplavi nestrokovnih ureditev krožnih krožišč vse bolj priča.

Puljska obvoznica s krožnimi križišči in mestnimi vpadnicami ima potencial ekološkega in rekreacijskega koridorja, ki sta sestavni del zelenega sistema mesta. Z mestnimi vpadnicami tvori pomembno strukturno členitev mesta. Trendi v razvoju urbanih okolij v razvitem svetu kažejo na to, da se na račun trajnostne mobilnosti vse bolj opušta promet z osebnimi avtomobili, mestne oblasti pa dajejo velik poudarek kolesarjenju in pešačenju. Hodljivost omogočajo ustrezne ureditve peš in kolesarskih koridorjev in ustrezen urbanistični razvoj mesta, ki mora upoštevati obstoječe naravne danosti. Naravni gozd (Šijanska šuma), ki meji na obravnavano krožno križišče, je pomembno rekreacijsko območje. Šijanska šuma je z mestom povezana ravno preko šijanskega rondoja, zato našo osnovno idejo gradimo na kultivirani krajini znotraj rondoja. Kultivirana krajina se kaže v talni ploskvi z menjavajočo se podobo zaradi sprememb letnih časov (zeleni ploskvi vs. cvetoči ploskvi z lokalno značilnimi vrstami), nad njo pa se razprostira gozd pinij in celtisa. Obvoznico obdaja obojestranski drevored pinij, ki se izvede karseda zvezno (kjer pač razmere ne dopuščajo), mestna vpadnica, ki poteka od Šijanske šume proti centru mesta pa obdaja obojestranski drevored celtisov. Tudi ta drevored se ohranja čim bolj zvezno.

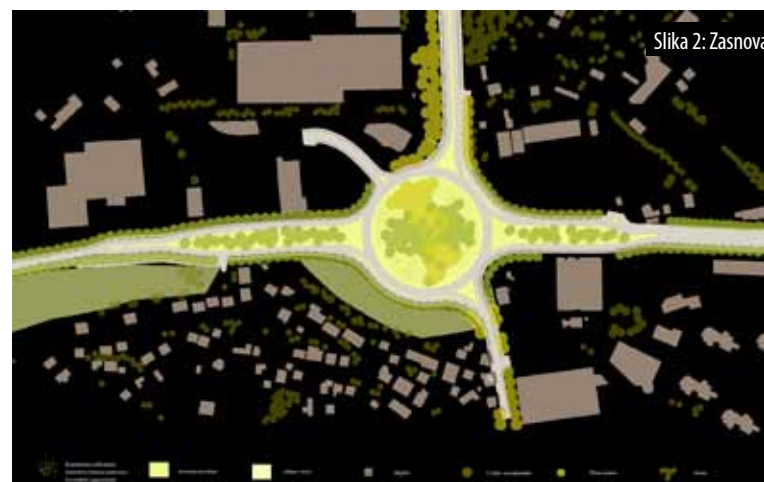
Ureditev znotraj rondoja upošteva vse cestnoprometne predpise in standarde na področju varnosti. Rešitev je zasnovana tako, da ne povzroča distrakcije soferja in ga vodi umirjeno skozi prometno krožišče. Prav tako pešce in kolesarje. Posebna pozornost je namenjena nizkim stroškom vzdrževanja ob predpostavki, da bo notranjost rondoja imela namakalni sistem. Predvidevata se dve fazi izvedbe. V prvi fazi se posadijo le drevesa (drevoredi in nadomestni gozd sredi rondoja (celtisi in pinije), v drugi fazi pa se v rondoju pod drevesi zasadijo trajnice (sivka, rožmarin in santolina). Druga faza ni obvezna, saj zahteva večji finančni vložek. Celotna ureditev je zasnovana kot nadomestni habitat, ki je bil uničen zaradi gradnje šijanskega rondoja. Na zunanji strani rondoja, na jugozahodni strani in južno od obvoznice ne zahodni strani rondoja se lahko na odprtih površinah vzpostavi sistem urbanih vrtilčkov.

ABSTRACT

The goal of the competition was to find a design proposal for a roundabout, located on a bypass road in Pula, Croatia. Students tried to avoid generic solutions and tried to show that landscape interventions along infrastructural corridors are part of a larger green system within the city of Pula.



Slika 1: Rekreacijske povezave



Slika 2: Zasnova



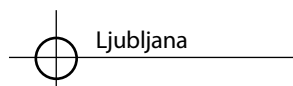
Slika 3: Prostorski prikaz, izvedena faza 2



Slika 4: Prostorski prikaz poleti

2100: Zelena pozidava za prihodnost / koliščarji

2100: Green Housing for the Future / Pile Dweelers



Ljubljana



2013

TIP NATEČAJA *TYPE OF COMPETITION*

mednarodni urbanistični, krajinskoarhitekturni in arhitekturni

MENTORJI *MENTORS*

prof. dr. Ana Kučan, doc. Darja Matjašec, doc. Jurij Sadar, asist. Nejc Florjanc, asist. Ana Kreč

ŠTUDENTJE *STUDENTS*

UL, Fakultete za krajinsko arhitekturo: Tadej Bevk, Eva Strgar, Blaž Meznarčič
UL, Fakultete za arhitekturo: Tadej Bogovič, Alenka Bratec

NAROČNIK *CLIENT*

Agrocampus Ouest – Centre d'Angers, l'ENSA de Nantes, Plante et Cité, Francija

DATUM IN KRAJ RAZSTAVE *DATE AND LOCATION OF EXHIBITION*

2013, spletna objava http://www.agrocampus-ouest.fr/infoglueDeliverLive/digitalAssets/51355_Concours2100_presentation.pdf

Nagrada – 1. (deljena) nagrada

GRADIVO PRIPRAVIL *MATERIALS PREPARED BY*

doc. Darja Matjašec

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VSEBINA

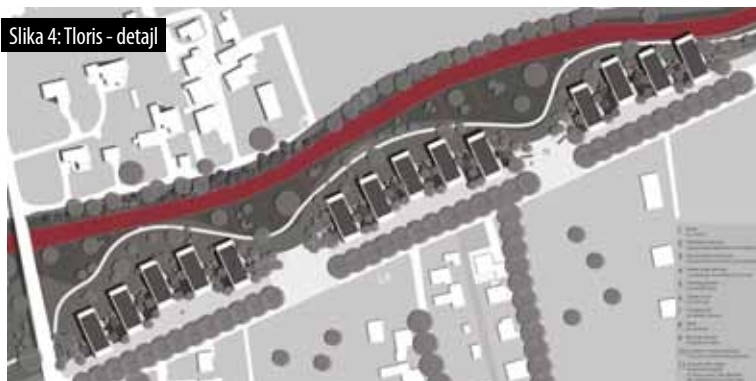
Namen natečaja je predstavitev študentskih projektov na temo bivanja v prihodnosti v sožitju z naravo v urbanem prostoru na poljubnih lokacijah. Projekt obravnava severni del območja Sibirije v Ljubljani, južno od Malega grabna. Območje predstavlja pomembno vez med središčem Ljubljane in Ljubljanskim barjem. Trenutno je območje stihijsko naseljeno, poplavno ogroženo in degradirano. Predlagana rešitev v večji meri ohranja obstoječi program, to je bivanje z dopolnilnimi dejavnostmi, in ga smiselno nadgrajuje. Upošteva strukturne značilnosti prostora (barjanski jarki) in nevarnost poplav.

Rešitev predvideva terasasto urejanje območja. Teraso se spuščajo proti Malemu grabnu. Spodnje služijo za območja, na katerih Mali graben občasno poplavlja, na njih pa so načrtovane krajinskoarhitekturne ureditve, ki brez nastale škode prenesejo pogoste poplave. Najvišja terasa je poplavno varna in je zato tudi zazidljiva. Na njej sta zasnovani stanovanjski naselji, predvidena je faznost izvedbe. Obe naselji sta zasnovani kot samooskrbni, z območji za pridelavo zelenjave. Vzpostavljen je sistem zbiranja deževnice za uporabo v gospodinjstvih. Voda iz utrjenih povoznih površin se prečiščuje v rastlinskih čistilnih napravah v kanalih, strehe objektov so ozelenjene. Zahodno naselje ima večstanovanjske objekte, vzhodno pa enostanovanjske, ki omogočajo izvajanje dopolnilnih dejavnosti. Objekti v vzhodnem naselju so zasnovani pravokotno na terase in se čez zgornjo teraso prevešajo nad spodnje terase na način, da ob morebitnih poplavah delno lebdi nad vodno površino. Celotno območje je pešcem in kolesarjem prijazno. Zasnova predstavlja rešitev, kjer prebivalci z načinom bivanja spoštujejo naravne procese in kljub tehnološko dovršenim stavbam še vedno ohranjajo stik z naravo.

ABSTRACT:

The purpose of the contest is the presentation of student projects on the theme of living in the future within randomly selected degraded urban areas. The project deals with the redevelopment of northern area of Sibirija in Ljubljana. The area represents an important link between Ljubljana city center and nature park Barje, a swampy area used for cultivation. Sibirija was originally used for cultivation but illegal housing spread quickly on some plots. The area experiences annual flooding.

Slika 4: Tloris - detajl



Slika 1: Zasnova



Slika 2: Situacija ob manjših in večjih poplavah



Slika 3: Značilni prerezi ob različnih nivojih vode



Slika 5: pogled na poplavno ravnico

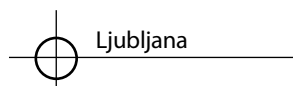
VI.

PREDSTAVITVE

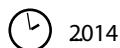
PRESENTATIONS

Pametni urbanizem – učiti trajnost

Smart Urbanism – Teaching Sustainability



Ljubljana



2014

TIP PREDSTAVITVE TYPE OF PRESENTATION

mednarodni znanstveni posvet in delavnica za učitelje

PROGRAMSKI ODBOR PROGRAMME COMMITTEE

Prof. Peter Gabrijelčič, MSc, Prof. Janez Koželj, Assist. Prof. Alenka Fikfak, PhD,
Assist. Prof. Ilka Čerpes, PhD, Assoc. Prof. Tadej Glažar, MSc

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Renata Stella Čop, Mojca Rozman, Karmen Marolt, Evgen Klemenc

ZNANSTVENI ODBOR SCIENTIFIC COMMITTEE

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Prof. Goran Radović, PhD, UOM, ME, Assist. Prof. Saja Kosanović, PhD, UPKM,
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Lamovšek, PhD, UL FGG, Assist. Prof. Ilka Čerpes, PhD, UL FA,
Assist. Prof. Sonja Ifko, PhD, UL FA

ORGANIZATOR ORGANISATION

UL, Fakulteta za arhitekturo, Katedra za urbanizem

DATUM IN KRAJ IZVEDBE DOGODKA DATE AND LOCATION OF OF PERFORMANCE OF THE EVENT

Posvet je potekal v prostorih UL Fakultete za arhitekturo dne 19., 20. in 21.
junija 2014.

GRADIVO PRIPRAVILA MATERIALS PREPARED BY

doc. dr. Alenka Fikfak

COBISS Slovene Co-operative Online Bibliographic System and Services

FIKFAK, Alenka (urednik). Smart urbanism : teaching sustainability : book of proceedings. Ljubljana: Faculty of Architecture, 2014. 215 str., ilustr. ISBN 978-961-6823-52-4. [COBISS.SI-ID 274206720]

Operation part-financed by the European Union, the European Social Fund and the Ministry of Education, Science and Sport. Operation implemented in the framework of the Operational Programme for Human Resources Development for the Period 2007-2013, Development priority 3: »Development of Human Resources and Lifelong Learning«; Priority axis 3.3: »Quality, Competitiveness and Responsiveness of Higher Education«.

VSEBINA

Vsebinska urbanističnega posveta »Pametni urbanizem« je bila v letu 2014 osredotočena na učenje, predvsem kako učiti »trajnost«. Iz prispevka prof. mag. Petra Gabrijelčiča: »Pojav računalniških orodij in interneta odpira številna vprašanja glede učenja na področju izobraževanja arhitektov in urbanistov. Napredna računalniška orodja so osvobodila študenta mnogih tehničnih in risarskih spretnosti. Hkrati so omogočila skoraj brezmejne možnosti ustvarjanja v virtualnem svetu. Na široko so odprla vrata domišljiji in novim idejam, kar vse je bilo s starimi orodji skoraj nemogoče, pa tudi nepredstavljivo. Še posebej pomemben je pojav interneta. Z njegovo pomočjo smo lahko hkrati tukaj in povsod drugod. Ne sicer fizično, ampak s sliko, besedo in informacijo. Nič več ni potreben posrednik, ki bi nam s pozicije moči posredoval informacije ali sporočila. Vse, kar nas zanima, si lahko nemudoma pogledamo, preberemo ali poslušamo kar sami. »Renesančno« izobraženega učitelja, »ki je vedel vse in nič več« in je bil ključar znanja, je zamenjal učitelj, ki je predvsem promotor učenja, usmerjenega k določeni strokovni orientaciji. Torej učitelj, ki je izkušen kritični sobesednik s širokim filozofskim ozadjem in etično držo. Ki je promotor ideje o družbeni odgovornosti stroke.« (Fikfak (ed.), 2014, 11)

ABSTRACT

In 2014, the third scientific conference SMART URBANISM explores the theme Teaching for sustainable architecture and urbanism. The starting position has been previously well defined in the UNESCO programme TEACHING AND LEARNING FOR A SUSTAINABLE FUTURE, which has been established for the United Nations Decade of Education for Sustainable Development in 2002 and is a major contribution to the United Nations World Summit on Sustainable Development (Johannesburg, September 2002). "The programme can be used as it is, or adapted to local, national or regional needs. It provides professional development for student teachers, teachers, curriculum developers, education policy makers, and authors of educational materials. The modules are divided into 4 themes: Curriculum rationale, Sustainable Development across the curriculum, Contemporary issues and Teaching & learning strategies."

SODELUJOČI PARTICIPANTS

Prof. Mark MICHAELI, Prof. Lars Bylund, Prof. Minas BAKALČEV, PhD, Prof. Vlatko P. KOROBAR, PhD, Milena VUKMIROVIĆ, Prof. Eva VANIŠTA LAZAREVIĆ, PhD, Assist. Prof. Saja KOSANOVIĆ, PhD, Branislav FOLIĆ, MArch, Senior Lecturer Cristian SUAU, PhD, Prof. Carmelo ZAPPULLA, PhD, Tomaž PIPAN, Prof. Dušan VUKSANOVIC, PhD, Prof. Goran RADOVIĆ, PhD, Assoc. Prof. Florian NEPRAVISHTA, PhD, Birgit KLAUCK, Enrico ANGUILLARI, PhD, Lea PETROVIĆ KRAJNIK, PhD, Višnja KUKOČ, PhD, Prof. Peter GABRIJELČIČ, MSc, Prof. Janez KOŽELJ, Assist. Prof. Ilka ČERPES, PhD, Assoc. Prof. Tadej GLAŽAR, MSc, Assoc. Prof. Tadeja ZUPANČIČ, PhD, Assist. Anja JUTRAŽ, PhD, Assoc. Prof. Maruša ZOREC, Assist. Prof. Alenka FIKFAK, PhD, Tech. Assist. Janez P. GROM, Assoc. Prof. Mojca GOLOBIČ, PhD, Assist. Prof. Alma ZAVODNIK LAMOVŠEK, PhD, Lecturer Mojca FOŠKI, MSc, Assist. Gašper MRAC, Assoc. Prof. Andreja ISTENIČ STARČIČ, PhD, Assoc. Prof. Maruška ŠUBIČ KOVAČ, PhD, Assist. Prof. Tomaž NOVLJAN, PhD, Assist. Prof. Mitja ZORC, Assist. Prof. Anja PLANIŠČEK, MSc, Lecturer Aleš GOLJA, MSc, Assist. Prof. Matej BLENKUŠ, PhD, Assist. Prof. Peter MAROLT, PhD, Assist. Prof. Špela HUDNIK, PhD, Assist. Prof. Narvika BOVCON, PhD, Prof. Franc SOLINA, PhD, Janez ŽAKELJ, MSc, Maja TERLEVIČ, Petra VERTELJ NARED, PhD, Maja SIMONETI, MSc, Tadej ŽAUCER, Irena OSTOJIČ, Boštjan COTIČ

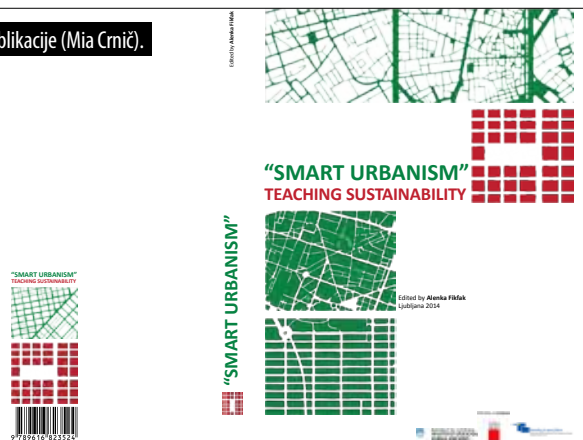


Slika 1: B–2 mesto, šola kot mesto zanimivih spomenikov, z razstave "Reclaiming the City", 2012 (vir: Bakalčev, in: Fikfak (ed.), 2014, 32).



