

# Land Use and Master Planning under the Pressure of Informal City Growth \_ Case Study of Belgrade

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## ABSTRACT

**Sustainable land use and integrative, comprehensive, and implementable master planning remain some of the most important aspects of sustainable urban planning today. At the same time, one of the most challenging tasks for the cities of developing countries is managing informal city growth. Bearing in mind these conditions and challenges, significant both in theory and in practice, the chapter focuses on their mutual influence and impacts in international and Western Balkans context, as well as in the Serbian capital. The aim of the review is to bring attention to the actual problem of unregulated informal settlements in Serbia and Belgrade, while suggesting the means and measures for its treatment within sustainable land use planning.**

**The chapter gives insight into the importance, actuality, and general characteristics and challenges of sustainable land use planning, as well as the general overview of the growing informal settlements in developing countries and in the Western Balkans. The core of the research describes the main characteristics of Belgrade's land use planning on the one hand, and the growth of informal settlements on the other, seen as parallel, sometimes excluding, sometimes supporting processes, over the last four decades and their impact on the city development.**

**The chapter concludes by offering the answers to the following research questions: what is the relation between the informal city growth and land use/master planning? What kind of effects do unregulated developments have on land use and master planning and vice versa? Finally – what are the feasible, sustainable solutions within the contexts of both Belgrade and Serbia?**

## KEYWORDS

sustainable land use, master planning, informal city growth, city development

## 1 Introduction

Sustainable development, a paradigm of planning practice and theory for more than four decades, has grown beyond environmental concerns, giving importance to economic and social dimensions and including the political, institutional, and governance dimension in the concept (World Bank Institute, 2012). Sustainable, responsive, and locally sensitive urban planning has a key role in achieving social, economic, and environmental goals and can contribute to solving a variety of urban issues (Abbot, 2002). Urban planning today faces numerous and emerging challenges, such as rapid urbanisation, managing city growth and informal settlements, climate change, huge demographic pressures and poverty, energy demands, lack of adequate infrastructure, and others (Mitrović & Antonić, 2013b). The old models and methods of urban planning need to change constantly in order to be ready to adapt to the new role and to react to the growing problems in the cities (World Bank Institute, 2010). There is no other option for sustainable urban and land use planning, but to consistently apply sound planning principles and up-to-date development guidelines to ensure the effectiveness of policies (UN-Habitat, 2009).

The Western Balkan countries, which have experienced economic and societal transition, face far more challenges to achieve the vision of overall sustainability, due to limited governance capacity for planning and development and a low level of implementation, which lead to the increase of informal settlements in peri-urban areas (Huchzermeyer & Karam, 2006; Tsenkova, 2011; UN-Habitat, 2009).

According to the *Future Policy Directions of the Global Report on Human Settlements 2009: Planning Sustainable Cities* (UN-Habitat, 2009), the reformed urban planning systems must be shaped by, and responsive to, the contexts from which they arise, as there is no single model of an urban planning system that can be universally applied. Aiming to achieve a spatially coherent territory and balanced development, planning has to take into consideration various regional, urban, and local situations (Mitković, Mitrović, Djekić, Mitković, & Nikolić, 2016). In order to combat the above challenges, the study on *Sustainable Urban Land Use Planning – Land Use and Infrastructure* (World Bank Institute, 2012) recommends the following: (a) the sustainable land use should apply the principle of centripetal development and the compactness of the city territory, followed by a rational traffic network; (b) the development of urban sub-centres, supported by the mass transport; (c) an approach that is sensitive to the needs of the lower income housing or informal housing; (d) providing green networks and introducing urban agriculture, adapted to the specificities of the city. Such measures would have a positive impact on the local climate and environment, climate change adaptation, social and health benefits, and land value increase.

Unequivocally, urban planning must recognise the important role of the informal sector and ensure that urban planning systems respond positively and proactively to this phenomenon, including through

legislation (UN-Habitat, 2009). In order to effectively respond to informal urban growth, the revised urban and land use planning model should: (a) recognise the positive role played by urban informal development, including pursuing alternative solutions such as regularisation and upgrading of the informally developed areas; (b) consider revisions to policies, laws, and regulations to facilitate the informal sector, which could include the use of planning tools, such as land readjustment and provision of basic local infrastructure; (c) strengthen the effectiveness of planning and regulatory systems on the basis of more realistic standards, including collaboration with the informal sector in order to manage public space and provide services.

The dynamic urbanisation processes influence both physical and functional changes and this refers especially to cities in the Western Balkans, where significant social and environmental complications can be found in their peri-urban surroundings (Ravetz, Fertner, & Sick Nielsen, 2013). Informal settlements in post-socialist South-East Europe have grown significantly, shaping large parts of the urban landscape (Hamilton, Dimitrovska Andrews & Pichler-Milanovic, 2005).

The countries of the Western Balkans, like other European post-socialist countries, have undergone a turbulent period of political, economic, and societal transition. Basically, the transition has involved new systems of government based on the democratic political environment; new legal and institutional frameworks; new economic order; new rules of social integration; and new policy choices for the privatisation and redistribution of public assets (Harloe, 1996; Andrusz, Harloe & Szelenyi, 1996).

Rapid economic and social differentiation resulting in escalating unemployment, degradation in living standards, and growing social problems are the characteristics of the post-socialist urban economies. The new conditions have brought on many social risks, such as high levels of unemployment, risks for vulnerable groups, polarisation between social groups, and growth of the informal sector. According to Tsenkova (2008), post-socialist cities faced a serious challenge to sustain the value of their existing, predominantly massive, collective housing stock because of social differentiation and poverty, former collective management, and the disappearance of state-funded housing programmes. These challenges were reflected in the declining inner-city neighbourhoods, as well as in peri-urban areas with informal settlements.

Unlike in Western cities, where the ring of urban sprawls emerged as a consequence of the gentrification of the inner city, preferences of the residents, and higher mobility, the growth of the urban sprawls in post-socialist cities is less uniform and is characterised by a high level of informal housing. Hence, the informal settlements have become a socially acceptable response to an urban crisis in the provision of affordable housing (Tsenkova, 2008; 2013). The informal economy (such as informal house construction, the growth of informal services, etc.) went hand in hand with informal housing, though they did not fully overlap. As a large part of the transitional market development has

taken place with no planning intervention, planning has also become irrelevant in the rapidly expanding 'wild areas' of the city sprawls (Tsenkova, 2008; 2013).

Though Serbia has a lot in common with the general dynamics of transition in post-socialist cities, it is by no means a typical case of a post-socialist country, as it was particularly heavy in societal dynamics and scope (Vujošević & Nedović-Budić, 2006); the economic crisis was deeper than elsewhere in Eastern Europe and political stability was side-tracked by a civil war, the refugee crisis, and a prolonged institutional and regulatory vacuum (Tsenkova, 2012). The current situation in Serbia, considering the overall economic and urban development, is a result of the previous condition of transition recession, accompanied by the global financial crash (Zeković, Vujošević, & Maričić, 2015b).

