POTENTIAL AND IMPORTANCE OF MULTI-FAMILY HOUSING INDIVIDUALIZATION

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Abstract. *Single family housing is for many reasons considered a more favorable form of housing than the multi-family one. Hence, designing of housing in a multi-family housing structure is a special challenge for designers, because it is expected that the dwelling comfort offered by the multi-family structure is as similar to one of living in a house as possible, that is to seek analogies with the family house when designing a multi-family building. There is a number of possible ways to individualize a multi-family building, regarding the apartments, architectonic composition or urban composition, whose realization would contribute to enhancement of multi-family housing quality.*

Key words: *Multi-family housing, quality of M-F housing, individualization of M-F housing.*

1. INTRODUCTION

Single family housing is for many reasons considered a more favorable form of housing than the multi-family one. Hence it is expected that the dwelling comfort offered by the multi-family structure is similar to that of a single family house, that is, that analogies with the family house are sought in designing the M-F buildings. The multi-family housing individualization can be accomplished on three levels: urban composition level – housing block; architectonic composition level – housing building and the apartment level. There are numerous solutions for each of these levels, whose application would significantly contribute to enhancement of the multi-family housing quality and its individualization and humanization.

2. URBAN COMPOSITION LEVEL

One of the important characteristics of housing environment is how it is accepted by the users. On the level of the urban composition, it is possible to implement certain architec-

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tonic-town planning designs which would accomplish individualization of multi-family housing, that is, it would render the housing environment acceptable for the tenants.

2.1. Building grouping

"One of the highest values in town planning evaluation of a housing complex is the way buildings are grouped in space. Their mutual position, insolation conditions, access-ways, and potential for arrangement of open areas directly and mostly depend on the compositional arrangement. The rationality of accompanying infrastructural facilities depend on it, too." [7]

The point type of architectonic composition of a multi-family housing – urban villas and housing towers – has more favorable insolation and ventilation conditions than the linear compositions, and provides a better visual contact to the environment. Apart from that, the form of such structures can be more freely developed (Fig. 1).

Single-wing type of composition is the basic element in formation of traditional city blocks. It has an urban character and forms a continuous street front, while enclosing an inner courtyard which is most often subdivided into lots as wide as the buildings forming the sides of the block (Fig. 2).

Fig. 1 Polje, Ljubljana, Slovenia,
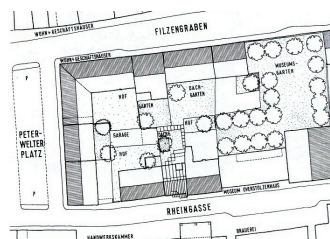Matija Bevk&Vasa Perović, 2004

Fig. 2 Cologne, Germany

If the inner yard is not divided into land lots, it is then common for all the residents of the urban block. Most frequently a block is built simultaneously, as a housing complex, and not by gradual construction of unit by unit (Fig. 3).

2.2. Organization and equipping of house yards

Activities of residents are not confined only to the apartments and the space inside a housing building, but also in the open areas, that is, house yards. The yards offer a great potential for formation of housing ambiance stimulating and encouraging the users activities,

Fig. 3 Maurer Court,
Greenwich Millenium Village, UK

contribute to orientation in space and create an identity. If they are clearly delineated, physically enclosed and open to view, they may offer a sense of belonging, security, intimacy and community. Where the blocks are open, due to their "permeability" it is harder to accomplish such qualities.

When each building is constructed on its own lot, the sense of possessing own open area is more prominent in the residents. Such common space is intended only to the residents of certain buildings and is used for their common and individual activities. It is most frequently also physically demarcated and expresses the activity of its users. Through the action of the residents in the yard, the sense of responsibility is enhanced, and thus the willingness for maintenance (Fig. 4).
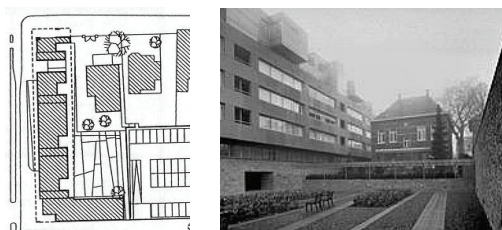

Fig. 4 Prinsenhoek, Sittard, Holland, Neutelings Riedijk Architects, 1996

When designing housing courtyards, it should be observed what users want from the space. At times, the accent will be on the children's play, and at other times where the residents can sit, rest and chat, while for some the housing courtyard is there for scenic purposes, for watching and enjoying in nature (Fig. 5 and 6).

