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TOWARDS SUSTAINABLE DEVELOPMENT OF SOCIAL HOUSING MODEL IN SERBIA – CASE STUDY OF BELGRADE

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Social housing in Serbia has been experiencing drastic transformations over the last 25 years. Although new solutions have begun to develop, they are based predominantly on various types of local supported housing provisions, insufficient in terms of supply and deprived of crucial elements of long-term sustainability. The main hypothesis of this paper is that the national system of social housing should include systemic approach and that improvement of social housing in Serbia towards sustainable development could be achieved by implementation of general criteria and specific indicators of social, economic and environmental sustainability. This paper may contribute to systemic sustainability evaluation of social housing projects in Serbia and consequently propose improvements in regulations and decision-making process, at both national and local levels.

Key words: **social housing, sustainability, general criteria, indicators, Belgrade.**

INTRODUCTION

The aim of this paper is to firmly embed the complex sustainability concept into the social housing system in Serbia by introducing general criteria of social, economic and environmental sustainability according to global demands, but of local relevance. Through analyses of Belgrade's existing social housing projects, we propose a typology based on location, capacity, structure and other planning features, and then rank each type by set of chosen criteria and specific indicators, with the aim to evaluate the level of its sustainability. This pilot mechanism could illustrate the possibility of complex evaluation of either built structures or anticipating the level of sustainability of future social housing projects, and thus generate the key arguments for necessary improvements of the social housing in Serbia.

BACKGROUND

Serbia has been exposed to negative legacy of political and social disintegration, devastating regional or international conflicts, post-conflict defies, and major structural deficits over the last 25 years. The unfinished transition process within a hesitant democracy dealt with complex phenomena of rapid socio-economic polarization, pauperization and high unemployment rate, in the new political and economic landscape of recurring multi-sector crisis. The former, relatively consistent Yugoslav centralized model of housing provision, once a top political priority and element of the socialist welfare state, abruptly collapsed and made place to market-based principles, small scale housing programs developed on *ad hoc* basis, while the existing social housing stock went through massive privatization (Tsenkova, 2009). Although the Housing Act from 1992 defined obligations and purposeful use of funds gathered from massive privatization of the housing stock, the hyperinflation of late 1992 and early 1993 had entirely deflated these funds. While up to 98% of public housing in Serbia were privatized (Petrović, 2004), this privatization did not accumulate funds sufficient to initiate new social housing cycles.

The starting point of the new social housing model in Serbia could be found in: the Strategy for Resolving the Problems of Refugees and Internally Displaced Persons from 2002 and particularly in The Settlement and Integration of Refugees Programme (SIRP), from 2003 to 2008 (UN-Habitat, SIRP, 2008). The main goal of SIRP was to raise local capacities, establish local housing agencies, and design, develop, and

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monitor pilot housing projects. Regardless of these scarce examples, Serbia was lagging behind in the housing reforms compared to other post-socialist countries of the Southeast Europe (Tsenkova, 2009).

After a period of stagnation, housing reform process in Serbia began with the adoption of two documents: Social Housing Law in 2009 ("Official Gazette of RS", No. 72/09) and National Strategy for Social Housing in 2012 ("Official Gazette of RS", No. 13/12). The Law defined the term of social housing as a "housing of an adequate standard provided with the support of the State, in accordance with the social housing strategy and programs for the implementation of the strategy, to households that, for social, economic and other reasons cannot obtain housing on the market", together with necessary instruments and financing. The main goal of the National Strategy and its Action Plan was to ensure effective implementation of the Social Housing Law and additionally promote social housing actors and sustainable system mechanism.

However, when analysing social housing in Serbia and particularly social housing projects in Belgrade, one can observe that these have been realized through a variety of programs and projects, but essentially lacking systematic and the strategic coordination framework and clear relation to relevant national or local social housing policy. In aim to contribute to sustainable development of social housing in Serbia, lacking also planned and coordinated mechanisms of cross-sectorial and inter-institutional cooperation of all stakeholders (Damjanovic, *et al.*, 2014), we propose one possible methodology by introducing complex sustainability criteria and indicators to social housing.

