PARAMETERS FOR IMPROVEMENT OF THE HOUSING QUALITY IN SOCIAL HOUSING DWELLINGS

UDC 728.1:365=111

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Abstract. Experiences of the countries with developed social housing sector indicate that the role of social housing should not be treated in a limited manner, considered to be just a roof over one’s head, whereby housing quality will be neglected. Contemporary approaches to the development of social housing models are focused on users themselves, with a special concern for the housing quality. Because the units of social housing have the minimal size, it is necessary to provide such amenities so as to overcome the shortage of usable housing space. It is also desirable that the design of social housing dwellings should have a simulative effect on the tenants within this areas. This paper discusses the spatial and physical parameters which could affect the housing quality of this type of dwellings.

Key words: housing quality, housing standard, housing unit, social housing

1. INTRODUCTION

Long tradition in social housing construction conceptualized through the idea of massive industrial construction, in addition to many architectural flaws, has also indicated the problem of social segregation. This problem further initiated various conflicts within these areas. Some authors in their researches (Wilson, 1996; Bolt, 2009) raised the question about the influence of social housing complexes on the level of social exclusion among their tenants. Many of them (Petrović, 2006; Munch, 2009) believe that this approach directly contributed to the high level of problematic behaviour within social housing areas, such as premature school abandonment, alcohol and drug use, bullying and etc.

Modern tendencies in the design of social housing dwellings indicate that the role of social housing should not be observed in a limited manner, as a provision of mere shelter, whereby the housing quality will be neglected. Quite contrary, the planning process of these types of dwellings needs to be faced toward users themselves. Experiences of the
countries with rich social housing tradition indicate that there is no universal model which would guarantee the success of the social housing concept. Through the review of good and successful examples of social housing models, we intend to define relevant parameters which will have positive effects on the housing quality within those buildings. The proposition for improvement of the housing conditions is based on positive and negative experiences of the developed countries (Broto, 2005) and also of the countries in the region. It also relies on the practice and experience from the past few years of some cities in Serbia in which development of social housing was assisted by the government and international institutions and funds (Damjanović, Gligorijević, 2010; Ramirez et al, 2008).

2. PROBLEMS OF THE DWELLINGS FOR SOCIAL HOUSING

Various experiences of the countries with high developed social housing sector indicate that success, or failure, of social housing models, do not depend only on an economic situation of the country and amount of funds invested in their construction. There are numerous examples of social residential complexes, with major fund investment, which proved to be very unsuccessful. Significant number of these residential complexes was demolished very shortly after their construction.

The analysis of social housing examples worldwide intends to identify the main problems of the housing units which occurred during their service; and to define some common shortcomings.

- Location of the social housing complexes often was not observed through the context of existing urban matrix and its connection with existing urban surrounding. As a result these residential complexes were cut off from the rest of the area, usually without any urban amenities. This concept created isolated "urban islands", which caused social segregation and further generated various conflicts within these areas.

- The majority of social housing dwellings and complexes, built in the XX century, were developed on a low-budget "dorm" concept. The main goal was quantity - building as many housing units as possible on the most favourable conditions. Under these circumstances the issue of quality was neglected and there was no concern about individual needs of possible future tenants.

- The form and geometry of social housing dwellings under the pressure to achieve the most favourable construction price, influenced also the housing units form. As a result, the housing units were framed with construction elements, which unable further development and organization of housing space upon individual needs and habits of the tenants (Cabernite, 2009).

- The architectural monotony, arising from the concept of mass industrial construction, was one of the main problems of these dwellings. Many authors believe that this concept had directly contributed to the high level of problematic behaviour within this areas (Milić, 2006), which affected the further decline of dwellings conditions and their surrounding areas.