Although the topic of informal city growth has been part of a great number of urban studies since the 1970s (de Soto, 2003), the planning systems still did not find a way to cope with this alternative urban growth. Generally, the process of urban expansion should not only be seen as a negative change, but also as one with positive impacts. Furthermore, cities experiencing informal peri-urban growth, especially those in the Western Balkans, should improve the governance capacity, develop basic infrastructure, and invest in overall renewal and rehabilitation, all in parallel with the process of making land-use plans for the expansion of cities. In the current stage of socio-economic transition in the Western Balkans, local governments are under pressure to tackle the sensitive nature of informal settlements, but local master plans do not always accept the presence of informal construction, thus having little or no impact when there is no will nor institutional capacity to address this problem.

While the main principles of sustainable urban development, derived from the international legislation, practice, and theoretical framework have been rooted in almost every urban planning document in Serbia, the implementation and substantial link to the local situation have not been fully achieved. This situation is most noticeable in areas of informal settlements on the outskirts of major cities, and especially in Belgrade, which is under the greatest pressure of urban growth (Mitrović & Antonić, 2014).

Even though this phenomenon of informal settlements in Belgrade has been analysed in a number of studies, there is no exact data regarding the number of housing units or the surface they cover. The older estimations claim that there were more than 150,000 units, covering more than 45% of the total housing area in Belgrade (Petovar, 2003), but the numbers are growing significantly every year (Mitrović, & Antonić, 2013b). Such great expansion surely urges prompt and flexible planning action.

This chapter focuses on the large informal settlements in Belgrade, containing the majority of the informal buildings and consisting mostly of housing units that people have built for their own needs. It does not

refer to Roma or other special social/ethnic groups' settlements, nor to illegal constructions that were built for commercial purposes.

The aim of this review is to bring attention to the actual problem of unregulated informal settlements while suggesting the means and measures for its treatment within the sustainable land use planning in Serbia and in Belgrade. Specific research questions are as follows: What is the relation between informal city growth on one hand and land use and master planning on the other? What are the impacts of informal settlements in cities with regard to land use and master planning? What are the feasible, sustainable solutions in Belgrade and Serbian context for these types of habitation?

## 2 **Belgrade City Development, Land Use and Master Planning**

Belgrade, the capital of Serbia and former Yugoslavia grew rapidly during the period of socialism from 1945 until the 1990s. It grew continually, both demographically and spatially, over the several decades after WWII, due to the processes of urbanisation and industrialisation. The housing policy at the time was mostly based on the mass housing settlements in the areas outside the city core, which resulted in the significant growth of city area and unbalanced population distribution (Tosics, 2005). The urban construction land was state-owned, and the housing was almost exclusively provided by state-owned companies (Tsenkova & Nedović-Budić, 2006). These complex socio-political and economic circumstances, therefore, had been encouraging the formation of these informal settlements since the 1970s (Mitrović, Ralević, & Antonić, 2014).

While the 1990s brought the process of transition to most socialist countries in Eastern Europe (Tosics, 2005), the same processes developed in Serbia a decade later, followed by a negative impact - extreme economic crises, high poverty among most of the Serbian inhabitants, and negative trends regarding slower growth and lack of maintenance in the cities' development. Due to the conditions of the public building sector (Vujović & Petrović, 2007) and high market prices of housing in Belgrade, many citizens and migrants have acquired accommodation in the informal sprawls.

The socio-political and economic context by the end of the 20<sup>th</sup> and beginning of the 21<sup>st</sup> century largely shaped the framework for master and land use planning in Serbia and consequently in its capital (Zeković, Vujošević & Maričić, 2015b). Urban planning, policy, and regulatory responses have been diverse, reacting to specific and often dramatic conditions: political democratisation, the reintroduction of market principles, massive privatisation, commercialisation (Tsenkova & Nedović-Budić, 2006) and massive informal growth, especially in Belgrade.

Still, the pace of societal changes was not followed adequately by the transformation of the planning system and the improvement of urban plans. The changing of the planning practice was steered by a mixture of old habits, few institutional innovations, and the social, economic, and political turbulence of the transitional period (Vujošević & Nedović-Budić, 2006). In the conditions of the undeveloped market and neo-liberal economy, former public planning institutions, having lost their previous role to protect the public interest, have presented a traditional rigid planning model, deterministic and inflexible, with fixed land use parameters and regulations (Djordjević & Dabović, 2009). While the intention of the planning principles, goals, and overall strategy was in line with the contemporary trends, the outcome of the plans – planning solutions and implementation – were poor. The most visible evidence is an enormous urban expansion of the peri-urban zones of Belgrade, which was led only by the market and fell outside of the planning regulation and instruments (Živanović Miljković, Crnčević, & Marić, 2012).

The described contextual framework in post-socialist Serbia illustrates the complexities of spatial regularisation and urban land use planning that are still unable to fully adapt and transform to the new conditions.

## 2.1 Land Use and Master Planning of Belgrade from 1970s until Today

This subsection presents the analysis of general and land use planning development in Belgrade over the several decades since the informal settlements started to emerge up to the present day. The relatively long history of general planning in Serbia and former Yugoslavia spans continuously from the early 1950s up to the present days. The structure and focus of general plans, which were predominantly land use plans, were changing over time, trying to keep up with the socio-political and economic changes (Vujošević & Nedić-Budić, 2006), but did not always succeed. Following the situation in Serbia, we can assume that with every passing decade, general plans were implemented less and were less tied to the (then) actual spatial conditions and trends. Divergent trends were expressed through the absurd situation that general plans did not register the actual local situation and the planning solutions did not treat emerging informal settlements, as if they did not exist. During the period of transition in Serbia, the approach to the planning treatment of the flourishing, expanded, and numerous informal settlements has slightly changed. The processes of urban sprawl growth and suburbanisation have marked the land use changes in Serbian cities, especially in Belgrade's metropolitan area, causing strong spatial and environmental impacts (Zeković et al., 2015a).



FIG. 2.1 Belgrade Master Plan, 1972  
(Image by Urban Planning Institute of Belgrade, 1972. Reprinted with permission)

After the Belgrade Master Plan was created in 1972 (Fig. 2.1) (Urban Planning Institute of Belgrade, 1972), some of the first informal settlements on the outskirts of the city were built, one of them being Kaludjerica, currently one of the largest informal settlements in Europe (Žerjav, 2009). This plan was shaped by the ideology of the former regime, but at the same time was modern and in line with current global trends, incorporating the idea of ‘a city within a sea of greenery’ (Urban Planning Institute of Belgrade, 2008). Unfortunately, the then present informal settlements were treated like they did not exist, which can most clearly be illustrated by the fact that the area of Kaludjerica was planned as a location for a golf course (Žerjav, 2009).