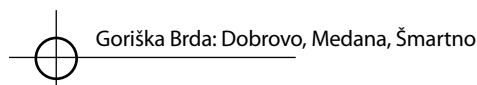
Slika 2: Posvet na dan 19.6.2014.

Slika 3: Naslovnica publikacije (Mia Crnić).



Človek in prostor

Man and Space



Goriška Brda: Dobrovo, Medana, Šmartno



2013

TIP PREDSTAVITVE *TYPE OF PRESENTATION*

slovenski strokovni posvet medicine, arhitekture in urbanizma

ORGANIZACIJSKI ODBOR *ORGANIZING COMMITTEE*

doc. dr. Alenka Fikfak, prim. Nataša Fikfak, Valentina Šibav Mužič

SODELUJOČI *PARTICIPANTS*

župan Franc Mužič, Občina Brda, prof. mag. Peter Gabrijelčič, izr. prof. dr. Aleš Kogoj, Izidor Simčič, prof. Lars Bylund. Cvetka Melihen Bartolič, izr. prof. mag. Tadej Glažar, doc. dr. Saja Kosanović, asist. mr. Branislav Folič, prim. Franci Koglot, doc. dr. Ilka Čerpes, dr. Matevž Gorenšek, izr. prof. dr. Mojca Golobič, Katarina Lestan, asist. dr. Gregor Čok, izr. prof. dr. Živa Deu, prim. Jelka Pirc, Dimitrij Klančič, doc. dr. Igor Toš. viš. pred. mag. Aleš Golja

ORGANIZATOR *ORGANISATION*

UL, Fakulteta za arhitekturo v Ljubljani, Katedra za urbanizem, Ljubljana, Splošna bolnišnica dr. Franca Derganca Nova Gorica, Šempeter pri Novi Gorici, Občina Brda, Dobrovo v Goriških brdih, Hotel Venko, Dobrovo v Goriških Brdih

DATUM IN KRAJ IZVEDBE DOGODKA *DATE AND LOCATION OF OF PERFORMANCE OF THE EVENT*

Posvet je potekal na treh lokacijah: grad Dobrovo - Viteška dvorana, hotel Venko, hotel San Martin, Belica Turizem, dne 11. in 12. oktobra 2013.

GRADIVO PRIPRAVILA *MATERIALS PREPARED BY*

doc. dr. Alenka Fikfak

COBISS *Slovene Co-operative Online Bibliographic System and Services*
FIKFAK, Alenka (urednik). Človek in prostor : zbornik povzetkov = Man and space : book of abstracts. Ljubljana: Fakulteta za arhitekturo, 2013. 52 str., ilustr. ISBN 978-961-6823-37-1. [COBISS.SI-ID 268910336]

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Človekove potrebe in vrednote bivanja so danes sestavni del prostorskih dokumentov in predstavljajo izhodišče za oblikovanje novih bivalnih zasnov. Hkrati so sestavni del mednarodnih konvencij in sporazumov. To nam z vidika kakovosti bivanja najbolj nazorno oriše Allardtova (1979) klasifikacija človeških potreb po imeti, ljubiti in biti. Prostor, predvsem njegov grajeni del, zajema stavbe, izoblikovane prostore in izdelke, ki jih je ustvaril ali spremenil človek. To ustvarjalno spreminjanje prostora vpliva na fizični prostor in tudi na družbeno-socialno okolje ter posledično na naše zdravje in na kakovost življenja in bivanja.

Tema strokovnega srečanja ČLOVEK IN PROSTOR je bila osredotočena na izmenjavo mnenj z vidika prepoznavanja sodobnih principov omogočanja kakovosti življenja posameznika, družine, soseske, skupnosti, države in naroda. Povezava med za bivanje neprimernimi stanovanjskimi razmerami in zdravjem človeka je že dolgo zelo jasna in obširno raziskana. Pa vendar se šele v zadnjem času zavedamo vse več dejstev, ki kažejo, da so pojavi telesnih in duševnih zdravstvenih težav, kot so depresija, motnje pomanjkanja pozornosti, astma, bolezni srca in motnje prehranjevanja, povezani z grajenim okoljem. Neprimerni pogoji za bivanje se izražajo tudi s kazalniki stresa pri posamezniku in celotni družbi, kar neposredno vpliva tudi na odziv imunskega sistema in nepotrebno poslabšanje zdravja posameznika. Ob tem se vzporedno pojavljajo vse večja pričakovanja pacientov, staranje prebivalstva, boljše razumevanje nezdravega načina življenja ter medicinske in tehnološke inovacije. Vse to hkrati posredno vpliva na sistem celostne zdravstvene storitve in tudi na posameznikov odnos do trajnostno grajenega bivalnega okolja.

ABSTRACT

The topic of conference MAN AND SPACE was focused on the exchange of ideas from the perspective of recognizing the contemporary principles of assuring quality of life of individuals, families, neighbourhoods, communities, countries and nations. The connection between unfit living conditions and human health has long been clear and extensively researched. Only recently have we started to recognize the growing number of facts suggesting that physical and mental health problems, such as depression, attention deficit disorders, asthma, heart diseases and eating disorders, are connected with the built environment.

Inadequate living conditions are also expressed by stress indicators of individuals or the society as a whole, directly affecting the response of the immune system and leading to unnecessary deterioration of a person's health. In parallel, we have to consider factors such as growing patient expectations, aging population, new insight into unhealthy lifestyles, and medical and technological breakthroughs. All of these indirectly affect the system of integral health services and a person's attitude to the sustainability of the living environment.



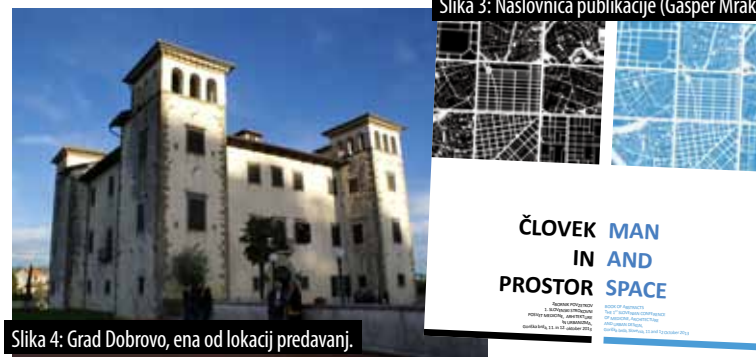
Slika 4: Posvet je potekal v Brdih.



Slika 1: Dogajanje na posvetu dne 11. oktober 2013.



Slika 2: Dogajanje na posvetu dne 12. Oktobar 2013.



Slika 3: Naslovnica publikacije (Gašper Mrak).

Slika 4: Grad Dobrovo, ena od lokacij predavanj.

VII.

DODIPLOMSKA IN PODIPLOMSKA DELA

UNDERGRADUATE AND POSTGRADUATE THESES

Od pionirskega orodja do strategije – kaj sledi?

From Pioneer Instrument to Strategy – What's Next?

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DISERTACIJA

DISSERTATION

AVTOR *AUTHOR*

Andreas Dillinger, PhD

TIP ZAKLJUČNEGA DELA *TYPE OF THESIS*

PhD

MENTORJA *MENTORS*

Hon. Prof. Dipl.-Ing. Dr. techn. Gerhard Schimak, Prof. Dr. A.K.F. Faludi

LETO *YEAR*

2010-2014

INŠTITUCIJA *INSTITUTION*

Vienna University of Technology, Department of Spatial Planning,
Centre of Regional Planning and Regional Development

GRADIVO PRIPRAVIL *MATERIALS PREPARED BY*

Andreas Dillinger, PhD

“The term rural area or rural society refers to more than a geographic location: it includes social and economic fabrics as well as a various number of different activities.” (vgl. Kom EG 1988, Einführung)

Nowadays the European policy of the development of rural areas still follows this comprehension and holistic definition. With the foundation of the European Economic Community 1957 the European integration-process starts. One of the very first common interests of the member states deals with food safety under the ‘Common Agriculture Policy’ – generally intelligible after the privations during the post-war years.

Overcoming the difficult time after Second World War and with the economic upturn new topics arise and the European nations start to develop a new kind of supra-national cooperation. In 1972 the ‘Regional Policy’ is defined as common policy of the community which is the basis of the Community Initiative LEADER (1991–1994). This initiative is prolonged through LEADER II (1995–1999) and as part of the Common Agriculture Policy this instrument is implemented under the title LEADER+ (2000–2006). From 2007 to 2013 LEADER is used again to support activities in rural areas as part of the main-streaming programme ‘rural development’ and will be also an important instrument for the next programme period of the European Union from 2014–2020.

After joining the EU in 1995, Austria starts to participate at the European conveying system including the common initiative LEADER II. Therefore a

‘Single Programming Document’ is prepared by the Austrian federal states and under the supervision of the Federal Chancellery submitted to the European Commission (NÖ 1996). After the approval of these strategy documents regional cooperations (LEADER regions) begins with their activities. In Lower Austria six LEADER regions are selected – 31 regions totally. For LEADER+ the Austrian Federal Ministry of Agriculture and Forestry, Environment and Water Management is responsible for the programme and produced the necessary documents for the European Union on its own. All in all 56 LEADER regions take part of the programme – 15 regions in Lower Austria. From 2007–2013 86 regions (18 regions in Lower Austria) attend at the LEADER programme – still under the responsibility of the same Austrian federal ministry (Figure 1).

The financial responsibility for LEADER II is divided into different funds. Due to this multi-funds system different departments of Lower Austria are involved in the implementation of the programme. The main responsibility lays by the department for spatial planning in close cooperation with the department of agricultural development and the Lower Austrian development agency. The programme coordination is done by the Federal Chancellery supported by the Austrian LEADER network service. In 2000 the LEADER programme switches from the ‘Regional policy’ to the second pillar of the ‘Agriculture Policy’ which also leads to changes in the distributions of competences in Austria. Within the federal government the programme responsibility switches from the Federal Chancellery to the Austrian Federal

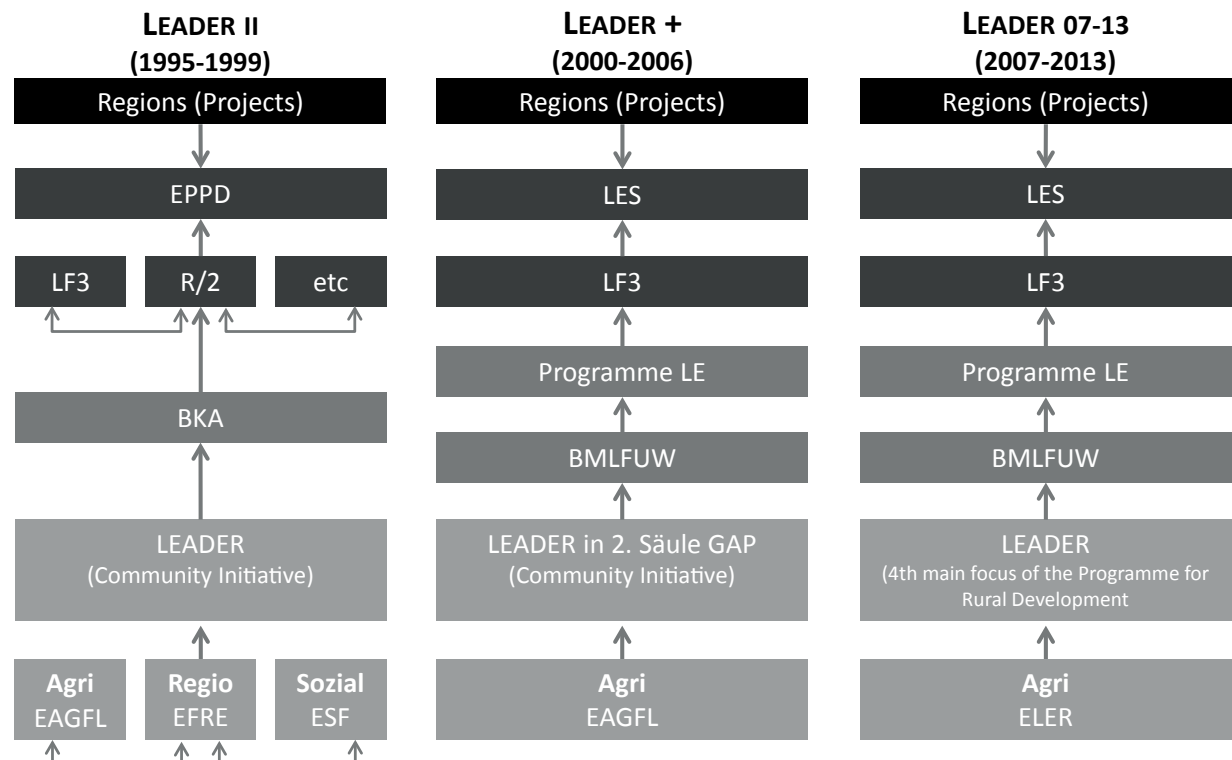


Figure 1: LEADER programme implementation in Austria 1995-2013

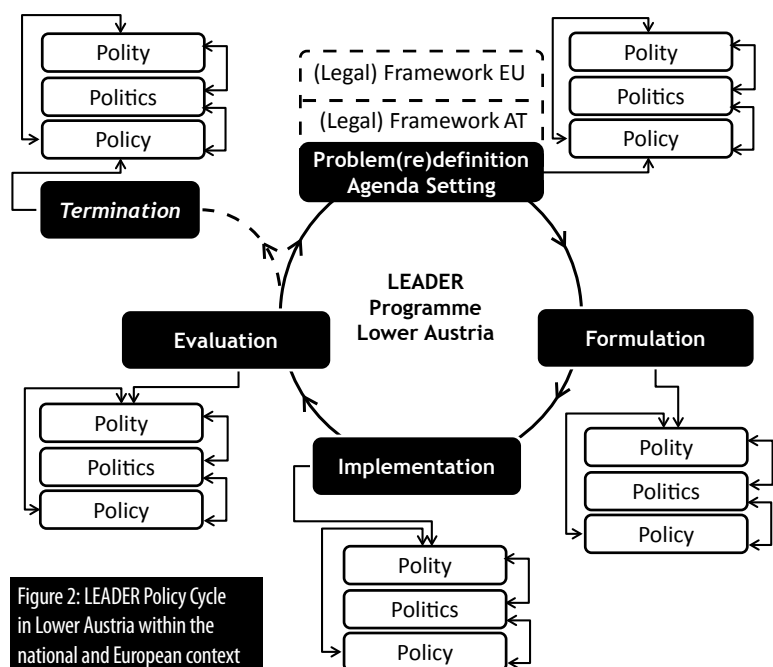


Figure 2: LEADER Policy Cycle in Lower Austria within the national and European context

Ministry of Agriculture and Forestry, Environment and Water Management – hence in Lower Austria form the department R/2 to the department LF3 affects the Austrian programme competence.