All this shortcomings, caused by such a concept of social housing models, resulted in the fact that these areas were very unpopular places for living. Since the users of these social housing dwellings could not satisfy their basic needs there, the most of the complexes ended up uninhabited. This affected not only the social housing dwelling themselves but the whole surrounding area.
3. PARAMETERS FOR IMPROVEMENT OF THE HOUSING QUALITY WITHIN SOCIAL HOUSING DWELLINGS

Present-day approach shows that adequate spatial planning and architectural design are crucial for the success of social housing models, because they can provide an increase of housing quality and thus contribute to the greater sustainability of the whole concept. Various concepts of social housing, applied in western countries, and the analysis of detected shortcomings but also of positive impacts, enabled a more detailed assessment of the needs and necessary characteristics of this type of dwellings (Kowaltowski, Granja, 2011). Therefore the analysis and definition of the relevant architectural parameters represent the foundation for their successful realization. These parameters should primarily define spatial and physical characteristics of housing structures at multiple levels: housing unit level, floor level, whole residential structure level. Housing standard of dwellings for social housing depends on numerous parameters, but according to Milić (2006), the key parameters are those aiming to define the necessary minimum concerning: location; physical comfort (number, areas organization and mutual connection of some functional segments within multiple housing levels mentioned before) and architectural identity.

3.1. Location

Spatial planning in social housing models is increasingly related to the level of social cohesion within those areas, which is achieved through the adequate implementation of physical structures into larger residential areas. Concerning the aspect of housing standard, the most preferable are those areas which in their proximity have as many commercial and service facilities. However, these particular factors are crucial for defining the apartment's market price value. In fact, in order for housing to be affordable, social dwellings cannot count on the high level of functional standard, but only on the minimum, concerning supply, education, child and health care facilities and public transportation. Therefore it is important to determine the reasonable benefits which location for social housing should provide.

When it comes to the residential environment satisfaction, it mainly depends on subjective experience of potential users. However, proximity of certain public amenities in many ways determines the quality of life on a particular location. Although high frequency and availability of public transportation contribute to the quality of life, conducted research (Geraedts, 2007) shows that this factor is less important when it comes to the choice of housing environment and that is not crucial for successful realization of the housing models.

On the other hand, cultural habits of the population with lower incomes often involve mass-public activities. The majority of free time of social housing users is related to local contents - such as small shops, places for leisure or children playgrounds. Therefore it is necessary that these types of facilities should find their place within social residential complexes, designed adequately to develop creativity and encourage diversity of potential users. If this approach cannot be followed due to the small size of the plot, it is necessary to choose such a location which is in the proximity of those facilities or places that can potentially be reorganized as green spaces for leisure or recreation with minimal fund investments needed for their refurbishment or adaptation.

Innovative approaches in social housing models stress the necessity for mixture and diversity of different housing concepts within one residential area, through inclusion of the various population groups and theirs adequate integration within this area. The emphasis in all these models is on mutual usage of location's common facilities. The recommendation is that
The contrast in housing structure of residential area should not be excessive, because it might generate conflicts among different tenant groups, which may further influence decrease of the housing quality within these areas. Therefore it is preferable to have a fragmental fitting of singular location or smaller social housing (or low-income dwellings) groups into the residential areas of slightly higher housing standards. This attempts to ensure the mutual usage of common facilities, such as elementary services and local open spaces, which will generate better inner-tenants relations (Milić, 2006).

The recommendation is that the same principles need to be applied in the process of revitalization and renewal of existing social housing areas. The principle of fragmental positioning of social housing dwellings and theirs integration into larger residential areas, should also be followed with the increase of elementary services, supply facilities and spaces and areas for leisure and recreation, either through their integration within existing buildings or through additional construction which will accommodate necessary common services. Such commercialization of existing residential areas would make the opportunity to create heterogenic inhabitant structure.

Fig. 1 Rehabilitation of the residential complex Alexandra Park Revs in Toronto. Appearance before and after: blue represents the housing for market, grey the revitalized social housing dwellings, and yellow the upgraded commercial facilities

An example of successful reconstruction of social residential complex is the revitalization of the Alexandra Park Revs complex in Toronto (Figure 1), which grew from a residential complex built for the poorest residents into the mixed use complex, with different housing structures in terms of economical status of their inhabitants. The plan envisioned the

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1Source: http://torontoist.com/2012/07/alexandra-park-revs-up-for-complete-revitalization/ Retrieved October 20, 2014
reconstruction of 473 units, additional construction of 1,540 units and demolition or redevelopment of 333 housing units (in order to create additional commercial and service facilities). The design also proposed the intervention in the complex's open areas by slitting two new pedestrian corridors in order to create additional green spaces and areas for leisure and recreation.