The Belgrade Master Plan from 1985 (Urban Planning Institute of Belgrade, 1985) was completed at a time when the number and extent of informal settlements had already grown considerably. The city outskirts were now identified as suitable locations for creating new mid to high-density neighbourhoods, more popularly called ‘satellite settlements’. This proved to be a great expense, mostly with regard to the cost of the new infrastructure networks that had to be created in order to meet the needs of these later built areas. While the plan had many virtues, like a very detailed and well worked out transportation system, the peri-urban settlements were not being properly treated, and the existing informal housing areas were completely ignored.

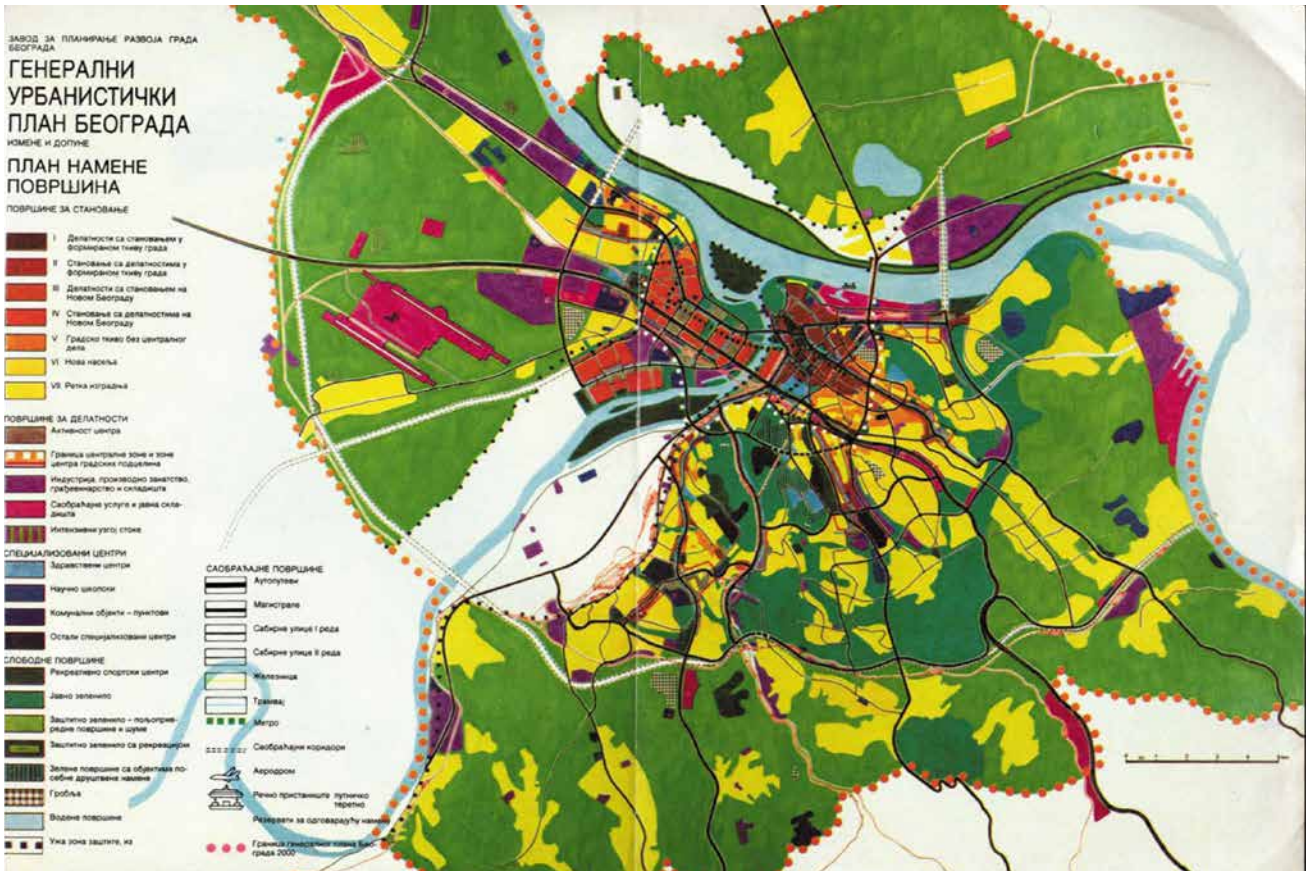


FIG. 2.2 Master Plan of Belgrade 1985  
 (Image by Urban Planning Institute of Belgrade, 1985. Reprinted with permission)

The *Belgrade Master Plan 2021* (Republic Agency for Spatial Planning, 2003) was the first effort in accurately mapping the peri-urban settlements in Belgrade. The main aim of this plan was to create a more flexible and dynamic environment, which would support the existing conditions. This long-awaited plan had the difficult task of standing as a conceptual and strategic, but also as an operative plan to some extent. That ambition resulted in well formulated and chosen goals, which were not fully implemented in the planning rules and graphic representations. Namely, the plan seemed to be focused on treating smaller locations, without providing a fully comprehensive spatial concept.

One of the aims of the plan from 2003 was to regulate, the now-acknowledged, informal settlement areas of the city, integrating them into the future picture within the added subdivision of 'housing in suburban settlements'. It also included strategies to urbanise, legalise, and improve these settlements, granting a limited expansion (Djukić & Stupar, 2009). On the other hand, Zeković et al. (2015a) claim that the land regulation in the Belgrade master plan from 2003 demonstrated the traditional administrative approach, thus creating a reason for further illegal building and sprawl.

Unfortunately, probably due to the general lack of official information, this master plan did not entirely reflect the existing situation of the informal settlements. Namely, although around 30 informal settlements were recognised and mapped, their full size was not adequately presented.



