

**HOUSING DEVELOPMENT IN SERBIA IN THE CONTEXT OF
GLOBALIZATION AND INTEGRATIONS**

VOLUME III STRATEGIES AND MODELS

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HOUSING DEVELOPMENT IN SERBIA IN THE CONTEXT OF GLOBALIZATION AND INTEGRATIONS
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CONTENTS

EDITORIAL NOTE

Strategies and models | **THEORY**

- 1. THE COMPOSITION AND STYLISTIC CHARACTERISTICS OF BELGRADE RESIDENTIAL ARCHITECTURE IN THE 19TH AND EARLY 20TH CENTURY AS A REFLECTION OF ACCEPTANCE OF THE EUROPEAN STYLES | 15- 33**
Dr. Mirjana Roter Blagojević, Associate Professor
- 2. REVIEWED STRUCTURALISM. RECONSIDERING TWO MODES OF THINKING THROUGH COMPARATIVE ANALYSIS | 35- 51**
Zorica Međo, PhD student
- 3. THE ANALYSIS OF INVESTIGATIONS OF THE RESIDENTIAL ARCHITECTURE IN NEW BELGRADE (1950-1980) | 53- 63**
Petar Cigić, PhD student

Strategies and models | **PRAXIS**

- 4. POSSIBILITIES FOR REFURBISHMENT OF FAMILY HOUSING BUILDING STOCK BUILT BETWEEN 1946-1970 BY IMPROVEMENT OF ENERGY EFFICIENCY AND SPATIAL COMFORT | 67- 90**
Bojana Stanković, PhD student
Milica Jovanović Popović, Professor
- 5. HOUSING DEVELOPMENT EXPERIENCES THE CONTEXT OF HOUSING DEVELOPMENT, PART III | 91- 109**
Eva Vanista Lazarevic, Professor
- 6. THE ROLE OF HEALTH AND WELLNESS FACTORS IN THE PROCESS OF URBAN TRANSFORMATION: GENTRIFICATION AND DEVASTATION OF DUŠANOVAC-PAŠINO BRDO AREA IN BELGRADE | 111- 127**
Nebojša Stevanović, PhD student
Ružica Bozović Stamenović, Professor
- 7. INTEGRATING ILLEGAL HOUSING INTO THE URBAN DEVELOPMENT IN BELGRADE IN THE CONTEXT OF GLOBAL TRENDS | 129- 144**
Biserka Mitrović, Assistant professor
Miodrag Ralević, Professor
Branislav Antonić, Assistant scientific researcher

8. BUILDING TYPOLOGY OF SOMBOR FAMILY HOUSES. CLASSIFICATION ACCORDING TO GENERAL AND SPECIFIC CRITERIA | 147- 165

Milica Jovanović Popović, Professor

Katarina Slavković, PhD student

9. THE CHALLENGES OF HOUSING REGULATION IN SERBIAN LEGISLATION: TOWARDS EUROPEAN CONTEXT AND BEST PRACTICES | 167- 177

Miodrag Ralević, Professor

Branislav Antić, Assistant scientific researcher

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INTEGRATING ILLEGAL HOUSING INTO THE URBAN DEVELOPMENT IN BELGRADE IN THE CONTEXT OF GLOBAL TRENDS

Abstract | The paper discusses the theoretical framework as well as practical aspects of urban upgrading and integrating the illegal housing into the Belgrade urban development. 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 is presented.

Having in mind the widespread problem of illegal housing settlements in developing countries, the paper opposes the different ideas for integrating the illegal housing into the regular city development, emphasising the transferable ideas for Belgrade context.

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 the settlements as livable places. Conclusion remarks emphasize the benefits and constraints of the chosen path for the integration process.

