

## REVITALIZATION OF RESIDENTIAL COMPLEXES IN THE CONTEXT OF HOUSING QUALITY IMPROVEMENT

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**Abstract.** *The housing quality improvement is a continual and topical process which lasts for several decades in the developed country. The priority of each society is the revitalization of those residential complexes which have the basic urban values disrupted. In the transition period, which is where our country is, it is necessary to create and modernize the planning approach and regulations for revitalization. The paper provides the guidelines for the revitalization of the residential complexes in Niš which could serve as basis for improvement of conditions and quality of housing.*

**Key words:** *General-collinear spaces, vanishing planes, axes, foci and directrix spatial.*

### 1. INTRODUCTION

The residential buildings and complexes constitute a major part of the city building structures, and as the living environment has a permanent influence on man, his psyche and emotional life, housing is one of the key aspects of human existence and it determines the quality of life. The quality of life of a man in a housing environment is both affected by the quality of the dwelling place and the quality of the immediate environment that is residential complex as a whole. Since the mobility of the population in our country is lower than that in the developed countries, the ambient value of the housing environment is of extreme importance. This value is affected by the spatial distribution and the characteristics of physical structures and social events, functional values and attractiveness of the open spaces and the social relations quality.

In the developed countries of the world, the restoration of cities, reconstruction and revitalization of the residential complexes is a topical process which has been lasting for several decades. By this process, which is almost equal to the construction of huge housing blocks in 60's and 70's of the previous century, apart from the improvement of the housing environment, the quality of life in the social-economic sense is improved. The

revitalization proceeds in cooperation of the government and the local government of the cities, with the well-developed mechanisms, in coordination with the users and is attuned with the national housing policy. It is necessary to establish the methods and mechanisms for the improvement of the existing housing capacities as well as the regulations for the revitalization and renewal of residential complexes. This requires consideration of the specific national socio-economic situation, and the privatization and ownership transformation.

The revitalization of the residential complexes is a very important question of economic, cultural, social, civilization and political development of any society, so it is very important to make this process topical in our country, too. The paper researches the guidelines for the revitalization of the residential complexes in Nis, and has an aim of improvement of life conditions and quality in accordance with the constantly changing users' needs. This research can neither resolve all the problems nor find all the potential solutions for the residential complexes improvement, but the established guidelines can be a basis for the detailed analysis of the concrete locations and for the production of feasible and applicable town planning projects of urban revitalization.

## 2. URBAN REVITALIZATION AS A PROCESS

The quest for the ideal cities and the ideal dwelling places, creation of the appropriate ambient for life has been present in the whole history of societies and town planning. The old German word for building "buan" once meant to dwell, to stay [9], probably because of the fact that a man spends a major part of his life in a housing environment. The need for improvement of functional and ambient value of housing environment results from the great influence of all its components on the quality of life of the residents. The residential districts which do not satisfy the needs of the denizens, and do not fit in the contemporary concepts of house organization, do not have the ambient value, have to be revitalized through the introduction of new elements, according to the constant changing users' requirements. The task of the town planners and architects is to create as good living conditions as possible, which is achieved by adhering to the basic town planning, environmental, economic and aesthetic principles. The development of cities requires an active adaptation of the inherited structures to the users' needs, in accordance with the development of science, technology, through maintenance and various interventions that have improvement as an aim, so the urban renewal and revitalization are constantly topical processes.

In the developed European countries, the renewal of the residential complexes and structures built in the period 1950-1970 has become a daily practice [3] and the universal idea of renewal that characterized the last decades of XX century is present in the various charts [11]: Vancouver Chart, Agenda 21, European Town Planning Chart and Agenda Habitat. According to Janić [6] urban renewal is: "*a complex and continual process of the renovation of city tissue, which, apart from the technical comprises the social aspects, means a permanent improvement and rearrangement of the old city districts in order to preserve the urban essence and adapt to the contemporary life*". Zeković [12] defined the urban renewal as a process of change of manner and intensity of usage of the land suitable for construction, through the replacement of the existing buildings or through the mod-

ernization and functional adaptation so that it could be used more efficiently. The urban renewal comprises several processes: reconstruction, urban development, regeneration, renewal, revitalization, restoration... The restoration of ambient units, and revitalization of urban functions and introduction of new content and activities through the urban regeneration accomplish the rehabilitation of the degraded space, and through these processes it is acted against degradation and stagnation of the physical structures in the entire city. Mirković [8] says that: "*the re-vitalization is a way of reconstruction which is a sort of reconstruction occurring due to the decrease of a certain activity, most often the decay occurs due to the decrease of income, so revitalization means to renew the function as the maintenance condition*".