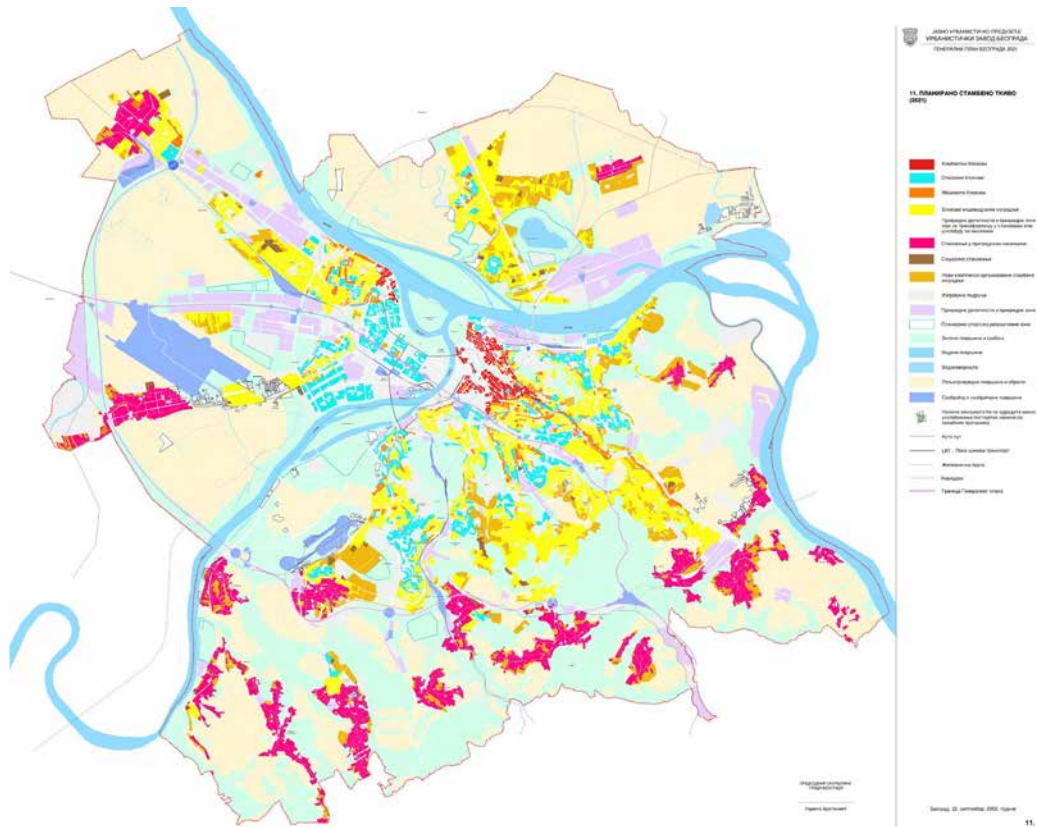


FIG. 2.3 'Planned residential areas (2021)' from the Master Plan of Belgrade 2021 (Image by Republic Agency for Spatial Planning, 2003)

The main difference between the previous plans and the new Belgrade Master Plan from 2016 (Belgrade Land Development Public Agency, 2016a) is the further interest in regulating the outskirts of the city, which is now mostly done by introducing new commercial and industrial areas and decreasing the number of agricultural zones within the city limits. Furthermore, the new plan introduced a new zoning of Belgrade, in order to better regulate the process of creating adequate and comprehensive local *Plans of General Regulation* for each zone, following the obligation defined by the national *Law on Planning and Construction* (Republic of Serbia, 2014). Compared to the master plan from 2003, this plan did not offer a better treatment of the Belgrade informal housing, although it included realistic areas of informal settlements based on more precise information. Additionally, the master plan from 2016 did not offer the much-needed strategy for the urban renewal of the informal settlements. Instead, it accepted the approach of 'legalisation through regulatory plans' that was already in practice.

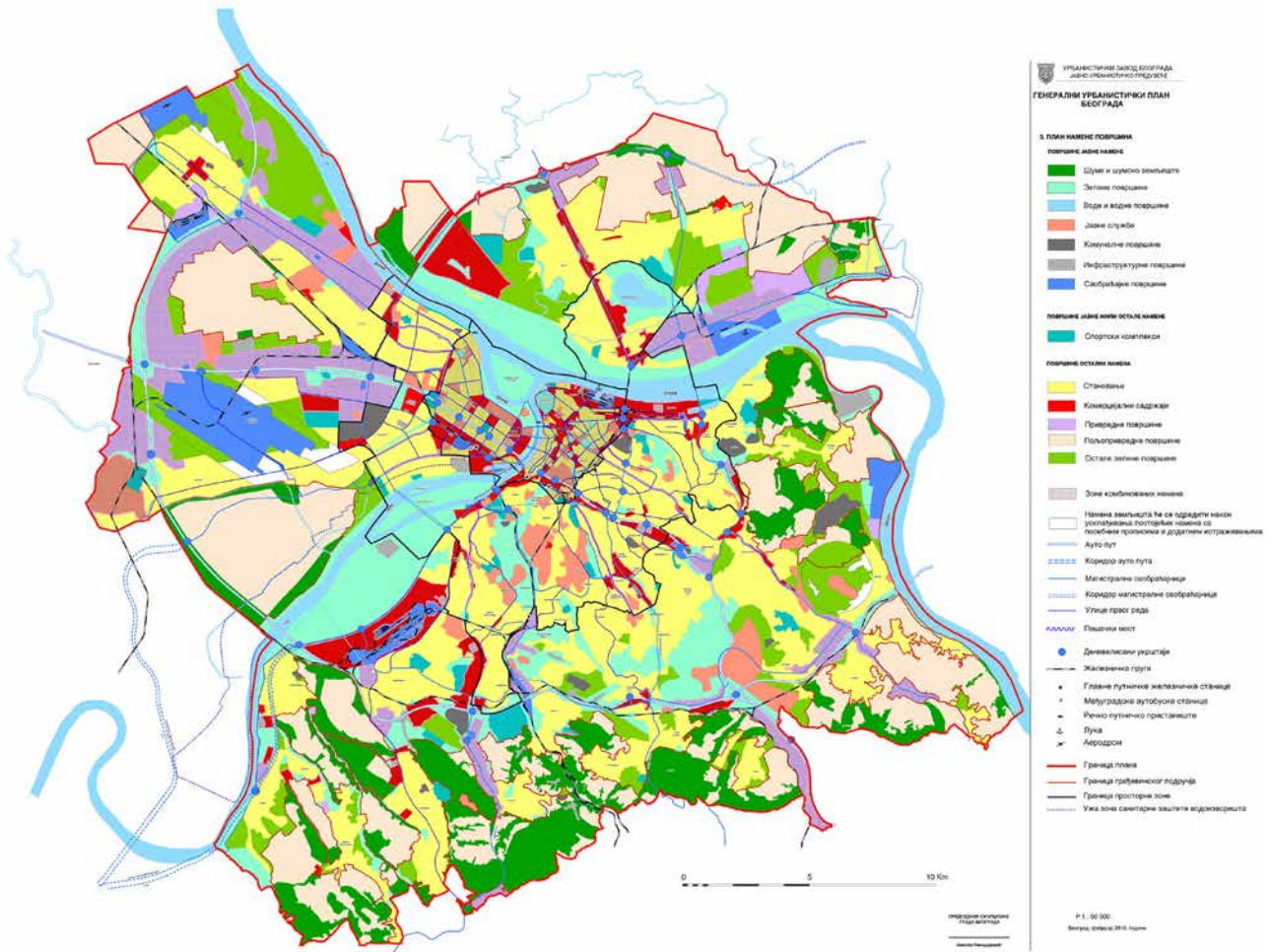


FIG. 2.4 Master Plan of Belgrade 2016  
 (Image by Belgrade Land Development  
 Public Agency, 2016)

## 2.2 The Impact of the Lack of Urban Plans for Suburbs in Belgrade

The lack of proper documentation and plans in the suburban areas of Belgrade is mostly the result of the former planning and governmental policies which, even though aware of the situation, ‘turned a blind eye’ towards the growth of informal settlements. This has led to the current state where it is approximated that almost 44% of housing areas in Belgrade are taken up by informal housing (Mitrović & Antonić, 2013a), which underlines the urgency of the issue and the need for creating a comprehensive urban strategy.