Key words | Illegal housing, urban development, methodology, regulation

ИНТЕГРИСАЊЕ НЕЛЕГАЛНОГ СТАНОВАЊА У УРБАНИ РАЗВОЈ БЕОГРАДА У КОНТЕКСТУ ГЛОБАЛНИХ ТРЕНДОВА

Апстракт | Рад приказује теоријски оквир, као и практичне аспекте урбаног унапређења и интегрисања нелегалног становања у урбани развој Београда. Полазиште рада чине анализа, типологија, просторна дистрибуција и укупни утицај нелегалног становања на територији Београда са једне стране, док се са друге стране дискутује о теоретској основи везаној за одрживи урбани развој и одрживо урбано коришћење земљишта.

Имајући у виду распрострањен проблем бесправних стамбених насеља у земљама у развоју, рад ће супротставити различите идеје за интегрисање нелегалног становања у регуларни развој града, наглашавајући идеје преносиве у контекст Београда.

У наставку рада даје се методолошки оквир који се односи на избор аспеката које треба третирати у процесу интеграције нелегалних насеља, а регулаторни оквир ће указати на питања која се односе на формирање насеља као места угодних за живот. Закључна разматрања истичу предности и ограничења изабраног модела процеса интегрисања.

Кључне речи | нелегално становање, урбани развој, методологија, регулација

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1. INTRODUCTION

Globally, 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.

Serbia as a neighbouring country to EU is, like some other countries, facing the problems of incoherent urban and regional development, of tackling the urban growth and of deficit of integrated urban strategies. Being a developing country severely hit by economic crisis in past few years, Serbia has not been able to reform its housing policy so far or to enable growth of the affordable housing which would meet demands. At the same time, the problem of illegal settlements has not lessened since the actual Serbian political framework is encouraging legalization process.

The pressure of these problems is more visible in Belgrade, Serbian capital since it deals with the demographic pressure and growth for a long time, and especially in past two decades. As a consequence, 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.

2. THEORETICAL BACKGROUND: THE CONTEXT OF GLOBALIZATION, INTEGRATIONS AND CITY GROWTH

The concept, the essence of globalization and its impact on the city are in the focus of interest of urban planning experts and others related to the urban studies during past two decades. Although the process of globalization is not new, and takes at least several centuries, particularly since the discovery of sea routes to India and the Americas [1], globalization is a "new historical reality" [2]. Similarly, certain human activities, such as trade and transport, are inherently globally oriented [3]. However, only in the last two decades, with the development of modern technology, they have reached a global level and have become symbols of globalization. Therefore, the process of globalization can be seen as actual and contemporary.

The increasing use of the term of globalization revealed the essence of globalization and wide range of global processes. Manuel Castells believes that globalization is "an ideology but rather an objective process of structuring economy, societies, institutions, cultures, etc." [4],

emphasizing the process as a key point. Anthony Giddens sees globalization through its impact on the intensifying of social relations and relationships [5]. Saskia Sassen emphasizes the importance of control and management as the important elements of globalization [6]. All of the above creates an image of globalization as of a very complex process, touching all segments of society.

Following A. Lefebvre, who claims that "cities themselves are spatial projections of society" [7] and M. Castells, we can conclude that modern city and society are inextricably linked and mutually dependent on each other [8]. The spatial effects of globalization can be easily observed in the city [9] and the impact of globalization rises with the size of the city. Accordingly, the great cities of the world have become "the protagonists of global processes" [10].

All of this can be traced on a smaller scale and with some special characteristics in major cities of Eastern Europe. Probably the most important feature is the fact that Eastern Europe was the last area in the world which was involved in global processes, after the fall of the Berlin Wall in 1989. [11]. At the same time, this involvement was a stormy, sometimes even chaotic and it was manifested in three ways: a/ from totalitarianism to democracy, b/ from industrial to post-industrial society, and c/ from the isolationist economy to integration into the global economy [12]. In the case of Eastern European capitals, as the places of major changes in the society, their pre-socialist and socialist legacy proved to be a major constraint for the transition from a socialist to a global city, so they are now limited to be the cities of regional importance in "global competition" [13].

Despite the common attribute "post-socialist city", there are significant differences. The most important is the difference between western and eastern parts of Eastern Europe [14]. Changes in the western part (today included in the European Union), were much faster and easier and resulted in less tumultuous changes of the capital cities. On the other hand, the eastern and southern parts of Eastern Europe are going through much harder and longer period of integration that has reflected on the development of their capital cities.