Despite the uneven economic development, housing regulations and social-cultural traditions, the sorts of problem occurring in the residential complexes are nearly the same in the various countries of the world – hygienic living conditions, dilapidation of the housing facilities and the adjoining open spaces, unfavorable position of the location within the city structure, traffic problems, poverty, absence of ambient value, social isolation, pollution and crime rate. For each concrete location [7] it is necessary to conduct a research of the current status, and make a program which should satisfy the conditions of correct remedy from the town planning and social standpoint, then the evaluation should be performed and determine the causes that brought about the aggravation of dwelling conditions and work out the guidelines for solution.

The subjects of urban renewal and revitalization include [3]: tenants, owners, building managers or investors, architects, building contractors and construction industry, authorities and social-political communities. The successful revitalization calls for the cooperation of all the subjects of renewal, forming of teams, composed of the various experts), as well as engagement of an agency which would manage the plans. Agenda 21 gives priority to the local communities in the initiation and realization of the activities and the participation of citizens in the decision making process. The citizen participation is considered nowadays one of the basic instruments for the accomplishment of the successful renewal and revitalization of cities and for improvement of the culture of dwelling and comprises [4]: "*active participation of citizens, that is, users of space, in the processes of their planning and realization, where they use their capacities (creative, financial, working) to affect these processes*". The financial aspect has almost key role in the conduction of the revitalization process, and it is desirable that the sources of finances are the state, local government and interested agencies, as well as the private investment. In many countries, the citizens are organized into the housing associations serving as an instrument to affect the local government to provide the finances for improvement of the service utilities and housing complexes in general, since the tenant associations are not able to finance the revitalization unaided, with own resources.

Since the housing is related to the total social and economic development, the choice of goals, priorities, criteria and concrete revitalization programs must be in line with the national housing policy and society development policy. Efficient execution of urban revitalization comprises existence of the legislative regulations and of worked out mechanisms of its implementation which is in accordance with the ways of city land management in many developed countries. Since our country is in the transitional period, these mechanisms are only partially elaborated. The existence of the regulations is significant in order to secure the execution of renewal and revitalization until they are completed.

The task of the revitalization is the creation of recognizable ambient units, which embellish the overall appearance of the city district and the city as a whole. One of the imperatives is connecting the users and the environment, that is, identification of the users with the environment. This requires recognitions of boundaries of the pertaining surrounding space, separation of the semipublic and public spaces, designing according to the needs of users, inclusion and education of users. The reanimation of the housing yards, and individual yards is significant – front yards with the appropriate urban equipment, improvement of green surfaces, reduction of motor traffic, separation of pedestrian and motor traffic, transformation of certain streets into pedestrian traffic only streets /1/ and widening of sidewalks. This increases the safety of the space, degree of usability and intensity of space usage and the ambient value. In addition, it is important to improve the environmental comfort, create the recognizable housing micro-ambient and at the same time attain an efficient solution and make possible that the auxiliary and open spaces become a part of the extended housing area. An important element of the open spaces is the greenery, which is important for multiple reasons for the physical and mental health of people. Unfortunately, the majority of the housing complexes the condition of green surfaces is bad and they are not paid due attention. Making the new and rehabilitation of the existing greenery should be an imperative of urban revitalization .