After the enactment of the Belgrade Master Plan in 2003, the process of creating regulatory plans for the areas of illegal construction started, with the exceptions of Zemun and Surčin. From 2003 to 2009, several general regulation plans concerning some of the informal settlements were enacted (for some parts of Karaburma settlement) or decisions were made for their development (like the ones for Vinča, Kaludjerica, Leštane, and Boleč settlements). Several detailed regulation plans were also made during this period, encompassing parts of Bele Vode

within Žarkovo, Karaburma, Altina, and Jajinci settlements. According to the content analysis of documents and plans, the years that followed up until 2016 were mostly marked by the enactment of several detailed regulation plans for neglected areas of informal settlements in Belgrade, like in Mali Mokri Lug and Višnjica settlements in 2011, parts of Železnik and Mirijevo in 2013, as well as parts of settlements Veliki Mokri Lug and Zemun in the later years (2015).

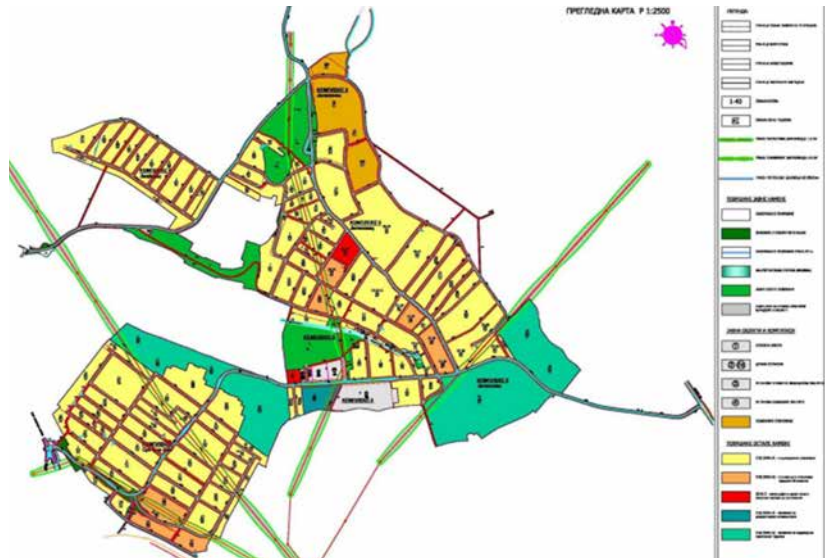


FIG. 2.5 General Regulation Plan for a part of the territory of Rakovica municipality 'Jalezovac – Sunčev Breg' (Image by Urban Planning Institute of Belgrade, 2011)

By contrast, some plans finished in this period did not acknowledge the informal settlements (though encompassed the areas in their vicinity) such as parts of Krnjača, Lešće, Zemun, and outskirts of Ledine settlements that were unfortunately left out the aforementioned detailed regulation plans. One of more interesting examples of general regulation plans was the one designed in 2011 for the informal settlement of Jelezovac – Sunčani Breg, located in the southern part of Belgrade, in the Rakovica municipality. This residential area is relatively new and has been under construction since 2000. Jelezovac is an interesting example since most of the owners have applied for a legislation and took the initiative in order to start the development of a regulatory plan, back in 2005, later participating in the planning process undertaken in cooperation with the local community (Simeunčević Radulović, Mitrović, Ralević & Djurović, 2013; Mitrović, et al., 2014).

After the zoning of Belgrade in 2016, the process of creating plans for the never treated informal settlements became much faster and most of them have been adopted, according to the fact that the plans for some of the biggest informal settlements in Belgrade, such as Borča and Krnjača (within the Municipality of Palilula), were recently finished for the first time. Unfortunately, the General Regulation Plan for Kaludjerica informal settlement, one of the biggest and oldest in the Western Balkans (Mojović & Ferenček, 2011), is still being developed, which could be by far the most challenging task for master and regulatory planning in Belgrade today.

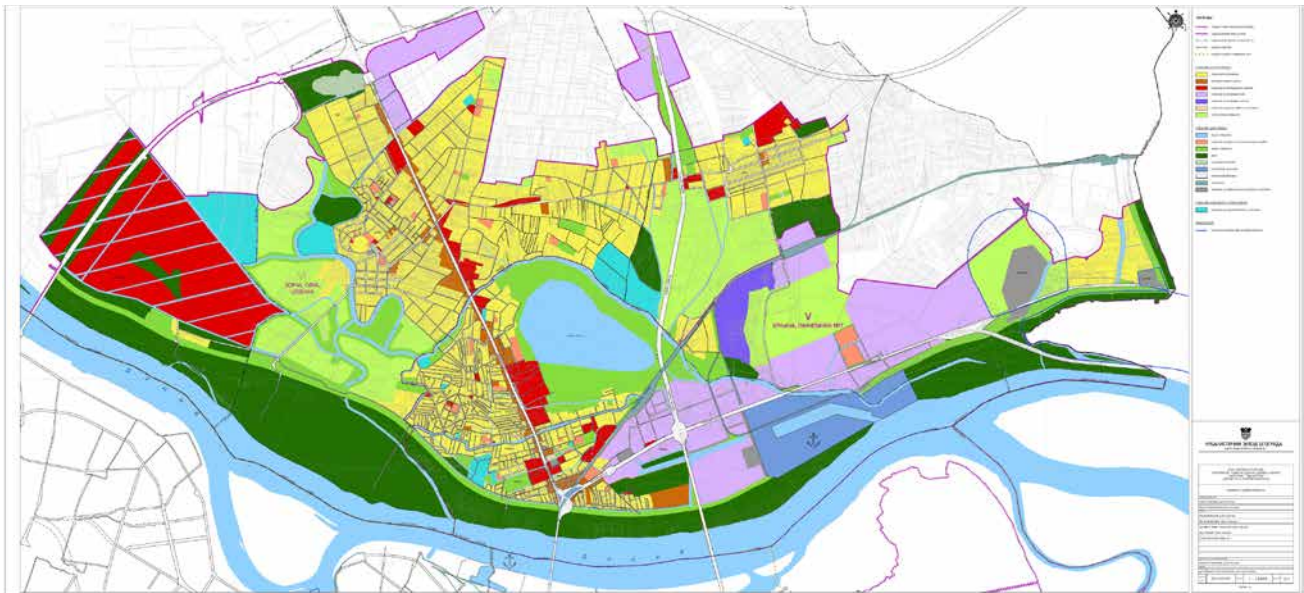


FIG. 2.6 General Regulation Plan – City of Belgrade (parts V and VI, Municipality of Palilula) (Image by Belgrade Land Development Public Agency, 2016)

### 2.3 From a Non-Acknowledging to Embracing Policy in Belgrade Urban Plans

The planning solutions presented in regulatory plans are various and of different quality. Some are produced with significant care for the needs of the inhabitants, as well as for the urban context. The others represent mere legalisation - the adoption of the present state of the settlements, with minor positive changes such as improvements of traffic and other infrastructure, or inclusion of basic services. Generally, the new regulatory plans do not treat the informal settlements in an integrative way, lacking the planning for small business or public spaces.

