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Review paper

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PLANNING AND LAND POLICY TOOLS FOR LIMITING URBAN SPRAWL: THE EXAMPLE OF BELGRADE

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Both the characteristics of Serbia's urban land policy, the delay in reforms and land development management of the Belgrade Metropolitan Area (BMA) illustrate the complexities following the reshaping of institutional framework under the conditions of economic and other uncertainties of societal transition. The negative implications of the prolonged crisis on the new urban development policy and urban land tools can postpone the establishment and application of guidelines for limiting the urban sprawl. This paper presents a brief literature review, as well as the current urban land policy and land-use efficiency in the BMA. Traditional urban land tools will be shortly described, followed by recommendations for limiting sprawl. There is a need for readjusting the current planning and urban policy regarding the urban sprawl, from an urban "command-and-control" approach to a "learn-and-adapt" approach. We suggest the introduction of more innovative and flexible urban land policy tools.

Key words: Urban land policy, urban land tools, urban land bubble, urban sprawl, Belgrade.

INTRODUCTION

A number of factors contributed to a drastic decline in realestate values, followed by their subsequent erratic, weak and slow recovery, viz.: global economic and financial crisis, growing economic uncertainties and risks, spreading of "the real-estate bubble" (the conversion of the development boom into development doom), conversion of the housing boom, real-estate boom and urban land bubble into urban doom (urban sprawl), etc. The causes of the "real-estate bubble" and "land bubble" growth in cities are numerous, and they have led to several consequences in the global crisis. A lack of equipped urban construction land for greenfield investments, housing, business and industry, along with neglecting of brown-fields has also contributed to the crisis. According to the UN-Habitat (2015), the lack of land policies and clear regulations can lead to uncoordinated city growth and the increase of illegal/irregular and informal settlements, while excessive regulations (such as strict zoning) can lead to division of urban land-use into exclusive residential, commercial, or industrial areas, which may result in urban sprawl and low density urban expansion. In both cases, urban land regulations can inhibit the development of smart cities. The paper opens a few questions, such as: How to prepare planning and development regulations for limiting urban sprawl, while facing a lack of guidance for dealing with uncertainties and disturbances in the postsocialist context? How can urban systems become more adaptable to change and reshaping, and less sensitive to disturbances, uncertainties and external shocks (e.g. natural disasters, economic crises, impacts of public policies, societal impacts, political shifts, etc.)? What are the main tools for planning and protecting public land and enhancing public participation in the suburbs, and/or for the containment of urban sprawl? In that respect, there has been a need for major readjustments of the current planning policy regarding the control of urban sprawl, from an urban "command-and-control" approach to the "learn-and-adapt" approach, including pertinent institutional, procedural and substantive aspects. The institutions play an important role in reducing current uncertainties. This requires the adaptation of the traditional urban policies and urban land policy and tools for limiting urban sprawl, better urban governance, as well as the new tools.

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Literature review with theoretical and contextual background

The literature on urban planning transformations in transitional countries indicates the dominant trend of suburbanization or urban sprawl based on different frameworks - policy research, theories of urban development (Novák and Sýkora, 2007; Tsenkova, 2012; Dovenyi and Kovacs, 2006; Slaev and Nikiforov, 2013; Hirt, 2007), legal theory, theory of polyrational land policy (Davy, 2012 and 2014), property theories (Hann, 2007). Bertaud and Renaud (1997) indicate that the suppressed urban land market started to "bloom" after 1989, as the new housing preferences and consumption developed and the market for urban development land emerged. Limiting urban sprawl (or "urban growth machine") is not a part of the integrative planning practices, but a part of realistic approach based on national and other strategic policies, market trends, governance, smart regulations, programs, etc. Stumpp (2013) points out that resilience has displaced sustainability, and that planning has adopted this concept with its uncertainty and discontinuity, especially in the urban context. Bosselman (1968) has indicated an alternative to urban sprawl - the legal guidelines for government activities. He suggested that the urban sprawl can be stopped by planning and developing large parts of land, such as the following alternatives: a) planned-development zoning, b) compensative regulations, and c) public land assembly, with a legal analysis of these techniques. Land consumption for housing, economic growth, employment, population growth and transportation create serious pressures in urban areas (Nuissl et al., 2009). Different policies and instruments try to prevent excessive land consumption and impact assessment of land-use changes in urban areas, as well as different types of spatial governance-strong, soft, weak, or multi-level, multi-sectoral, multifunctional "integrated governance for peri-urban territorial cohesion" (Ravetz and Loibl, 2011). Needham and Verhage (2003) argued that different (political/ideological) approaches regarding that who should receive the financial benefits lead to different policies, to different instruments of land policy, and to different distributions of that surplus. Assessment of the effects of possible instruments requires a financial analysis of the urban development. Blair and Wellman (2011) questioned the role of the public policies by Growth Network (a coalition of more than 40 national and local organizations working to minimize low-density, auto-dependent development), for promoting a policy agenda, providing guidelines and tools for cities to better control or limit urban sprawl. The authors put a typology for the overall implementation approaches in terms of managing sprawl: 1) Traditional approaches to growth management focus on compulsory, regulatory policy tools, like planning and zoning, by focusing their strategies on top-down approaches. 2) A government-centered approach emphasizes traditional compulsory government strategies and tools, and 3) a market-based approach, more mixed, voluntary, policy tools like private market and voluntary organizations. If development resources are directed to the periphery, the result can be a disinvestment in core cities. City government policy-makers and administrators need to find ways to manage urban sprawl, especially because the city cannot depends on zoning and coercion to control

