

## The Taming of the Shrew: Coping with Illegal Settlements in Belgrade, Serbia

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### 1 ABSTRACT

One of the most important aspects of sustainable planning today is sustainable land use and managing city growth. Urban sprawls, regardless of reasons causing their spread, are considered as one of the biggest problems in the development of cities in developing countries.

Belgrade has been and is witnessing a wide spread illegal housing and settlements in its suburban areas during a long period. This paper will explore the genesis and growth of illegal settlements in Serbian capital, with the aim to present the specificity of informal housing areas, to give general recommendations for its improvement and to offer a possible approach for taming its further growth.

Starting points are the analysis, typology, spatial distribution and overall impact of illegal housing settlements in Belgrade territory on one hand, while on the other hand the theoretical background, related to the sustainable urban growth and sustainable urban land use will be presented.

Furthermore, the paper refers to the methodological framework given as the choice of aspects that should be treated in the process of integration of illegal settlements, while regulatory framework will point out the issues related to the shaping of settlements as liveable places. Conclusion remarks will emphasize the benefits and constraints of the chosen path for the integration process. <sup>1</sup>

### 2 ON CHALLENGES FOR DEVELOPING COUNTRY CITY, SUSTAINABLE LAND USE AND CITY GROWTH

Though the theoretical framework of sustainability concept is well known, it is significant to emphasize the importance of the issues especially addressing developing countries. According to the latest Global Report on Human Settlements prepared by UN-HABITAT, entitled Planning Sustainable Cities (2009: xxii-xxiii), there are five current and future global urban challenges, namely: demographic, environmental, economic, social-spatial and institutional. Many argue that 21st century urban planning must take place with a full understanding of these factors and emerging forces leading to new spatial configurations.

Alarming demographic challenges refer to the global trends of world. About a sixth of the world's population now lives in slums, with projections suggesting this number could double to two billion over next 20 years (UNDP-HABITAT, 2003). In 2008, over half of the world's population lived in urban areas and this proportion is projected to rise to 70 % by 2050, with almost all of this growth confined to the developing world. The annual urban population increase in developing regions is anticipated to rise to 53 million (2 %), compared to a mere 3 million (0.49 %) in developed regions. The principal problem associated with demographic trends in developing world is frequent inability of governments to provide adequate infrastructure, institutional support and public services, as well as (most critically) to generate sufficient revenues to fund these needs.

The most significant environmental challenge confronted to the cities globally is climate change, with the poorest being the most vulnerable to this threat. As recent Global Report on Human Settlements (UNDP – HABITAT, 2009: xxii) explains, high urban land and housing costs are pushing the poorest population into areas that are prone to flooding, landslides and other natural disasters, especially slums and other informal settlements. This exposure is considered only partly due to natural forces, since it can be avoided or greatly minimized by improved urban development and land use planning.

Another significant challenge is the environmental impact of the world's excessive dependence upon fossil fuels, particularly in urban areas for daily domestic use, industry, construction and especially for transportation. Dramatically increased motorization in the developing world has fuelled a form of low-

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density development associated with urban sprawl. Since urban areas are predicted to occupy only 1.1 % of the earth's land surface in 2030, and given that urban regions may consume between 5-7 % of the total arable land by 2030, another principal problem is the forecasted aggregate loss of arable land providing important recreational and environmental services for urban communities.

The Global Report on Human Settlements (UNDP-HABITAT, 2009: 31) suggests that the recent global economic recession had a number of important economic implications for urban areas in the developing world and beyond. These include (a) general shrinkage of economic growth, leading to less funding being available for urban development and capital projects, especially for poorer developing economies; (b) higher levels of unemployment; (c) an increase in poverty levels following the rise in unemployment, which, if compounded by anticipated food price hikes and increased energy costs, will contribute to greater income inequalities and subsequent increased social and political instabilities.