The analysis of the master and regulatory plans for Belgrade shows the evolution of the idea of recognition and treatment of the informal settlements. Since the first informal settlements appeared, Belgrade's urban plans, following the official politics of that time, did not take them into consideration. The focus of the plans was the desired future picture of the city rather than a complex and integrated study of feasible solutions for the present problems and potentials. As the settlements grew over time, so too did the idea of their acknowledgement. This was partly because the informal settlements have taken almost half of the housing area in Belgrade (Mitrović & Antonić, 2013b), but also in order to gain more reliable and precise information about their size.

Although the idea of urban renewal was supported by the master plan from 2003 onwards (through general and detailed regulatory plans), it was not explicitly stipulated through respective measures (Zeković et al., 2015a); rather, it has offered incomplete and short-term 'planning remedies'.

As the citizens' awareness of 'informal settlements' grew considerably over time, their influence on planning solutions for the informal settle-

ment areas was a positive step forward. Unfortunately, the pressure created by these citizens was not always followed by adequate responses or solutions.

The analysis of the master planning in Belgrade regarding informal settlements shows that master plans, as only one of the instruments for their regulation and urban renewal, could not and cannot compensate for the lack of proper policies, legislative framework, and other means for regulating the current and potential future informal settlements. So far, informal settlements in plans are only seen as illegal construction which should, if possible, be included in the legalisation framework.

As the awareness of the volume of the informal settlements in Serbia has grown over time, there has been almost continual activity regarding legislative framework, from 1993 to the present day. During this period, according to the analysis of documents (laws and by-laws), one by-law for Belgrade, and eight laws and amendments to the laws regarding legalisation of informal settlements (laws on planning and construction and laws on legalisation) were enacted. All of these legal acts had the intention to prevent further illegal building and to provide the conditions that would enable the legalisation of the existing buildings. According to authors' content analysis of aforementioned laws, the older documents did not define penalties for those who might build illegally in the future, while the more recent laws treat illegal construction as a criminal act, followed by the appropriate penalties. Even such drastic measures did not prevent the expansion of the illegal growth of informal settlements. As the implementation of regulations was low, the informal settlements continued to grow significantly. There were various reasons for such a situation. Firstly, the national planning and governing bodies did not have the accurate information on the size and number of the settlements, let alone on the number of buildings, so they have mainly relied on estimations. The Ministry of Construction, Traffic and Infrastructure of the Republic of Serbia (2017a) have estimated that there were 1.5 million illegal buildings in 2015, while by 2017 the number had grown to more than 1.6 million. Secondly, after 2003, every law regarding the legalisation of informal settlements contained legal provisions, which referred to the postponing of its implementation (Mitrović, 2016). Thirdly, the inspection bodies did not have the adequate capacity to prevent new informal growth (The Ministry of Construction, Traffic and Infrastructure of the Republic of Serbia, 2017b). Furthermore, rampant corruption went hand in hand with the informal sector, thus supporting it. The fact that less than 1% of the total number of illegal buildings in Serbia has been demolished proves the low efficiency of the implementation of regulations (Mitrović & Antonić, 2013c). Lastly, it is important to emphasise the symbolic penalties and fees for the illegal construction of houses. From 2014, the idea was to have all illegally built buildings registered by the Cadastre, regardless of their status and practically free of charge (The Ministry of Construction, Traffic and Infrastructure of the Republic of Serbia, 2017c). While this was a positive step towards completing the information about the number of illegally built buildings, it also indirectly discouraged the submission of applications for planning permissions for new buildings. Judging by the

implementation of the legislation, it is easily noticeable that informal settlements are not treated adequately, with a unique approach, therefore proving more of an encouragement than a restriction for informal city growth. However, it is expected that the new national *Law on Legalisation* (Republic of Serbia, 2015) would give more concrete and effective results regarding the legalisation of informal settlements, as it was for the first time declared as public interest. On the other hand, the widespread urban sprawls within Belgrade borders, and close to them, are also the result of inadequate planning instruments, such as urban zoning, building rules, land-use regulations, and metropolitan regulations on urban structures (Zeković et al., 2015b).

The specific Serbian circumstances regarding the enormous growth of the informal settlements were related to the: (a) unclear and non-transparent legal framework and planning procedures; (b) vague possibilities of inclusion of all social groups regarding social rights (i.e. basic housing) and participation in planning process; (c) unclear relations between the public interest, social housing, and informal housing; (d) corruption related to the land use conversion, public interest protection, etc.; (e) failing legalisation processes, without visible positive effects, and (f) traditional urban plans as rigid and incomplete instruments of the process of legalisation, without the substantial elements of urban renewal. Finally, Belgrade planning procedures were complicated, non-transparent, and slow, so they additionally discouraged the private legal building initiative. All these reasons have led to a new spread of the informal growth of housing.

### 3 Growth of Informal Settlements in Belgrade

#### 3.1 History of Informal Settlements in Serbia and Belgrade

Serbia shares the destiny of many developing countries in terms of facing the problem of the uncontrolled and undesirable urban growth, which are not treated by adequate integrated development policies and plans (Mitrović & Antonić, 2013c). These problems can be associated mostly to the lack of housing policies for vulnerable socio-economic groups and migrants from neighbouring countries. Consequently, Serbian capital Belgrade had to, and still has to, cope with the excessive demographic influx, which again is reflected by its growing informal suburban areas (Mitrović, Ralević & Antonić, 2014).

There are several phases as well as many reasons regarding the genesis and growth of the informal settlements in Serbia and Belgrade. The privatisation of capital, impoverishment of the population, confusing housing policy during the transition period, lack of social housing policy, unadjusted legal framework, corruption, and the overall decline of the standard of living are just some of the key causes of the formation of informal settlements.

During the socialist period in former Yugoslavia, up to 27% of the Serbian population lived in Belgrade. Furthermore, the rigid state housing policy was predominantly based on mass collective housing and did not leave much space for individual housing in large cities. The control of technocratic planning practice, resource deficit, no adequate political support, and the conflict of informal employment and settlement with political and bureaucratic ideas for the modern city were reflected in the insufficient impact of planning systems (Žerjav, 2009). As a response to the socialist government's inadequate housing production, the trend of informal housing has emerged in this period and has led to a cautious relaxation of the rigid regime of state construction, and later, to flagrant flouting of the administrative and legal restrictions and the explosion of its volume (ETH Studio Basel, 2012).