INTRODUCING CONCEPTS OF SUSTAINABILITY TO SOCIAL HOUSING

Although several authors and organizations developed diverse explications of sustainable development in housing, it is important to point out that there is no universal, all applicable, official definition of sustainable social housing, neither its unique indicators. For the purpose of this paper, and based on the review of relevant literature (UNEP, SUSHI, 2013; UN-Habitat, 2012; UN, 2011; UNECE, 2006), indicators of all three pillars of sustainability: social, economic and environmental, and were selected according to their relevance, contextual applicability, impact and benefits for residents, neighbourhoods and wider community. This paper proposes one possible selection of sustainability indicators that could, in the future, assist decision-makers/ housing providers and contribute to the development of more sustainable social housing in Belgrade and Serbia.

Theoretical and Notional Demarcation

Since there is no unambiguous definition, while mono-sectorial analysis does not provide a complete picture, the search for the appropriate model of social housing should include three pillars of sustainability and take into account local capacity (in terms of space, finances, administration, management and maintenance, etc.).

Contemporary model of social housing refers to social, economic and environmental sustainability in provision of decent and quality housing units at lower cost for the members of society who cannot afford it under market conditions, while saving existing resources (UNEP, SUSHI, 2013).

a) **Social sustainability** is of crucial importance in meeting the fundamental human need for shelter that is important for the basic development of the community and society. Social sustainability in the field of social housing is about creating affordable and quality housing that is available to different social groups and takes into account not only the current needs of users, but also the shifting needs of tenants during the use of the apartment. It is about ensuring the mixed use and the adaptability of space for different kinds of users (age, cultural, and income groups), promoting safety, equality and social diversity, and reducing financial disparities, while promoting social values and goals such as social cohesion and social inclusion.

b) **Economic sustainability** includes economic efficiency of the building/settlement at all stages of its life cycle, from construction, through operation and maintenance, renovation and possible reconstruction, to demolition and recycling. In order to achieve economic viability of social housing, it is necessary to consider the available subsidies, the income mix, as well as diversity in the type of lease.

Social housing has been often seen as a measure of the social care system, a tool of poverty reduction, in achieving social justice and ensuring the fundamental human right to housing, but seldom as an instrument of economic development. The impact of economic viability of social housing depends on the mixture of economic functions and housing sector implications: housing and associated infrastructure is one of the most valuable and durable human creations; housing provides the basis for the well-being of people, work productivity and mobility; housing has a large share in household spending and public expenditure; housing construction, services related to housing and real estate market are the key economic activities and play an important role in employment.

c) **Environmental sustainability** implies responsible relations between the housing sector and the environment, by means of efficient use of natural resources and energy during the entire life cycle of construction, renewable energy use, use of ecological building materials, waste and carbon dioxide emissions reduction, in order to cut back on aspects that are harmful to human health and the environment.

A strategic framework for improving environmental sustainability in housing should incorporate: increasing the resilience and adaptability of housing; the provision of healthy living conditions and a healthy environment; the reduction of waste from the use of heating and cooling energy, coupled with carbon dioxide emissions, reduction of water and soil pollution, adequate use of materials and waste recycling.

THE SUSTAINABILITY CRITERIA OF SOCIAL HOUSING

After examining the broad and divergent theoretical basis from which derive different systems of indicators and different methodologies (UNEP, SUSHI, UN Habitat, etc.), it is

possible to stipulate that there are no generally harmonized indicators based on a unique procedure of data collection and analysis.

Therefore, the main challenge is to create a comprehensive method of selecting criteria and indicators that would measure social housing in Belgrade, and relate them to the final goal of evaluating the social housing sustainability performance. In this sense, the great majority of chosen criteria and indicators are connected with social housing programs in the region and worldwide, and their experience in developing, monitoring and evaluating social housing settlements and projects. Especially important in the Serbian context is the low carbon transition and energy vulnerability, recorded here as a specific form of transitional energy poverty. The transition to sustainable models in post-socialist cities is inevitable, especially having in mind unclear spatial transformations, administrative and social practices and land use.

Social sustainability criteria – The importance of social housing in achieving social cohesion has been recognized in key international and European policy documents (Priemus, 2005). Social housing, as a special form of housing provision is largely based precisely on social ethics and social solidarity. Multiple connotations of this topic imply the large extent of criteria of social sustainability, namely:

A1. *Site* – Location is especially important and includes indicators such as: distance from the city centre, from other urban centres, from main city roads, public transport and services, but also from jobs and health and educational institutions etc. Many authors consider that greater social effects can be accomplished by dispersing individual buildings of social housing throughout compact neighbourhoods, than by grouping them in the form of social housing enclaves (Weingaertner and Moberg, 2014; Milić, 2006).