Local and global forces of all kinds (economic, technological, political etc.) in recent decades have shaped urban areas in such way that spatial forms have tended toward increased fragmentation, separation and specialized functions as a result of economic drivers of change that typically lie outside the control of local government (UNDP-HABITAT, 2009: xxiii). This is especially the case in cities in the developed world, but increasingly so in developing world as well. Cities with increasing differences between high-income and lower-income areas are common in developing countries, with at one extreme, high-income gated communities being developed and, at the other extreme, enclaves of poverty and ethnic communities emerging. An additional phenomenon in developing country cities is the expansion of informal (often illegal) communities, many of them being slums, both within the city and on the urban periphery in locations that lack the most basic infrastructure, and where land prices and rents are, as a consequence, very low and more affordable to the lower-income population.

The last, but not the least on this list is institutional challenges. The responsibility of undertaking and delivering urban planning is traditionally associated with the public sector, both within the developed and the developing world. The institutions to which these planning responsibilities are typically assigned have long been under-resourced and are therefore problematic in the developing world. Urban planning has often been seen as unaffordable (and therefore unrealistic) and an obstacle to economic development and market freedom, sparking, among other things, a distrust of public sector master planning, as opposed to private sector. According to the recent Global Report on Human Settlements (UNDP-HABITAT, 2009), significant transformations in local government have recently taken place, much of them influenced by globalization. That had led to the urban political system evolving from 'government' to governance'. As the wider economic role of urban centres and their governments has drifted from geographically bounded administrative roles, the need to rescale the city-region level and introduce multilevel and collaborative governance has become increasingly apparent in many parts of the world. Another global trend has been in the area of participation. Communities have become increasingly unwilling to accept passively the planning decisions of politicians and technocrats that affect their living environments. However, within the cities in both developed and developing countries, "delivering consensus" is becoming more difficult, as societal divisions have been increasing, partly as a result of international migration and the growth of ethnic minority groups in cities, and partly because of growing income and employment inequalities that have intersected with ethnicity and identity in various ways.

Bearing all above in mind, the World Bank has recently launched the Urban and Local Government Strategy (World Bank Institute, 2012), which advocates a new paradigm aimed at harnessing urbanization for growth and poverty reduction. It states that cities, if well managed, are desirable assets to economic growth and governments must plan and act in the interests of their communities. The Strategy unfolds along several lines considered critical for cities and local governments in decade ahead, namely:

- City management, finance and governance, focusing on core elements of the city system;
- Urban poverty and slums – making pro-poor policies as priority in cities;
- Enabling urban economic growth;
- Urban planning, land and housing, encouraging progressive land and housing markets;
- Promoting a safe and sustainable urban environment, having in mind climate change and disaster management;

- Efforts to integrate the “green” and “brown” agendas;
- Effectively linking urban land use planning, urban development and infrastructure planning;
- Undertaking planning in peri-urban areas and at the regional level, particularly in the case of regional metropolitan areas and megacities.

According to the global organizations such as UN HABITAT, UNDP and World Bank, development priorities of the developing country cities must be:

- Minimizing urban sprawl and developing more compact cities served by public transport;
- Reliable infrastructure and services, including water supply, waste management, transport and communications, energy supply;
- Affordable access to land or premises in appropriate locations with secure tenure;
- A healthy educated workforce with appropriate skills;
- An enforceable legal system that ensures competition, accountability and property rights;
- Appropriate and adequately resourced regulatory framework which defines and enforces non disciplinary, locally appropriate minimum standards for provision of safe and healthy workplaces and places to live;
- Promoting equal access to services and fair and equitable provision of services;
- Advancing social integration by prohibiting discrimination and offering opportunities and physical space to encourage positive interactions;
- Assuring gender and disability sensitive planning and management;
- Political will and support in the delivery of sustainable visions, transparent administrative structures and processes and adequate and sustained institutional capacities;
- Relevant and effective regulations for the sustained management and revenue generation of urban development services.

Urban land use planning, as important component of urban planning can contribute significantly in addressing the major urban challenges discussed if led by well-informed policies based on sustainable development principles and supported by well thought out and managed follow-up actions and investments. As it is well-known, urban land use planning is based on premise that city areas have land use functions, which are typically undertaken by city authorities who apply enablement and intervention measures targeted at different types of activities the land areas accommodate, attract and generate.