The next phase is related to the specific trends and characteristics of the 1990s. Belgrade grew in the 1990s, but its growth was largely restricted to the residential sector, while industry, commerce, and the public sector stagnated to an alarming extent (ETH Studio Basel, 2012). The armed conflict and huge specific migrations to Serbia have created a new demographic pressure, which was mostly absorbed in Belgrade – namely, the influx of circa 200,000 refugees from all over the region who have moved to Belgrade (Commissariat for Refugees and Migration of the Republic of Serbia, 2008). The further demographic growth of Belgrade has put an enormous pressure on the city in relation to employment and housing (Mitrović & Antonić, 2013c). Although formal politics was aimed at preventing the further spread of informal settlements, it has actually tolerated the emerging 'informal social housing policy'. A closer look at these trends reveals that the city's transformation during the '90s reflects and magnifies tensions that shape developments worldwide, offering a sort of case study of a city caught between tradition and globalisation. Belgrade development processes, at the end of the 20<sup>th</sup> and the beginning of the 21<sup>st</sup> century, were characterised by some authors as the 'instability of the formal' and the 'stability of the informal' (ETH Studio Basel, 2012). Belgrade's transformation is also seen as a conflict between the failing project of the modern city and the rampant growth of an informal city (ETH Studio Basel, 2012).

The third period, from 2000 onwards, is defined as the period of transition and the impact of the political, societal, and economic changes, which again had the informal housing growth as one of the results. Firstly, as the public sector was weakened significantly, the institutions were undeveloped and unable to adapt to the new situation. Secondly, the legal framework was rigid and rooted in the former period, without clear means for its implementation. The limitedness of the public sector prevented it from defining the appropriate social housing policy and meeting the needs of the population for social housing. According to Zeković et al. (2015a), the urban land regulation in Belgrade, demonstrating a traditional administrative approach, was a key reason for massive illegal building and sprawl.

### 3.2 Belgrade Informal Settlements Today

Belgrade's informal settlements are almost evenly spread over the city's peri-urban territory. There are approximately 30 settlements which vary in size, position, density, spatial-physical, and other characteristics. In Belgrade, extensive informal settlements have occupied large peripheral, mostly former forest and agricultural areas and the surroundings of some of the main highway corridors (Belgrade-Novı Sad, Belgrade-Zagreb), routes to Zemun, Batajnica, Smederevo, Zrenjanin, Ibar, and the airport, etc. The infrastructure-driven urban sprawl is evident along new industrial, commercial, and mixed peri-urban zones (Zeković et al. 2015b), but also around the wider, built up areas. Informal settlements in Belgrade make up more than 44% of the total housing areas (Mitrović & Antonić, 2013a), and 7.1% of the total surface area within Belgrade metropolitan borders.

The following analysis and research were done using the method of field and primary sources research.

The spatial distribution shows that the largest informal settlements are situated in the North-East and Southern Belgrade outskirts and along the left bank of the Danube (such as Borča, Krnjača, Kaludjerica), while the smaller ones are scattered throughout the city periphery and around the borders of Belgrade. Housing dominates land use, with around 90% of the total surface area of the informal settlements. There is also a significant share of retail, services, and other commercial activities and these non-residential land uses are mainly concentrated along the main traffic corridors (Mitrović & Antonić, 2013a). Most of the informal settlements have quite a decent amount of green areas within the individual housing plots, while public green spaces are scarcer. Public spaces, as well as public services (such as schools, children's day-care, and health facilities, etc.) are some of the greatest issues for the inhabitants of informal settlements, as no public services were planned beforehand, thus being spontaneously and unevenly distributed or not present at all. Hence, the citizens of informal settlements are forced to travel to the neighbouring parts of the city in order to fulfil some of their basic needs. This problem has also added to traffic jams along the inadequate existing streets within and in the vicinity of the informal settlements (Mitrović & Antonić, 2013c; Simeunčević Radulović et al., 2013).



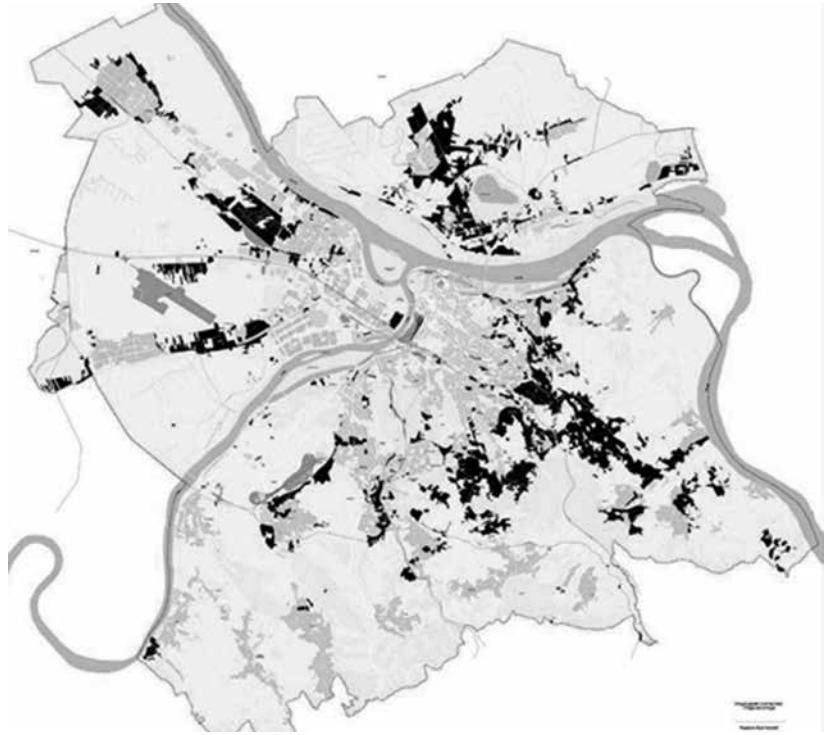


FIG. 3.1 Distribution of informal settlements in Belgrade, according to Belgrade Master Plan 2021. Dark areas present informal settlements (Image by Mitrović, Ralević & Antonić, 2014)

The street matrix is irregular and incomplete, while the streets are irregular, usually narrow, and insufficient to meet the needs of the citizens. Generally, the matrix is more regular in flat terrain (exceptions being Borča and Krnjača) and irregular in hilly areas, like in the Southern and South-Eastern parts of Belgrade. Street regulation could prove to be one of the biggest challenges in the future because of the problems of low safety, lack of the space for the infrastructure equipment and the need for the demolition of houses facing streets. Infrastructure is also a major issue; it varies from very poor to basic, with the electrical network being the only exception. Water supply lacks in some parts, while sewage and drainage systems usually do not exist.