urban sprawl. Limiting of urban sprawl depends on policy tools and strategies of implementation from *voluntary* and *mixed* level tools to *(legal) compulsory* tools. Knaap (1998) concludes that land markets are imperfect and subject to government interventions. Land values and land-use are determined by the interaction of supply and demand (Harvey and Jowsey, 2004). Needham (2000) stated that land policy can be used to support land-use planning, and that land-use planning can restrict the land supply on some locations and for some uses. Bolay *et al.* (2005) indicated that the contextual resources of an urban environment in a developing country can appeal for incoherent distribution of resources and responsibilities.

METHODOLOGICAL APPROACH

Currently, Serbia's economic and urban development is a reflection of the previous development policy and transition recession, a consequence of the global economic and financial crisis and other factors. We applied a *contextually* appropriate approach, which includes the comprehensive and integrated analysis of the national urban policy, metropolitan governance and the urban land policy, and their importance for limiting urban sprawl. This approach focuses on the syncretic forms of the urban land policies and tools, and combines some components of urban development theories, the theory of polyrational land policy, property theories, the current discourse analysis, comparative (critical) law analysis, the methods for evaluating urban land tools, as well as a brief analysis of the urban land issues on the available data or indicators of land-use changes and the urban sprawl (in the BMA).

Current urban land policy and land-use efficiency in the BMA

The case of Serbia's incomplete reforms illustrates the challenges of land policy development in a post-socialist societal transition, especially in the conversion of the urban land-use rights into land ownership by the Law on Planning and Construction (LPC), which is not sui generis for land regulation² (Nedovic-Budic et al., 2012; Živanović Miljković and Popović, 2014a). The urban land policy includes the introduction of regulatory mechanisms, restructured institutions, new ways of financing land development, and market-based instruments of land policy. The review of the Master urban plan of Belgrade 2021 (MUP, 2003), vis-àvis respective roles regarding the efficiency of urban land policy, indicates that the provisions were more precisely formulated in the latter MUP amendments of 2006 and 2009. Some MUP goals are contradictory, e.g. the urban renewal was strongly stipulated, as well as increase of 50% of planned urban built land. The MUP has not identified suburbanisation and sprawl as important issues and has not explicitly stipulated any respective measures.

In the BMA urban land occupies 40% of the administrative territory, with more than 50% state-owned urban land (Zeković, 2008). Territory covered by the MUP is 77,600 ha, 84% of which is state-owned urban buildable land.

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² In previous period LPC also stipulated some important land policy issues, such as land privatization or land restitution (cf. Živanović Miljković and Popović, 2014b).