Some most significant issues of the role of land use planning in addressing urban challenges are below:

- Compact urban form, which is important in reducing urban energy consumption, particularly through density and transportation efficiency; subsequently, compact urban form also reduces almost all negative emissions and saves the time and money (by reducing travel costs and congestion, increasing work efficiency, etc.). There is also a strong bond between urban form, climate change and pollution.
- Land use can help in risk assessment and reduce vulnerability of city structure by channelling growth away from potential natural hazard areas, such as slides, coastal areas subject to sea rise etc.
- Efficient land use can help preventing disease spread, due to more efficient traffic and adequate infrastructure, above all good water supply and sewage system.
- Land use related to the city economy: Infrastructure costs per housing or work unit are much lower if urban construction land is used efficiently and benefits are associated with the density, degree of contiguity and nodality (Asian Development Bank, 2005). On the other hand, economic productivity can be facilitated through cluster development (localization, agglomeration of activities and logistics process).
- Efficient land use prevents over-consumption of agricultural land and natural environment, subsequently increasing the agricultural production and the quality of environment (e.g. by preserving forest areas).

- Spatially efficient cities can deliver affordable housing, accessible to working places, education facilities and places for leisure, and it is important for low-income city population.
- Effective land use management ensures security and social mixing and benefits to the urban poor.
- Land use planning can contribute to the local culture by maintaining the cultural landscape. Moreover, it can be important tool in enhancing cultural development through providing the space for cultural exchange, such as vibrant city centres.

At the end of discussion about sustainable urban land use, it is necessary to emphasize that land use is regarded more as a product than as a driver of economic performance. A city's function and the level of economic development play a very important role in determining the city form. The level of the overall functional development and diversification of the city and its socio-economic environment also determine land use.

The role of urban use planning, as it was stressed out above, has a leading role in taming the city growth and managing the appropriate economy of city construction land and it can help a lot in dealing with problems of informal and illegal settlements and their integration in regulated city structure.

### **3 ILLEGAL HOUSING AND SETTLEMENTS IN BELGRADE**

#### **3.1 General characteristics of Belgrade development**

Belgrade, the capital of Serbia, is defined as an organizational, administrative, service, educational, scientific and cultural centre. Among the most vibrant economic sectors of Belgrade core area is: construction industry, processing industry, wholesale centres, as well as financial services and insurance companies and other business related activities. The economic profile of Belgrade is both oriented to the inner market as well as to the wider scene, aiming to be competitive in the country and region. Being by far the most vibrant city in Serbia over a long period, due to its diversity of economic activities, Belgrade has been and still is a great demographic magnet. According to the official statistical data, 22.5 % of the country's population lives in the city, but unofficially there are more than 25 % of country population. Such trends have never been positive neither for Belgrade, making an enormous pressure about employment and housing, nor for the rest of Serbia, leaving many towns without adequate workforce and creating negative demographic situation.

According to the Master plan of Belgrade 2021, the future of Belgrade development is oriented to fostering touristic, cultural and business potential of Belgrade by development along riverfronts. In the wider area, especially along main traffic corridors (such as highway) there is a great potential for development of creative economy – industrial eco parks, smart zones etc. Still, there are many insufficiently used possibilities, like development of tourism, culture and nodes, related to the position and intersection of European traffic corridors 7, 10 and 11.

Though city development policy is not oriented to and is not officially supporting the informal housing and economy, it is estimated that informal economy takes as much as 30 % of economic activities, mostly in the field of retail, services, catering, manufacture and even construction industry (supporting building of informal settlements). At the same time, informal housing takes almost 44 % of housing areas in Belgrade. Despite the fact, there are perfect brownfield locations in wider centre of Belgrade, (such as location Ada Huja), with good spatial development chances, the city growth unwillingly turned to the agriculture land at the outskirts of the city.