Fig. 5 French Quarter, Tübingen-Südstadt, Germany, Lehen 3 Architekten, 2006

Fig. 6 The Whale, Amsterdam, Holland, de Architekten Cie., 2000

Therefore it is desirable to form a number of smaller units within a courtyard – crating a micro-ambiance – in order to meet diverse tenants' demands (green areas, strolling walkways, small children playground, senior people resting area, etc.).

"Differentiation of the inner court area may be accomplished by creating various terrain levels and by enclosing, with the access from the surrounding buildings only, without any "transit" through the courtyard. By separation of individual units with the spatial identity, the quality of multi-storey housing is enhanced. They should be in harmony with the dimensions of the yard, preferences and age of the residents and with their direct participation and personalization." [2] Also, separation of smaller subunits can be accomplished by different pavement, arrangement of urban equipment etc. All this contribute to reducing the level of anonymity and facilitates identification with space (Fig. 7).

Fig. 7 Maurer Court, Greenwich Millenium Village, UK, E. Tovatt, EPR Arch.; 2003

Existence of a good quality housing courtyard is too important to be subsequently added to an already occupied building, but it rather should be considered from the very beginning of the project design. Common open area in the housing block must not be viewed as an extra investment, but as a potential for improvement of the housing environment and the living quality, as a source of pleasure of all the residents and wider public.

2.3. Standing traffic

In the family housing, the vehicle parking area is within the land lot or integral with the housing structure, so there is almost no issue of standing traffic. In the districts with the high housing density, therefore in the districts with the buildings for multi-family housing, parking may present a big problem. It is necessary to provide a sufficient number of parking stalls, provide that the parking lot is close enough to housing units, and yet to occupy as little space around buildings with it as possible.

One of the solutions for parking of vehicles in the complexes with the multi-family buildings is planning of a common underground garage under the building. In this manner, on one hand, the space around the buildings is freed for greenery, pedestrian paths, children playgrounds, and on the other hand the housing units become well connected to the vehicle parking space (Fig. 8).

Fig. 8 Residential building, Ménilmontant, Paris, France, Frédéric Borel, 2000

In the examples where the multi-family housing is manifest as a fringe of a housing block, the underground garage can be designed below the buildings but also below the inner yard, so that a large and single space for parking is obtained, intended for all the users of the housing block (Fig. 9).
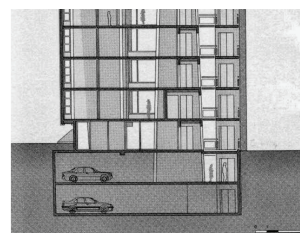

Fig. 9 Batavia, Amsterdam, Holandija, de Architekten Cie, 2000

3. ARCHITECTONIC COMPOSITION LEVEL

The aspects to be considered when talking about potential for individualization in multi-family housing on the level of the architectonic composition refer to: number of building floors, apartment grouping and access to the apartments, organization and disposition of common premises of the building, visual character of the apartments in the architectonic composition, etc.

3.1. Number of building floors

In terms of individualization of multi-family housing, the number of building floors is significant because it implies the size of the building and thus the number of residents and flats in the building. Grouping of residents in a multi-storey housing building is not governed by any specific logic, and this will not bring them together in social terms. With the increase of the total number of residents, the possibility that the residents will get to know each other is reducing; the feeling of identity with a particular social group is weakening. In this sense, the desirable number of floors in buildings for multi-family residence is Gnd+4, because the optimal number of flats is 12-30 [5]. In such conditions it is possible that the neighbors know each other, that they cooperate and coordinate their common interests, and that they function as a single social group, with the potential for partial communication, formation of subgroups and closer contact of the group's members (Fig. 10).

The number of floors conditions the potential of a housing unit connection with the ground. Even though only the ground floor apartments can have a direct connection with the terrain, accomplishment of visual and sound contact with the environment for the flats on the floors higher than the ground floor very much promotes the feeling of living in a family house (Fig. 11).