Urban sprawl is not mentioned in Serbian legislation, but a number of national and local legal acts define the utilization of agricultural and forest land and their conversion into urban land. After 1990, three laws have been passed on the legalization of massive illegal construction, but all of them failed to regulate the sprawl. The LPC defines the legal basis for ownership transformation - underlying the principle that privatization of the urban land should be based on its market value. However, no regulatory rules, institutions and instruments for conducting the urban land policies have been defined either for the compensation or for the assessment of the market value of land and related assets. Pertinent legal acts stipulated the forms of conversion of agricultural land to other purposes allowed, followed by appropriate provisions on the market value of arable land. In the BMA from 1993 to 2010 some 53,700 ha of agricultural land was lost, mostly for urban/construction land due to: a) massive illegal construction; b) construction of technical infrastructure; and c) conversion of former agricultural land to other uses, during the privatization of state-owned agricultural estates. The MUP of Belgrade addressed the issue of accelerating suburban development, mostly by occupying land for housing in the periphery. For the period 2001-2021, a further decrease of agricultural land is predicted (from its share of 51% to 28%). All data sources indicate a dramatic decrease of the size of agricultural lands. In 1990s, the key driving force was accommodation a large number of immigrants who came from Croatia, Bosnia & Herzegovina and Kosovo & Metohija. In 2009, in Belgrade City, informal settlements represented the key form of urban sprawl, covering 22% of the construction land, and taking up some 40% of the residential areas. The MUP of Belgrade recorded that the majority of informal residents lived in compact informal housing, scattered in 34 city zones, 18 low-density informal settlements, and in urban slums. In Serbia, the process of "real-estate bubble growth" manifested itself via an additional increase in illegal construction, now totalling some 1.4 million illegal buildings (or 30% of their total number). In the BMA, some 0.2 million of illegal buildings were recorded, causing pressure on the uncontrolled urban sprawl. Urban sprawl/suburbanization is one of the most dominant processes of land-use changes in the BMA, with strong spatial and environmental impacts. Belgrade's urban land market is undeveloped, because of the inefficient regulatory mechanisms and institutions, the lack of more up-to-date ways of financing urban land development which has not been established yet, and current predominantly administrative approach. The aforementioned have all brought negative consequences regarding zoning regulations and other tools of urban land policy (development fee, land-use fee, utilities taxes, and urban growth boundaries) which have proved to be vulnerable and useless in limiting urban sprawl. The urban land regulation in the BMA, demonstrating a traditional administrative approach, was a key reason for massive illegal building and sprawl. A misbalance in market supply and demand for undeveloped urban land in Belgrade, as well as too high or low values of floor space index, indicate the type of regulatory framework and governance which supports much more an administrative than a market approach. This imposes a question: how to adapt current traditional urban

land tools to managed sprawl and the urban resilience? (To note, in 2014 Belgrade was selected to join 100 Resilient Cities Challenge by the Rockefeller Foundation; see: 100 resilient cities).

Some of the indicators for measuring sustainability in land-use and urban sprawl in the BMA are shown in Table 1. Urban density has rapidly decreased. Urban land consumption of 670 m² per person in the BMA shows an extremely high value as the indication of an excessively intensive urban sprawl – more than in all other European cities (Bertaud, 2012). The BMA is the "leader" in inefficient urban land-use and urban sprawl. The U-Index indicates the level of disturbance of natural land area. The conversion of agricultural land in urban land-use is evident in the BMA. The urban sprawl index in the BMA is 0.378>0. The index shows greater growth of the build-up area than population growth, while the density of the metropolitan area has decreased.

Table 1. Indicators of sustainability of urban land-use and urban sprawl in the BMA

Indicators	1991	2011
1. Urban density (people per ha of urban area)	42.9	14.9
2. Urban land consumption p.c. (m²)	233.0	670.47
3. U-Index (Human Use Index) 3 as $\%$ of human land-use	-	68.78
4. Residential floor space m²/p.c.	18.9	28.0
5. Agriculture land p.c. (m2)	1.431	821- 1.271
6. Urban sprawl (change in urban area vs. change in population index 2011/1990)	-	0.378

Source: Zeković et al., 2015

The stipulation of the LPC of 2009 may have even worsened the situation by introducing the stipulations that provide conversion of leaseholds on urban (construction) land into property right - without applying actual market prices to the urban land (which was kept by the privatized companies). In Serbia, there is a lack of transparency and stability on the real estate market and urban land market, as well as a lack of established approaches, criteria and methods for the evaluation of properties in accordance with reliable market and planning data on property values. These types of evaluation are important for urban and territorial planning, limiting urban sprawl, urban land taxation and land-financed tools, especially for privatization of former state-owned land or conversion of urban land-use rights to urban land ownership. Municipalities use different local databases and secondary data. According to Božić and Mihajlović (2014) real estate appraisal systems are organized in different ways in Europe, viz. the legal framework; appraisal methods, etc.

RESULTS AND DISCUSSION

A comprehensive analysis of the urban policy and urban land policy has shown that it is necessary to introduce:

³ The U-Index is a measure of the total area that is covered by urban or agricultural lands, or the % of human land-use in an area, including agriculture, urban and suburban development. The larger values indicate main disturbances of natural land area.