A2. *Quality of architectural design* – This criterion is coupled with social inclusion: sense of safety within residential areas, the degree of identification of tenants with the immediate environment and the neighbourhood (Milić, 2006).

A3. *Diversity* – Social housing projects can vary in urban and architectural typology, density, type of lease, etc. (UNECE, 2006).

A4. *Social mix* – Social diversity, in particular in household income level, in household types (singles, young couples, families with children, etc.), and diversity of use, etc. (UN-Habitat, 2012; Weingaertner and Moberg, 2014).

A5. *Access to services* – The range of services available to tenants takes into account indicators of frequency of use, number of users, and spatial accessibility for all social groups, including children, the elderly and persons with disabilities (UNEP, SUSHI, 2013; Levett, 1998).

A6. *Safety* – Related indicators evaluate the level of safety and the crime prevention in the neighbourhood. Specific urban and architectural design solutions and the subsequent interventions in public spaces can have a preventive role in combating social deviations (Milić, 2006).

A7. *Public participation* – Level of involvement of local community indicators can be considered in planning and design of social housing, as well as the level of satisfaction with housing conditions, security, maintenance, etc. (UN-Habitat, 2012; Weingaertner and Moberg, 2014).

Economic sustainability criteria – Based on comprehensive and detailed analysis of housing needs, the public authorities should shape the economic investment drive, in terms of investment in the existing public housing stock, its improvement and maintenance, but also find ways to reach housing affordability. Criteria and indicators of economic viability are not associated only to the benefits for low-income households, vulnerable or other priority groups, but also to many other elements of economic viability at the level of the wider community:

B1. *Value of the land /housing site* – Within the general criterion of the site value, there are specific indicators, such as the cost of the property (return on investment), ownership relations (ownership, lease), administrative and market setting (land management), etc. (Milić, 2006).

B2. *Sustainability in project financing* – Achieving financial stability means that there are available sources for the social housing program from the city/national/EU funds (Priemus, 2005; Guy, Kibert, 1998).

B3. *Life cycle costs of building/settlement* – Within the criteria related to life cycle costs of the building/settlement, there are several indicators, for instance investment costs, operating and maintenance costs (annual), future repair and replacement costs (at the expense of users), as well as monitoring of the housing condition after moving in, determining the physical condition of the building (Levett, 1998).

B4. *Competitiveness* – Competitiveness of social housing providers, involving some elements of the market to social housing must be preceded by gradual introduction of private housing actors in the field of social housing provision (UNECE, 2006).

B5. *Affordability* – The criterion of affordability is achieved when, on the user side, social housing standards and location correspond to low-income or middle-income households' needs (UNEP, SUSHI, 2013).

B6. *Collection rate of the rent* – The indicator of the realized rate of rent collection and maintenance costs in social housing can serve to evaluate the sustainability of the general rental conditions (UNEP, SUSHI, 2013, Guy and Kibert, 1998).

B7. *Level of infrastructural equipment* – The attained level of infrastructural equipment and the capacity of public services relates to level of public services' costs compared to standard housing construction (UNEP, SUSHI, 2013).

B8. *Economic activity* – There are a number of indicators related to economic activities: employment rate, the diversity of available jobs (at a distance of 2-3 km from the place of residence) and dynamism in community development activities, such as participation in improving the socio-economic well-being of the neighbourhood (UN-Habitat, 2012; Priemus, 2005).

Environmental sustainability criteria – Social housing projects could be evaluated, ranked and even planned by using the following general criteria and the related specific indicators of environmental sustainability:

C1. *Mechanisms for site selection* – Site selection should be compliant with the elements of environmental sustainability and environmental standards, such as natural conditions, the quality of water, air, soil, vegetation, environmental comfort, etc. (UNEP, SUSHI, 2013; Priemus, 2005).

C2. *Environmental site improvement* – Ecological rehabilitation, erosion control and sedimentation, management of surface water, flood control, etc. (UNECE, 2006).

C3. *Land use diversity* – Mixed-used development, multiple and compatible uses (UNEP, SUSHI, 2013; Priemus, 2005).

C4. *Integrated design* – Achieving synergy of disciplines and technologies (UN-Habitat, 2012).

C5. *Environmental design quality* – Addresses the issue of ecological optimization in positioning and orientation of the settlement/building, in line with the insolation parameters (additional indicators: good thermal insulation of external walls and roofs, energy-efficient windows, in order to minimize heat gains and losses; principles of low-energy or passive objects as a way to reduce energy poverty, etc.) (UNECE, 2006).