After four successful LEADER periods in the European Union (three in Austria) the LEADER concept is embedded in the main-streaming programme 'rural development'. The LEADER approach which has been developed in 1991 still remains and becomes the programme basis:

- Area-based local development strategies
- Bottom-up elaboration and implementation of strategies
- Local public-private partnerships: Local Action Groups
- Integrated and multi-sectoral actions
- Innovation
- Cooperation
- Networking
- Austria takes part again in LEADER from 2007 to 2013. This institutional background does not change.

The implementation of the three LEADER periods with the focus on Lower Austria is explored with the policy analysis from Schubert and Blum (Schubert 2011). Based on these results the different periods are examined using the approach of the policy-styles (Figure 2).

For LEADER II new forms of institutional and regional cooperations are necessary and the financial approach of co-financing replaces the full-financing system. Hence the programme provokes a substantial policy change

within the Lower Austrian conveying system. The governance under the programme responsibility of the department LF3 during LEADER+ and LEADER 2007–2013 cuts down the scope of the LEADER regions.

After comprehensive and profound analysis of the three periods of LEADER in Lower Austria in the context of national and European developments the following recommendations for LEADER 2020 can be made:

- **REGIONAL DIFFERENTIATION:** Being aware of the different progresses in the LEADER region three types of regions should be established. Therefore the regional responsibility has to increase together with the requirements of the projects.
- **DEMANDS ON THE MANAGEMENT:** A criterion for success for regional development is an on-going discussion and communication process. Hence the management of the LEADER regions has to be supervised by managers who are able to handle complex regional processes.
- **INTRA- AND INTER INSTITUTIONAL COOPERATION:** In order to meet the various LEADER programme requirements the institutional forces have to be bundled.
- **PERCEPTION OF GOVERNANCE:** With political encouragement the LEADER approach could be implemented more broadly.
- **PROFESSIONALIZING PROJECT APPROVAL PROCESS:** An expert-pool should proof the selection of LEADER projects and amend the existing system of project approvals.
- **PROLONGING BOTTOM-UP PROCESSES:** Additional personal support could ensure an on-going public participation over the whole programme period.
- **COMPACT REGIONAL STRATEGIES:** Linking all types of regional and micro-regional strategies and programmes in one approach would increase efficiency of all strategies and programmes.
- **ENCOURAGE COOPERATION:** Additional personal support for trans-regional and trans-national cooperations of the LEADER regions.
- **PURPOSEFUL EVALUATION:** A different evaluation procedure as well as less economical oriented indicators would increase the significance of the evaluations and could be a real add value for involved people.

Kom EG, (Kommission der Europäischen Gemeinschaft) (1988): Die Zukunft des ländlichen Raumes. Mitteilung der Kommission. KOM(88) 501 endg.

Kom EU, (Kommission der Europäischen Union) (1996b): Entscheidung der Kommission. über die Entscheidung eines Beitrags des EAGFL, EFRE und ESF für ein Operationelles Programm im Rahmen der Gemeinschaftsinitiative LEADER II zugunsten des Ziel-5b-Fördergebietes in der Republik Österreich. Niederösterreich. K(96) 1578/1. Brüssel.

Schubert, K. (Institut für Politikwissenschaften, Westfälische Wilhelms-Universität Münster) (Hg.) (2011): Elemente der Politik. Politikfeldanalyse. Lehrbuch. Unter Mitarbeit von S. Blum. 2. Auflage. Wiesbaden: VS Verlag für Sozialwissenschaften | Springer Fachmedien Wiesbaden GmbH.

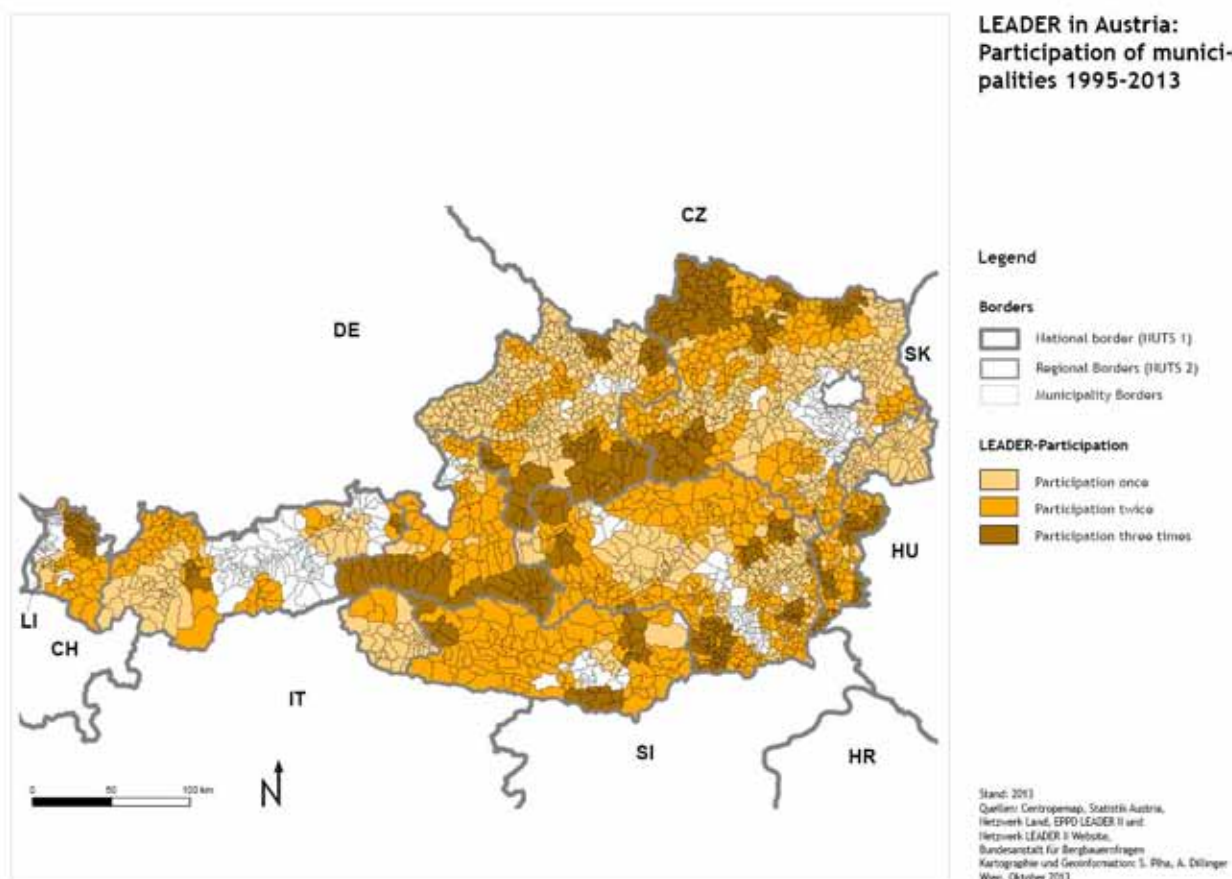


Figure 3: Summary of institutional implementation of LEADER in Lower Austria 1995-2013

POVZETEK

LEADER je skupna evropska pobuda za premagovanje izzivov podeželja v državah članicah. Evropska unija od leta 1991 razvija pomembno orodje, ki podpira podeželske regije, da izboljšujejo svojo konkurenčnost in zagotavljajo preživetje svojih prebivalcev.

Dejavniki uspeha pobude LEADER so območne lokalne razvojne strategije, izdelava in izvajanje strategij od spodaj navzgor, lokalna javno-zasebna partnerstva – LAS (lokalne akcijske skupine), celostni in večsektorski ukrepi, inovacije, sodelovanje in mreženje.

Zvezna dežela Avstrija – Spodnja Avstrija v tem programu sodeluje od leta 1995. Doktorat se ukvarja z institucionalnim izvajanjem pobude LEADER in prikazuje režim financiranja v državnem in evropskem kontekstu.

Prostorska umestitev Dravske kolesarske poti *Spatial Placement of the Drava Cycling Path* med Dravogradom in Središčem ob Dravi *Between Dravograd and Središče ob Dravi*

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PREDSTAVITEV

PRESENTATION

DIPLOMA

MASTER THESIS

AVTOR AUTHOR

Uroš Rozman

ŠTUDIJSKI PROGRAM STUDY PROGRAM

Magistrski študijski program druge stopnje Prostorsko načrtovanje

TIP ZAKLJUČNEGA DELA TYPE OF THESIS

Magistrsko delo

MENTOR MENTOR

doc. dr. Alma Zavodnik Lamovšek

LETO YEAR

2014

INŠTITUCIJA INSTITUTION

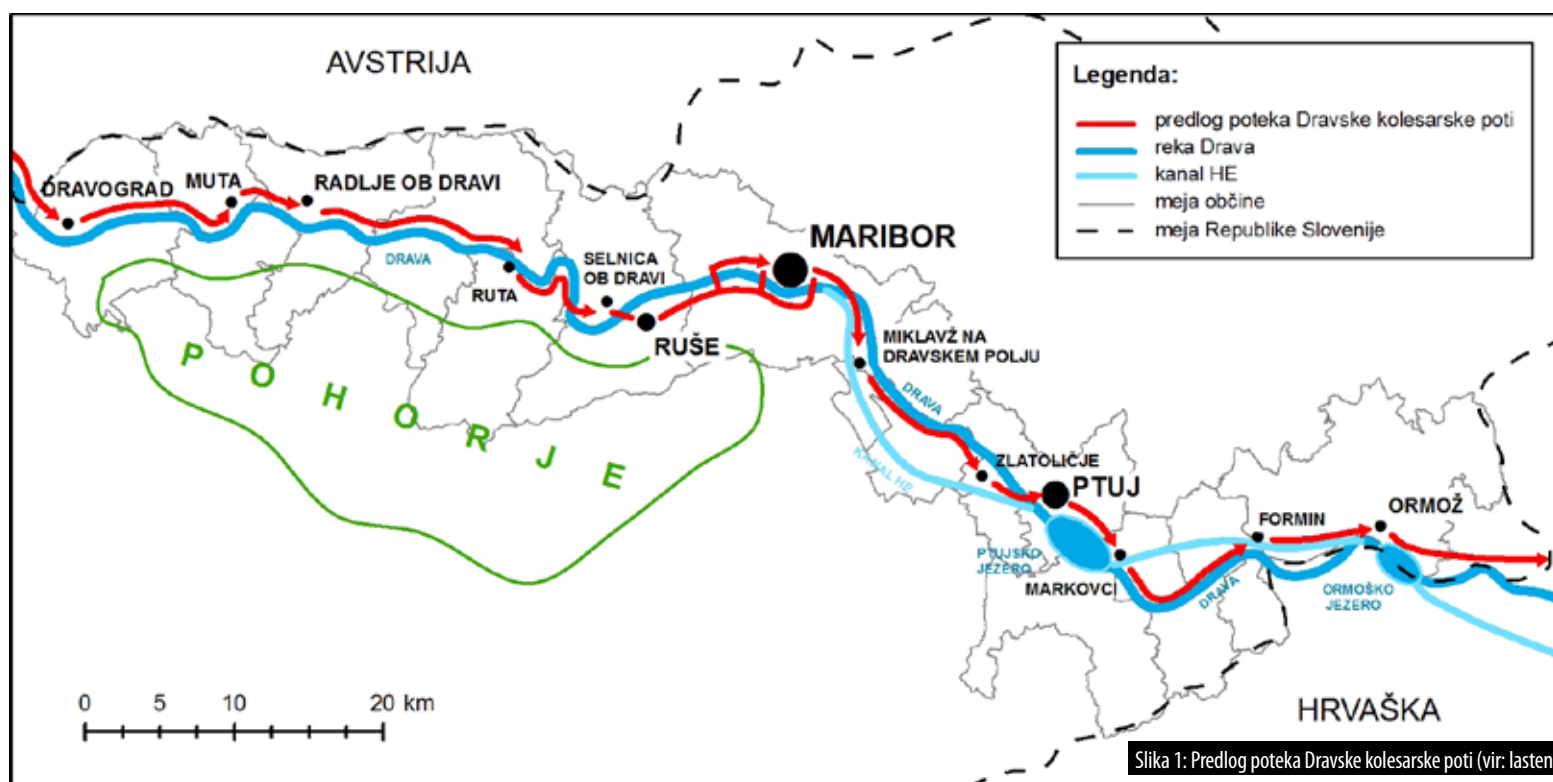
Univerza v Ljubljani, Fakulteta za gradbeništvo in geodezijo

GRADIVO PRIPRAVIL MATERIALS PREPARED BY

Uroš Rozman, mag. prost. načrt., dipl. inž. grad. (UN)

COBISS Slovene Co-operative Online Bibliographic System and Services:

Rozman, U. 2014. Prostorska umestitev Dravske kolesarske poti med Dravogradom in Središčem ob Dravi. Magistrsko delo, Ljubljana, Univerza v Ljubljani, Fakulteta za gradbeništvo in geodezijo (samozaložba U. Rozman): 140 f. [COBISS.SI-ID 6531681]

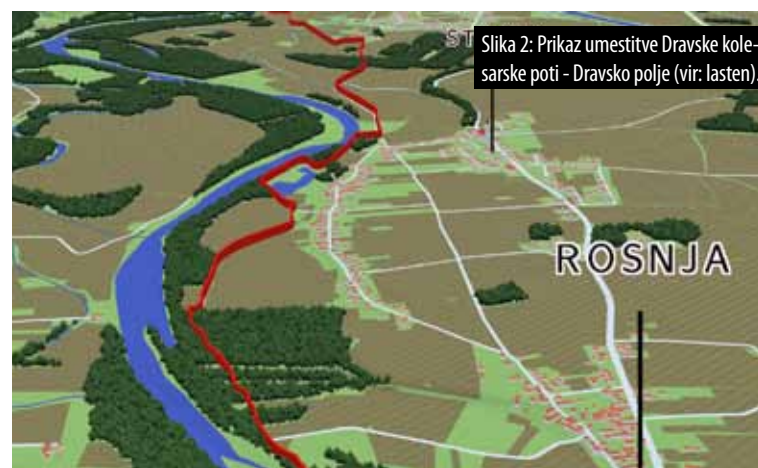


Slika 1: Predlog poteka Dravske kolesarske poti (vir: lasten).

VSEBINA

V magistrskem delu je obravnavno načrtovanje daljinskih kolesarskih povezav v Sloveniji, podrobneje kolesarsko pot ob reki Dravi, med Dravogradom in Središčem ob Dravi. V uvodu smo podali opis daljinske kolesarske poti ter ugotovili, da enotna definicija še ne obstaja. Opisali smo značilnosti in potrebe daljinskih kolesarjev ter njihove pozitivne posledice na turistični razvoj regije. Ker je daljinsko kolesarjenje t.i. turistično kolesarjenje, so bližina narave, atraktivnost ter turistična ponudba (ob kvalitetni in od ostalega prometa odmaknjeni infrastrukturi) najpomembnejši dejavniki, ki zagotavljajo uspeh kolesarske poti kot turistične ponudbe. Daljinski kolesarji so tudi odlični potrošniki, saj je količina prtljage zelo omejena, poveča pa se tudi uporaba javnega prometa, saj za vračanje na začetno točko praviloma uporabljajo vlak ali avtobus.