Renewal of cities and revitalization of residential complexes is a permanent process of adaptation of settlements to the evolution of social needs, and in the process of urban revitalization, the planning of arrangement and usage of space is the most important mechanism of state intervention and an instrument of homogenization of the functions of settlement space and the rational usage of land [2]. This is indicated by the general objective of the Spatial plan of the Republic of Serbia [13]: "*revitalization of endangered areas and especially those which have a development perspective*", then "*qualitative improvement of life conditions in the most urbanized areas*". Regarding the transitional period our county is within, the town planning has a role of a mechanism of alleviation of complex social, economic, cultural and environmental-spatial transformation. With the aid of urban renewal planning, the state can affect the specifics of the changes in the market of building land, by preventing the uncontrolled action of the market and by defining the rules of construction which is the precondition for the quality development of the settlements. The planning is the important mechanism for prevention of ruining the settlement identity and imposing of partial solutions by the investors, which have no organic connection to the settlement. The changes of social-economic environment and the system condition the changes in spatial planning – in the approach, city planning methods, urban renewal, reconstruction and revitalization and regulations. In the new market relationships, the planning should be adjusted to the accelerated economic development, with the increase of participation, public, open and transparent character of preparation, enactment and execution of planning decisions. It will contribute to the quality and efficiency of planning, but also to the more efficient implementation of plans.

### 3. CONSIDERATION OF THE CONDITION OF RESIDENTIAL COMPLEXES IN OUR COUNTRY

As opposed to the developed countries of the world, where the renewal and revitalization of the cities and residential complexes has been going on for several decades, in our

country this process is almost completely neglected. Various foreign experiences pertaining to the renewal and revitalization of residential complexes can only partially be applied in our conditions [11]. The reason for this are the specific political-social problems in the country, modest economic potential, non-existence of the cooperation between the authorities and the tenants, the unsolved issue of ownership. The constant investment in maintenance of residential buildings and complexes should be one of the imperatives of the housing policy of any country, but it has been neglected here for years, thus in the existing housing capacities for multi-family residence there is a large number of buildings that do not satisfy the standards of modern housing, which is manifested as the crisis in the organization of city life, as the low quality of housing, low level of security, loss of urban identity. All these deficiencies indicate that it is important and necessary to execute the revitalization and renewal in order to improve the housing conditions, and so the life itself.

The huge housing blocks with multi storey buildings, built in 60's and 70's were a response to the shortage of housing capacities and the overall increase of city population. They are characterized by the unused formal and practical potential of the open spaces, unrecognizable and absent ambient value. The motives for building for the new housing settlements [10], were to provide the housing for as many users in as short time span as possible. The dominant characteristics of these buildings are huge outlines, multiple storeys and high population density, repetition, regularity, open blocks, uniformity [14] and the new housing districts were characterized by the mono-functionality, faded architectural style. These drawbacks a very soon reflected on the impossibility to satisfy the needs of the users.

An important factor of successful revitalization is the existence of the appropriate regulations. As it is known, in our housing construction, the cost has always been reduced and the regulations for the arrangement of space were not followed. This resulted in the majority of open spaces which were done often without a project [10], without the natural elements and basic service contents which are the necessary components of the living environment. The absence of regulations manifest through the decrease of the belonging open space, number of parking lots, green surfaces, children playgrounds, recreational surfaces, which reduces the hygienic and ambient value of the space to a minimum. That kind of spaces are not attractive for users and cannot meet the human needs for rest, refreshment and socialization [10]. The open spaces in the residential complexes are not designed according to the requirements of the users and the territory ownership is not solved yet. It is similar with the treatment and arrangement of the semi-public spaces in the housing buildings, such as the entrance section [8], stair case. It is thus not a stimulating ambient for inter-social relationships of the tenants and their common activities.

The modern tendencies in the urban planning indicate that the successful revitalization of the residential complexes requires coordination and cooperation of all the subjects of renewal which is not realized in our country. It is also advisable to form the institutions which would address renewal, such as a city council for construction and management of the various types of ownership and attracting and organizing the private investors which would finance the projects along with the local government [12]. Organization of institutions comprises coordination of the activities, participants and formation of complete data base about the capacity, infrastructure, land, ownership. The role of the local government is very important [4], in terms of production of planning documents, and especially in acquiring the financial support and affirmation of local values.

Since our country has not reached high level of economical development yet it is realistic to expect that the revitalization process will not be as comprehensive and all-inclu-

sive as in the developed countries. At the beginning, evaluation and a feasibility study should be made and the revitalization should be directed to the restoration of the pertaining open spaces, entrance areas, recreation space, problems of standing and motor traffic. Revitalization of residential complexes is the determinant of their survival, so it is of wide social importance to create regulations which will be the integral instrument of the activities of the housing policy of the state, and the implementation of these regulations in order to prevent the further degradation of practical and ambient value of the housing complexes thus of the quality of life of their residents.