Fig. 10 Vauban, Freiburg, Germany,
Forum Vauban, 2006

Fig 11 Chorlton Park, Manchester,
UK, Stephenson Bell Architects, 2002

3.2. Apartment grouping and access to the apartments

If each floor of a multi-family housing building was observed as a separate spatial subunit, similar to the family houses clustered around a common street or some other common area, it would be possible to accomplish better living quality. By forming the common space, which is visually or physically separate from the semi-public area of vertical communications in buildings, in front of the entrance to a small group of flats (two, three or four), a small ante-room is obtained, semi-private in characters, that has a lower degree of public quality than the remaining (semi-public) common areas in the building.

Due to its separation from the vertical communication core, as a semi-public sphere, the conditions for a more distinct identity and higher degree of privacy are attained (Fig. 12).

The quality and practical value of such space will be better if it is dimensioned so as to accommodate some auxiliary facilities, if it is illuminated by natural light and well-ventilated, and if there is a visual connection with the interior space of the flats. Such common communication room represents a unifying element of housing units, and is favorable to spontaneous, voluntary mutual contacts of the residents and positively stimulate establishment of good neighborly relationships but should not hinder the privacy of such apartments (Fig. 13).
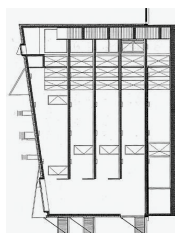

Fig. 12 Polje, Ljubljana, Slovenia,
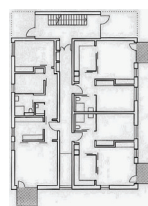Matija Bevk&Vasa Perović, 2004

Fig. 13 Housing block, Maastricht, Holland, MBM Architects, 2000

3.3. Organization and disposition of building common premises

Common premises of the building belong to the semi-public zone, and they are at disposal of all the residents of the building. Apart from the communication corridors, those also are: service room, common social rooms, shelters etc. using of common premises in the building entails residents encounters and may contribute to building good neighborly relationships.

The entrance to the building suggests transition from the exterior, open space, into interior, closed one, and thus rates the public character of the space. Even though in a multi-family building it serves to all (or almost all) the residents of the building, it should be clearly articulated and recognizable so that the residents could easily perceive it and identify as "their home". The entrance hall should be appropriately dimensioned and equipped with potential auxiliary functions according to the needs of the residents, so that it could become a pleasant space with conditions for establishment of spontaneous or intentional contacts among the residents (Fig. 14).

Fig. 14 Abbots Wharf, London, UK, Jestico&Whiles, 2005

The access area is increased with the increase of number of flats per floor, and its form changes from a compact one into a linear. Such areas connect the flats with staircases, lifts and other common facilities, and the frequency of encounters depends on the number of tenants served by such an area. As the galleries and corridor separate the horizontal communications form the vertical ones, they can easily be separated as separate units.

If the gallery is adequately dimensioned, or with extensions which can accommodate certain functions, then it resembles a pedestrian street where tenants can socialize and talk, go about their hobbies, where children can play, etc. (Fig. 15).
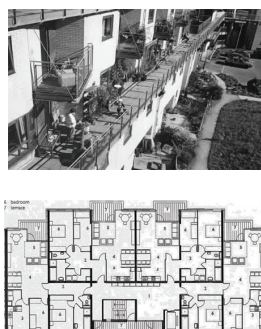

Fig. 15 Residential district, Manchester, UK, MBLC Ltd, 2001

Existence of common area for a group of flats (one or more such areas per floor, depending on the number of flats) to which the residents would be directed (via entrances or open areas) provides the sense of identity of the housing units with a certain subunit. Tenants may affect the character and the appearance of this area, rendering it specific and recognizable within the wider system (Fig. 16).
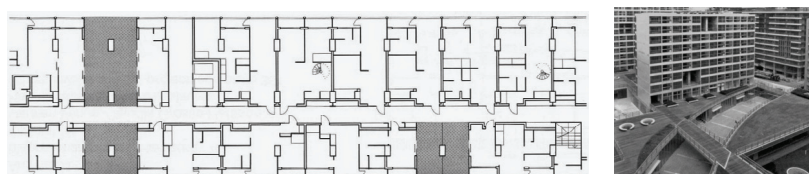

Fig. 16 Shinonome Canal Court, Tokyo, Japan, Yamamoto Hori Architects, 2005

3.4. Visual character of housing units within architectonic composition

Human need for a dwelling is not only a necessity of physical protection, but also the need for identification with certain space. The family housing building represents an architectonic composition that is small in volume and simple in organization, open to view and characteristic in its environment. The multi-family housing building is a complex structure, of bigger dimensions, not easily viewable in its entirety, and because of a large number of housing units, hard to identify with. Therefore it is desirable to facilitate separation and individualization of individual housing units, certain degree and form of their independence, so that could be distinctive in space.