Zaradi pomanjkanja daljinskih kolesarskih poti v Sloveniji smo dobre primere rečnih daljinskih kolesarskih poti morali poiskati v sosednji Avstriji (Dravska kolesarska pot, Kolesarska pot ob reki Muri) ter jih primerjali s krajšimi odseki urejenih kolesarskih poti po Sloveniji (Porečanka, Kolesarska pot Treh dežel – Kranjska Gora). Ugotovili smo, da je kolesarska infrastruktura v Avstriji celovitejša in omogoča večdnevno kolesarjenje po ločenih kolesarskih poteh, medtem ko imamo v Sloveniji le manjše število krajših, nepovezanih kolesarskih poti, ki ne omogočajo večdnevnega kolesarjenja, ki proizvaja nočitve. Razlike so tako tudi pri obliki infrastrukture, saj imamo v Sloveniji v celoti asfaltirane in popolnoma opremljene kolesarske poti, medtem ko je v Avstriji polovica kolesarskih poti makadamskih (umeščenih po javnih, poljskih in gozdnih poteh), s čimer so zmanjšali stroške začetne investicije (makadamske kolesarske poti sedaj postopoma asfaltirajo).



Slika 2: Prikaz umestitve Dravske kolesarske poti – Dravsko polje (vir: lasten).

Analizirali smo širše območje ob Dravi ter naredili popis obstoječe kolesarske infrastrukture. Reka Drava nudi neizmerno doživetje narave, tako v Dravski dolini na Koroškem kot v obliki Stare struge na Dravsko – Ptujem polju. Atraktivnost pa dopolnjujejo krajinski parki ter umetna jezera. Ugotovili smo, da je potek obstoječe Dravske kolesarske povezave v veliki meri nesprejemljiv, zato smo predvideli nove možne koridorje kolesarskih poti. Obiskali smo občine ob Dravi, kjer so nam predstavili njihove obstoječe projekte oz. želje, povezane z načrtovanjem daljinskih kolesarskih povezav. Interes lokalnih skupnosti je bil velik.



Slika 3: Prikaz umestitve Dravske kolesarske poti - Mariborski otok (vir: lasten).

Ob upoštevanju obstoječih projektov, želja občin ter terenskega ogleda smo predlagali več možnih variant, ki smo jih nato vrednotili glede na izbrane kriterije. Izpostavili smo predvsem prostorski vidik (bližino narave, reke Drave, atraktivnost, turistična ponudba, usklajenost s predlogi občin, lastniška struktura), saj je le ta ključen za kasnejši uspeh kolesarske poti ter njeno izvedbo. Na končno oceno pa je najmanj vplival varstveni vidik, saj imajo lahko zavarovana območja tako negativen (težje pridobivanje soglasij oz. dodatni pogoji pri umeščanju) kot tudi pozitiven

vpliv (turistična ponudba, neokrnjena narava, atraktivnost). V končnem predlogu smo tako združili najboljše možne variante na posameznih odsekih glede na dane možnosti v prostoru.

V delu smo dokazali, da lahko večje infrastrukturne projekte uspešno umeščamo le s celovitim načrtovanjem. Ker se je Direkcija RS za ceste v preteklosti pokazala kot neuspešna pri načrtovanju daljinskih kolesarskih poti, predlagamo vzpostavi-



Slika 4: Predlog poteka Dravske kolesarske poti - Radlje ob Dravi (vir: lasten).



Slika 5: Prikaz umestitve Dravske kolesarske poti - Ptuj (vir: lasten).

Slika 6: Makadamska kolesarska pot med železnico in reko Dravo - Avstrija (vir: lasten).



Slika 8: Kolesarska pot ob reki Dravi s turistično ponudbo - Avstrija (vir: lasten).



Slika 7: Turistična ponudba na Dravski kolesarski poti - Avstrija (vir: lasten).



Slika 9: Kolesarska pot ob reki Dravi - Avstrija (vir: lasten).



tev pokrajin, ki bi reševala tovrstno problematiko, saj bi le-te bile dovolj velike, da bi imele pristojnosti za vzpostavitev tovrstnih regionalnih projektov, obenem pa bi bolj poznale regionalno problematiko. Le-te bi skrbele tako za načrtovanje, izvedbo, kasnejše primerno vzdrževanje ter trženje Dravske kolesarske poti v celoti. Le s pravilnim pristopom in sodelovanjem se bo v prihodnosti lahko tudi Slovenija približala kolesarsko razvitim evropskim državam.

ABSTRACT

Drava bicycle path in Slovenia as a tourist offer already exists, but is placed on more or less busy roads and is not comparable to similar riverside cycling paths in the more developed European environments.. Using the criteria and norms of the practical characteristics of placement, the analysis area along the river Drava and talks with stakeholders in the area, we are able to determine the possible variants. It was evaluated on spatial, functional and nature aspects. With comprehensive planning and utilization of existing infrastructure and public, forest and field paths, we show a more effective, faster and financially cheaper way of placing long-distance cycling routes.



Slika 10: Kolesarski most na Dravski kolesarski poti - Avstrija (vir: lasten).

'Nihče ni vedel, kaj pričakovati': vplivi avstrijskega *'Nobody knew what to expect': The effects of Austria's EU* članstva v Evropski uniji na prostorske plane in *membership on spatial planning and planning actors* prostorske deležnike

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CONTENT

Research interest & methodological approach

Almost 20 years went by since Austria decided to join the European Union, a decision that nowadays influences almost all areas of Austrian politics and administration including the field of spatial planning and regional development. Planning with its interdisciplinary approach tangents and connects several distinct political fields and is therefore affected on many different levels. To simplify the numerous impacts, four research areas were defined: strategies and concepts, regional policy and structural funds, spatially relevant sector policies and planning culture.

The methodological base of the research is formed by 20 interviews with Austrian planning experts, complemented with the thorough analysis of European and Austrian policy, strategy and evaluation papers. Professional reflections, experiences related to practice and personal opinions of the interviewees, revealing different viewpoints on the subject, account for one of the main added values of the thesis, since these aspects were never broadly captured in a study before.

Unfortunately, the experts' statements cannot be summarised in a short extract without losing their originality, accuracy and play on words but they add up giving a good insight into how EU decisions, regulations and funds make their way into Austrian planning reality and whether the outcomes are desirable or not (from an Austrian point of view).

Results & key findings

Changes regarding the institutional setting of planning do not seem far-fetched, since the EU represents a superior institutional level that affects administrative units (federal states and municipalities) in Austria. At the same time, the EU communicates almost exclusively with the Austrian state, a fact that causes both friction and additional bureaucracy within Austria. In this context, a significant increase of importance can be noticed regarding the 'ÖROK' (Austrian Conference on Spatial Planning), an organisation that serves as coordination and communication platform between different planning actors.

More surprising is the growing relevance of regional and local planning authorities. In most cases they don't have formal competences in the field of spatial planning but their compatibility with European funds and structures, for example through the LEADER programme, increases their decision-making power.

Also the strategic aspect of planning in Austria was supported by the European Union – through strategy papers at national and European level, for example Europe 2020 or the STRAT.AT, on the one and increased financial reliability through programming periods of 5 to 7 years on the other hand. Due to the principle of co-financing this continuity applies not only to EU funds but also to the national budget that is otherwise negotiated yearly.

Financial resources, contrary to the widely spread perceptions, do not account for one of the main changing factors due to the accession. Austria's high development level and net contributor status lead to relatively small funding amounts. However, especially in times of economic crisis, European regional policy ensured investment in development projects that might have been cut otherwise.

Austria's legal framework is nowadays strongly affected by the European Union. Nevertheless many guidelines that relate to the field of planning, for example regarding environment, already existed in Austria even before the accession. Another aspect that should be kept in mind is the allocation of competences within Austria. Since the federal states are generally responsible for nature protection, EU guidelines are translated into 9 distinct laws in Austria – in some cases with significant differences concerning interpretation or implementation.

Not least the EU also changed planning practice and mental attitude in Austria. While exchange and evaluation led to more professionalism and gave planning an international dimension, the increased complexity made processes more bureaucratic and less flexible.



Figure 1: The six fields of EU influence (graphic by author).



Figure 2: Research areas (graphic by author).

POVZETEK

»Evropska unija se ukvarja s številnimi različnimi področji politik na različne načine, to pa tudi za strokovnjake predstavlja velik problem pri dojemljanju celotne slike«. Ta magistrska naloga je namenjena predvsem razumevanju, opisu in analizi vplivov Evropske unije na področje planiranja v Avstriji. Na podlagi 20 intervjujev z avstrijskimi planerskimi strokovnjaki in pregleda ustreznih literatur smo prišli do zaključka, da spremembe opazimo na šestih področjih, in sicer v povezavi z institucionalnimi, strateškimi, finančnimi, pravnimi, praktičnimi in psihološkimi vidiki načrtovanja.

1 Ravesteyn, Nico van / Evers, David (2004): Unseen Europe. A survey of EU politics and its impact on spatial development in the Netherlands. The Hague. Page 139.

Urbanistična študija območja ob Gruberjevem prekopu *Urbanistic Study of Gruber Canal Area and* in idejna zasnova revitalizacije Športnega parka *Revitalization of Sports Park Kodeljevo in Ljubljana* Kodeljevo v Ljubljani

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Slika 1: Prostorski prikaz intervencij ob Gruberjevem prekopu.



VSEBINA

Gruberjev prekop v Ljubljani je infrastrukturni poseg, ki je nastal v drugi polovici 18. stoletja z namenom varovanja mestnega središča pred poplavami. Skozi čas se je na območje prekopa razširilo mestno tkivo, tako da je dandanes pravzaprav povsem obdano z značilnimi predeli mesta. Prekop je močen rob v prostoru, obenem pa v veliki meri tudi neprepustna meja med mestnimi predeli in zelenimi pobočji Grajskega griča ter Golovca. Je »skriti« vodni koridor v Ljubljani, ki zaradi neurejenosti površin ob njem ne deluje kot del mesta.

Urbanistična študija ilustrira razvojni potencial območja ob prekopu z navezavo na predele v neposredni bližini, predvideva nove povezave ter vzpostavlja vozlišča dejavnosti. Preobrazba v športno-rekreacijski pas integrira vodni koridor z mestom. Cilj študije je tako obogatitev prekopa z novimi programi, ki so z obstoječimi prostorskimi kvaliteta povezani v enotno mrežo odprtih prostorov.

V nasprotju z današnjim stanjem, ko prekop velikokrat predstavlja ostro ločnico različnih mestnih predelov, predlagana vizija kaže, kako bi prekop lahko postal mehka meja spontanega prehajanja. Ključna zamisel intervencij ob Gruberjevem prekopu je zato v kontinuiranem sistemu javnih poti vzdolž in preko prekopa, ki bi omogočile gibanje ljudi. Na ta sistem se vežejo raznoliki programi – centri dejavnosti. Ti ne pomenijo zgolj novih vozlišč ob Gruberjevem prekopu temveč tudi konceptualne oporne točke mesta, ki vzpostavljajo kontekst z danimi kvaliteta.

Območje Športnega parka Kodeljevo je največje obstoječe športno-rekreacijsko območje ob Gruberjevem prekopu. Ker je območje že danes del mreže športnih območij v Ljubljani in ima prepoznaven pomen v zavesti meščanov, sta oživitve in nadgradnja z novimi programi toliko bolj smiselna. Revitalizacija tega območja pomeni eno ključnih inicialnih točk prihodnjega razvoja pasu ob Gruberjevem prekopu.

Slika 2: Pogled izpred Fakultete za šport proti štadionu in Golovcu.



Slika 3: Nov javni prostor na severnem delu štadiona pred Fakulteto za šport.



Slika 4: Nove tribune ob štadionu.



Slika 5: Situacija novega Športnega centra Kodeljevo.



Športni park Kodeljevo sestoji iz štirih značilnih območij. Na območju kopališča se predvidi popolna preureditev z novim kopališkim kompleksom in umestitvijo 50-metrskega pokritega bazena ter podzemne garaže. Območje osrednjega parka se striktno ohrani kot zelena površina. Številna teniška igrišča ter košarkarski igrišči se premestijo na primernejšo lokacijo pod vznožjem Golovca, park pa se skupaj z Gradom Kodeljevo in kapelo prenovi. Šolski kompleks osnovne šole in fakultete se ohrani, uredijo se zunanje površine, predvsem stoječi promet ter vhodna predprostorja obeh ustanov. Zaradi slabe umeščenosti v prostor in nekalitvetne prostorske navezave se na območju ob štadionu za rušenje predvidita obstoječa športna dvorana ter sklop zunanjih tribun. Štadion se ohrani na istem mestu. Na vzhodni rob lokacije se umestita nadomestna športna dvorana ter nova atletska dvorana s spremljevalnim programom. Predvidijo se tudi nadomestne tribune za zunanji štadion ter nova podzemna garaža. Zaradi bližine pobočja Golovca se ustvari nova povezava preko Gruberjevega prekopa in Poljanske ceste, ki v širšem smislu poveže Kodeljevo z Golovcem.



Slika 6: Pogled s sprehajališča ob Gruberjevem prekopu proti športnemu centru.

Vzgib pri zasnovi novega športnega centra je v gibanju in hitrosti športnikov – atletov. Motiv arhitekturne zasnove so zato horizontalne plošče, ki poudarjajo zvezno gibanje in pretočnost prostora. Predlagani športni kompleks definira nov zunanji predprostor Fakultete za šport ter odpira prostor med vhodom v fakulteto in atletskim štadionom. Vizualno se ustvari povezava proti pobočju Golovca. Med glavnima volumnoma dvoran se z zasukom geometrij tvori nov javni prostor okrog odprtega atrija, in sicer na dveh nivojih, kar smiselno ločuje vhode različnih uporabnikov. Povezava med vhodom v Fakulteto za šport in vhodom v novi dvorani, je artikulirana z dolgo klančino. Ta povezava se nadaljuje vzdolž obeh dvoran in atletskega štadiona proti Gruberjevemu prekopu, nato pa se z mostom preko njega izteče na pobočje Golovca, kjer se nadaljuje z rekreacijsko potjo. Navedena povezava vzpostavlja hrbtenico celotne kompozicije.

ABSTRACT

Gruber Canal is an infrastructural intervention in Ljubljana that occurred in the second half of the 18th century in order to protect the town centre from flooding. Urban study illustrates the developmental potential of the areas along the canal. Transformation into recreation zone would integrate the water corridor with the city.

The largest existing sports area along the Gruber Canal is Sports Park Kodeljevo. Its revitalization represents one of the key points for future development. Sports hall replacement and implementation of a new athletic centre with additional programmes would enrich the sports park and establish a new coherent whole around the existing stadium. A new public path would connect the area over the canal to the hillside of Golovec.

Urbanistična ureditev obsavskega parka s celovito *Urbanistic Design for the Sava River Park and a Comprehensive* prenovo in zgostitvijo naselja Stožice *Extension and Renovation of the Village Stožice*

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Slika 1: Razglednica Ljubljane iz začetka 20. stoletja prikazuje savsko poplavno ravnico (vir: dlib.si)



Slika 3: Nazaj vzpostavljeni naravni habitat na reki Savi (fotomontaža)

VSEBINA

Izbrani prostor obravnave med ljubljansko severno obvoznico, Dunajsko cesto, črnuškim mostom ter štajersko vpadnico bo v prihodnjem območje intenzivnega urejanja. Na tem prostoru se poleg širitve Dunajske ceste, gradnje ene izmed srednje-savskih hidroelektrarn ter urejanja obsavskega parka ter hipodromskih objektov načrtuje tudi intenzivna zgostitev starejših obsavskih naselij ter njihova integracija v mestno tkivo.