Some of the main issues related to the land use and city growth in Belgrade are:

- Illegal and unplanned settlements, which have grown and spread intensively over the Belgrade territory during more than 2 decades, with the exception of historical centre of Belgrade;
- Generally insufficient and /or weak infrastructure equipment in metropolitan Belgrade area, with the exception of core area and New Belgrade; urgent problems for the city as whole are related to the waste disposal and treatment of wastewater;
- Unfinished and insufficient traffic network, mostly manifested in lack of transit roads, bridges and mass public transport;

- Inadequate use of the most attractive areas and locations in the city, especially in the river coastal areas;
- Unequally dispersed greenery and the lack of real green network;
- Chaotic growth along the main traffic corridors.

The problem of illegal and unplanned settlements in Belgrade region is strongly related to the other problems of city development, sometimes being a cause, but more often being a consequence of complexity of spatial, economic, social and political issues.

### **3.2 Belgrade illegal settlements – genesis, growth, characteristics and specificities**

Although the genesis and growth of illegal settlements in Belgrade have been researched a great deal, it is not possible to form a unanimous opinion about its genesis and growth. Many authors (Hirt, 2009, Petovar, 2005, etc.) claim that the most important illegal growth in Belgrade happened during the 90s, though it goes way back to the 80', even 70', when one of the largest informal settlements in the Europe, Kaludjerica (at the North eastern periphery of the city) by that time started its expansion. The causes for the initiation of the informal growth of the city as well as its further unexpected spread and forming many settlements at Belgrade outskirts are different and are related to the specific socio political context.

The very start of the informal settlements in Belgrade, according to our research, happened during the socialistic period, in late 70' and continued in 80'. The mentioned demographic pressure on Belgrade, as the capital of former Yugoslavia, was enormous. As Mihaljevic pointed out (Mihaljevic, 1992), there was a process of "Belgradization" going on in Serbia and wider. Since the politics supported the idea of concentration and centralization of industrial, business, administrative and other activities, Belgrade had to cope with a great deal of new citizens. At one point, Belgrade took as much as 27 % of total population in Serbia. Having that in mind, it is in a way understandable that the city and its institutions could not enable decent habitation for such great number of people in short time. Great share of the new population have resolved their housing problems by getting an apartment in typical socialistic multi-family units in New Belgrade and other new settlements out of the city core. But also a great deal of new workforce was still in urgent search for place to live, so the pressure on the outskirts of Belgrade has begun, in the new form and typology of private, mostly one-family houses. During the 90's, the transition brought about fundamental changes in the sphere of housing ownership and planning regulation, encouraging private ownership, as well as the real estate market. Furthermore, the 90's was marked by extreme economic crises and high poverty of most of its inhabitants and had the negative effect on the city development (Simeuncevic, Mitrovic at all, 2012). Public sector stopped investment in housing production and maintenance, so the number of dwellings built per year dramatically declined (Vujovic, Petrovic, 2007). On the other hand, market prices of the housing in the city were too big for most citizens and new migrants to the city, economically exhausted by sanctions, inflation and unemployment. As a result, for many Belgrade's citizens and migrants the only chance for acquiring accommodation was private building of modest huts on the periphery of Belgrade (Zegarac, 1999).

The further demographic growth of Belgrade (from 1.4 to 1.6 million of inhabitants, according to the Statistical Office of the Republic of Serbia, 2002, unofficially even to 2 million), has induced the informal sprawl of Belgrade. There was a great deal of illegal construction on agricultural land on the fringes of the city, as well as in the areas inside city borders on the urban construction land designated for public use. Although the overall metropolitan area of the city has remained mostly the same, the percentage of non-built land (agricultural land, green and protected areas) has drastically decreased (Simeuncevic, Mitrovic at all, 2012). The problem was severely aggravated by the influx of approximately 200.000 refugees from the other parts of the former Yugoslavia who have settled in Belgrade. The informal and illegal construction became dominant form of housing development in Belgrade city, ignoring the urban plans and legal frame. After 2000, the share of single-family housing building decreased compared to the total number of new housing, but the informal one-family housing still remains significant.