3.2. Physical comfort

High density is an inevitable part of the social housing. On the other hand, in order to reduce the economic risk, the construction of this type of dwellings gives priority to the application of "standard" architectural schemes. This kind of approach severely limits the architectural concepts of the social housing models, and thus directly affects the housing quality within those dwellings. Therefore the definition of relevant architectural parameters which would have the positive effects on the housing standard is essential for the successful realization of social housing models.

3.2.1. Multi-functionality of the housing space

As the social housing sector in Serbia is marginalized, with the share of less than 1% in the total housing stock; it very unlikely that the households will rely on allocation of the social housing unit based exactly on their needs. Therefore, the social housing units need to be planned and designed in a way to allow each household to adapt the housing space according to their needs and equip it in the way best suited for them (Begović, Matković, Mijatović, Paunović, 2010). Contemporary, dynamic lifestyle requires a multifunctional space and therefore sets flexibility and adaptability as an essential requirement of residential premises (Živković, Jovanović, 2012). Flexibility and adaptability can be observed through multiple levels: setting of supporting construction elements; implementation of movable partitions and non-bearing elements; and position of the installation blocks and technical units.

The need for multi-functionality of social housing units requires a certain physical composition of the housing unit space. It needs to allow a gradual and simultaneous changes in the schedule and manner of how the certain parts of units or rooms are used, based on the growth of occupants number and on the development of their needs. These requirements are the result of a necessity to save space in already small apartments; but also the precondition that the same housing unit needs to be adjusted to a wide range of potential users. For example, social housing units in Serbia are allocated for a period of 5 years and it is possible that a same housing unit will be used by large number of households with different family structures and needs. The example of social housing Polje in Slovenia (Figure 2), shows how the same housing unit could be used in different ways, depending on the current household's needs and structure.

The best approach to achieve the high level of flexibility within a housing unit is the design of "open" plan (Wong, 2010), modularly divided in a way which can accept diverse variants of unit's organization. This allows the organization of housing space according to its purpose, which solves the problem of apartment's obsolescence. This approach ensures the long-term sustainability of the social housing dwellings, because it requires less radical adaptation through the service period (Živković, Kondić, Jovanović, 2011). This way, the housing space gets a new dimension - it can meet the needs of tenants which are changing over the time.
Installation grouped within one block allows for the possibility to provide larger size housing units by merging two smaller (Example of social housing Polje, Slovenia). The usage of undefined and polyvalent housing space, in a structural sense, avoids precise functional differentiation of unit's organization. The current common practice in differentiation of housing space in a day and night zone must be adapted according to the present day demands. Due to unforeseen changes, the new trends in the design approach suggest a development of units in a way that they should be divided in a fixed and a variable part. The fixed part includes the housing basic technical premises such as kitchens and toilets (grouping the installations into blocks they are positioned in one place); while on the other side, the variable part needs to adapt to the unpredictable changes in the unit's programme. In the case of building for social housing in Lakua in Spain (Figure 3), it can be seen how adequate location of maintenance services (toilets, kitchen, storage space) ensures that the same housing unit can be used in several ways depending on the needs and structure of the family who inhabits it.

3.2.2. Open areas within the dwelling

Past practice in the construction of dwellings for social housing showed that the housing units were usually of minimal size. Therefore the existence of open areas, carefully dimensioned and planned, could contribute to relaxation of the housing unit space in terms of its crowdedness, by accommodating a part of daily activities, which would improve the housing quality. The implementation of open areas should be observed through several spatial levels: housing units level, floor level and whole dwelling level.

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4 Source: French H., New urban housing, Yale University press, p.177
It is desirable to plan the open areas within every housing unit, which in current social housing models very often was not a common practice. Terraces and balconies need to be planned as an extension of the living room area. Thus, it is necessary that these open areas have direct physical connection to the living room area, and adequate dimensions in order to take over some of everyday activities, such as dinning or leisure. In addition to the relaxation of the space in terms of its crowdedness, a broad connection between living room and open area allows the creation of much bigger living room space during the summer, by opening windows and doors. Folding or sliding glass surfaces are the best solution for this approach (Figure 4).