The most simple and efficient element of identification of buildings is color. The color on the façades is perceivable prior to some other elements (material, texture, secondary plastics…) and significantly contributes to creation of the general impression of a structure or an entire district. Façade materials also affect formation of visual identity and their variety is significant for distinction of certain parts of the composition (Fig. 17).

Fig. 17 Abbots Wharf, London, Jestico&Whiles, 2006

A certain level of distinction of housing units in space can be accomplished by an architectonic design which would offer higher diversity of external appearance of units, that is, formal distinction of different spatial subunits. In this manner, it would be possible to identify an individual flat from a distance. This would improve the quality of multi-family housing and approximated to the family one, because, the identity of each individual unit could be created (Fig. 18).
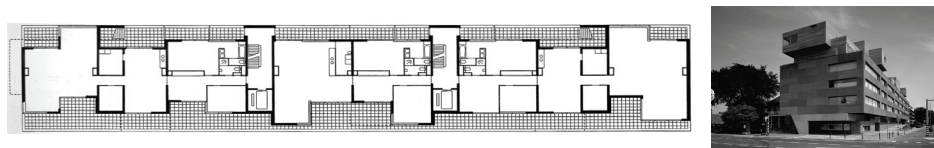

Fig. 18 Prinsenhoek, Sittard, Holland, Neutelings Riedijk Architects, 1996

It is also possible to offer the users themselves the potential to participate in exterior and interior architectonic formation, within their housing units. Users' influence on the architectonic form diminishes the originality of the architects design, but provides a personal impression on the housing environment. Even though it is necessary and desirable to provide separation of individual parts, so that they would be distinctive and reflect their owners' preferences, simultaneously it is necessary to connect all the separate parts into a whole, which are two contradicting processes. Such interventions in the exterior space raise the issue of the aesthetic or "visual" pollution [6], that is, of inappropriate and unsatisfactory appearance of the housing environment which is a category which is difficult to accurately define or measure, but which must be reckoned with regarding the fact that the multi-family housing buildings contain a large number of users which are different in terms of needs, education, habits, financial status, aesthetic criteria, etc. (Fig. 19).

Fig. 19 French Quarter, Tübingen-Südstadt, Germany, Lehen 3 Architekten, 2006

4. APARTMENT LEVEL

It is possible to directly accomplish some of the original values of a family house by adequate designs on the apartment level. This primarily relates to: entering the apartment from the space which is not common for all the tenants of the building; formation of open space within a multi-family housing building, organization of the apartment on two floors.

4.1. Apartments with separate entrances

Family houses have their own entrance accessed over the part of the own land lot which faces the garden, the so-called front yard. IN the multi-family housing buildings, there is only one entrance to the building, and the entrances to all apartments are accessed via common – semipublic areas. The entrance to a family house is mostly observable from within the house, which is an extraordinary psychological advantage as it enables residents to see visitors before they appear at the door, allowing the residents time to prepare for the encounter, which in the multi-family buildings most often is not possible, thus any visit is perceived as a certain stress. Likewise, by exiting the apartment area, the tenants directly access space where there may be undesirable encounters which cannot be avoided due to the (semi)public character of the area, while when exiting the family house, the resident is still on his/her property and such encounters are very rare.

In the multi-family housing buildings, separate entrances can be provided for the flats on the ground level, very often via an open area belonging to them, as in analogy with the single family house front yard. In this way a direct connection of the flat and the public space is realized (Fig. 20).
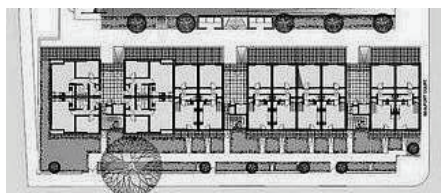

Fig. 20 Beaufort Court, London, UK, Feilden Clegg Bradley Architects, 2003

The flats on the floors above the ground level may also be provided with the external entrances, via the separate access staircases which would link these flats with the surrounding terrain and public space (Fig. 21).
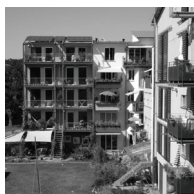

Fig. 21 French Quarter, Tübingen-Südstadt, Germany, Lehen 3 Architekten, 2006

For the flats that do not have separate entrances, a certain degree of increased privacy can be accomplished by formation of (semi)private ante-room in front of every flat, or if it is possible, in front of the group of flats (Fig. 22).