In addition, differences in the development of post-socialist cities are particularly noticeable in the key areas of development such as housing. It was the radical change in housing policy in these countries that have shown the weakness of the state to cope with the new circumstances. This has led to different approaches to solving the urban housing problems, according to which "subtypes" of post-socialist cities can be constructed [15]:

Table 1 | Sub-types of development of post-socialist cities by comprehensive urban/housing policy

State / Region	Character of city model	The continuity of public control	The character of investments
East German cities	regulated capitalist	transformation of previous type in new one without dissolution of control	battle between investment lobbies and public control
Hungarian and Slovenian cities	unregulated capitalist	dissolution of the previous type, with very slow establishment of its new type;	huge capital investments
Czech, Slovakian, and Polish cities	between the unregulated and regulated capitalist	remnants of the previous type, with very slow establishment of its new type;	huge capital investments
Bulgarian and Romanian cities	close to an unregulated capitalist with some elements of Third World development	dissolution of the previous type, with very slow establishment of its new type;	limited capital investment
Russian cities	investment-led	dissolution of public control has been replaced by political local-level power	curious mixture of political and market elements
Albanian cities	close to unregulated Third World city development	total dissolution of the previous public control and no new type of regulations	limited capital investment but with the substantial illegal or unofficial market
Ex-Yugoslav cities (except Slovenian)	close to an unregulated capitalist with some elements of Third World city development	postponed dissolution of the previous type, with very slow establishment of its new type	limited capital investment with some elements of substantial illegal or unofficial market

The approach to housing policy is of great importance since the urban and housing policy "directly regulate basic principles of allocation of city resources, such as urban construction land, built areas, social and technical infrastructure, etc." [16]. Urban and housing policy in Western Europe (excluding UK) has traditionally fostered the preservation of these resources by limiting urban sprawl, and this attitude is embedded in the relevant EU documents [17]. This principle was accepted by most post-socialist countries and cities, where the issue of controlling urban sprawl emerged as an integral part of urban transition [18]. Balkan states, having limited possibilities of regulation, make the exception to this rule, specially having in mind the migrations by the end of the 20th century, which have occurred after the civil wars in Balkans [19]. As an effect, bigger cities' built areas have expanded greatly, mostly in the form of uncontrolled illegal housing settlements in the suburbs. Such characteristics have given the attributes of the Third World city development to many Balkan cities.

Parallel and compatible thinking is the one about managing city growth in the context of sustainable development, or more precisely in the context of social equity as one of the fundamentals of sustainability. World Bank Institute [20] addresses five current and future global urban challenges identified by the latest "Global Report on Human Settlements: Planning Sustainable cities", prepared by UN-Habitat, namely: demographic, environmental, economic, social-spatial and institutional [21], of which demographic and socio-spatial aspects especially emphasize the problem of city growth and

the informal settlements. Same document also stresses out a number of factors and drivers that are important in determining land use patterns, including: Natural environment, Demographic factors, Economic factors, Transport systems, Consumers preferences, Land ownership and Policy, regulation and management. Trends show that the principal growth in urban development happens in the developing world, while at the same time challenges include segregation of high-income communities and enclaves of poverty and ethnic communities, as well as expansion of informal communities both within the city and in the urban periphery. It is estimated that the proportion of population living in urban areas will rise up to 70% by 2050, with almost all of this growth confined to the developing world. A principal problem associated with demographic trends in the developing world is the frequent inability of governments to provide affordable housing, adequate infrastructure, institutional support and public services. One of the expected side effects of growing urban population will be the problem of the loss of arable land.

Cities with increasing differences between high-income and lower-income areas are common in developing countries, with at one extreme, high-income being developed and, at the other extreme, enclaves of poverty and ethnic communities emerging. An additional phenomenon in developing countries' 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 groups [20].