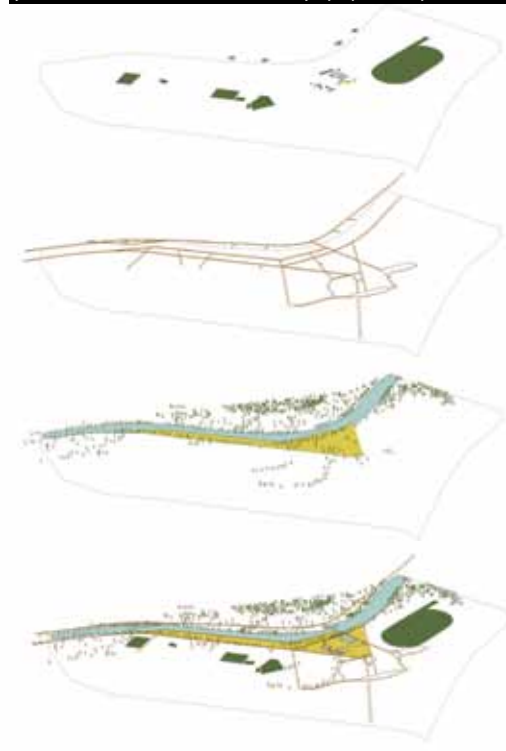
Skozi študijo različnih možnosti izvedbe vseh načrtovanih predlogov ter z mislijo na ohranitev identitete morfološko in zgodovinsko samostojnih obsavskih entitet, trajnostnost nove infrastrukture ter novo socialno dinamiko znotraj prostora, sem v svojem magistrskem delu poskušala naselje Stožice prenoviti in zgostiti v trajnostno vrtno mesto z vstavljanjem nove stanovanjske, družbene ter rekreacijske arhitekture ter z ustvarjanjem prepleta produktivne krajine in urbane narave, ki reko Savo poveže z mestnim tkivom.

Naloga se deli na štiri intervencije.

A. Prenova nabrežij reke Save (sliki 2, 3)

Reka Sava je pred regulacijo zavzemala zelo širok pas Ljubljanskega polja: za njen tok so bili značilni številni meandri ter mrtvi rokavi ter široka aluvialna ravnica. Po dveh regulacijah se je reka dokončno uravnala, prodna ravnica se je omejila, poplavni logi pa so se posušili.

Slika 2: Vse plasti obsavskega parka (od zgoraj navzdol: rekreacijske površine; sistem poti; rečni in obrečni prostor s poplavnim logom, ježami ter umetnim mokriščem; nazadnje: preplet vseh plasti)



V nalogi se odzovem na tretjo regulacijo, ki reko čaka z izgradnjo pretočne hidroelektrarne: v tem posegu vidim priložnost, da se obsavski prostor končno uredi kot mestni rekreacijski in prostočasni prostor ter da se obnovi ekosistem poplavnih ravnin z urejanjem nadomestnih habitatov, ki večajo samo samočistilno sposobnost reke. Uredijo se tudi mreža poti in ploščadi, čolnarna in naravno kopališče.

B. Plasti kulturne krajine (sliki 4, 5)

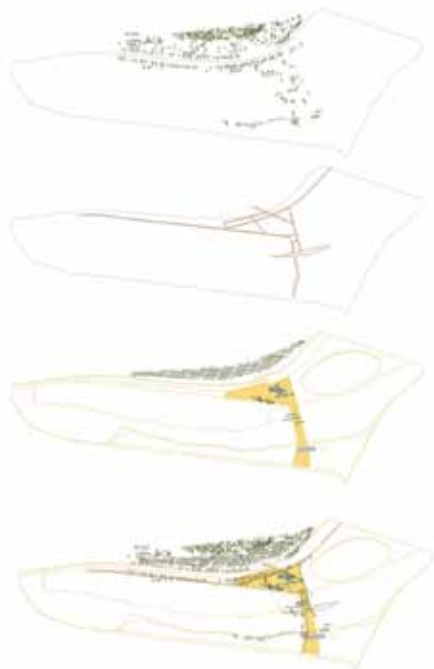
Človeški posegi v naravo na tem območju prikazujejo različne načine, kako lahko človek izkoristi krajino sebi v prid. Vsem obstoječim plastem kulturne krajine (travnikom, pokopališču, rečnim ježam, poljem s kozolci, reki, črnuškim vrtičkom itd.) se doda še plast umetnega mokrišča; nato se vse plasti preprede z novo mrežo pešpoti in odprtih urbanih prostorov, ki povežejo hitri svet ob Dunajski cesti z mirnim območjem rečnega parka.

C. Medgeneracijski center in športni objekti (sliki 6, 7)

V nalogi sem želela vzpostaviti nov vaški center, ki služil tudi širši okolici Posavja ter Ljubljane. Intervencija obsega nov konjeniški center, večnamensko športno dvorano, večnamensko kulturno dvorano, tržnico in medgeneracijski center z vrtcem, oskrbovanimi stanovanji ter prostori za kreativno podjetništvo.

Športni objekti so integrirani v rečno ježo in tvorijo prehodni prostor med parkom in naseljem, medgeneracijski center s spremljevalnimi objekti pa stoji na ježi naselja ter oblikovno zrcali starejšo zidavo nanizanih kmetijskih objektov. Obstoječa polja

Slika 4: Vse plasti kulturne krajine (od zgoraj navzdol: vegetacija; sistem poti in javnih prostorov; pas kulturne krajine – travnik, pokopališče, polja s kozolci, mokrišče s kopališčem, reka, vrtički; nazadnje: preplet vseh plasti)



Slika 5: Pogled iz mokrišč proti cerkvi in Dunajski cesti (fotomontaža)



Slika 7: Pogled iz novega centra proti stari zidavi s polji in kozolci (fotomontaža)



Slika 6: Shema gradnje; arhitektura uokvirja ohranjena polja



in kozolce ohrani, se jim prilagodi, ter jih ujame v notranje atrije objektov, kjer se spremenijo v odprte zelene prostore otroških igrišč ali bivalnih vrtov oskrbovanih stanovanj.

D. Stanovanjska arhitektura (sliki 8, 9)

V želji, da bi se naselje zgostilo, toda ohranilo značaj vrtnega mesta, se predvidi kompaktna arhitektura vrstnih hiš, dvojčkov v vrsti in pa minimalnih enot prostostojećih hiš. Vsi objekti so predvideni kot samozadosten skelet, ki dovoljuje uporabnikom,

da si bivanjski prostor prilagodijo po potrebi: tako vsaka enota izraža individualnosti njenih uporabnikov, hkrati pa se vzdržuje uniformiran izgled ter osnovni gabarit naselja.

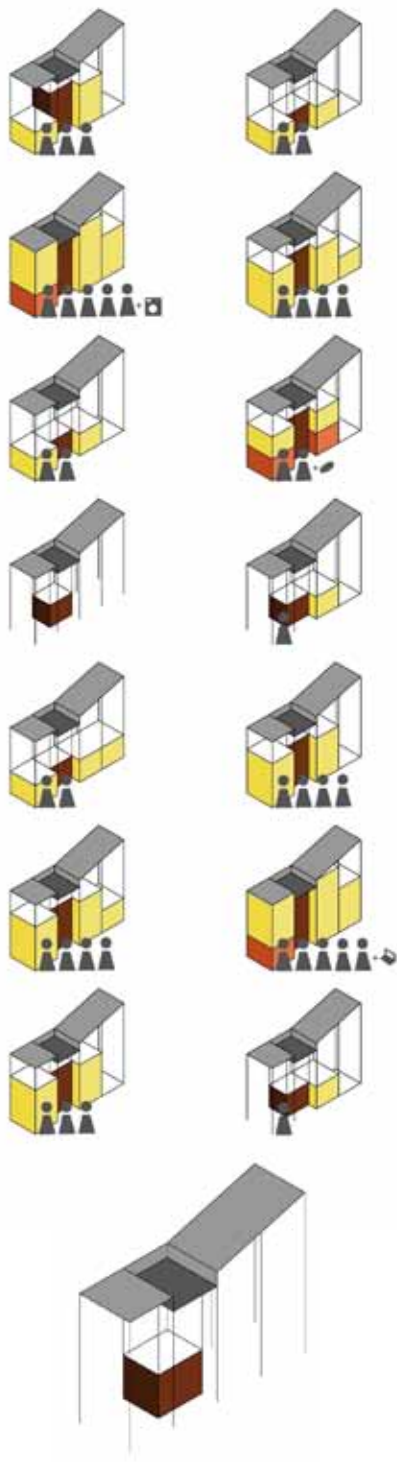
Vsak prostor v sebi skriva svojevrsten potencial. Skozi svojo nalogo nisem želela dajati strogih oblikovalskih navodil, kako potencial naselja Stožice razkriti na en in edini pravilen način, temveč sem skozi različne vzvode analitično-strukturnega oblikovanja poskušala odkriti tisto nedoločeno, nikoli dokončano in spremenljivo četrto dimenzijo arhitekture in urbanizma. Naloga je tako skupek mehanizmov, ki bi v prostor lahko prinesli določen nedefiniran red, mu dodali vrednost ter ga na edinstven način vpeli v red nevidne strukture.

ABSTRACT

The extensive project, dealing with proposed urban changes in vicinity of the river Sava in northern Ljubljana, focuses mainly on possibilities of merging nature with urban environment.

The project is set in a rural suburbia of Ljubljana that is rapidly absorbed into the urban fabric of the city, but still retains all the rural advantages of its past. Four interventions are implemented: regulation of the waterfront with a nod to the natural flora and fauna of the river; connecting the city with the river through all the layers of cultural landscape; establishing a new social, cultural and sports center; and rethinking the modern dwelling through ideas of the garden city and anti-architecture.

Slika 8: Shema različnih možnosti poselitve samozadostne strukture stanovanjske zazidave



Slika 9: Stanovanjska arhitektura kljub različni izrabi prostora ohranja gabarit in enoten izgled naselja (fotomontaža)



Slika 10: Načrt situacije



Projekt dveh stolpov na Dunajski cesti

Twin Towers on Dunajska Avenue

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DIPLOMA

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VSEBINA

Predlagana zazidava v merilu mestne magistrale (Dunajske ceste) redefinira ravnotežje v prostoru poslovnega območja glavnega mesta Ljubljane in zapolnjuje vrzel na degradiranem in slabo izkoriščenem zemljišču JV dela območja Plave lagune. Nedvomno kakovostni objekti slovenske moderne arhitekture 70-ih let minulega stoletja, ki označujejo ta prostor. Arhitektura Savina Severja, Otona Jugovca, Milana Miheliča, Branka Simičiča, J. Usenika in drugih potrebujejo »pendant« ali protiutež predvsem v prostorskem smislu, kot zaključek neke nedokončane urbanistične poteze. Arhitekturni jezik v tem pogledu nadaljuje modernistično izraznost in jo nadgrajuje z sodobnimi oblikovnimi elementi.

Manjkajoči vogal na križišču Dunajske in Linhartove ceste označujeta dva, med seboj po diagonali zamaknjena stolpa, ki smiselno koristita danosti lokacije. Linhartova cesta tako dobi zaključek z vertikalno dominantno, ki obenem uravnoteži igro nizkih in visokih objektov na levi in desni strani Dunajske ceste. Podolgovata lokacija večjih dimenzij, maksimalna višina zidave, zagotavljanje kakovostnega osončenja in pogledov ter na to vezana smiselna globlina in proporci tlorisa, so pripeljali do odločitve o postavitvi dveh stolpov. S to zasnovo se, ob doseganju maksimalnega izkoristka parcele, sprosti parter in ustvari kvaliteten javni prostor.

Na degradiranem območju med Slovenijalesom, Akademskim kolegijem (arh. Plečnik) in Linhartovo cesto je predvidena hibridna parkovno/arhitekturna ureditev. Objekt, zasnovan kot 'landscape' ali 'landscaper', daje pri koncipiranju volumna prednost krajinski ureditvi pred arhitekturno. Oblikovan je kot hrib presekan s potjo, ki vodi v notranjost objekta, kjer se v podzemni etaži nahajajo dvorane za kulturne in razstaviščne prireditve v sklopu Gospodarskega razstavišča. Pod njimi so parkirišča v treh etažah. Streha objekta je mestni park.

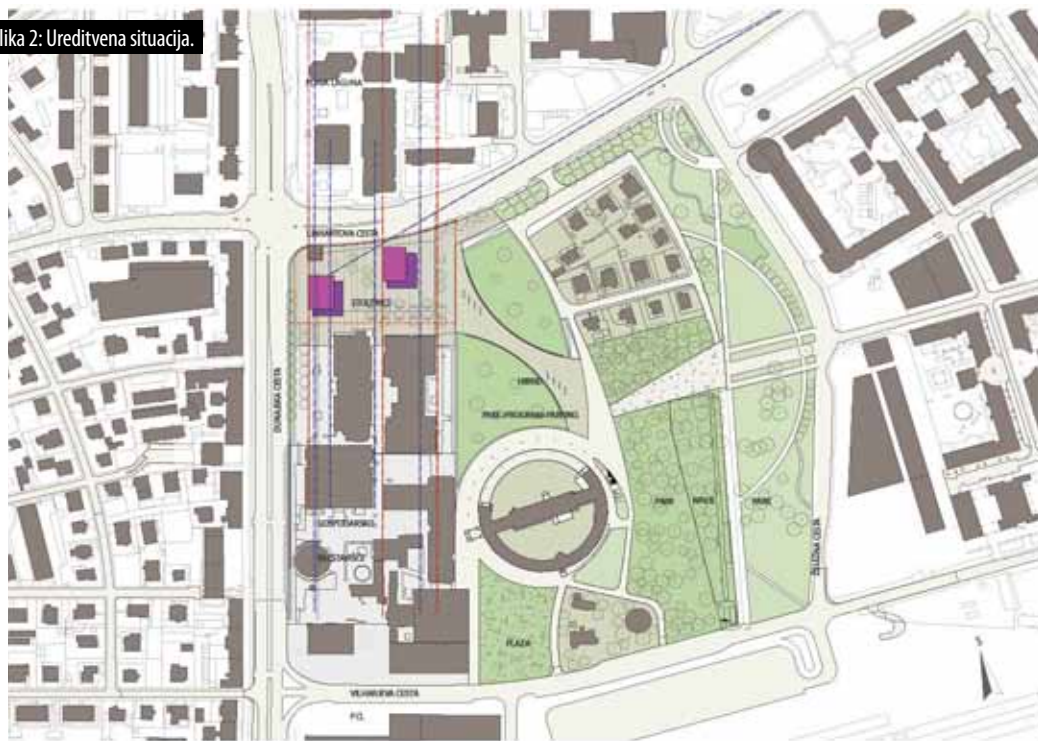
Oblikovna zasnova stolpov privzema načrtane modernistične smernice in prostorske vzorce konteksta okolice, jih izčisti in izkristalizira. Volumen posameznega objekta je preplet dveh ortogonalnih vertikalnih lamel, ki sta zamaknjeni tako v horizontalni ravnini kot po vertikali, kar ustvarja občutek, da prvi volumen nosi drugega. Na ta način je poudarjena vertikalnost in vitkost stolpa. To preprosto modernistično transformacijo, ki vzpostavlja vez s kontekstom, lahko zasledimo tudi pri bližnjih stolpnih Petrola in Avtotehne.

Sodoben stolp je živ organizem, splet dejavnosti, funkcij, energij, ki jih narekuje sodobni način bivanja in delovanja. Stolpa stojita

Slika 1: Pogled z Linhartove ceste.