1) a clear national urban policy, 2) an improved metropolitan policy and urban governance and 3) a reformed urban land policy and tools against urban sprawl.

Support to national urban policy

UN-Habitat strongly supports improvement of national urban policy in Serbia, as well as planning and development of adequate policy and institutional framework for its faster integration into the EU. Sietchiping (2014) has analyzed the International Guidelines on Urban and Territorial Planning (IG-UTP), the UN-Habitat Urban Planning and Design Strategy 2014-2019 (which included urban sprawl vs. compactness), and National Urban Policies (in Europe - only in Kosovo and Serbia). UN-Habitat supports and guides the IG-UTP drafting process, together with: national governments, local authorities, development partners (e.g. World Bank, OECD), research, academia, civil society organizations, etc. The key principles (12) of the Draft of IG-UTP (2014) are divided into four groups: A) Urban policy and governance, B) Urban and territorial planning for sustainable development, C) Urban and territorial components, and D) Implementation of urban and territorial planning. The IG-UTP intend to constitute a global framework for improving policies, plans and designs for more compact, socially inclusive, better integrated and connected cities and territories that support sustainable urban development and urban resilience under impacts of climate changes. The IG-UTP would complement two sets of guidelines of UN-Habitat: the Guidelines on Decentralization (2007) and the Guidelines on Access to Basic Services for All (2009), which had been used in the countries to catalyse policy and institutional reforms.

The UN-HABITAT's activities in Serbia are focused on the following priorities: 1) Promoting shelter for all; 2) Improving urban governance; 3) Reducing urban poverty; 4) Improving the living environment; 5) Managing disaster mitigation and post-conflict rehabilitation. UN-Habitat activities in Serbia have managed to formulate global policy options and guidelines, especially in the *Global Campaigns* for Secure Tenure and Good Urban Governance.

The improvement of metropolitan policy and urban governance in Serbia

The Leipzig Charter on Sustainable European Cities (2007) shows that the European plan to strengthen citizen participation in the urban design should support the integrated urban development strategy as tool for improved city management, based on the principles of competitiveness, social and territorial cohesion. The Strategy for the development of the European cities should be based on strengthening the policy of integrated urban development in line with the Lisbon Strategy (Europe 2020), the EU Sustainable Development Strategy and the European Employment Strategy, and a greater focus on the deprived city areas and a greater use of the integrated urban development approach. Nonetheless, these set of European strategies lose their substance and vigour when they are spatially translated to these qualitatively different causing them to derive and grow informally through the ill-decoded application of western patterns (Bolay and Pedrazzini, 2004).

During the period 2011-2014, AMBERO-ICON, GIZ, and the Serbian Ministry of Construction, Traffic and Infrastructure German-Serbian cooperation Strengthening of Local Land Management in Serbia. Project activities are distributed in three modules - Integrated and Sustainable Urban Development, Construction Land Management and GIS in Local Land Management. The project results focused on integrated and sustainable urban development, and development of new instruments for a sustainable, socially balanced, market-oriented and efficient urban management, which are being tested in 13 pilotmunicipalities. In these municipalities, new participation approach and methods are being tested in line with in/ formal urban planning. Results have been included in the Guide for Participation in Urban Development Planning (Čolić et al., 2013). Those experiences on the local level (i.e. the principle of early stakeholder involvement in making plans), are moved into the LPC (2014).

As a part of the module *Sustainable and Integrated Urban Development* three concepts of *Integrated Urban Development Strategy* were realized on the examples of cities— Kragujevac, Užice and Kraljevo. In the module *Construction Land Management*, a part entitled *Construction Land Development and Real Estate Valuation* was realized with the three pilot-projects of real estate evaluation (Zrenjanin, Subotica, Valjevo), as well as the three projects of *Land Reallocation* (Despotovac - new instruments for the Detailed Regulation Plan for a new residential area, in Užice -Development of a new business zone, and in Kraljevo - Integrated Urban Development Strategy for the Inner-city).