Rapid urban expansion and growth in developing countries are expressed in different spatial forms – contiguous, leapfrogging, 'necklace' corridors, continuous corridors and the like. These different forms affect the overall efficiency of cities in many ways. Spatial forms are largely driven by the efforts of low income households to secure affordable land in location that is reasonably close to the places of work. The growth of peri-urban areas and informal settlements is caused by different reasons: from enveloping previously rural settlements, to migration from other parts of the country, process of gentrification and other land use changes in the city core. The characteristics of per urban areas are as follows [20]:

- Low density, mostly unplanned development, lack of infrastructure, mixed use depending on the economy of the city, rural and agricultural enclaves.
- Various economic status of peri-urban citizens, from high-income gated communities to low income housing, industrial areas and finally informal settlements and slums.

According to the manual: Sustainable Land Use Planning – Peri urban growth, World Bank Institute, 2012 [20], key challenges in peri-urban growth management are:

- Lack of effective regulations and management;
- Loss of arable land caused by urban expansion;
- Loss of land with environmental and cultural values;
- High cost of delivery of urban services associated with low density urban expansion;
- Inefficient transportation access in peri-urban areas;
- Lack of accessibility to services for low income communities in peri-urban areas;
- Vulnerability to hazard areas.

Depending on the mix of land use (residential/commercial) and infrastructure quality, these areas can often be squatter settlements, informal land subdivisions, not complied with building codes and constructed on the inappropriate land (such as landslides, flood plains etc.). Low income households often locate in the urban fringe as it offers access to affordable land and housing with minimal standards. Peri-urban areas grow rapidly in Latin America, east and

South Asia, though are also seen in other parts of the world, such as South Eastern Europe [22].

3. GENERAL CHARACTERISTICS OF BELGRADE DEVELOPMENT: problems of incoherent spatial development and deficit of integrated urban strategies regarding informal settlements

Belgrade, being by far the most vibrant city in Serbia over a long period, due to its diversity of economic activities, 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.

Today, 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. Belgrade 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, especially in New Belgrade. 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.

Belgrade has got its Master plan after many decades so this document had a tough assignment to cover both strategic as well as regulatory elements of development. According to the Master plan of Belgrade 2021.[23], there is strong orientation to foster 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. Such very important ideas, though not new, required a detailed implementation covering and huge financial support which was not easy to enable in trying transitional and period of economic crisis.

Regional development of wider city area has never been actually balanced. Though Belgrade has adopted the Regional Physical Plan (Town Planning Institute of Belgrade, 2004), as well as other relevant planning documents, such as: Master plan of Belgrade 2021 (Town Planning Institute of Belgrade, 2003), Belgrade Development Strategy (Town Planning Institute of Belgrade and PALGO Centre, 2011) and several sectorial strategies, unfortunately most of peri-urban growth has already happened before and during the plan-making process. Moreover, the documents, though been made at almost the same period, did not acquire the substantial level of integration and coherence. Additionally, the instruments for the implementation and the institutional and procedural support of mentioned documents were not adequate so the real realization has failed [22].

The city growth unwillingly turned to the agriculture land at the outskirts of the city. Though city development policy 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.

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 ("Sava amphitheatre etc.);
- 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.

4. ILLEGAL SETTLEMENTS AND SLUMS IN BELGRADE, SERBIA

The cities in developing countries face a big problem of taming the urban expansion, which is in most cases happening out of the desired policies and plans. This is also the case with Belgrade, despite the fact that socio-economic path of Serbian capital was and still is different than of those in developing countries at other continents; nevertheless there are common effects and characteristics of spatial growth, with huge illegal settlements being most significant similarity [22]. On the other hand, Belgrade's urban expansion has not much in common with the neighbouring EU countries' cities or even with ex-socialistic cities despite the geographical and historical link to them, with the exception of some Balkan cities [24].

The causes of Belgrade informal settlements spread at the outskirts of the city are different and are related to the specific socio political context. The genesis of informal areas in Belgrade goes back several decades ago, in mid-70's, when one of the largest informal settlements in the Europe, Kaludjerica (at the North eastern periphery of the city) started its expansion. The process of the informal growth continued in 80's and later, with different background and consequences.