Fig. 22 Old Haymarket, Liverpul, UK, Arkheion Architects, 2000

Approximation to the qualities of a family house would comprise providing that the space in front of the entrance door may be viewed from the inside the flat, which would enable a visual contact with potential visitor, before one rings a bell, so that the resident could be prepared for the potential ensuing encounter (Fig. 23).

Fig. 23 Housing building, Conil, Spain, Javier Terrados, 2003

4.2. Open apartment areas

Loggias and balconies in the apartments may have a variety of functions, depending on their size and position. They should be sufficiently wide to accommodate, primarily, some of the living room functions. Apart from that, if the room behind the loggia is separated by wide doors (folding or sliding), the room and the logia may be better connects, creating an impression of a larger open area (Fig. 24).

Fig. 24 Housing building, Vienna, Austria, Dieter Henke, Marta Schreieck, 1991

Designs of the flats where multiple rooms have access to an adequately dimensioned loggia, in terms of organization, approach to the atrium house designs. In this way advantages of a private house and a typical housing building are combined. Recessing of a

façade wall into the depth of the flat permits the natural light to enter it through the glass apertures from two directions, which is particularly important for the flats oriented to one side of the world (Fig. 25).
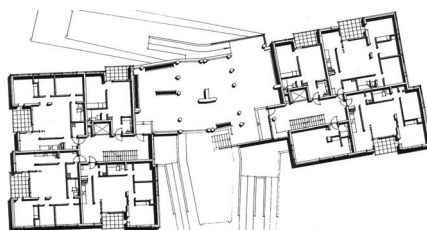

Fig. 25 Hansaviertel, Berlin, Germany, Alvar Aalto, 1957

However, the connection of a flat and some larger open area should not be a privilege of family houses only, that is, it should not be confined to loggias and balconies in the multi-family housing buildings, but it is necessary to explore and apply some other forms of open surface which would orient the entire flats or some of their sides to open areas. It is therefore necessary to resort to some atypical solutions which may comprise creation of projections or recesses of the façades (Fig. 27).

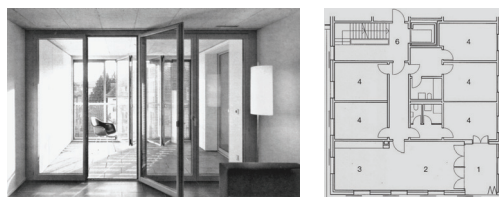Fig. 26 Light box, Tolbiac, Paris, France, Francis Soler, 2003

Fig. 27 Urban villas, Winterthur, Switzerland, Beat Rothen, 2003

The similar design could be accomplished by retracting the facade wall of one flat in respect to the facade plane of a flat below. Such designs require very carefully designed structure and details of thermal, that is, hydro-insulation. On the other hand, such designs offer excellent formal potential, to differentiate the facades and have a free form, which all contributes to housing articulation and visual identity of the environment, thus humanizing the multi-family housing structure (Fig. 28).

Fig. 28 PILE UP, Rheinfelden, Switzerland, Zwimpfer Partner Architekten, 2006

The ground level flats are characterized by the immediate contact of public and private spaces. Loggias of the ground floor flats are, due to a small height difference from the surrounding terrain, are most frequently inadequately visually and physically obscured from the surrounding building area, which significantly reduces the practical value of such open areas. This disadvantage can be countered by forming of fenced gardens of flats on the ground level, where the open flat area is significantly increased in comparison to the standard dimensions of the loggias, and becomes what is the front yard of family houses. In this way the open areas of flats would be defined as a belonging open area of family structures, which would thus enhance the quality of housing on the ground level, which is rightfully considered lower than on the higher floors (Fig. 29).
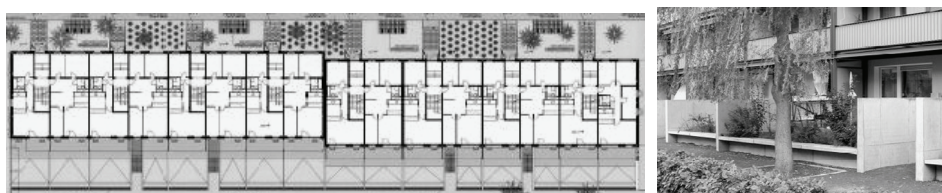