Reformed urban land policy and tools against urban sprawl

Traditional planning tools

Traditional planning tools and tools of urban land control (zoning/land regulations, urban growth boundaries, infrastructure investments, green belts, and the urban land policy with price mechanisms - development fees, property taxes, land tenure, expropriation, acquisition) will be shortly described, followed by some recommendations for limiting suburbanization, as follows: 1. Zoning regulations - A number of by-laws followed LPC, including a specific Ordinance on Common Rules for Land Parcelation, Regulation and Construction (2011), as well as regulation of the maximum construction index and occupancy rate for nine predominant types of land-use. Zoning is an essential act of city planning. It helps to determine the function of a property in specific locations in order to provide the most well-planned city. A property may be zoned for commercial or industrial use, or for residential use. Sometimes properties like "live/work" spaces contain multiple zones, some for residential and some for commercial use. When a city government or a property owner wishes to change the terms of property use, they may need to go through the process of rezoning physical property, which may be simple or complex depending upon the city demands and requirements. Zoning and other land-use regulations, especially when adopted at the local level, tend to result in lower overall urban densities and encourage urban sprawl. Pogodzinski and Sass (1991) indicated that the effects of zoning depend on several factors, including: a) what local governments control through zoning; b) how strictly zoning regulations are enforced; c) who controls the zoning process, and d) the metropolitan context in which zoning takes place. The elements of zoning ordinances and subdivision regulations can be classified into three types: a) regulations that are regional or spatial in orientation; b) regulations that are process-oriented or transportation-oriented and c) regulations that shape the individual development sites. Regulations strongly prescribe the allowed and forbidden positions, and their rationale is the so-called 'commandand-control' approach. Many countries have different regulations on land-use, and usually the public sector intervenes more in the construction of urban areas. In some countries, the government retains a discretionary power (i.e. in Serbia, recently adopted lex specialis for the project 'Belgrade Waterfront'), while in the European countries government power is limited by constitution and laws. 2. *Urban growth boundaries. 3. Infrastructure investments - As* cities grow, the pressure to improve services and provide essential infrastructure can be enormous. Because land cannot be moved, it can be a unique foundation for local revenue. Land-based financing should cover land valuation, land and property taxation and other means of creating revenue through land and over land. Very important is the redistribution of the costs of public infrastructure among all stakeholders (within various approaches of planningcum-market/market-cum-planning, predominantly non/ administrative, etc.). 4. Green belts - The green belt is a fundamental tool of anti-sprawl growth policy (Pond, 2009). Sometimes, the leapfrogging phenomenon can emerge as development jumps in the green belt boundaries in search for cheap land available for rezoning (Bimbaum, 2004). 5. *Urban land policy with price mechanism* – key tools include development fees, property taxes, etc. Land development fee is local public revenue managed for financing infrastructure development in the BMA, according to the Program on the building land.4

There are some important conclusions by UN-Habitat⁵ related to the land-based financing: urban development should be financed through capturing the increases in land value resulting from public investment or broad urban trends, tools and policies which should be implemented on local conditions; land valuation methods should be implemented within the local administrative capacities as well. In addition to property tax, which may include the market price of building land, the most important fiscal tool is a *land value tax* on the increased value of building land/property as an *ad valorem tax*. Taxes/fees on the

 4 Level of the land development fee in the BMA is: for housing from 8.6 EUR/m² (VIII zone) to 358.48 EUR/m² of floor space (in I extra zone); for commercial assignment: from 13.37 EUR/m² (in VIII zone) to 576.65 EUR/m² of floor space (in I extra zone); for industry: from 11.04 EUR/m² (in VIII zone) to 411.89 EUR/m² of floor space (in I zone). All prices are calculated in accordance with the data from 2014. The fee levels are regulated by ordinance (I-VIII zones) in Belgrade City. Fee is determined in accord with the following criteria – the degree of infrastructural equipment, the programme of construction land, urban zones (there are eight zones in BMA), and kinds of land-use and building surface. 5 Research for the Reduction of Land Consumption and for Sustainable Land Management, http://www.refina-info.de/termine/termin. php?id=2239, accessed 10^{th} Mar 2015.

increased value of urban land should capture its extra value because the investments of the public sector. The land rent corresponds to an annual discount rate.