Since the politics supported the idea of concentration and centralization of industrial, business, administrative and other activities in Belgrade as the capital of former Yugoslavia, the demographic pressure was enormous and city had to cope with a great deal of new citizens. The city could not provide decent habitation for such great number of people in short time, though great share of the new population have resolved their housing problems by getting an apartment in typical socialistic multi-family units in new settlements out of the city core. Still, a great deal of new workforce urgently needed a place to live, so the new settlements of private, one family houses, emerged at the outskirts of Belgrade.

During the 90's, the transition has brought 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 were marked by extreme economic crises and high poverty of most of its inhabitants and had the negative effect on the city development [25]. Public sector

stopped investment in housing production and maintenance, so the number of dwellings built per year dramatically declined [26], while at the same time, market prices of the housing were too big for most citizens and new migrants to the city, economically exhausted by sanctions, inflation and unemployment. For many new citizens in Belgrade the only solution was illegal housing on the periphery.

By the end of 90's and after 2000 Serbia has experienced a radical turn-over from previous state-provided housing system to market-oriented one, having some local specificities: complete privatization of the sector, lack of appropriate regulatory mechanisms and strategies, strong influence of refugees, housing construction as extraordinary profit, illegal practice in housing construction, degradation of old housing fund, weak mortgage system and the like [27].

A great deal of illegal construction has happened on the 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 [25]. The informal and illegal construction became dominant form of housing development in Belgrade city, ignoring the urban plans and legal frame. During the short period from 2000-08, the share of single-family housing building has decreased, compared to the total number of new housing, since the construction of multi-family units has started, but the informal one-family housing still remains the dominant form.

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 - from the estimated number of 150.000 illegal housing units in Belgrade in 1998 [28], to the estimated share of only 20% of the buildings in the peripheral areas that were actually regulated by some urban plan in 2009 [29], and to the approximation of 147000 illegal buildings in Belgrade in 2005, based on the number of applications for the legalization [30] (although not all the owners/users of the informal housing have applied for the legalization). Finally, overall spatial analysis of Belgrade informal settlements (2014), realised by the authors as a part of the midterm scientific research project, according to the density, engaged surface and other indicators, shows that the approximate share of informal buildings is between 25-30%.

4.1. Characteristics and typology of illegal housing in 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 in ownership. Even their legal status differs – some have grown completely spontaneously, while the others have continued some form of urban regulation of the surrounding.

Urban structure of these informal settlements 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 [31]. 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. The highest concentration is along main traffic corridors.

The land use structure varies depending on the particular settlement and its position, but generally residential areas prevail – approximately 80-90% is occupied by housing while the

rest goes for non-residential use and local economy activities (retail, services, restaurants, micro production), which are mostly concentrated along the main traffic corridors. On the other hand, very small share of land is designated for public services, such as schools, health and children day care facilities and other public use. This can be understood as direct effect of the lack of adequate regulation plans for these areas. There is still a decent share of green areas with private use, but there are no open public places – parks, squares and similar.

The urban density in informal settlements vary from 20-30 inh/ha to 100-150inh/ha, so the areas occupy much bigger surface than it would be required had they been planned and regulated.

Traffic and infrastructure network is irregular, insufficient or non-existing, except for the electrical network. 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 [31].

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 and there are no reflections to the traditional Serbian housing. The interior organization also lacks good architectural design but housing units are functional in its simplest meaning. The majority of informal buildings are built of solid material, but with less or no concern about the characteristics of terrain, such as geo-mechanics, stability etc.

The socio economic structure of the population has significantly influenced the formation of settlements and size structure of the buildings. It can be roughly said there are 3 types of residents: 1. citizens of modest socio-economic background who have moved from other parts of the country in search for employment in Belgrade, living in their own smaller one-family units; 2. refugees and people who have moved from other ex-Yugoslavian republics during civil war in 1990s, with different economic status, living in both bigger and smaller units; 3. housing tenants of lower economic status who rent apartments in bigger houses, while the owners of these houses are of different background.