#### 4. PROPOSITION FOR REVITALIZATION OF RESIDENTIAL COMPLEXES IN NIŠ

In the context of housing quality improvement, three blocks in Niš were analyzed, with different typology models of housing: 1) multifamily housing 2) individual housing 3) mixed type housing. It has been attempted to create the modes of adaptation to new market conditions and users' requirements at those chosen locations, with the least intervention and investment and with efficient use of land. The research included: analysis of the present status and causes which brought about the degradation of housing conditions, through identification and evaluation of potentials and drawbacks of the location and determination of revitalization guidelines. The fundamental idea in the revitalization concept was the improvement of the quality of life emphasis of the human ambient intended primarily to the pedestrians, adjustment of physical structure, increase of green surfaces, improvement of the condition of open spaces and creation of quality micro-ambient according to the needs of the residents. The starting point was the existing urban matrix, and the goals were the environmental comfort, spatial accessibility, unity of housing ambient and the satisfactory level of socialization of the residents. In the proposition of the revitalization, the importance of the citizen participation is stressed, and the right of each individual to participate in the organization of the space he lives in and the improvement of dwelling culture.

##### 4.1 Revitalization of multifamily housing

The need for revitalization of the residential complexes with multifamily housing a process co with the present building tradition which determines the development and shaping of the entire city structure. The borders of the chosen housing block in the central city area of Niš is formed by the streets of N.Pasic, D.Kostic, P.Stojko-vic Square and Army of Yugoslavia Square, (Fig. 1). The dominant form of housing is represented by the buildings with GL+3, GL+5, GL+8 and to a small extent there are family houses with GL+2. Urban morphological composition of the block is characterized by the properties of the traditional city block, emphasized road-side construction, derelict interior courtyard, without any practical value. At multi-storey buildings, the physical degradation caused by the age of the buildings is evident, as well as the social one caused by the negative behavior of the tenants or anonymous.



Fig. 1. Block Layout

The position of the observed residential block is favorable in respect to the specialize centers and urban services. This block is characterized by the absence of the children playground facilities, tenant socialization facilities and lack of greenery. In the close proximity there is a city park, which can only partially substitute the absence of block greenery, but not the elements characteristic for the primary open space located within the blocks. The town planning parameters (population density, index of the level of construction and occupation) have the high values, which indicates the disproportion between the size and height of housing building on one side and the block surface area on the other side.

The location is under the pressure of traffic and the concentration of the activities with a large number of employees and users. It is also characteristic that the dwelling is intertwined with the various trade and service stores located in the ground floors of the buildings. The portals of those stores are not in accordance with the tendencies of modern architecture and have a deteriorating effect on the buildings appearance.

This block was for years exposed to destruction due to the lack of maintenance finances. The living conditions are evidently characterized by the low hygiene and environmental standards, dark and derelict interior courtyard, with no greenery and urban equipment. Parking, as with all the closed building systems, is organized in the internal courtyard and in the garages (Figs. 2 and 3), which are in bad repair and have a detrimental effect on the appearance of the courtyard. The major problem is the absence of segregation of pedestrian and motor traffic, as well as the fact the vehicles are parked with no order, so that the open space, which should contain the organized elements of an extended housing area has only a function of containing the standing traffic. At the same time there is not enough space for parking.

The courtyard has no spatial identity, is not recognizable, which is contributed by the gloominess of the ambient, gray color of the facades and unaccentuated entrances to the buildings and inadequate illumination. The green surfaces are untidy, dirty and have a detrimental effect on the courtyard appearance. The negative effect on the functional and ambient value of the courtyard is also produced by the ruined free standing structure within the block, which was intended as a boiler room, in gray and marked by the graffiti. The plateau intended for the organization of free activities of the tenants is completely derelict, and out of the urban equipment there are only three benches with no functional value, which can be seen in the figure 3.



Fig. 2. Vehicle parking



Fig. 3. Remnants of the bench

As one of the ways of revitalization of the block, several buildings were added top floors, which even further deteriorated the construction coefficient, and the required increased number of the parking lot was neglected. The position of the city bus stop, by the

very front of the housing buildings facing the Army of Yugoslavia Square have a negative effect on this location because of the concentration of the large number of people and creation of increased public noise.