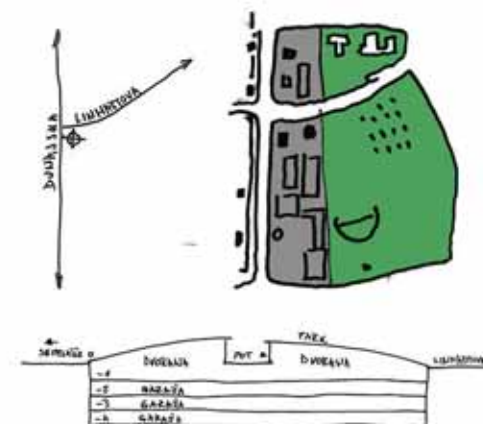
Slika 2: Ureditvena situacija.



v območju, kjer se prepletajo poslovni, trgovski, razstaviščni, kulturni in stanovanjski programi. S svojim ustrojem morata pritegniti in dopolnjevati funkcije območja. Čeprav je to takoiimenovano osrednje poslovno območje (central business district), je smiselno zagotoviti tudi stanovanjski program. Zavedanje, da sta poslovni in stanovanjski program povsem različna po svojem funkcionalnem ustroju, konstrukcijski in tehnološki naravi, etažnih višinah, zasnovi ovojja, zasnovi jedra in tudi sporočilnosti, je pripeljalo do odločitve o dveh programsko različnih stolpih. V nasprotju s 'klasičnim' hibridom, pri katerem so vse funkcije združene v enem objektu, sta stolpa namenjena različnim osnovnim dejavnostim s spremljajočim programom. Gre torej za polifunkcionalno zasnovo stavb, s pisarnami ali stanovanji, kulturno, storilno, trgovsko in gostinsko dejavnostjo v parterju, wellness/fitnes klubom in restavracijo/lo-unge klubom v vrhnjih etažah. Celotnemu kompleksu stavbi nadeneta značaj urbanega centra, ki živi 24 ur na dan in presega klasične poslovne stavbe, ki zvečer utonejo v molk in temo.



Slika 3: Pogled z vrha stolpnice Astra.



ABSTRACT

Proposed development, in the scale of city's main street, redefines spatial balance and fills the void on degraded and underexploited plot of land in the central business district of capital city Ljubljana. The missing corner at the junction of the Dunajska in Linhartova Avenue is marked by two diagonally staggered towers that optimally exploit the conditions of the plot. Linhartova Avenue is concluded with a vertical dominant, which in turn balances composition of low and high buildings on left and right side of the Dunajska Avenue.

Slika 4: Pogled iz parka.



Slika 6: Poslovni stolp - tloris pritličja (zgoraj) in tipične etaže (spodaj)

Slika 5: Vzdolžni prerez.



Slika 7: Stanovanjski stolp - tloris pritličja (zgoraj) in tipične etaže (spodaj)

Preteklost za prihodnost, programsko-idejna zasnova *The Past for the Future, Programme and Architectural Development* južnega predela ob cerkvi sv. Martina na Ponikvi *of the Southern Area next to the Church of St. Martin, Ponikva*

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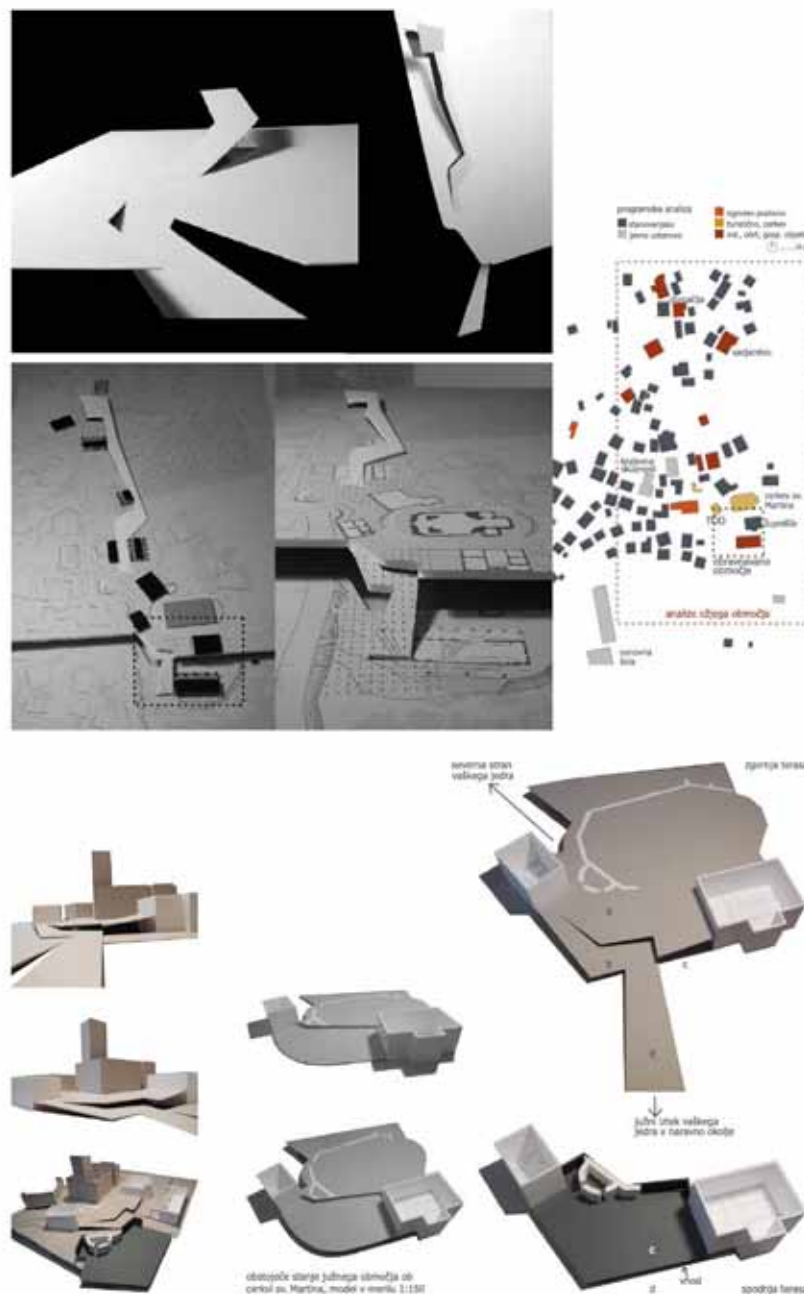
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KOLAR MUŠIČ, Tina. Preteklost za prihodnost : programsko-idejna zasnova južnega predela ob cerkvi sv. Martina na Ponikvi : diplomska naloga / Tina Kolar Mušič. - Ljubljana : [T. Kolar Mušič], 2014. - 1 zv. (loč. pag.) : ilustr., načrti ; 31 x 43 cm ; Vsebuje načrte večjega formata. - Mentorica Maruša Zorec. - Bibliografija. - Univ. v Ljubljani, Fak. za arhitekturo. [COBISS.SI-ID 2997124]

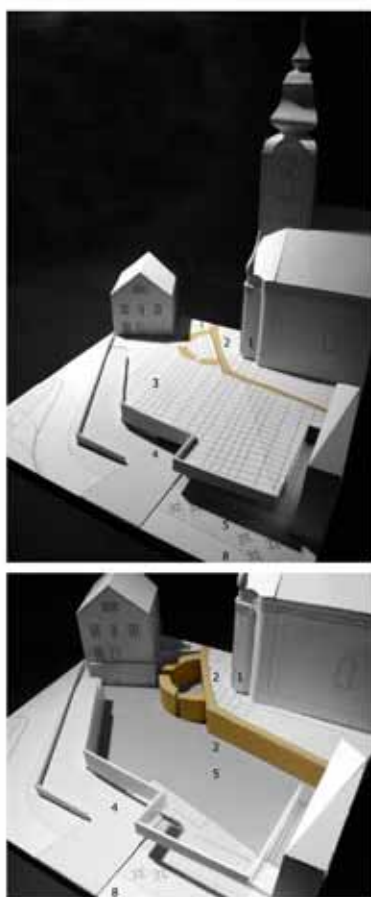
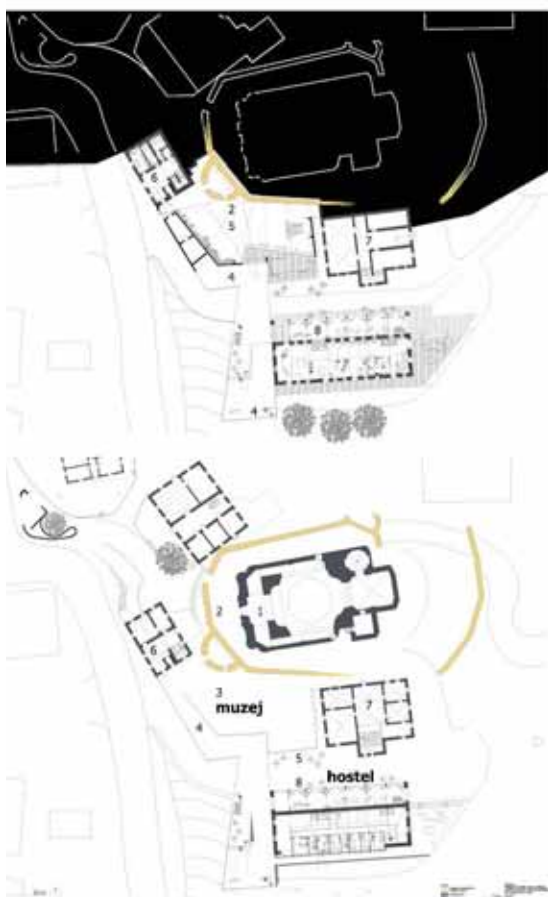
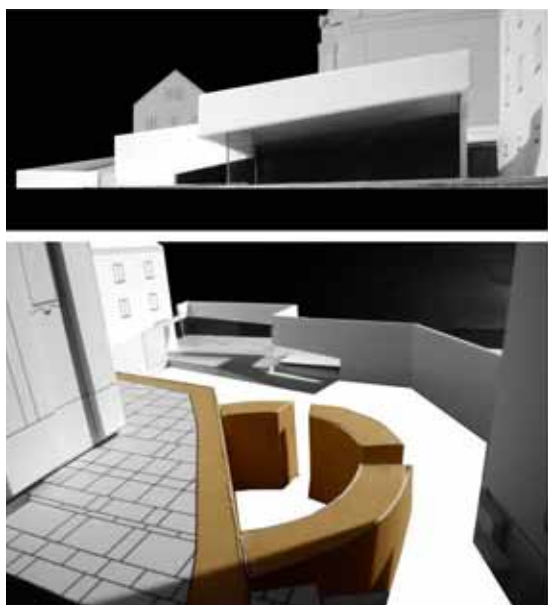
VSEBINA

Projekt obravnava Ponikvo, vas ki leži severovzhodno od Šentjurja pri Celju. Osredotoča se na južno območje ob cerkvi sv. Martina, sakralnem in arhitekturnem spomeniku baroka in dominantni jedra, naselja in pokrajine. Pomembna dragocenost obravnavanega območja je ohranjeno protiturško obzidje, posebna značilnost pa tudi prvotna podoba volumnov, ki oklepajo osrednji prostor vaškega jedra. Programsko in arhitekturno neartikulirano območje s pričujočim projektom postane južni vstop v vaško jedro. Ob spoštovanju obstoječe pozidave in njenih vrednot, predvsem baročne cerkve na dominantni, gornji terasi, in ohranjenega gospodarskega poslopja na spodnji terasi, je izoblikovana arhitektura novih ureditev. Razširjeni javni prostor vaškega jedra (a) in privlačna povezava obeh teras (b), arheološki muzej (c) in hostel v obstoječem gospodarskem poslopiju (d) vzpostavljajo dialog med dvema časoma, pričevanje preteklosti, ki se je pustila v obravnavanem območju razodeti za prihodnost. Osrednji motiv povezovanja obeh nivojev je glavna pot obiskovalcev, ki se blago vzpenja s spodnje terase na razširjeni parter ob cerkvi. Arheološki muzej je v konceptnem izhodišču antiteza stavbe. Je tektonski zamik, zareza v globino terena. Arhitekturna interpretacija ponikve, lokalne značilnosti kraškega terena, inverzija zunanjega sveta, ki se prevesi, ponika v njegovo lastno notranjost. Muzej je pod novim južnim delom trga ob cerkvi. V zunanjem prostoru je zastrt in odmaknjen v globino terena, kjer ga posebej bogati ohranjeno taborsko obzidje z obrambnim stolpom. Med to arheološko prezentacijo in situ, ki sklenjeno določa rob muzeja, in drugo vzdolžno stranico s stalno razstavo dragocenih najdb, je odprt večnamenski prostor. Dvorana, ki z različnimi uporabi pomembno bogati Ponikvo pa tudi širšo regijo. Prisotnost muzeja v zunanjem prostoru nakazujejo le od glavne promenade, povezave obeh nivojev, diskretno odmaknjeni vhod in izginjajoči, ponikujoči pogledi, ki se ob vzpenjanju na trg odpirajo v njegovo notranjost. V poudarjeni horizontali, obrobi gornjega parterja, je vhod v muzej na spodnji terasi izginjajoča vrzel, ponikva, med obema horizontoma. Je zareza v globino zemlje in časov. Zasnova hostela v obstoječem gospodarskem poslopiju ohranja in poudarja značilnosti slovenskega ljudskega stavbarstva. Prostran volumen gospodarskega poslopja, ki ga določajo zidani obodni zidovi in latnik ter visoko privzdignjena dvokapna streha omogoča vstavljanje novih, v lesu izvedenih stavbnih delov. Ohranjeni stebri nadstrešek gospodarskega poslopja, ki ga bogatijo lesene horizontale, je vhodni predel in pokrita družabna terasa hostela. Ob enostavni in privlačni ureditvi javnega, dnevnega dela v očiščenem zgornjem in spodnjem pritličju, so novi vložki privzdignjene galerije s sobami ob notranjih gankih. Njihova lega ob vzdolžnih stranicah ohranja osrednji prostor in predela ob čelnih fasadah z značilnimi, z opeko zamreženimi prezračevalnimi okni, povsem odprt. Zasnova torej vzpostavlja jasen in čitljiv odnos prvotnega in ohranjenega ter novega in dodanega. Novi programi južnemu vstopu v vaško jedro zagotavljajo vitalnost, atraktivnost in utrip sodobnega življenja. Predstavljajo preplet kulturnega in turističnega programa, ki se medsebojno dopolnjujeta in bogatita, ter dialog med podedovanimi kvaliteta in novimi ureditvami, dialog med preteklostjo in prihodnostjo. Z uvajanjem lokalnih znamenitosti v arhitekturno zasnovo, tako pričevanja arheološke preteklosti, fenomena fluviokrasa in ponikve, ponikanja površine terena v njegovo lastno notranjost, ter oživljanja spomenika slovenskega anonimnega ljudskega stavbarstva, projekt prerašča območje vsakdanjega in racionalnega in prehaja v sfero duhovnosti in simbolnosti. Ob vsem tem pa izpostavlja tudi realnost in nujnost uresničitve za oživljanje, vabljenost in dostopnost, s tem pa tudi za ohranjanje identitete in značilnosti tega, v mnogih pomenih izjemnega predela Slovenije.

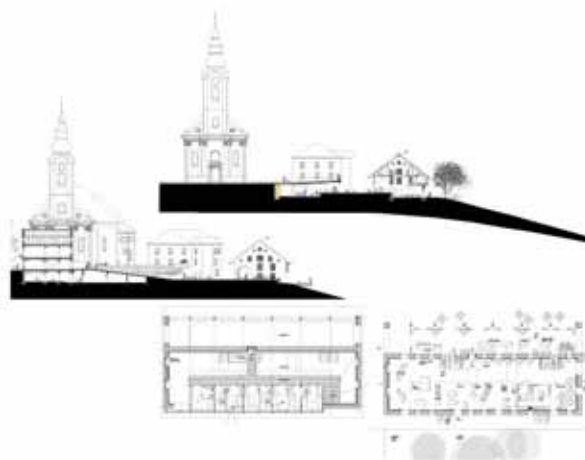
Slika 1: Fenomen fluviokrasa kot izhodišče koncepta.