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

Table 2 | The illegal settlements on the territory of Belgrade [31]

Name	Position	Main characteristics
1. <i>Borča</i> (<i>approx.2/3</i>)	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. <i>Krnjača</i>	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 <i>Višnjica and Višnjička banja</i>	North, by Danube right bank	Hilly, slope, very unstable, irregular streets and matrix, one-family housing, mixed with regulated legal multi-family housing settlement

<i>(approx.1/2)</i>		
4. <i>Karaburma (partly)</i>	North-eastern, close to the wider continually built area	Hilly, slope, slightly unstable, street matrix partly formed and regulated, mixed with regulated legal multi-family housing
5. <i>Mirijevo (approx.1/2)</i>	Eastern, close to the wider continually built area	Hilly, by and on afforested area, street matrix partly formed and regulated, mixed with regulated legal multi-family housing
6. <i>Mali Mokri Lug</i>	East-South-eastern, close to the wider continually built area	Hilly, stable, one-family housing, street matrix partly formed
7. <i>Kaluđerica (approx.1/2)</i>	East-South-eastern, close to the wider continually built 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. <i>Leštane (approx.1/2)</i>	East-South-eastern	Hilly, stable, one-family housing, street matrix partly formed but mostly irregular, mixed with retail and services
9. <i>Vinča (major part)</i>	Eastern, by Danube right bank	Plain, high level of ground waters, one-family housing, street matrix partly formed, mixed with retail and services
10. <i>Boleč (approx.1/2)</i>	East-South-eastern	Mostly plain, street matrix partly formed, one-family housing, mixed with retail and services
11. <i>Veliki Mokri Lug</i>	South-eastern	Hilly, stable, one-family housing, street matrix partly formed but mostly irregular
12. <i>Settlement between the highway and Medaković 3</i>	South-eastern, close to the wider continually built area	Hilly, stable, one-family housing, street matrix partly formed but mostly irregular, mixed with regulated legal multi-family housing
13. <i>Padina</i>	South-South-eastern, close to the wider continually built area	Hilly, stable, one-family housing, street matrix partly formed but mostly irregular
14. <i>Kumodraž</i>	South-South-eastern	Hilly, stable, one-family housing, street matrix partly formed
15. <i>Jajinci</i>	Southern	Hilly, stable, one-family housing, street matrix partly formed but mostly irregular
16. <i>Trošarina (partly)</i>	Southern, close to the wider continually built area	Hilly, stable, one-family housing, street matrix partly formed
17. <i>Kanarevo brdo (partly)</i>	Southern, close to the wider continually built area	Hilly, stable, one-family housing, street matrix partly formed, mixed with regulated legal multi-family housing
18. <i>Miljakovac 3</i>	Southern, close to the wider continually built 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. <i>Manastirska šuma</i>	Southern, close to the wider continually built area	Hilly, stable, one-family housing, street matrix partly formed but mostly irregular, by and on afforested area

20. <i>Resnik (partly)</i>	Southern	Hilly, stable, one-family housing, street matrix partly formed but mostly irregular, by afforested area
21. <i>Kneževac (major part)</i>	Southern, close to the wider continually built area	Hilly, stable, one-family housing, street matrix partly formed, mixed with regulated legal multi-family housing and industry
22. <i>Makiš</i>	South-western, close to the wider continually built area, Sava river right bank	Plain, one-family housing, street matrix partly formed but mostly irregular
23. <i>Železnik (outskirts)</i>	South-South-western, close to the wider continually built area	Hilly, stable, one-family housing, street matrix partly formed, mixed with regulated legal multi-family housing and industry
24. <i>Bele vode</i>	South-South-western, close to the wider continually built area	Hilly, stable, one-family housing, street matrix partly formed, mixed with regulated legal one-family housing
25. <i>Staro sajmište</i>	Western, close to New Bg core area	Plain terrain, stable, high level of ground waters; street matrix partly formed
26. <i>Ledine</i>	West-North-western	Plain terrain, stable, one-family housing, street matrix partly formed
27. <i>Altina</i>	North-western	Plain terrain, stable, one-family housing, street matrix partly formed but mostly irregular
28. <i>Zemun (partly)</i>	North-western, Zemun core area	Plain terrain, stable, one-family housing, street matrix partly formed
29. <i>Batajnica (outskirts)</i>	North-western	Plain terrain, stable, one-family housing, street matrix partly formed