#### *4.1.1 Revitalization guidelines*

The potential of improvement of the observed housing block are limited by the formed urban matrix, which is a regular situation in the closed building systems in the central city zones. The primary condition to have the residents feel the courtyard as their own, in order to have the social events, children play in it, is to provide the semi-public character of the space. For this reason it is proposed to emphasize the entrance to the courtyard and set the boundaries of the courtyard lot up to the existing individual lots in the eastern part of the block, whereby no demolition of the individual structures or constructing the new physical structures will be considered.

The next step proposed is the removal of the low quality and unhygienic heating facility structure in the courtyard interior, which would provide a larger open surface for organization of the activities of the residents. It is proposed that the building be connected to the district heating network, in order to provide that the heating is in accordance to the modern tendencies of energy efficiency. One of the radical methods for relieving the interior courtyard is prohibition of ground level standing traffic and the construction of an underground garage. It is also worthwhile to consider the variant of construction of the large subterraneous garage, which would be public, especially for the users of the business premises in the ground level, and not only for the residents of the building, which would partially solve the parking problem in the center of the city. At the same time the existing garages which have a detrimental effect on the ambient value of the interior courtyard should be demolished, and the free space could be well organized.

In order to make the appearance of the residential block representative, the reconstruction of the building façade fronts and rear side is proposed, along with the accentuation and improvement of the entrances and passages. The aesthetic of the level ground should be dealt with in particular, because they contain the various services, and to arrange the portals in accordance with the tendencies of the modern architecture. It is especially important because of the fact that this block is in the very center of the city, so these interventions might significantly improve the image of the entire part of the city.

The stress of the revitalization should be on the arrangement of the courtyard, from the environmental and functional aspect. It is proposed that the introduction of greenery, installation of the modern urban equipment, formation of the micro-ambient for the different categories of users, paving of the pedestrian pathways should be performed and thus the pleasant conditions for the life of the tenants should be created. A special attention should be paid to the illumination of the courtyard and the choice of the paving material and it would be advisable to install the fountain. The block should be supplied with the space with the trash containers and place medium or high greenery as a visual barrier. Differentiation of the space through the delevelling contributes to the creation of the vivid micro-ambient, so that the existing plateau should be emphasized by the paving, greenery, stairs and a ramp. A small children playground intended for the use of the residents of the building would be a good improvement since there are no spaces for this purpose in the vicinity. The urban equipment, apart from the benches, should comprise an arbor, pergola or a shed, and a space for barbecue.



#### 4.2 Revitalization of individual housing

After the WW II, in the period of rapid urbanization, the housing building was directed towards the multifamily housing. The construction of housing buildings on large scale was more economic than the individual housing, which was neglected in the plans. Since by the end of the XX century the high multi-storey buildings construction was greatly decreased and after the ownership transformation the state ceased distributing the free apartments, the individual housing came back into focus. This imposes the need for the revitalization of this form of housing and its integration into continuous planning and provision of a high quality of housing in such city areas.

The Sljaka district came into existence some thirty years ago, in a spontaneous and unplanned manner in the north-east zone of Nis (Fig. 4). The Sljaka contains only the housing buildings, and there is a tendency of transforming the ground levels of some of the buildings into the stores and shops. Apart from the trade, there are no social standard facilities in the district. It may be said that after some of the Roma settlements, the Sljaka is at the lowest level of social scale. The position of the district is unfavorable, both to the center of the city and to the specialized centers. The traffic links with the center is poor, as well as with the other parts of the city.



Fig. 4. Sljaka District layout

The Sljaka is a typical example of illicit building which endangered the fundamental urban values. The shapes of lots are irregular, with some lots which are incorrectly orientated in respect to the street and some lots have an unfavorable ratio of the sides. There are also lots without access for the motor vehicles, but can be accessed only by the narrow pathways. The unplanned building can be also seen through the characteristics of the streets: the streets are irregular, winding, of improper width, without sidewalks (Fig. 5). Only several streets are asphalt paved, while the most part of them are coated with slag. In qualitative terms, one may differ the derelict housing structures, with no elementary hygienic conditions and uncompleted housing structures, due to finances or because the required building permit has not been obtained. Since every-thing is an unplanned building, no care was taken about the minimum distance between the structures or the minimum distance of a structure from the alignment line. On some lots, the structures were built on the edge of the street.