More innovative and flexible urban land policy tools

Besides the traditional planning tools, there is a need for alternative, adoptive or complimentary approaches to current 'command-and control' regulation. Common law, public and private agreements, and market-based tools as contemporary regulations provide development of the hybrid 'smart regulation' approach. The advantages of 'smart regulation' reflect on the changing urban sprawl and planning. We suggest the introduction of more innovative and flexible urban land policy tools that would support the new role of planning in creating a more resilient city, viz.: 1) Urban rezoning (as adaptation, recruitment or deconstruction of densities and zone rules). Rezoning is the term used for any change zoning by-laws and zoning urban plans. During the 21st century, the concept of mixed urban land-use became quite popular. Many cities embarked on rezoning campaigns, labelling the resulting areas as "mixed use". Rezoning is the act of changing the terms of property use for a part of land. When a property owner wants to use land in a way that is not permitted by the zoning of his/her property, the owner must request to rezone the property to a classification which permits the desired use. Rezoning is a legislative action which is considered through a complex process. Rezoning may occur in three ways: a) To change the current zoning of a site or to accommodate other uses or forms of development, b) To change the current zoning of a site from one standard zoning area to another, and c) To change the text of the by-law on zoning and development. 2) Tradable development rights, trading density for benefits - density bonus policy. Cities have used the density bonus as a policy when rezoning has been applied as a tool to capture the increased land value created by the rezoning (Moore, 2012; Baxamusa, 2008). The liberal policy instrument is Purchase of Development Rights (PDR) or Transfer of Development Rights (TDR) programmes. The former is similar to the conservation easements which are an established regulatory tool, while the latter bears some resemblance to the density bonusing provisions. The PDR and TDR tools are voluntary and require direct funding. 3) Infrastructure finance (capital infrastructure, utilities)what is important is the influence of infrastructure finance on urban form and the influence of urban form on infrastructure costs. 4) Regulatory arangements of the Public-Private-Partnerships (PPP) for the capture of the increased urban land values. PPP includes different types of legal acts/tools - community development agreements (e.g. the program of urban re/development), community benefits agreements, planning agreements, negotiation, covenants, and easements - as types of servitudes. Covenants are tools for the management of urban growth, as well as landuse changes which include environmental protection. An easement is a non-possessory right to use the real property of another for a specific purpose without possessing it. The use of covenants and transferable/tradable development rights is a part of land-use management. Regulatory mechanisms provide the indirect capture of increased urban land value, usually through synergy of PPP, the urban

propositions and planning arrangements. In recent years, social impact bonds have often been applied, which means that an investor who builds on an exclusive location has to finance the construction of social services, social housing at a given location, without the financial participation of the local community. This instrument is different from the socalled "bonus" urban zoning, which implies that the investor may obtain a permit for a higher additional floor space index than allowed, parallel with the requirement to invest in the social services. 5) Implosive and inclusive zoning is one of complement tools, especially in the revitalization of brownfields. In some countries, the protection of human rights and social inclusion in the urban renewal involves inclusive zoning, i.e. rights of the "caught up" land owners/users. The investors on attractive locations have an obligation to build housing for the "domicile" citizens (e.g. the poor). 6) Land tenure, as a form of participation of the private land owner in strategic projects (e.g. infrastructure) that provide income to the owner (Mittal, 2014). The introduction of development land in the periphery is tool for the conversion of agricultural land for urban uses.

In accordance with the rule of law, how can new instruments contribute to a more efficient planning? Global Land Tools Network (GLTN) work programme offers the land tools as a practical way of solving a problem in land administration and management for the next 10 years. Land tools are also a way of enforcing principles, policies and legislation for limiting urban sprawl. It includes many approaches and methods: legal means, a set of software, the accompanying protocols, guidelines, etc. Land tools may be complementary or may offer alternative ways of work. According to GLTN (UN-Habitat, 2013), the land tools should be affordable, equitable, subsidiarable, sustainable, systematic and large scale. Governance as a process of tool development should provide access to land and the use of land, the implementation of decisions, and reconciliation of conflict interests in urban land affairs. According to UN-Habitat, urban governance provides a lot of ways how institutions can organize the daily management of a city, by realizing the short-term and strategic decisions of urban development. According to GLTN development of 18 land tools is divided into five themes, and cross cutting issues: 1) Access to land and tenure security (i.e. tenure security, the land rights, contracts; socially appropriate legal adjudication, by statutory and customary ways, land management approach); 2) Land administration and information (spatial units, the land agencies budget approach); 3) Land-based financing (land tax for financial and land management); 4) Land management and planning (urban and spatial planning, regional land-use planning, land readjustment); 5) Land policy and legislation (regulatory framework, legal allocation of the assets; expropriation, eviction and compensation); and cross cutting (capacity development, conflict/ disaster, environment, land governance). Urban land governance requires clear legal frameworks, efficient political, managerial and administrative processes, as well as guidelines and tools for limiting urban sprawl. This is a process of decision-making with a lot of stakeholders who have different priorities in land-use or development. Hartmann and Needham (2012) find that planning approaches are rooted in the activities of making,

implementation and enforcing for property rights over land and buildings, i.e. 'planning by law and property rights' as unavoidable in a society with the rule of law.