Since the overall study of the informal growth in Belgrade has never been made, there are no exact data about it, so the estimations vary. For example Janic (1998) estimated there were about 150.000 illegal housing units in Belgrade, while others say that only 20 % of the buildings in the peripheral areas were actually regulated by some urban plan (Djukic, Stupar, 2009). Third approximation is based on the number

of applications for the legalization – 147000 illegal buildings (Petovar, 2005). We cannot take these numbers as final, since not all the owners of the informal housing applied for the legalization, while on the other hand the overall spatial analysis of the area and the approximate density increases the figures for more than 25 %.

The largest informal housing settlements of Belgrade are situated at the North Eastern and Southern Belgrade outskirts, as well as on the left Danube riverbank, expanding deeply to the north. There are other smaller settlements and scattered informal housing groups all over the city borders and within the city structure. In most settlements relatively convenient terrain for building prevails, with the exception of left Danube river bank. There is still a decent share of green areas. The concentration of buildings is the highest along the main traffic corridors. Dominant land use is for residential areas – approximately 90 % of total surface, but there is significant share of non-residential land use, such as retail, services and other commercial activities, mostly concentrated along the main traffic corridors. Traffic network is irregular and insufficient. Except the electrical network the infrastructure mostly does not exist. Some parts of the settlements are provided with water supply. Streets are narrow, without drainage and often are lined with large slope, so driving is difficult during winter period. There are almost no sidewalks for pedestrians. Since all kinds of transport overlap in a narrow corridor, safety is low. In the future, street regulation could be very difficult since it would cause massive demolishing of houses facing such streets in order to provide safe width of streets and sufficient place for infrastructure equipment.

One of the main problems about informal settlements' land use structure is lack of public spaces and services, such as schools, health and children day care facilities, which are a direct effect of illegal building process and absence of regulatory plans. Although the Town Planning Institute of Belgrade has started the draft version of regulatory solutions for whole Belgrade territory including these areas in 2011, it is not yet brought to public.

Urban structure of such housing areas is irregular and spontaneous. There is no firm urban matrix with defined size of blocks or parcels. Parcels are often irregular and of insufficient size, not enabling good orientation and position of a house towards neighbouring houses. Therefore, privacy is often threatened since the space between houses is very narrow. Architectural design shows the spontaneous nature of building – houses are simply designed and in most cases without any particular characteristic of style. Decorations are rare and often inappropriately applied. The interior organization also lacks good architectural design but housing units are functional in its simplest meaning. Unfortunately, there are no reflections to the traditional Serbian housing.

There is a variety of social background of the informal housing dwellers. In the first group there are citizens of modest socio-economic background who have moved from other parts of the country in search for employment in Belgrade and they live and own smaller one-family units. Second group are refugees and people who have moved from other ex-Yugoslavian republics during civil war in 1990s and their economic status vary, so they live both in big houses – villas, as well as in smaller ones. Third group consists of residents – housing tenants of lower economic status who live in bigger houses, but rent the apartments, while the owners of these houses are of different background. Approximate socio economic structure of the population, given above, has significantly influenced the formation of settlements and size structure of the buildings.

Concluding, it is easy to say that instead of being respective residential area, with high quality of life, great green areas and good urban pattern with minimum of planning intervention, informal housing areas are mostly perceived as impersonal and disharmonized residential area, being neither quite urban, nor rural settlements.

### 3.3 Typology and spatial distribution

As it was mentioned earlier, informal settlements occupy 44 % of total housing area in Belgrade, according to the research of authors of the paper (2012) <sup>2</sup>.

Surface	Share in housing areas in Belgrade	Share in Belgrade Master plan for 2021.
5,521 ha	43.9 % of total housing areas (12,575 ha)	7.1 % of total surface treated by MP (77,602 ha)

<sup>2</sup> Research is done as a part of research project “Research and systematization of housing development in Serbia, in the context of globalization and European integrations, with the aim of housing quality and standard improvement” (TR 036034), financed by Ministry of education and science of Serbia.