There is no vertical alignment, and there are a lot of examples of adding the floors which contribute to the decrepit appearance of the structures. In fact, in many cases, the structures were built by building at first only a few rooms, and then they were added the new ones, with new materials, without matching with the existing ones. In the majority of the lots there are the ruined auxiliary structures adding to the poor appearance of the district (Fig. 6).



Fig. 5. Structure bordering the street



Fig. 6. A house courtyard

A large number of structures is ruined and derelict to the extent that there is no elementary living conditions, but the people nevertheless live there since they have no financial means to improve the conditions. All the uncontrolled building in this district creates chaos, discordance of the physical structures and the disrupted ambient value. Between the buildings, there is empty overgrown land, farming land with untrimmed greenery. Till 2003, the district had a very poor infrastructure, only the water supply and power network. In April 2003 the district obtained sewage system and several streets were coated with asphalt. Since a part of the housing capacities is damaged during the NATO bombing, they were reconstructed owing to the donations of the humanitarian organizations and local authorities.

#### *4.2.1 Revitalization guidelines*

In the conditions of social stratification process in our country, the family housing is becoming more and more interesting, whereas the price of building land is increasing so the possibility for the individual housing construction is limited. In the case of Sljaka district, there is a question whether the aim should be preservation of its traditional values (if there are any) or creation of the conditions for construction of individual housing buildings according to the new standards and criteria. At any rate, it is necessary to legalize the illicitly constructed structures, update the plans and penalize any further illegal construction. The city authorities should redirect more funds for equipping the city land, especially in terms of paving the streets and clearing of the derelict parts of the district. The reconstruction of the streets, apart from the materialization, should include the construction of the sidewalks, which would require widening of the streets at the expense of someone's land. Certain streets ought to be straightened, and the land should be reorganized, and the derelict and unhygienic structures should be demolished and removed. The space which is free should be divided into the approximately equal lots, so that the district would be improved in terms of composition. It is desirable to strive to preserve the existing lots and then to perform the vertical regulation and trim the greenery. In order to take advantage of the land, the population density should be increased, but provided there are the planned activities and investments in infrastructure. One of the potential methods for the density increase could be planning of terrace houses. The environmental improvement study and definition of development strategy would help the efficient conduction of revitalization in the Sljaka district. In the framework of the mentioned study, the analysis of the most endangered structures should be carried out and the people should be temporarily displaced, and the financing mechanisms for the construction of the new buildings should be found (credits, local authorities financing).

In terms of hygiene and composition, it would be desirable to renovate the existing and introduce the new inter-block greenery and creating unity with the surrounding greenery. Apart from that it is necessary to expand the functions proper for the housing zone, organize the regular removal of waste and link the district with the center of the city better, in order to overcome the present alienation. The poverty of the population and the illicit building discourage the population from taking part in the improvement of the housing environment, so it is necessary to educate the population and stimulate them to improve the living environment.

#### 4.3 Revitalization of the mixed type housing block

The chosen location is located between the 7th July, V. Tankosića, F.Kljajića streets and the Quay of 29th December (Fig.7). The location has a favorable position in respect to the center of the city and the specialized centers. The natural conditions are favorable, and the attractiveness is particularly enhanced by the proximity of the Nisava river. Housing capacities is formed of two individual family housing and 2 buildings with G1+3 and G1+4.