CONCLUSIONS

Urban land policy still does not represent a part of the complex post-socialist mosaic of transition reforms. In Serbia, there has been a prolonged delay in the adoption of effective reforms in land management, which has not radically changed over the post-socialist period (Nedovic-Budic et al., 2012). The current Serbian land management framework does not reflect the requisite political changes, the need for market regulation, and the enormous increase in urban land prices. According to the UN-Habitat, good land management is vital for improving urban planning. In cities where urban sprawl is becoming difficult, local authorities should reconsider building regulations and zoning laws and promote more compact cities. Urban authorities should be empowered to adopt and implement better laws and regulation, as well as more innovative and more flexible planning and urban land tools. According to UN-Habitat (2013) Belgrade is "able to fully integration into the European economies (as MEGA-4) and has good future prospects...and have to modernize governance, openness and transparency in decision-making and improved participation." Multi-level participation and coordination of institutional governance should include the effective implementation of urban policies and tools.

Based on the results of a contextually appropriate approach, a comprehensive and comparative analysis of the urban land policy and tools for limiting urban sprawl in Serbian cities, we suggest application of the following guidelines: 1) Guidelines on UTP by the UN-Habitat; 2) Guide for the participation in urban development planning in Serbia; 3) Guidelines on access to basic services for all; and 4) planned guidelines for urban governance in Serbia (UN-Habitat), as well as creation of guidelines for urban land tools in accordance with GLTN. We emphasize that some factors have a decisive role in establishing policies and tools for the containment of urban sprawl, mainly: the 'power-game-andbalance' among the key stakeholders, as well as the political will of the responsible national authorities in formulating urban policies and tools in the specific constellation of power.

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REFERENCES

100 resilient cities, http://www.100resilientcities.org/blog#/-_Yz45NTk1MidpPTEocz5j/, accessed 9th Apr 2015.

Baxamusa, M. (2008) Empowering Communities Though Deliberation: Community Development Agreement, *Journal of Planning Education and Research*, 27, pp. 261-276.

- Bertaud, A. (2012) Government intervention and urban land markets: the case of China. *Journal of Architectural and Planning Research*, 29(4), pp. 335-346.
- Bertaud, A., Renaud, B. (1997) Socialist cities without land markets. *Journal of Urban Economics*, 41(1), pp. 137-151.
- Birnbaum, L. (2004) *Simcoe County: the new growth frontier*. Toronto: Neptis Foundation.
- Blair, R., Wellman, G. (2011) Smart growth principles and the management of urban sprawl, *Community Development*, 42(4), pp. 494–510.
- Bolay, J.C., Pedrazzini, Y. (2004) Social practices and spatial changes, Switzerland: IP5/JACS.ACC.
- Bolay, J.C., Pedrazzini, Y., Rabinovich, A., Catemazzi, A., Garsia Pleyan, C. (2005) Urban Environment, Spatial Fragmentation and Social Segregation in Latin America: Where does Innovation Lie? *Habitat International*, 29(4), pp. 627-645.
- Bosselman, F.(1968) Alternatives to urban sprawl: legal guidelines for governmental action. U.S. Government Print Off.
- Božić, B., Mihajlović, R. (2014) *Analysis of existing condition* and developmental needs for official real estate appraisal infrastructure in the Serbia. Belgrade: GIZ, AMBERO-ICON.
- Čolić, R., Mojović, Đ., Petković, M., Čolić, N. (2013) *Guide for participation in urban development planning*, Belgrade: GIZ, GmbH/AMBERO Consulting-ICON Institute.
- Davy, B. (2012) *Land policy, Planning and the Spatial Consequences of Property.* Farnham, Surrey & Burlington, Vermont: Ashgate.
- Davy, B. (2014) Polyrational property: rules for the many uses of land, *International journal of the commons*, 8(2), pp. 472-492.
- Dovenyi, Z., Kovacs, Z. (2006) Budapest–The Post-socialist Metropolitan Periphery between 'Catching up' and Development Path, *European Spatial Research and Policy*, 13(2), pp. 23-41.
- Global land tools network, http://www.gltn.net/index.php/land-tools/introduction-to-land-tools, accessed 10th Jan 2015.
- Hann, C. (2007) A new double movement? Anthropological perspectives on property in the age of neoliberalism, *Socio-Economic Review*, 5(2), pp. 287-318.
- Hartmann, T., Needham, B. (eds.) (2012) *Planning by law and property rights reconsidered*. Farnham: Ashgate.
- Harvey, J., Jowsey, E. (2004) *Urban Land Economics*. 6th ed, Palgrave Macmillan: Basingstoke.
- Hirt, S. (2007) Suburbanizing Sofia: characteris¬tics of post-socialist peri-urban change. *Urban Geography*, 28(8), pp. 755–780.
- Knaap, G. (1998) The Determinants of Residential Property Values: Implications for Metropolitan Planning, *Journal of Planning Literature*, 12(3), pp. 267-282.
- Mittal, J. (2014) Self-financing land and urban development via land readjustment and value capture, *Habitat International*, 44, pp. 314-323.
- Moore, A. (2012) Trading Density for Benefits: Toronto and Vancouver, Institute of Municipal Finance and Governance, Munk Centre, University of Toronto.
- Nedovic-Budic, Z., Zekovic, S., Vujosevic, M. (2012) Land Privatization and Management in Serbia Policy in Limbo, *Journal of Architecture and Planning Research*, 29(4), pp. 306-317.