Table 1: Share of informal settlements in total Belgrade territory

Belgrade informal settlements show great diversity in size, urban structure, quality of buildings, as well as in social and economic structure of its inhabitants and ownership. Even their legal status differs – some have grown completely spontaneously, while the others have continued some form of urban regulation of the surrounding. Form and structure of illegal housing often reflects the lack of proper urban and architectural design. Illegal housing does not care much about the neighbourhood – there is rare or no adjustment to the position of other buildings, public space or traffic and infrastructure corridors.

Spatial distribution is relatively even in the sense that, except for the city core and New Belgrade, every other part of the city has some kind of informal settlement. Total number of settlements is not defined, but the authors estimate there are 29 settlements of different size, position, spatial-physical characteristics and other specificities. The picture shows the spatial distribution on the territory of Belgrade Master plan for 2021 (Town Planning Institute of Belgrade, 2003), which is done before the plan was adopted (approximately in 2002).

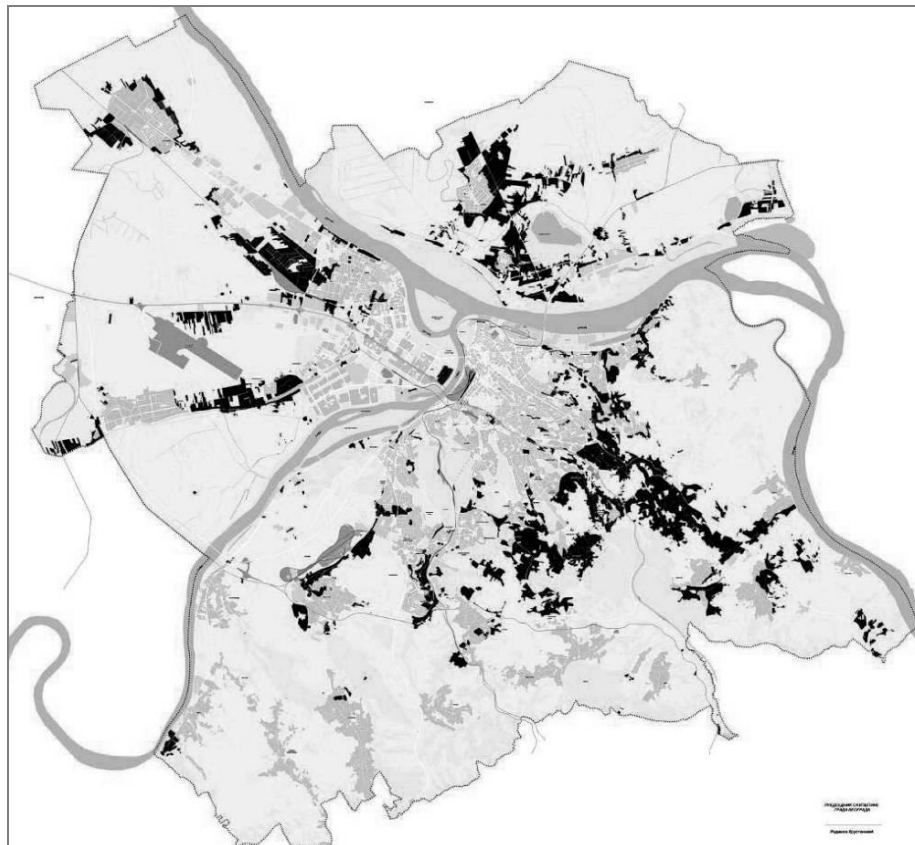


Fig. 1: Distribution of informal settlements in Belgrade, according to Belgrade Master Plan 2021. (Dark areas present informal settlements)

Probably the most appropriate term for these settlements is ‘informal’, rather than ‘illegal’, as the houses mostly have their house number and address, land ownership, streets with solid cover, water supply electricity. They mostly lack sewage and drainage system, building permit and proper entry to the lot. Public transport is also a significant problem, especially to children and elder population.

Apart from above analysed settlements, there are 120 small Roma settlements with much less quality of life, houses that can hardly be classified as solid, mostly without any infrastructure. Social integration of these settlements is difficult but some improvements have been made lately.