C6. *Eco-construction* – Using advanced and high-quality eco-friendly construction measures, such as reduced energy consumption, use of natural materials, use of renewable energy for heating, management and reuse of rain waters, sustainable drainage systems, etc. (UN-Habitat, 2012; National Strategy for Social Housing, 2012).

C7. *Sustainable management of construction and demolition waste* – Corresponding indicators include practices that facilitate sustainability in waste management, such as renewal, recycling, reuse of resources, waste minimization, etc. (UNEP, SUSHI, 2013).

C8. Monitoring of energy consumption for heating – The average annual consumption of energy for heating (in kWh/m^2) (Regulations on energy efficiency of buildings, 2011).

C9. *Experimental elements in social housing programs* – Related indicators provide evidence of experimental, innovative environmental elements in social housing programs. After monitoring the effects, the same green features can be applied in other housing formats (UNECE, 2006).

C10. *Low-energy standards in social infrastructure facilities* – Indicators that also raise awareness of the general public, concern the attained amount of low-energy standards in social infrastructure facilities of the settlement, in schools, kindergartens, health and social care institutions, etc. (UN-Habitat, 2012).

C11. *Design of public open spaces and green areas* – Concern the treatment of urban open spaces and green spaces as vital environmental and community resources (e.g. park area/km^2) (UNEP, SUSHI, 2013).

C12. *Sustainability in transport* – Comprises the distance from the place of residence to the local bus stop, the frequency of bus stops, the distance to the network of cycle tracks, etc. (UN-Habitat, 2012).

C13. *Environmental safety* – The focal indicator of environmental safety specifies the level of protection of the social housing site from potential pollutants (UNEP, SUSHI, 2013).

Table 1. Sustainability Criteria of Social Housing: Three pillars

SOCIAL HOUSING: SUSTAINABILITY CRITERIA		
A SOCIAL	B ECONOMIC	C ENVIRONMENTAL
A1 *Site*	B1 *Value of the land / housing site*	C1 *Mechanisms for location selection*
A2 *Quality of architectural design*	B2 *Sustainability in project financing*	C2 *Environmental site improvement*
A3 *Diversity in typology*	B3 *Life cycle costs of building/settlement*	C3 *Diversity of land use*
A4 *Social mix*	B4 *Competitiveness*	C4 *Integrated design*
A5 *Access to services*	B5 *Affordability*	C5 *Environmental design quality*
A6 *Safety*	B6 *Collection rate of the rent*	C6 *Eco-construction*
A7 *Public participation*	B7 *Level of infrastructural equipment*	C7 *Sustainable management of construction and demolition waste*
	B8 *Economic activity*	C8 *Monitoring of energy consumption for heating*
		C9 *Experimental elements in social housing programs*
		C10 *Low-energy standards in social infrastructure facilities*
		C11 *Design of public open spaces and green areas*
		C12 *Sustainability in transport*
		C13 *Environmental safety*

THE SOCIAL HOUSING IN SERBIA: CASE STUDY OF BELGRADE

Overview of the Social Housing Programs

Recently built social housing in Belgrade has been developed within different incoherent programs since 1990, and in diverse legal environments, belonging to social rental housing projects for public sector employees and socially vulnerable groups, or to social owner-occupied housing. Some of the most recognisable programs are: A) *Program for solidarity housing construction;* B) *Program for the construction of 1.100 housing units in Belgrade;* C) *The construction project of 2.000 non-profit housing units;* D) *Program for the construction of apartments for young scientists and artists;* E) *Public rental housing built through international humanitarian programs and projects;* E-1) *Project of social housing for disabled war veterans; and* E-2) *The Program Social Housing in Supportive Environment.*

Typology by location, capacity and structure

In order to objectivise the analyses of social housing in Belgrade built through previously listed programs and in different city locations, we have classified all recently built social housing developments by typology, based on their location, capacity, structure and other planning features (Fig 1, Tab. 2). For each group, one typical example was chosen for evaluation according to selected sustainability criteria with the aim to determine its level of sustainability.

For the purpose of this research, two main groups of social housing developments were further expended, as shown in Tab. 2, Fig 1.