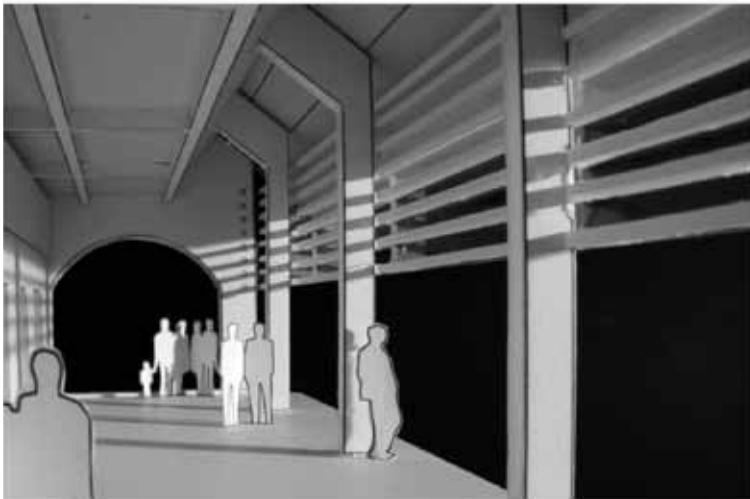
To, kar daje naravnemu fenomenu fluviokrasa moč prehajanja s površja v globino zemlje, je lahko interpretirano tudi v arhitekturnem jeziku. Celotna poteza glavne osi naselbinskega jedra, ki poteka v smeri sever/jug, je zaznamovana z razgibanostjo terena fluviokrasa in potekom ob delno še ohranjeni prvotni pozidavi jedra. Predstavlja smiselno nadaljevanje glavne osi ter njene izpeljave na južni strani naselja, kjer nastane nov vstop v vaško jedro in iztek v naravno krajino z novima sodobnima in atraktivnima programoma muzeja ter hostela. Spodaj: južni vstop v vaško jedro, razvoj koncepta in delovni postopek.





Slika 2: Prikaz vhoda in obrambnega stolpa, ki se s parterja ob cerkvi spušča v globino arheološkega muzeja, kjer preseneti obiskovalca s svojo navzočnostjo. Načrti prikazujejo spodnji nivo in parter ter prereza. 1. Baročna cerkev sv. Martina. 2. Ohranjeno in prezentirano taborsko obzidje. 3. Razširitev razgledne ploščadi ob cerkvi. 4. Povezava ploščadi ob cerkvi in spodnje terase z gospodarskim poslopjem. Na severni strani se povezuje izteka v razširjeno površino trga. Na južni strani pa se navezuje na nove programe ter se v nadaljevanju usmerja proti naravnem pejzažu. 5. Arheološki muzej in večnamenski prostor pod novim, južnim delom trga ob cerkvi. Prisotnost muzeja v prostoru nakazujejo le od glavne promenade, povezave obeh nivojev, diskretno odmaknjeni vhod in ponikujoči pogledi, ki se ob vzpenjanju na trg odpirajo v njegovo notranjost. 6. Obstoječa stavba. 7. Župnišče. 8. Spodnja terasa z gospodarskim poslopjem preurejenim v hostel. Zgoraj sta doživetji arheološke in likovne razstave v muzeju.





ABSTRACT

Proposed cultural and tourist programmes breathe vitality, attractiveness and the pulsation of contemporary life to the southern village core entrance comprising an extended parterre by the church descending to the lower terrace and further, towards natural landscape surroundings, the archaeological museum, enriched by fortification remains, and the hostel in a preserved old barn. The concept derives from the architectural interpretation of the Fluviokarst and local »ponikva« phenomena, the inversion of the surface into its own depths and revival of characteristic example of traditional Slovene folk architecture. In this manner, the project overcomes mundaneness and rationality thus entering the spiritual and symbolic sphere.



Slika 3: Mogočni volumen gospodarskega poslopja s horizontalno zleknjenostjo nad katero se vzpenja cerkveni zvonik. V preureditvi v hostel je posebna pozornost namenjena ohranjanju, obnovi in prezentaciji značilnih, privlačnih motivov. Tako zanimivih lesenih konstrukcij, visoke in prostrane dvokapne strehe, latnikov za sušenje sena ter prezračevalnih oken z opečnimi mrežami (levo). Zgoraj sta prikaz v lesu izvedenih novih vmesnih nivojev s sobami, ki so vloženi v stavbni ovoj obstoječega in ohranjenega gospodarskega poslopja in doživetje sobe ob prenovljenem ganku.

Idejna zasnova letnega gledališča za Sarajevski Filmski Festival v Sarajevu

*Conceptual Design of the Sarajevo
Film Festival Open Air Theatre in Sarajevo*

UVODNIK

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arhitekturo, 2014. [COBISS.SI-ID 2997124]

VSEBINA

UVOD

Vsak, ki je kdaj obiskal Sarajevo, je prišel nazaj z neopisljivimi vtisi. To mesto, pravijo, ima nek je ne sais quoi, ki lahko očara, na trenutke tudi ožalosti, a vsekakor nobenega ne pusti ravnodušnega. Temu je v veliki meri pripomogla njegova burna zgodovina, ki je na enem mestu spojila navidez nezdružljivo in tako oblikovala povsem nenavaden skup arhitekture, kulture in ljudi, ki so skozi stoletja skupaj živeli v sožitju in toleranci. In danes?

Skušala sem se izogniti devetdesetim letom, ki so svojo senco vrgle celo na znamenite Olimpijske igre 84, a me je prej zastavljeno vprašanje usmerilo prav tja.

Nepričakovano, a prav med prelomnima letoma 1992 in 1996 se je v obleganem mestu, ko tudi osnovne človeške potrebe niso bile zadovoljene, oblikovalo veliko število kulturnih iniciativ. Krug 99, projekt Ars Aevi, PEN Centar, Sarajevo Jazz Festival, Centar za savremenu umjetnost, Obala Art Centar ... so samo nekatera od mnogih.

Leta 1995 se oblikuje tudi prvi 'vojni kino', danes znan kot Sarajevo Film Festival. Medtem ko večina ostalih zaradi bridke realnosti trenutnih razmer v zadnjih letih sunkovito drvi navzdol, sem v SFF prepoznala velikopotezen projekt s svetlejšo prihodnostjo. Ta je namreč v današnje Sarajevo uspel privabiti svetovne reflektorje, ki mesto enkrat na leto prikažejo še v drugi luči.

A tudi organizacija Festivala je močno otežena zaradi pomanjkanja potrebnih sredstev, pomoči mestne uprave in primernih lokacij.

Nastal je projekt letnega gledališča, ki zadovoljuje potrebe Festivala in hkrati tudi ostalih združenj, ter morda še najpomembneje, za uporabo je na voljo vsem stanovalcem Sarajeva.

LOKACIJA

'Metalac' je znano šolsko igrišče v notranjem dvorišču mestnega kareja v samem središču Sarajeva. To je tudi trenutno največje prizorišče Sarajevskega Filmskega Festivala, kjer se za potrebe poletnih projekcij vsako leto znova vzpostavi celotna scenografija. Izbrana lokacija je primerna za širok spekter javnih dejavnosti, saj se nahaja na območju zgoščenega prometa in v bližini vse potrebne infrastrukture.

IZHODIŠČA

- oživitev proste lokacije v središču mesta z novimi, raznolikimi in mestu potrebnimi dejavnostmi
- ohranitev dosedanje funkcije šolskega športnega igrišča
- možnost neodvisne uporabe posameznih delov objekta
- oblikovanje večnamenskih prostorov, ki bi služili različnim potrebam mestne skupnosti
- postavitve opaznih dostopov, ki bi obiskovalce vodili z ulic v notranje dvorišče
- omogočanje enostavnih dostopov do vseh površin, organiziranih prehodov med različnimi deli objekta
- predvidenje nadkritja za možnost zaščite celotnega območja pred slabim vremenom

REZULTAT

Nastali projekt je nekakšen urbani hibrid, ki na isti lokaciji združuje različne dejavnosti z možnostjo funkcioniranja skupaj in hkrati kot tudi povsem samostojno. Lahko je matično pribežališče raznih mestnih kulturnih skupin. Mesto komunikacije in pretoka idej. Mesto druženja in kulturnega delovanja, raznih glasbenih in dramskih uprizoritev, filmskih projekcij, umetnostnih razstav. Projekt zadovoljuje vse potrebe

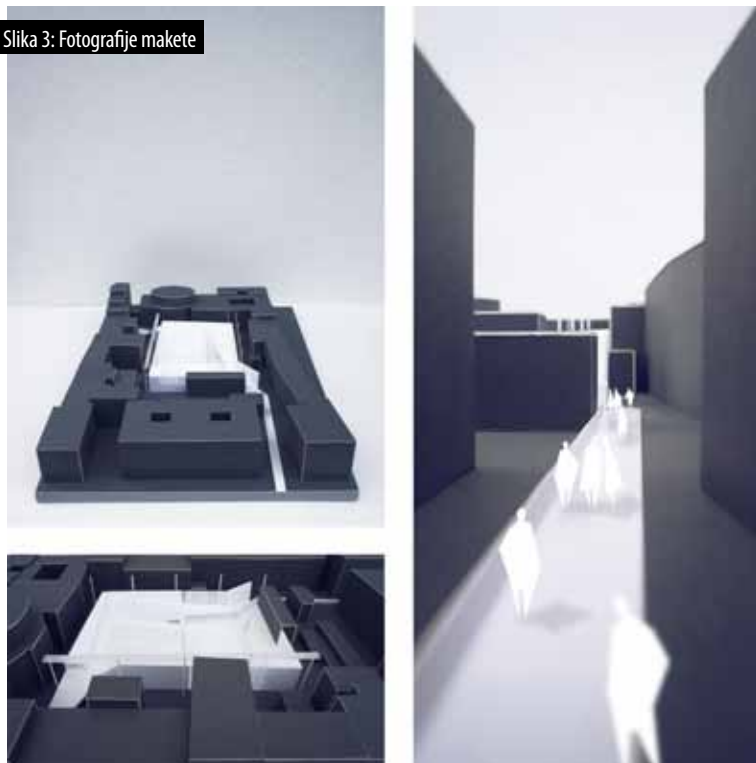


Slika 1: Koncept / oblikovna zasnova



Slika 2: 3D risani prikazi

Slika 3: Fotografije makete



Slika 5: Situacija



Slika 4: Fotografije s SFF-ja



SFF, kateremu je bil prvotno tudi namenjen. Predvideva zložljivo platneno streho, ki omogoča nemotene projekcije tudi ob slabem vremenu, restavracijo, prostore za pogovore in delavnice ter večje skladišče.

Kljub novi podobi in dodanemu programu, pa Metalac ostaja Metalac. Igrišče, ki je namenjeno tako šolarjem Prve gimnazije kot vsem drugim obiskovalcem, je tako ostalo osrednja točka tudi novega projekta.

Uporaba hladnih materialov, kot sta železo in lokalni kamen hreša, prizorišču daje posebno urbano noto, zunanji betonski zid pa spodbuja mlade umetnike in grafičarje k puščanju svojega pečata.

Zaradi nekoliko skrite pozicije skuša objekt z izrazito, a nenasilno likovno potezo železnih dostopov pritegniti obiskovalce v mestno zaodre in jim omogočiti intimno izkušnjo v samem središču mesta.

Lokacija bi z novo podobo in vsestranskim programom postala epicenter dogajanja, območje komunikacije različnih ljudi in pozitivnega aktivizma, kar bi spodbudilo kulturni razvoj prostora in hkrati tudi dvignilo kvaliteto bivanja.

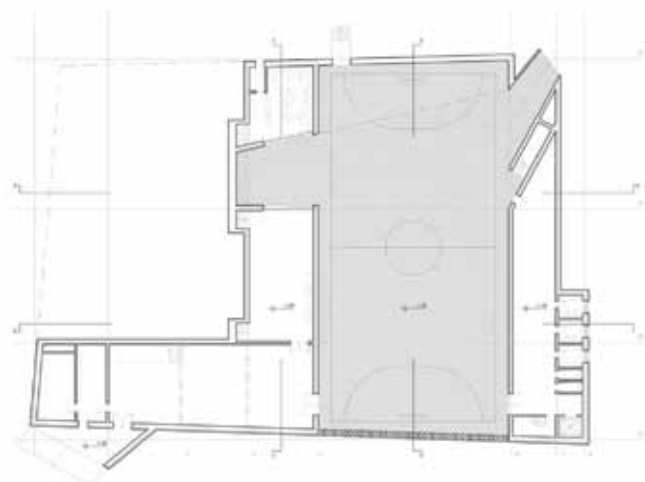
ABSTRACT

Due to its turbulent history Sarajevo has always been a sort of crossroads, gloriously blurring the lines between East and West. The 90's have brought a disastrous wave to the city, breaking everything but its spirit! During the four year siege, when even the most basic human needs weren't met, the city saw a birth of numerous cultural initiatives, including the formation of a 'war cinema.'

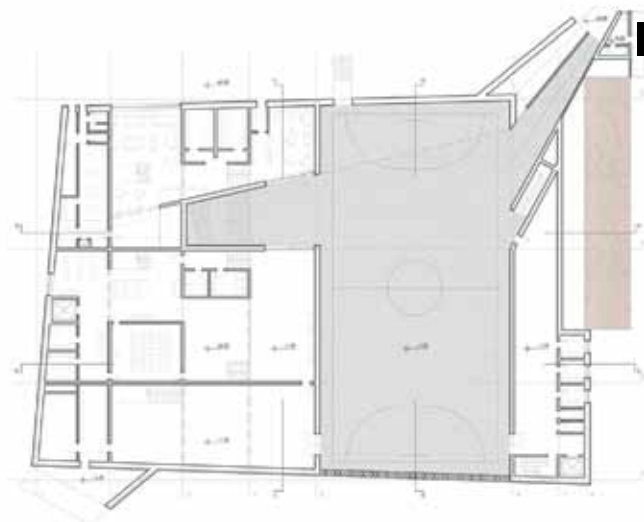
Two decades later Sarajevo Film Festival is a success story, bringing the world's attention to the city and presenting it in a new light. But behind all the red carpet glare, the festival is struggling without the necessary funds and most of all – a suitable venue.

The project aimed to provide a solution not only for SFF, but for other functioning cultural organizations as well as an inviting place of gathering and communication for a broader public.