The table shows the variety of settlements, their position in the city structure and main characteristics:

Name	Position	Main characteristics
1. Borča (approx.2/3)	Northern	Plain terrain, stable, high level of ground waters; street matrix partly formed and regulated, one-family housing, mixed with partly regulated legal multi-family housing settlement
2. Krnjača	Northern, by Danube left bank	Plain terrain, very high level of ground waters, street matrix partly formed, one-family housing, mixed with industry, retail and other commercial activities
3 Višnjica and Višnjicka banja (approx.1/2)	North, by Danube right bank	Hilly, slope, very unstable, irregular streets and matrix, one-family housing, mixed with regulated legal multi-family housing settlement
4. Karaburma (partly)	North-eastern, close to the wider continually built Bg area	Hilly, slope, slightly unstable, street matrix partly formed and regulated, mixed with regulated legal multi-family housing
5. Mirijevo (approx.1/2)	Eastern, close to the wider continually built Bg area	Hilly, by and on afforested area, street matrix partly formed and regulated, mixed with regulated legal multi-family housing
6. Mali Mokri Lug	East-South-eastern, close to the wider continually built Bg area	Hilly, stable, one-family housing, street matrix partly formed
7. Kaluđerica (approx.1/2)	East-South-eastern, close to the wider continually built Bg area	Hilly, stable, one-family housing, street matrix partly formed, but mostly irregular, largest settlement, partly, mixed with retail, services and other commercial activities
8. Leštane (approx.1/2)	East-South-eastern	Hilly, stable, one-family housing, street matrix partly formed but mostly irregular, mixed with retail and services
9. Vinča (major part)	Eastern, by Danube right bank	Plain, high level of ground waters, one-family housing, street matrix partly formed, mixed with retail and services
10. Boleč (approx.1/2)	East-South-eastern	Mostly plain, street matrix partly formed, one-family housing, mixed with retail and services
11. Veliki Mokri Lug	South-eastern,	Hilly, stable, one-family housing, street matrix partly formed but mostly irregular
12. Settlement between the highway and Medaković 3	South-eastern, close to the wider continually built Bg area	Hilly, stable, one-family housing, street matrix partly formed but mostly irregular, mixed with regulated legal multi-family housing
13. Pađina	South-South-eastern, close to the wider continually built Bg area	Hilly, stable, one-family housing, street matrix partly formed but mostly irregular
14. Kumodraž	South-South-eastern	Hilly, stable, one-family housing, street matrix partly formed
15. Jajinci	Southern	Hilly, stable, one-family housing, street matrix partly formed but mostly irregular
16. Trošarina (partly)	Southern, close to the wider continually built Bg area	Hilly, stable, one-family housing, street matrix partly formed
17. Kanarevo brdo (partly)	Southern, close to the wider continually built Bg area	Hilly, stable, one-family housing, street matrix partly formed, mixed with regulated legal multi-family housing
18. Miljakovac 3	Southern, close to the wider continually built Bg area	Hilly, stable, one-family housing, street matrix partly formed but mostly irregular, by and on afforested area, mixed with regulated legal multi-family housing
19. Manastirska šuma	Southern, close to the wider continually built Bg area	Hilly, stable, one-family housing, street matrix partly formed but mostly irregular, by and on afforested area
20. Resnik (partly)	Southern	Hilly, stable, one-family housing, street matrix partly formed but mostly irregular, by afforested area
21. Kneževac (major part)	Southern, close to the wider continually built Bg area	Hilly, stable, one-family housing, street matrix partly formed, mixed with regulated legal multi-family housing and industry
22. Makiš	South-western, close to the wider continually built Bg area, Sava river right bank	Plain, one-family housing, street matrix partly formed but mostly irregular
23. Železnik (outskirts)	South-South-western, close to the wider continually built Bg area	Hilly, stable, one-family housing, street matrix partly formed, mixed with regulated legal multi-family housing and industry
24. Bele vode	South-South-western, close to the wider continually built Bg area	Hilly, stable, one-family housing, street matrix partly formed, mixed with regulated legal one-family housing
25. Staro sajmište	Western, close to New Bg core area	Plain terrain, stable, high level of ground waters; street matrix partly formed
26. Ledine	West-North-western	Plain terrain, stable, one-family housing, street matrix partly formed
27. Altina	North-western	Plain terrain, stable, one-family housing, street matrix partly formed but mostly irregular
28. Zemun (partly)	North-western, Zemun core area	Plain terrain, stable, one-family housing, street matrix partly formed
29. Batajnica (outskirts)	North-western	Plain terrain, stable, one-family housing, street matrix partly formed