The first group, type (I) relates to singular housing locations, and can be further divided into: I-A) *small-scale projects (15-100 units)*, e.g. Olge Alkalaj Street, Španskih boraca Street, Veliki Mokri Lug; I-B) *one or several buildings forming a group (90-500 units)*, like Jurija Gagarina Street, Vojvođanska Street, and Radnička Street.

The second group, type (II) relates to larger housing zones with public services, divided into: II-A) *settlements continuing or part of the existing urban matrix (300- units)*, e.g. Retenzija in Zemun, Dušana Vukasovića Street, Dr Ivan Ribar settlement; II-B) *satellite-type settlements, autonomous social housing development, in sharp contrast with local urban matrix (300- units)*, e.g. Kamendin and Ovča settlements.

Table 2. Classification of rental and owner-occupied social housing in Belgrade

Size		Program	Type of social housing	Location	Number of units	No. on Map
Location Type	**Building Type**					
I) Singular Location	***I-A)*** Small Scale/ Single Building (15-100 units)	E	Social rental	Jabučki Rit **, Palilula	15**	**1**
		C	Social rental	Between Belo vrelo Street, Palisadska Str., Komovska Str. and Bele Vode Str., Žarkovo**	24**	**2**
		E	Social rental	Mislođin**, Obrenovac	32**	**3**
		A	Owner-occupied	Olge Alkalaj Street, Zvezdara	34	**4**
		A	Owner-occupied	Ivana Ribara Street,New Belgrade	51	**5**
		B	Owner-occupied	Španskih boraca Street, Block 29, New Belgrade	60	**6**
		E		Veliki Mokri Lug, Zvezdara	60	**7**
	I-B) Larger Building/ Group of Buildings (90-500 units)	B	Owner-occupied	Juri Gagarin Street, PFC 10, Block 61, New Belgrade	98	**8**
		C	Owner-occupied	Vojvođanska Street, PFC 5 and 29, Block 63, New Belgrade	173	**9**
		A	Owner-occupied	Klare Cetkin K1 and K2, Retenzija, Zemun	187	**10**
		B	Owner-occupied	Radnička Street, Čukarica	216	**11**
		C	Social rental	PKB, Padinska Skela, Kovilovo	260	**12**
		B	Owner-occupied	Dušana Vukasovića Street, PFC 14.1, 14.2, 4.1, 4.2, Block 61 and 62, New Belgrade	470	**13**
		D	Owner-occupied	Block 32, New Belgrade*	250 (out of 517) *	**14**
II) Settlement	***II-A)*** Settlement continuing urban matrix (300 units and more)	B	Owner-occupied	Dr Ivan Ribar settlement*, Mileva Marić Ajnštajn Street, New Belgrade	731	**15**
		B	Social rental	Dr Ivan Ribar settlement*, settlement, Mileva Marić Ajnštajn Street, New Belgrade	133 (out of 399) *	**16**
	II-B) Satellite Type Settlement (300 units and more)	C	Social rental	Kamendin settlement*	181 (out of 744) *	**17**
		C	Social rental/ Owner-occupied	Ovča settlement*	965*	**18**

*Under Construction; ** In planning phase.