Fig. 4 Social housing ZAC Claude Bernard, Paris. Planning and design of open areas, adequately dimensioned, increase the housing quality of the units

A special concern needs to be devoted to the ground floor housing units and the implementation of open areas within them. Because of their proximity to the terrain level this units are often undesirable for living. Visual connection which violates the privacy, and also physical connection which affects the feeling of insecurity are the main disadvantages of the ground floor housing units (Stoiljković, Kondić, 2011). These shortcomings, however, can be compensated with introduction of carefully planned private gardens (Figure 5). These open areas should be dimensioned and positioned in a way to represent the kind of a physical barrier, while at the same time this space will be much bigger compared to the open areas of upper floor housing units. It will ensure that the size of unit's open area will be large enough to almost completely take over the function of the living room area in the summer periods (dinning, rest, leisure). In some cases these open areas could even take on additional functions such as work space, hobby space, children playroom, etc.

Within the floor level as well as the whole dwelling level, implementation of open areas has the same effects on the housing conditions and also contributes to increase of the housing quality. This approach is reflected in the treatment of communication areas as "internal alley". Such design intends to invite people to come out of their apartments and spend their free time using this open areas as a place to chat, rest, play, etc.

Fig. 5 Social housing, Holainhoff, Gent, Belgium. Ground floor housing units have larger open area almost like private backyard, which is also the access point to the housing units.

Fig. 6 Innovative approach is reflected in the design of communication areas as "internal alley", improved with implementation of green meanders. The proposition given by the group of Korean architects from the University of Seul (Lee, Kim, Lee, 2010), is reflected in the implementation of extensions in the horizontal communication areas. These extensions create green meanders, which provide a gathering space for tenants (Figure 6). Smaller-sized open areas allocated for two neighbouring housing units should be located near these housing units, and their primary role should be creation of additional housing space. Bigger open areas should be located in the intersection areas of horizontal and vertical communication spaces. These open areas should be positioned near the housing units.

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3.3 Architectural identity

The architectural monotony, arising from the mass industrial construction of high density social housing complexes in the second half of the XX century represents the most significant incentive for the change of existing concepts. Beside, the researches of some authors (Wilson, 1996) had raised the question about the influence of this social housing dwellings on the level of social exclusion within their tenants. Thus, the socio-cultural influence on the design approach and diversity of physical housing types and structures, should be observed as a completely separate issue. Also, it is necessary to provide "dignified" and "decent" housing space (Milić, 2006), which is considered as social value, in an already economically limited concept. This can be achieved with the thoughtfull planning and design of social housing areas.

The recent practice shows that a well-designed space significantly affects the overall sociological impression of the certain residential areas and thus the improvement of housing districts in general. Architectural form of the dwellings "contributes to the dignity of its tenants and eliminates negative social label on one side, and on the other the undesirable connotation of budget privileged users. It is expected that architectural form needs to provide harmonious bi-cultural identification within social housing tenants and their environment" (Milić, 2006). This indicates that it is not necessary to promote one particular architectural style of social housing dwellings, but to fulfil the need to adjust models of social housing according to the demands of socialization of their tenants. By giving the own architectural identity to the social housing area it would provide a good quality residential environment.

Beside, good architectural ambience could increase the sense of security, especially in bigger-sized residential districts. Experience shows that users of social housing are very sensitive when it comes to the problems of poor lighting conditions of already isolated vertical and horizontal communication areas, common and open spaces. In addition, it has been proven that social inclusion in residential areas can be improved with simulative planning and design of nearby residential surrounding (Lawrence, 2002), as well as with creation of pleasant interior and exterior spaces within dwelling for social housing.

The most simple, but very efficient approach for achieving the desired architectural visual character is the usage of colour. The colour of facade, or some of its parts, as well as the colour scheme characterized for the areas linked to the social housing dwelling, could significantly contributes to the overall impression either of dwelling itself or its surrounding. Thus it is not the rare practice that usage of colour has the precedence in comparison to the other elements, such as material, texture or other types of decoration (Stoiljković, Jovanović, 2010) which also contribute to the formation of visual identity. With the combination of all this elements it is possible to achieve the variety of architectural structures which will additionally affect the creation of strong visual character of residential neighbourhood.