Table 2: Illegal settlements on the territory of Belgrade

#### 4 GENERAL RECOMENDATIONS FOR THE IMPROVEMENT OF INFORMAL SETTLEMENTS AND WAYS TO TAME ITS FURTHER GROWTH

Recommendations and suggestions for improvement of informal urban areas in Belgrade reflect the idea of comprehensive approach to the solution, realistic according to habitants and economic conditions of city:

- Adopting the set of special laws and regulations referring the urban planning aspect of these settlements and including urban upgrading principles and indicators. They would enable the infrastructure and traffic equipment of the most of the illegal buildings and settlements with



minimum of investment. The regulations would also refer to the lower standards and ‘softer’ criteria than the ones defined for the rest of the city territory.

- Intensifying the production of urban land use plans for these parts of the territory, which will be the legal basis for the construction of necessary transportation, including public transport, utility and social infrastructure. The appropriate timing for making plans as well as fast implementation is crucial for the process of ‘taming’ the illegal – informal settlements. Planning action should quickly respond to the building initiatives, no matter if they are legal or illegal (World Bank Institute 2012).
- Definition of special fiscal instruments exclusively for these city areas, so that the citizens can do their commitments according to their realistic economic possibilities (e.g. lower payments for the use of urban construction land and infrastructure).
- Intensifying the displacement of areas with low sanitation conditions and which cannot be upgraded. (Some of them are even a threat for health conditions and social safety). It is also necessary to provide areas for displacement in urban land use plans, as well as the areas where these citizens could organize some of the economic activities that will enable them economic survival and social integration.
- In the context of climate changes, it is necessary to plan public facilities, which would provide the shelter for the most threatened groups of people, such as refugees.
- Having in mind that settlements lack social infrastructure, especially education facilities, it is necessary to enable the introduction of additional lines of public transportation or school buses that would allow children a relatively quick and safe access to schools. In this regard, it is necessary that regulatory plans provide for adequate street widths for the movement of school buses. As for the day care facilities for children, is necessary to foster building of affordable private units, since there is no chance to provide public construction land in already dense built informal areas.
- Planning the sports and recreation facilities and areas, as well as other public places, meeting the social and other needs of youth and children. The implementation should involve facilities in private sector, as well as public private partnership in this field.
- Finally, the most important recommendation refers to the set of future actions for planners and city government: a/defining the city border in order to prevent further re-use of agricultural land out of the city territory; b/fast planning action (regulatory plans) with the aim to provide planned areas for further residential needs of the city within the city border; c/preservation and acquisition such planned areas for traffic and infrastructure equipment, using the model of public and private partnership.

## 5 CONCLUDING REMARKS

Informal settlements in Belgrade, a city in developing country can be understood through the power/failure of public sector, legislative framework, economic conditions (Huchzermeyer and al. 2006) and institutional capacity, as well as through the complex socio-political conditions. Taming the informal city growth of Belgrade requires different approach.

In the context of sustainable urban planning it is important to emphasize mutual dependence between land use and growth of the city on one hand, and ecological, social and economic development on the other. In the case of Belgrade, its correlation is even more obvious since the spatial consequences of imbalanced 3E are more than visible. The urban planning should focus to be strategic rather than comprehensive, flexible rather than end-state orientated, action and implementation oriented, stakeholder and community driven rather than expert driven. It also has to be reflective of emerging concerns and focused on the outcomes, which are locally sensitive and dependent upon stakeholders.

Wise governance instead of governing as a way of implementing institutional sustainability will result in balanced land use planning and inner city growth, replacing the practice of spreading and widening the city territory.

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