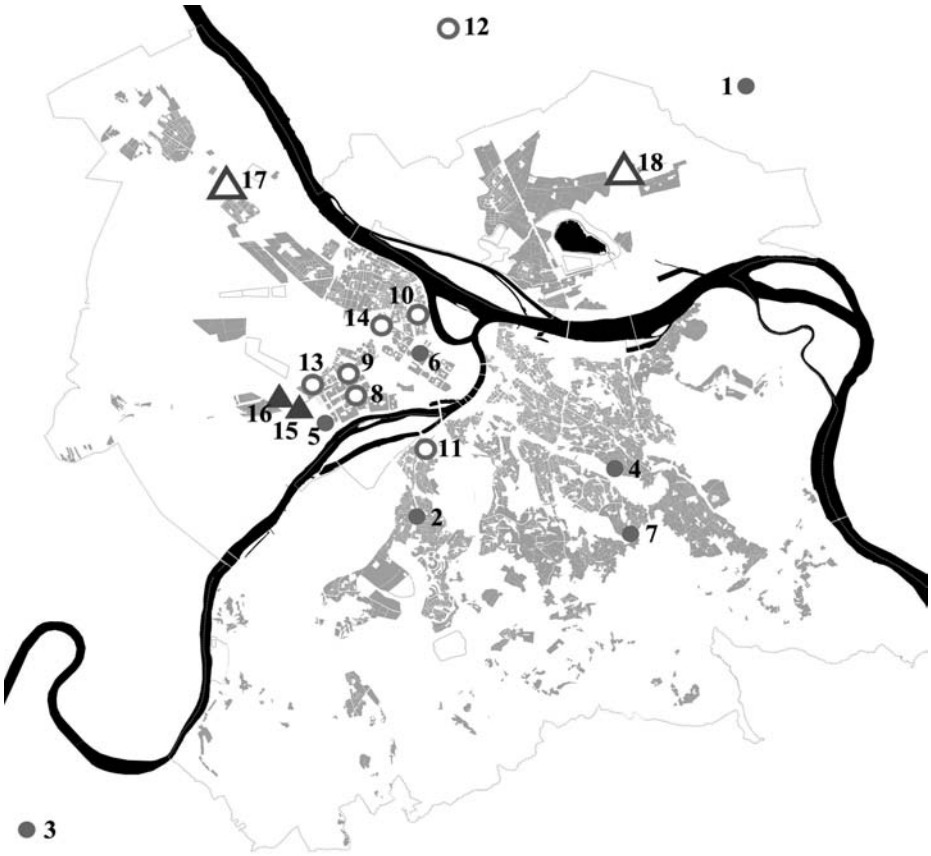

Figure 1. Map of singular locations and settlements of recently built rental and owner-occupied social housing

Figure 2. Group I-A, Social rental housing in Veliki Mokri Lug, Zvezdara

Figure 3. Group I-B, Social non-profit housing in PFC 10, Jurija Gagarina Street, Block 61, New Belgrade

Figure 4. Group II-A, Social non profit and social rentalhousing in Mileve Marić Ajnštajn Street, Dr Ivan Ribar settlement, New Belgrade

Figure 5. Group II-B, Social rental housing in Akrobate Aleksića Street, Kamendin 1.6 settlement, Zemun Polje

PILOT EVALUATION OF CHOSEN SOCIAL HOUSING DEVELOPMENTS IN BELGRADE

The result of the evaluation is shown in number of points (e.g. "•", "••" and "•••") where social housing development with the highest score performs significant overall sustainability, and can be considered as a model for the future developments of the same type. Being aware that the proposed criteria are of different importance for the quality of social housing units or neighbourhoods, the evaluation could be further upgraded through pondering of each criterion.

The results presented in Table 3 show that the scores of sustainability for the Group (I) are predominantly better compared to the Group (II), with scores: (I-A=39, and I-B=37, while II-A=34, and II-B=23 only).

These results show that Group (I) is more sustainable, particularly from the perspective of social cohesion and social inclusion compared to Group (II). This can be explained by the fact that most of the buildings belonging to Group (I) are small-scale projects, located within neighbourhoods of similar typology, connected to public transportation, with schools, health centres and other public facilities nearby (Fig 2, 3), while Group (II) shows more contradictions (Fig 4, 5). For example, in the Dr Ivan Ribar settlement (II-A) coexist both types of social housing, rental and owner-occupied, within much higher densities. Although these two types of social housing are apparently distinct, this settlement creates a neighbourhood of similar typology, well connected to public transport infrastructure and adjacent key public facilities. On the other side, concentration of social rental housing in Kamendin (II-B) is relatively remote as regards to municipal services and infrastructure, which raises significant social inclusion concerns. For this reason, this rigid spatial distribution has created social and ethnic conflicts, a "ghetto" atmosphere and problems of social segregation (Politika, 8th November 2013). Besides a certain social stigma attached to the perception of "social housing" in general, Kamendin also raises the question of negative financial repercussions, as real estate prices in the whole neighbourhood have been severely and directly affected. Thus negative features prevail, such as social and physical segregation, high concentration of poverty and unemployment, lack of social facilities, inefficient management and maintenance, etc.

When comparing the best results (I-A) and the worst (II-B), we can indicate the fact that (I-A) belongs to low density social housing within well-connected neighbourhoods of similar typology and as such creates low concentration of vulnerable households, while (II-B) has extremely high concentration of vulnerable households remote from major services and infrastructure and in sharp contrast to the inserted neighbourhoods.