Fig. 29 Housing building, Leinefelde, Germany,
MSP Meier-Scupin & Petzet Architekten, 2001

The housing at the last floor of a multi-storey housing building, if the entire floor is appropriately designed, can to a great extent approximate the quality of single family housing. By recessing the façade walls of the flat on the last floor, in respect to the façade front of the lower floors, it is possible to form roof terrace in a part of the building, which would become an open area of the flat on this floor, and assume the function of the family house front yard (Fig. 30).
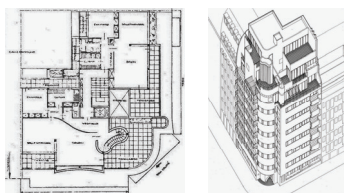

Fig. 30 Av. de Versaille, Paris, France, Jean Ginsberg, 1934

4.3. Two level apartments – duplexes

Family houses mostly have more than one floor, so one characteristic typical fro this way housing is possession of own vertical structure within the housing unit. Application of duplexes is frequent in the gallery or corridor compounds, but also in other housing compositions (Fig. 31).
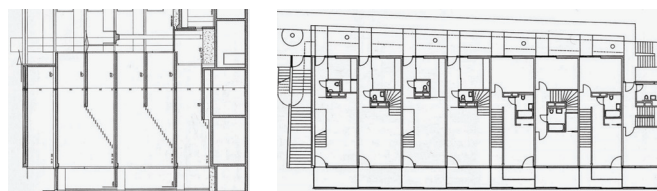

Fig. 31 Housing building, Vienna, Austria, Dieter Henke, Marta Schreieck, 1991

The spatial quality of a flat can be enhanced by designing the semi-levels in a flat (two or more) which is a frequent example in the family house designing. This separation of housing levels enriches the housing area and creates an impression of living in family house, and open view of multiple levels create an impression of increased space (Fig. 32).

Fig. 32 MISS Sargfabrik, Vienna, Austria, BKK-3, 1999

5. CONCLUSION

In order to render the high density housing districts acceptable for the residents, that is, to ensure that the multi-family housing is a preferable form of housing, it is necessary that these housing complexes retain the qualities and advantages offered by the multi-family housing, but also to possess certain qualities of family housing. Thus the acceptable city housing densities (and other advantage of multi-family housing) could be combined with always present wish for individuality and living in one's own house.

In order to approximate the quality of multi-family housing to the quality of the family housing, it is necessary to acquire as many of its characteristics as possible. This does not apply to the level of the apartment only, but to its surrounding, because the satisfaction of living there will depend on the immediate and wider environment of the flat.

Approximating the characteristics of the family housing may be accomplished on the level of function, shaping, fitting into the environment, through users; participation, potential for development of neighborly relations etc. each of these aspects is equally important and not one must be neglected. Multi-family housing structures should be of good quality and attractive by all the criteria affecting the preference of future users for this type of housing, that is they must not lag behind the family housing in their characteristics.

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POTENCIJAL I ZNAČAJ INDIVIDUALIZACIJE VIŠEPORODIČNOG STANOVANJA

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Porodično stanovanje se iz mnogo razloga smatra povoljnijim oblikom stanovanja od višeporodičnog. Stoga je projektovanje stanova u višeporodičnom objektu poseban izazov za projektante, jer se očekuje da se stambeni komfor koji nudi višeporodični objekat približi uslovima života u kući, tj. da se u projektovanju objekata za višeporodično stanovanje potraži analogija sa porodičnom kućom. Postoji čitav niz mogućnosti za individualizaciju višeporodičnog stanovanja koje se tiču stana, arhitektonskog sklopa ili urbanog sklopa, a čije bi ostvarivanje doprinelo unapređenju kvaliteta višeporodičnog stanovanja.

Ključne reči: *Višeporodično stanovanje, kvalitet VP stanovanja, individualizacija VP stanovanja*