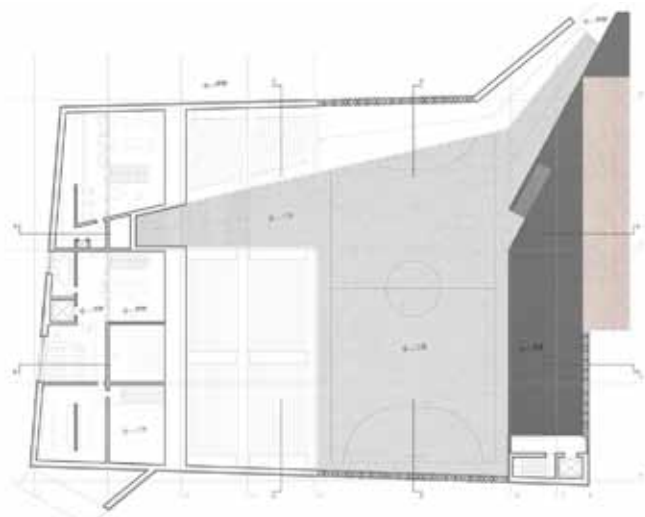
Slika 6: Tlorisi



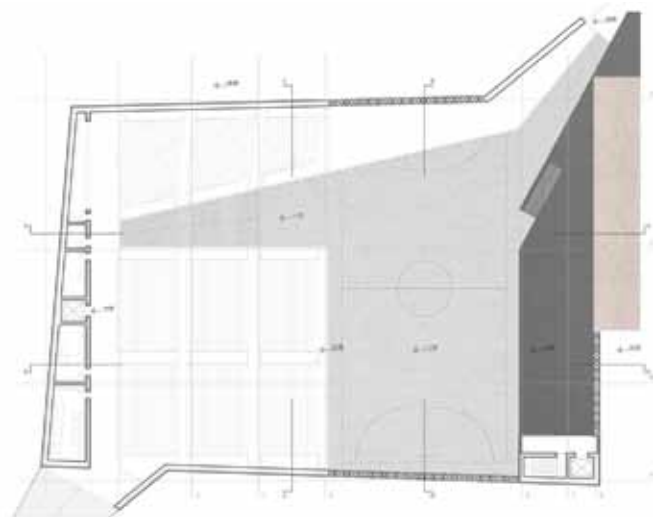
Tloris / etaža -1: na nivou -1.70 m



Tloris / etaža 0: na nivou ±0.00 m

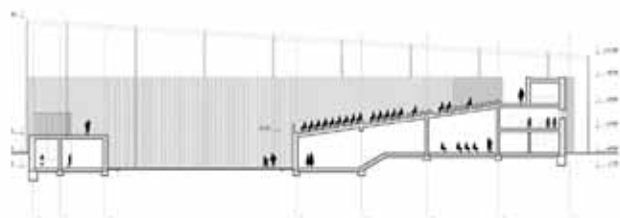


Tloris / etaža 1: na nivou +2.80 m



Tloris / etaža 2: na nivou +5.60 m

Slika 7: Prereza



PREREZ D0



PREREZ D0

Prilagajanje podnebnim spremembam z orodji *Adapting to Climate Change Using Landscape* krajinskega načrtovanja v Ljubljanski urbani regiji *Architecture Planning Tools in Ljubljana Urban Region*

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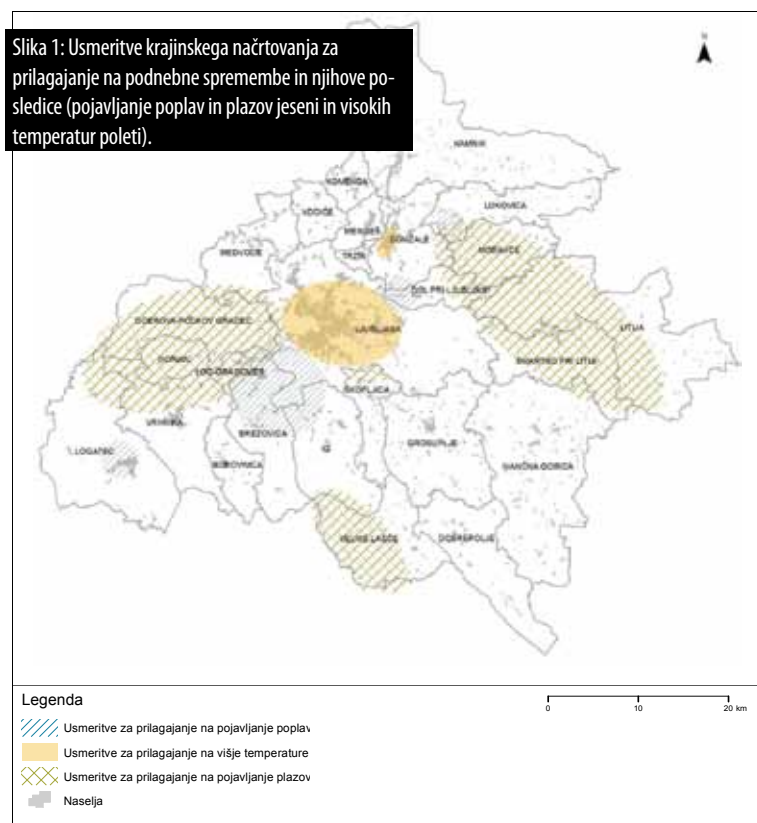
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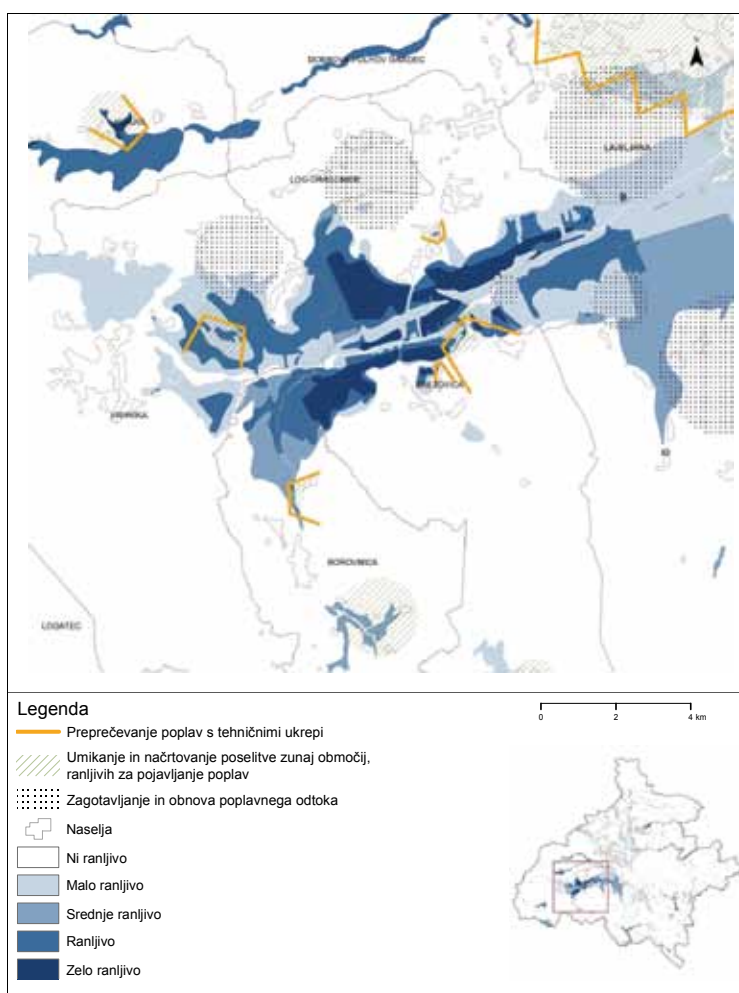
Slika 1: Usmeritve krajinskega načrtovanja za prilagajanje na podnebne spremembe in njihove posledice (pojavljanje poplav in plazov jeseni in visokih temperatur poleti).



VSEBINA

Podnebne spremembe so eden osrednjih globalnih izzivov saj njihove posledice že danes povzročajo negativne vplive, ki zahtevajo odzivanje. Prostorsko oz. krajinsko načrtovanje je ena od dejavnosti, ki lahko prispeva tako k blaženju kot prilagajanju na podnebne spremembe. Problemsko vprašanje diplomskega dela je bilo, kako z orodji krajinskega načrtovanja v izbrani regiji pristopiti k prilagajanju podnebnim spremembam. Kot cilj smo si zastavili prepoznati območja največje ranljivosti za podnebne spremembe v Ljubljanski urbani regiji (LUR) z vidika kakovosti bivalnega okolja, naselij in prometne infrastrukture ter izdelava usmeritev na področju krajinskega načrtovanja za prilagajanje na glavne vplive: pojavljanja poplav, plazov in visokih temperatur zraka.

Osnovni korak k zasnovi prilagajanja predstavlja ocena ranljivosti, ki jo Inter-governmental Panel on Climate Change (IPCC) opredeljuje kot stopnjo, do katere je sistem občutljiv na negativne učinke sprememb v podnebnju. Ocena ranljivosti nekega sistema je funkcija: *izpostavljenosti* (predvideni podnebni scenariji), *občutljivosti* (odzivi sistemov na določeno izpostavljenost; npr. kako večja količina padavin vpliva na pojavljanje poplav), *potencialnih vplivov* (lahko so pozitivni ali negativni za določen sistem) in *splosnosti prilagajanja* (kako sposoben je sistem, da se prilagodi PS, ublaži potencialno škodo, se spopade s posledicami in izkoristi priložnosti).

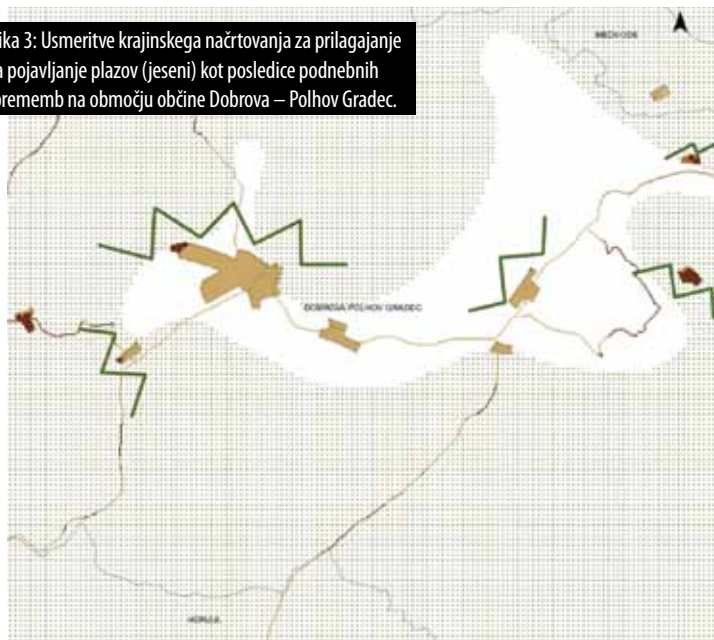


Slika 2: Podrobnejši prikaz usmeritev krajinskega načrtovanja za pojavljanje poplav kot posledice podnebnih sprememb na območju Ljubljanskega barja.

Na podlagi modelov občutljivosti in modelov sposobnosti prilagajanja smo pripravili prostorske prikaze ranljivosti bivalnega okolja, naselij in prometne infrastrukture za pojavljanje poplav in plazov ter visokih temperatur zraka. V modele smo poskušali vključiti tudi izpostavljenost v okviru regionalnih podnebnih scenarijev, a so bile zaradi vpliva drugih kriterijev in pomanjkljivosti programskega orodja razlike v scenarijih zanemarljive. Po predvidenih potencialnih vplivih lahko rečemo, da se bodo območja ranljivosti v prihodnosti razširila. Tista, ki so danes najbolj ranljiva, pa bi lahko postala še bolj ranljiva.

Na podlagi ocene ranljivosti bivalnega okolja, naselij in prometne infrastrukture za podnebne spremembe smo podali usmeritve za prilagajanje z orodji krajinskega načrtovanja. Odločili smo se za splošnejše usmeritve, ki za vsako stroko, ki bi lahko sodelovala pri izpopolnitvi in kasneje izvedbi ukrepov, omogočajo širok nabor možnih podrobnejših ukrepov. Prostorski prikaz usmeritev je prikazan na kartah 1-4.

Slika 3: Usmeritve krajinskega načrtovanja za prilagajanje na pojavljanje plazov (jeseni) kot posledice podnebnih sprememb na območju občine Dobrova – Polhov Gradec.



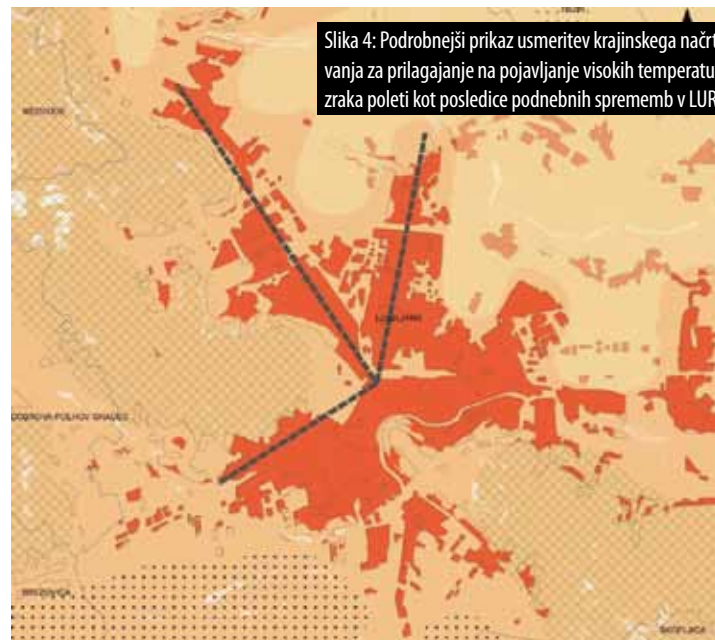
Legenda

- Preprečevanje plazov s tehničnimi ukrepi
- ... Ohranjanje in izboljšanje varovalne funkcije varovalnih in drugih gozdov
- Naselja
- Ni ranljivo
- Malo ranljivo
- Srednje ranljivo
- Ranljivo
- Zelo ranljivo

0 0.75 1.5 km



Slika 4: Podrobnejši prikaz usmeritev krajinskega načrtovanja za prilagajanje na pojavljanje visokih temperatur zraka poleti kot posledice podnebnih sprememb v LUR.



Legenda

- Ohranjanje odprtega zelenega prostora
- Zagotavljanje trajne prisotnosti gozda
- Ohranjanje mokrišč
- Varovanje koridorjev za dotok svežega zraka
- Naselja
- Zelo malo ranljivo
- Malo ranljivo
- Srednje ranljivo
- Ranljivo
- Zelo ranljivo

0 1.5 3 km



Raziskovalno delo je potekalo predvsem na področju krajinskega načrtovanja, potrebno znanje z drugih področij (hidrologije, gozdarstva, idr.) pa smo povzeli po dostopnih virih. Pri uporabi rezultatov je treba upoštevati tudi negotovost podnebnih scenarijev, ki je posledica krajinske in podnebne raznolikosti Slovenije in je zlasti pomembna pri zanesljivosti napovedovanja ekstremnih vremenskih dogodkov.

Povzamemo lahko, da je Ljubljanska urbana regija ranljiva za podnebne spremembe, predvsem zaradi podnebnih trendov, visoke stopnje urbanizacije, goste poselitve in svoje gospodarske, izobraževalne, zdravstvene in upravne funkcije. A prav zaradi svoje funkcije ima obenem tudi številne možnosti za prilagoditev. Ključno je, kako bodo stroke in politika izkoristili te možnosti. Krajinsko načrtovanje pri tem nedvomno predstavlja enega ključnih akterjev. S svojimi orodji lahko določa smotno oz. t.i. »podnebno varno« rabo prostora in s tem nadaljuje s svojimi predpostavkami, metodami dela in vrednotami načrtovanja za spremenjeno podnebje, ki niso zanj nič novega, saj so, kot je dejala prof. Golobič v pogovoru za Sobotno prilogo januarja 2013, vgrajene že v njegov temelj.

ABSTRACT

Climate change is a global challenge that demands a response. Graduation thesis examines climate change adaptation from the landscape planning perspective. The theoretical part first presents general information on climate change, after which it introduces landscape planning tools that can be used to successfully address it. These tools are then applied to the Ljubljana Urban Region (LUR). The methodological framework of the IPCC is used to assess the vulnerability of the quality of the living environment, settlement systems, and transportation infrastructure and for the occurrence of floods and landslides in autumn and excessively high temperatures in summer. The results identify three different areas in the selected model region for which climate change adaptation guidelines are provided from the perspective of landscape planning. The guidelines foresee land use to reduce the risk of occurrence of floods, landslides and high temperatures in case of the realisation of the climate change scenarios (IPCC).

VIII.

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