Except for the above analysed settlements, there are 120 small Roma settlements scattered around the city, both on the periphery and in the city core. These settlements, thought may be found in the proximity of other informal settlements are not integrated in it. Although the housing structure varies, they are mostly made of poor material, lack infrastructure completely and lower quality of life prevails. Social integration of these settlements is difficult but some improvements have been made lately.

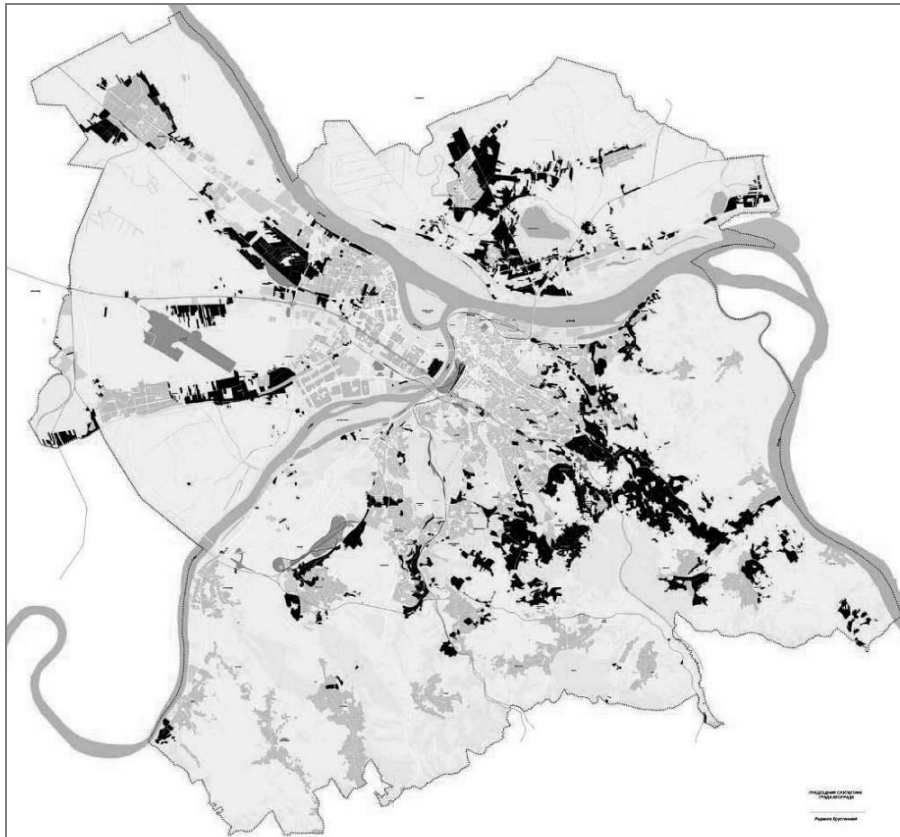
4.2. Spatial distribution and overall impact of illegal housing on the land use in Belgrade

The informal settlements occupy approximately 5.5.21ha and 44% of total housing area in Belgrade, according to the research of authors as a part of the midterm scientific research project (2013).

Table 3 | The Share of informal settlements in total Belgrade territory

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)

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



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. 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. 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).

The terrain occupied by informal settlements differ – there are perfect locations on the solid ground, but there are also many locations with not convenient terrain for building which needs readjustment, such as natural river banks, landslides, terrains with high level of underground waters. Needless to say, in such cases there is huge safety and ecological risk.