Table 3. Pilot evaluation of four types of social housing developments in Belgrade through general criteria and specific indicators of sustainability

General Criteria / Specific Indicators			GROUP I		GROUP II	
			I-A	I-B	II-A	II-B
Social Sustainability	Location	Distance of social housing site relative to the city center	••	•••	••	•
		Distance of social housing site relative toother settlements	•••	•••	•••	•
		Distance to public transport and service, and major traffic infrastructure	•••	•••	••	•
		Distance of jobs and employment opportunities	••	••	••	•
		Distance to education facilities and health institutions	•••	••	••	•
	Social mix	Diversity of users by education and economic characteristics (including household income diversity)	•••	•••	•••	•
		Diversity of household types (singles, young couples, families with many children, etc.)	•••	•••	••	•
		Diversity of housing allocation types	•	•	•	•
Economical Sustainability	Site value	Land value (return on investment)	•••	••	••	••
		Sustainability of land tenure relations (ownership, lease)	•••	•••	•••	•••
		Administrative and local market conditions (land policy)	••	••	••	••
	Rent collection rate	Sustainability of general conditions of lease	••	••	•	•
		Rent collection rates and maintenance costs	•••	••	••	•
Environmental Sustainability	Site selection by environmental parametars	Site selection according to the elements of environmental sustainability and standard (natural conditions, quality of water/air/ soil, environmental comfort, etc.)	•	••	••	•
		Activation of brownfield sites	-	-	-	-
	Enviromental design	Ecological optimization in positioning and orientation of the settlement /buildings according toinsolation parameters	••	••	••	••
		Good thermal insulation of external walls and roofs and energy-efficient windows in order to minimize heat gains and losses	••	••	••	••
		Llow energy/ passive housing principles as a practice for energy poverty alleviation	•	•	•	•

These issues need to be intensely considered in future social housing developments, like those planned in Ovča or Padinska Skela, Kovilovo. The capacity of the future settlement in Ovča, located on the outskirts of the Belgrade Metropolitan Area, was optimistically planned for 1.400 housing units, representing almost three quarters of all imminent social housing development in Belgrade (Agency for Investment and Housing, 2011), but was then reduced to 965 units to be built successively, according to the architectural, technical and social infrastructure analyses provided by Urban Planning Institute of Belgrade and CIP Company during 2013. The project asserts its dedication to the economy and rationality of the design, energy efficiency principles and low operational costs. However, creating high concentration of social housing in already impoverished semi-rural areas on the Belgrade outskirts, lacking basic infrastructure, services and jobs, should be reconsidered in terms of all aspects of sustainability. Equivalent concerns can be asserted for the future social housing development in Padinska Skela, Kovilovo.

In that sense, the Belgrade planning experience has raised essential location questions since social housing sites have been traditionally determined in the City general/master plans (1972, 1985, 2003, 2009) according to only few criteria: the vacancy of the land and, recently, the ownership status (state/city owned). Unfortunately, most of the locations for social housing were planned on the city outskirts creating sharp contrast to the existing urban matrix, and thus being potentially unsustainable in terms of land use and social welfare. For the reason of complex planning procedures and land ownership relations, the modifications of urban parameters for social housing, such as land use or density, showed to be remarkably challenging, even when proposed by public institutions implementing particular social housing project. Timely planning procedures for important public amenities have become substantial for successful public housing projects (Damjanović and Gligorijević, 2010).

The evident sustainability deficit in some of the analysed social housing projects calls for judicious methodological improvements, beginning with introducing general criteria and specific indicators, in order to help public providers, as sole providers of social housing services, in successful decision-making process at local level.

CONCLUSION

It is evident from all pertinent references on this topic that the existing social housing sector in Belgrade lacks clear criteria in strategy, planning, designing, implementing, monitoring and evaluating. In this paper, we have proposed a non-exhaustive yet consistent list of criteria of all three pillars of sustainability (social, economic and environmental), selected for their circumstantiality, effects and benefits for users, neighbourhood and even for broader community.

By further thorough methodological elaboration of criteria presented in this paper, and indicators for monitoring and measuring performance of the built structures, the shown principle can be used as part of a more judicious decision-making mechanism in the process of planning and designing of the new, or evaluating of the existing social housing projects in Belgrade. In subsequent research, all the proposed criteria could be evaluated and pondered according to their importance for particular location and the quality of social housing units or neighbourhoods.

Development of the proposed sustainability criteria, as auxiliary mechanism for assessing the capacity and the quality, can contribute to creating successful new social housing programs and projects in Belgrade and to defining guidelines for the improvement of the social housing system in Serbia towards overall sustainability in all phases, from strategy to implementation.

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