Many settlements are built on potential landslide areas, which could threaten their stability. With potential negative impacts of climate change, such as floods and landslides, this situation could worsen in the future.

Blocks (built up areas) and housing plots within the settlements vary in size and shape, often being irregular and insufficient for the needs of single-family houses. As a result of their spontaneous nature and the lack of regulation, the houses are often located very close to each other and badly oriented (Mitrović & Antonić, 2013a). The general density and distribution of buildings within the settlements varies, depending on the nature of the settlement and time of its formation. There is an emerging pattern where the density of buildings is higher towards and alongside the main or transit roads, usually the ones that preceded the settlement.

The characteristics of houses in the informal settlements of Belgrade are similar to some other settlements in the Western Balkans but quite different from the informal building in the 'Global South'. The buildings

are made from solid materials, such as concrete and brick, meaning they are, in most cases, permanent and suitable for a multi-generational use, although built without any plan. There are usually no clear stylistic characteristics nor reflections of traditional Serbian housing.

It is safe to say that informal settlements in Belgrade, in a great number of cases, have the potential for urban renewal and transformation in terms of land use, while the improvement of the traffic and other infrastructure, as well as potential development of public spaces would be possible in some cases and would require more investment.

#### **4 Conclusions and Recommendations**

The informal settlements of Belgrade are rather specific, according to the aforementioned characteristics considering the overall context, and social and economic state, but also regarding their spatial features. Belgrade's informal settlements show great diversity in size, urban structure, and quality of buildings.

According to the in-depth analysis presented in this research, it can be concluded that land use and master planning correlates to the informal housing formations and characteristics. Land use areas designated in the master plans of Belgrade have not proven to be fully implementable without proper instruments or without adequate housing (especially social housing) policy, effective legal framework, developed institutions, and political will. Since the informally built areas continue to flourish speedily by the borders of master plans, they create a growing pressure on master and regulatory planning, making them embrace new buildings and adjust the future land use and traffic infrastructure according to the needs of new informal residents. The most vulnerable land use areas, such as agricultural land, green belts and the like, are endangered and subject to transformation. Still, there is room for improvement of these relations within a comprehensive urban renewal strategy.

The impacts of the growth of informal settlements on the development of Belgrade are complex and significant, though predominantly not positive. In terms of usage of urban construction land, conversion of the arable land or protective green areas, it is not a sustainable trend, as the informal settlements cover large areas and tend to spread. Additionally, the growth of informal settlements is economically unsustainable as it creates a demand for huge investments in relation to the need for new traffic and communal infrastructure. On the other hand, in the sense of social visibility of informal residents, bottom-up initiatives, and lessening the demand for social housing, it is a positive trend. A wide range of informal development in Belgrade could be explained by understanding the economic impact of these settlements and facilities. The cost of informal buildings is up to 50% lower than the cost of new, legally constructed ones.

The analysis showed that the predominant framework regarding informal settlements in Serbia today is related either to their demolition or to the process of legalisation. It is fair to say that there are sporadic attempts at integrating them into the wider planning context and into the process of urban renewal. The growth of the informal settlements is definitely an irreversible process that cannot be easily stopped, and in that sense, it deserves special attention and a revision of actual policies. However, a solution for the integration of informal areas demands a comprehensive, multidisciplinary approach. Of course, it is not always possible to legalise or integrate all informal settlements because they are located in strategic or inadequate locations (along main roads or infrastructure corridors, by a river bank, threatened by floods or landslides, etc.).

The idea of preventing the future expansion of informal settlements requires an adequate social housing policy, along with a set of different measures that would make future housing affordable. This goal is best achieved through appropriate land policy and the revision of complex regulations on planning and construction standards and administrative procedures, in accordance with the premises of the sustainable development – social, economic, and environmental development. The old urban planning patterns should be revised and readjusted so to become more strategic, flexible, locally sensitive and implementable, as well as more bottom-up oriented instead of being top-down and state-oriented (Mitrović & Antonić, 2013a). It is crucial to move the focus from the traditional, centralised, top-down approaches, including but not limited to the compulsory policy tools, like planning and zoning (Zeković et al., 2015a), to the principles of planning that would include the following qualifiers: pro-active, flexible, indicative, adaptive, inclusive, monitored, and evaluation-and-feedback-based. Instead of implementing sectoral strategies and solutions, it is necessary to adopt an integrated approach to solving problems of informal settlements by considering spatial, social, economic, political, financial and environmental context.

The removal of informal settlements is not only an abandoned approach, but it is also not socially feasible. Therefore, a 'step by step' approach via embracing integration rather than exclusion is far better and more applicable. Cutting informal growth of settlements in a surgical manner during the economic and transitional crisis is neither possible nor wise. It is necessary to abandon the perception of the informal settlements as invisible and outside-the-law, and accept the assets of this unconventional way of habitation. In other words, it is necessary to change the perspective and conventional way of thinking of the problem.

The treatment of the informal settlements should be related to the local characteristics and cultural and social background and other relevant aspects. This can include the understanding of the informal settlements in the context of affordable housing, but also through different approaches and concepts, such as eco-town, urban farming, urban village, to name just a few. 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 informal settlements in Belgrade, and by acknowledging their values, such as a decent provision of greenery, sufficient size of dwellings and housing plots etc., as opposed to the prevailing absolute criticism, could lead to more implementable solutions. Urban renewal should be a process that runs in parallel to the raising of awareness of civil rights of the inhabitants of informal settlements, as well as their social inclusion and participation. The model of urban upgrading should be chosen carefully, bearing in mind the potentials and constraints of the specific areas, and should be adjusted to the local context and people. The recommendations and suggestions for improvement of informal urban areas in Belgrade should reflect the idea of an integrative and realistic approach and should include the following:

- Exploration of the possibilities of upgrading the informal settlements so that they achieve the newly defined standards of social/affordable housing;
- Adoption of special urban planning regulations including urban upgrading principles and indicators that would comply with a lower standard and 'softer' criteria than the ones defined for the rest of the city territory;
- Development of special fiscal instruments exclusively for these city areas;
- Through the 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;
- Enable the cooperation between the public and private sector for providing sufficient public services in already dense areas;
- Provision of local regulation support that would be locally sensitive and ready-to-use within a short time. This would include incentives for owners who are willing to upgrade their houses to meet social housing standards regarding infrastructure, energy efficiency, etc. Wise governance instead of governing as a way of implementing institutional instruments could result in balanced land use planning and inner-city growth, reducing the practice of spreading and widening of the city territory. Working proactively on new ideas that are appropriate to Belgrade's informal settlements, Belgrade could become a pilot area for research and implementation of new models, alternative institutional arrangements and cooperative forms, supported by university research.

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