- Needham, B. (2000) Land taxation, development charges, and the effects on land-use, *Journal of Property Research*, 17(3), pp. 241-257.
- Needham, B., Verhage, R. (2003) *The politics of land policy: using development gains for public purposes*, University of Nijmegen, The Netherlands.
- Novák, J., Sýkora, L. (2007) A city in motion: time-space activity and mobility patterns of suburban inhabitants and the structuration of the spatial organization of the Prague metropolitan area. *Geografiska Annaler: Series B, Human Geography*, 89(2), pp. 147–168.
- Nuissl, H., Haase, D., Lanzendorf, M., Wittlmer, H. (2009) Environmental impact assessment of urban land-use transitions A context-sensitive approach, *Land use policy*, 26(2), pp. 414-424.
- Pogodzinski, J.M., Sass, T.R. (1991) Measuring the effects of municipal zoning regulation: A Survey, *Urban Studies*, 28, pp. 597-621.
- Pond, D. (2009) Institutions, political economy and land-use policy: greenbelt politics in Ontario, *Environmental Politics*, 18(2), pp. 238-256.
- Ravetz, J., Loibl, W. (2011) The dynamics of the peri-urban: global change and regional response. In A. Piorr, I. Tosics & J. Ravetz (Eds.), *Peri-urbanization in Europe*. Towards European Policies to Sustain Urban-Rural Futures. Syntesis Report. Copenhagen: PLUREL.
- REFINA, Research for the Reduction of Land Consumption and for Sustainable Land Management, http://www.refina-info.de/termine/termin.php?id=2239, accessed 10th Mar 2015.
- Sietchiping, R. (2014) Towards development of International Guidelines on Urban and Territorial Planning, First meeting of the UNECE Task Group on Urban Planning, UN-Habitat.
- Slaev, A., Nikiforov, I. (2013) Factors of urban sprawl in Bulgaria. *Spatium*, 29, pp. 22-29.
- Stumpp, E.M. (2013) From system to action: Towards a More Radical Conceptualisation of Urban Resilience for Planning Practise, AESOP, July 15th -19th, UCD Dublin.
- Tsenkova, S. (2012) Urban planning and informal cities in Southeast Europe, *Journal of Architecture and Planning Research*, 9(4), pp. 292-305.
- UN-Habitat, (2013) *The state of European cities in transition 2013.* Taking stock after 20 years of reform. Nairobi/Krakov: UN-Habitat& Institute of Urban Development.
- UN-HABITAT http://unhabitat.org/urban-themes/land, accessed $1^{\rm st}$ Mar 2015.
- Zeković, S. (2008) Evaluation of the current urban land system in Serbia, *Spatium*, 17-18, pp. 55-60.
- Zeković, S., Vujošević, M., Maričić, T. (2015) Spatial regularization, planning instruments and urban land market in a post-socialist society: the case of Belgrade, *Habitat International*, 48, pp. 65-78.
- Živanović Miljković, J., Popović, V. (2014a) Urban land policytheoretical and practical perspectives. In R. Efe et al. (eds.) *Cities in the Globalizing World and Turkey: A theoretical and empirical perspective.* Sofia: St. Kliment Ohridski University Press, pp. 432-444.
- Živanović Miljković, J., Popović, V. (2014b) Land use regulation and property rights regime over land in Serbia, *Spatium*, 32, pp. 22-27.

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