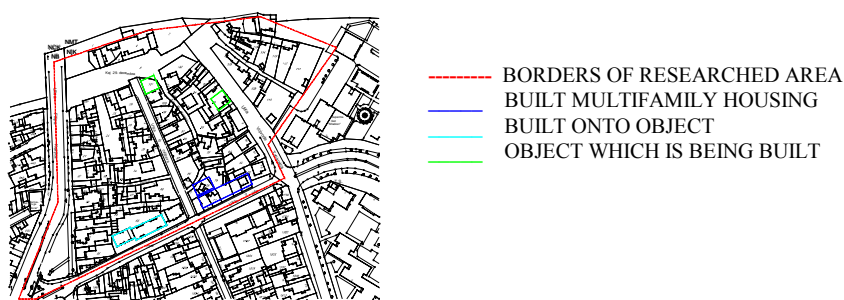


Fig. 7. Layout of the block

Apart from a few relatively new, that is adapted individual housing buildings, a large part of the individual housing capacities is dilapidated and there is no height alignment (Fig. 8). In the majority of lots, there are auxiliary derelict structures which have a detrimental effect on the aesthetic value of the households. Some structures are totally degraded and unserviceable. The lots are irregular, of varied dimensions, and some can be accessed only through the narrow pathways (Fig. 9). Some lots are either empty or with initial construction works, left in this condition for years, surrounded with the wild greenery. There are also the auxiliary structures such as sheds and stands which add to the disruption of the urban value and occupy the space. In the ground level of some houses, there is a business premises, and to some structures additional parts were gradually added. It is surprising that at such location, which is almost in the center of the city, there are disorder, chaos and poor hygiene. One of the housing buildings had a floor added, while the other is in bad repair with damaged façade and does not fit into modern architectural trends. One part of the housing in the 7th July and Cvijiceva street was replaced by the multi-storey buildings G1+6+loft and the construction of another two buildings has been in progress.



Fig. 8. Absence of height alignment



Fig. 9. Dilapidated housing structure

Despite the fact that the location is in the vicinity of the city center, the secondary street network is not in accord with the modern traffic concept. Namely, the Cvijiceva and V. Tankosica streets are only partially paved with asphalt and are characterized by the inadequate and damaged roadway coating with a lot of holes, which produces traffic problems, environmental problems and degrades the ambient value. The pedestrian and motor traffic are not segregated and the pedestrian pathways are dirty with mud. The quay arrangement is a particular problem, because the temporary structures exist there for years, and they disrupt the basic functional and aesthetic value of the quay. The greenery is chaotic and reduced to minimum, and instead of the attractive promenade, the passers-by meet the degraded and atomized physical structures, cars, mud and dust.

#### 4.3.1 Guidelines for revitalization

Since this is an attractive location, the construction of the housing buildings GL+3 was planned, in order to increase the density. Prior to this action, it is necessary to pull down the existing individual houses and reform the lots and clearly define the land belonging to each building. This would entail solution of the ownership issues and introduction of land rent. The new planned structures should be in accord with the newly built buildings and structures which are being built. The existing buildings should be revitalized according to the modern architectural tendencies. It is necessary to divide the space into public, semi-public and private. It is possible to organize the individual courtyards for the housing buildings orientated towards the river. The special attention should be paid to the arrangement of the common ground between the buildings, and courtyards between the buildings ought to be full with greenery and smaller sections intended for the different categories of users.

The streets should be regulated (V. Tankosica street), the sidewalks should be widened and the small *piazeta*, which should be introduced in a way to form unity with the quay. The possibility to integrate Cvijiceva street should also be considered. The standing parking problem could be solved by construction of an underground garage with a capacity that could satisfy both the needs of the tenants and the business people from the offices in the ground levels of the buildings. In this manner, the space between the buildings would be relieved from the standing traffic.

The ambient value of the entire considered space and the improvement of the city appearance as a whole can be improved by the arrangement of the quay. It is suggested that all the dilapidated structures are removed, that pedestrian traffic is affirmed and that some urban elements which would attract the passers-by are introduced, and they would give both an urban and natural character to the quay. That is why it is necessary to install the urban equipment (seats, illumination) and introduction of green surfaces.

#### 4.4 Synthetic proposal for revitalization of residential complexes in Nis

In this paper, only a small sample of the individual housing capacities of Nis has been treated in the context of living conditions and quality improvement. In order to successfully perform the revitalization, it is necessary to inspect the quality of the existing individual housing in the city in detail, group them into different categories according to their levels of equipment, organization and required interventions and the priority of revitalization, with an obligatory survey of users' preferences and their inclusion in the improvement of housing environment. Prior to that, the standards and criteria according to the principles of sustainable development should be established, with parallel activities in the fields of economy, social and town planning sphere and providing adequate finances. The implementation of the following general guidelines in plans and designs of urban revitalization of the housing complexes in Nis would contribute to the improvement of living and dwelling quality:

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| • Working out of regulations and standards for revitalization of housing areas | • Renewal of the individual housing  |
| • Planning of urbane revitalization and renewal at a city level                | • Re-division of lots  |
| • Providing of financial instruments for implementation of revitalization.     | • Arrangement of gathering centers in the unbuilt areas                                |
| • Arrangement of free spaces   | • Demolishing of the unhygienic auxiliary structures                                   |
| • Improvement of urban equipment   | • Creation of the representative urban units   |
| • Improvement of communal equipment  | • Introduction of the new content, and improvement of the social suprastructure        |
| • Promotion of environmental comfort   | • Improvement of ambient values  |
| • Arrangement of existing greenery and introduction of new one                 | • Revitalization of illegally built areas, and prevention of further illicit building. |
| • Street reconstruction  | • Education of population and its inclusion in urban revitalization                    |
| • Pedestrian pathways accentuation   |  |

#### 4. CONCLUSION

Considering the fact that the physical characteristics, functional environmental and aesthetic values of the housing complexes, their ambient value, and harmony with the users' requirements reflect on the dwelling and living quality, it may be said that the priority of each society is urban revitalization of those housing agglomerations where these values are endangered. The tendency of improvement of the existing built areas is a global orientation present in the civil engineering practice of a large number of countries. The experience of the developed countries as to the revitalization of the housing complexes indicate that their successful completion is conditioned by the comprehensive coordination of all the subjects in the process, a multi-disciplinary research, formation of the strong housing policy and the choice of the adequate financial instruments. It is particularly important to form the associations of residents, and have their active participation in the revitalization process. As the housing is related to the entire social-economic development, the choice of the goals, priorities, criteria and concrete programs must be in accordance with the national housing policy and social development policy. The modern

tendencies in the improvement of the residential complexes comprise precisely defined regulations, which will define the responsibilities, rights and duties of all the subjects of the renewal and provide guiding any spatial intervention in the context of housing quality improvement.

The process of social and economic transformation which began in our country has not yet expanded to the urban renewal and revitalization of the residential complexes. That is the reason we are witnessing the low level of life quality in the residential complexes, with the buildings which were the common property, and the dilapidation of the housing capacities, and deteriorations of the potential of the belonging open spaces. After the ownership transformation the ownership over the belonging open spaces has not been solved, so that it is still treated as the city land, and the management mechanisms have not been worked out yet. The consequence of this is that the equipment level, practical and ambient value of the open spaces is reduced to the minimum, which contributes to the serious disruption of the life quality. That's why it is of wide social importance to reform the national housing policy, define the regulations and work out the guidelines for revitalization and renewal of the residential complexes and the mechanisms of implementation. As the question of the content and spatial organization of the immediate environment of the buildings has not been sufficiently developed in nationwide theory and practice, it is necessary to define the standards for their setting in order, but also to work them out in detail at the level of project, so that in the contemporary conditions they would be in accordance to the needs of the residents and be interesting to them, which would contribute to the improvement of the image of the residential complexes and the life quality.

In order to successfully perform the revitalization, it is necessary to inspect the quality of the existing housing in the city, group it into different categories according to their levels of required interventions and the priority of revitalization, with an obligatory survey of users' preferences. The priority of every local community should be definition of a strategic program of revitalization of the endangered housing complexes, especially from the aspect of representative quality. It is particularly important to find the legal instrument to solve the question of ownership in the buildings and the belonging open spaces, and the ability of the authorities to provide the financial instruments will be crucial for the rate and quality of the revitalization process realization. Considering the importance of the inclusion of the residents into the revitalization, it is necessary to provide education and improve the dwelling culture, and insist on the significance of respecting the common values, which in turn protects the individual values. This comprises keeping the residents informed and educated that they have the right to, and can participate in the organization and revitalization of the space they live in.

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## **REVITALIZACIJA STAMBENIH KOMPLEKSA U CILJU UNAPREĐENJA KVALITETA STANOVANJA**

**Ivana Bogdanović, Petar Mitković**

*Unapređenje kvaliteta stanovanja predstavlja trajno aktuelan proces koji u razvijenim zemljama traje više desetina godina. Prioritet svakog društva je revitalizacija onih stambenih kompleksa u kojima su osnovne urbanističke vrednosti narušene. U periodu tranzicije u kojme se naša zemlja nalazi potrebno je izgraditi i modernizovati planski pristup i regulativu za sprovođenje revitalizacije. U radu su date smernice za revitalizaciju stambenih kompleksa u Nišu, koje bi mogle da posluže kao osnova za unapređenje uslova i kvaliteta stanovanja.*