5. CONCLUSION: SUGGESTIONS FOR THE URBAN UPGRADING OF INFORMAL SETTLEMENTS

Globally, the awareness of the need for urban upgrading programs aimed for the informal settlements have risen in 21st century. There are various approaches which differ in terms of their social, economic, political, urban planning or urban design background. They also vary in terms of the spatial level they refer to – country, city or local level or even small scale interventions. UN HABITAT, World Bank, Rothschild foundation, to name just a few organisations, participate in numerous activities related to the informal settlements. The core goals are related to the following issues:

- Multi levelled collaborative governance instead of government, which will acknowledge all of their citizens and recognise their rights for a decent shelter; active in providing an integrative and locally sensitive process in policy formulation and urban management;
- Flexible urban planning that is action and implementation orientated, instead of rigid urban plan production, and stakeholder and community driven rather than expert driven;
- Local identity and specificities;
- Social cohesion and integration.

Instead of implementing sectorial strategies and solutions, it is necessary to adopt the integrated approach to solving the problems of informal settlements, overlapping spatial, social, economic, political, financial and environmental context. It is necessary to change the prospective and conventional way of thinking of the problem – abandon perceiving the informal sector as invisible and out-of-the-law and accept the assets of this unconventional way of habitation, while searching for the solutions of the negative sides. This can include, but should not be limited to the perception of the informal housing in the context of affordable housing, the urban village, eco town, urban farming, for example. The process of upgrading informal settlements has to be done with the active participation of local residents, respecting their initiatives, needs and constraints. Based on the comprehensive research of the informality in Belgrade, acknowledging the values of the informal sector when possible, such as decent share of greenery, sufficient size of dwelling and lots etc, as opposed to the prevailing absolute criticism towards it, could lead to more implementable solutions.

The urban upgrading should be parallel process to the rising of awareness of the civil rights of the informal inhabitants as well as of their social inclusion and participation. The model of urban upgrading should be chosen carefully, having in mind the potentials and constraints of the specific area and should be adjusted to the local context and people.

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

- a/ Redefinition of the possibilities of upgrading the informal settlements so that they achieve newly defined standards of social/affordable housing;
- b/Adoption of special urban planning laws and regulations including urban upgrading principles and indicators, that would refer to the lower standards and 'softer' criteria than the ones defined for the rest of the city territory;
- c/ Definition of special fiscal instruments exclusively for these city areas, so that the citizens can do their commitments according to their realistic economic possibilities;

d/ Intensifying the production of urban land use plans for these areas, as the basis for the realisation of traffic and infrastructure network, as well as of the public services network, within short time as timing is crucial for the process of upgrading informal settlements;

e/ Through model of urban consolidation, new public spaces should be designated for common use and as places for communication and interaction of all social and age groups;

f/ As the un-built construction land is not always available for new public purposes, it is crucial to enable the cooperation between public and private sector for providing sufficient public services in already dense areas;

g/ provision of local legislative support, since local government level is more willing to adjust in short time, so a set of local measures and instruments to support urban upgrading of informal settlements are more likely to happen. This would include stimulations for houses and owners who invest an effort to meet social housing criteria, criteria of basic infrastructure equipment, energy efficiency, etc.

Hereby the list of recommendations is not concluded while at the same time is not yet specifically defined according the needs of specific area, but can be the starting point for the action.

The extermination of informal sector is not only abandoned approach but is also not effective, therefore 'step by step' approach embracing integration rather than exclusion is far better and applicable. The presence of informal sector might be stimulating and encouraging for formal sector, as opposed to the common and prevailing opinion that they have to exclude each other. The treatment of informal sector should be related to the local characteristics and cultural and social background and other relevant aspects. Cutting the informal growth in the surgery manner during the economic and transitional crisis is neither effective nor wise. It is not possible and not useful to define one pattern applicable all over the world, though there are similarities about informal sector worldwide.

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. Working proactively on new ideas appropriate to the Belgrade informal context, Belgrade could become a pilot area for research and implementation of the new models, alternative institutional arrangements and cooperative forms, supported by university research.

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