In the case of social housing Isola in Slovenia, it can be seen how the low budget design can also create very strong visual identity of architectural space. Design approach is reflected in the usage of modular balconies, constructed from cheap metal panels, coloured with various bright colours, randomly positioned on the facades (Figure 7). The balconies

in a way not to disturb peace and privacy of residential units on that floor, and their main role should be the increase of social interaction among residences.
themselves through shape and application of bright colours, provide a striking visual identity and create a unique architectural environment which allows the space to acquire its identity.

Fig. 7 Classical architectural elements - balconies are designed to ensure the architectural visual identity of the whole residential area.

The architectural monotony could also be overcome with the combination of different architectural expressions within the same residential area. Implementation of different structures, forms and volumes contributes to the dynamics of the space, which should be further transferred to the tenants of that area. One of the possible approaches, in order to create such environment, can be achieved through the engagement of different architects within the same spatial entity. Example of this approach is the complex for social housing Dr Ivan Ribar in Belgrade, Serbia. The project design was obtained through the competition, and the construction of the residential areas was assigned to the six first ranked authors. The purpose of such concept was that different architects could get the opportunity to design one of the dwellings within a complex. This approach aimed to ensure the architectural and spatial dynamic of the area, which would create the unique visual impression.

4. CONCLUSION

The character of the social housing dwelling and its units, more or less was primarily based on the concept of providing a housing space for unidentified users, conceived as early as in the period of mass industrial construction. Therefore it is not surprising that many of these models have proven to be very unsuccessful.

Contemporary approach in the planning and design of these dwellings indicates that such perception must be changed in order to create a well-designed space, with the emphasis on the housing quality. Since the dwellings for social housing are primarily intended to help the vulnerable families to overcome their housing needs, it is essential that their planning and construction must be economically rational, which inevitably reflects in the housing standard of this units. Modern vision of this social housing models shows that rationalization cannot be achieved at the expense of housing quality, in already small-sized housing units; but it is

\[\text{Source: archdaily.com/3245/izola-social-housing-ofis-arhitekti, Retrieved October 20, 2014}\]
necessary to create such models which would provide higher living comfort without additional fund investment.

Therefore the emphasis primarily needs to be put on the observation of spatial and architectural characteristics and the definition of relevant parameters which could affect the quality of these objects such as location, physical comfort and visual identity. Each of these parameters should individually contribute to the housing quality of social housing dwellings. By taking over the part of some everyday activities, it would mitigate the crowdedness of the housing units, and improve the housing comfort and housing quality, which would result in the residential satisfaction within social housing tenants. On the other hand an integrated approach has the vision to comprehend multiple parameters through the analysis of different spatial levels and provides a better quality of these spaces. This would directly contribute to the better integration of the tenants and thus have direct impact not only on the dwelling themselves but on the overall residential surrounding and its sustainability.

REFERENCE


**PARAMETRI OD UTICAJA NA KVALITET STANOVANJA U OBJEKTIMA SOCIJALNOG STANOVANJA**

Iskustva zemalja sa razvijenim socijalnim stambenim sektorom ukazuju da uloga socijalnog stanovanja ne treba da bude shvaćena ograničeno, kroz obezbeđivanje pukog krova nad glavom, gde se kvalitet stanovanja u potpunosti zanemaruje. Savremeni pristup u planiranju objekata za socijalno stanovanje okretnut je samim korisnicima ovih prostora, pri čemu se posebna pažnja posvećuje kvalitetu stanovanja. Kako su stambene jedinice u objektima za socijalno stanovanje minimalnih dimenzija, neophodno je predvideti takve sadržaje koji će nadomestiti manjak stambenog prostora, ali isovremeno uticati stimulativno na same stanare. U radu se razmatraju prostorno-fizički parametri koji mogu uticati na kvalitet objekata socijalnog stanovanja.

Ključne reči: kvalitet stanovanja, stambena jedinica, standard stanovanja, socijalno stanovanje