Network of Green Areas within Collective Housing Communities - Case Study from Timișoara, Romania

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Abstract. Green areas have always been an essential feature of urban developments, improving the quality of life within a community, both from a social perspective – offering residents a place for relaxation and interaction, as well as from the point of view of disease prevention – improving the overall air quality, but also encouraging inhabitants to spend more time outside. The importance of these areas within a settlement further increases in the present-day context, in which the constant expansion of cities in their surrounding territory, phenomenon known as “urban sprawl”, gradually eliminates the natural green spaces and agricultural terrains from our landscape. This trend has devastating effects on the environment, as well as on the micro-climate of our settlements, characterized, in recent years, by the formation of heat islands within the built tissue. Moreover, the disappearance of natural green areas leads to the constant estrangement of the inhabitants, and especially of young generations, from the natural values and realities.

It is thus more important than ever to ensure an adequate percentage of green areas for our cities, uniformly distributed within the urban tissue. Green belts, urban forests, parks, green squares or even urban gardens – all these entities play their parts within the urban green network, having certain radiuses of influence and attraction and thus occupying a specific position within the urban hierarchy. In Romania, the terrains left un-built between the collective housing buildings – or apartment blocks, erected during the communist administration and currently constituting public property, have a huge potential regarding the matter of urban greenery, being easily transformed into active and qualitative green areas. However, the local authorities lack the resources (both financial and in terms of human resources) to efficiently develop and then administrate these areas, which are consequently either abandoned, or used as illegal parking lots. This paper therefore explores the possibilities in which the terrains between collective housing buildings can be exploited by the community and transformed into qualitative green areas, as well as their integration within the hierarchy of the existing green network.

1. Introduction. The importance of green areas within contemporary cities

Among the many factors that influence the quality of life within the urban environment, the distribution of green areas, as well as the overall quality of these arrangements, distinguish themselves as elements of utmost importance, both from a social point of view, as well as in regard to the population’s health.
Green areas thus play a significant role within the urban network, as relaxation spaces for the community, where people from different social backgrounds and age groups can interact and spend their free time. However, the role of green areas expands further then the social aspects of everyday life, also majorly influencing the overall air quality, as well as the general level of outdoor activity within a community [1], both of which help prevent a large spectrum of diseases (from allergies and other respiratory illnesses, to stress-related health problems, diabetes and even obesity).

The importance of green areas becomes even greater in the present-day context, since the constant development of urban settlements within their surrounding territory, phenomenon known as “urban sprawl”, gradually diminishes the pre-existing natural green spaces and the agricultural terrains [2]. Having severe effects on the environment, this trend also influences the micro-climate of the settlements themselves, increasingly affected nowadays by the formation of heat islands. Lack of humidity, higher temperatures during the hot summer months, as well as the stagnation of air masses within the built tissue – all of these lead to a lower quality of life for the inhabitants.

Furthermore, the basic extinction of natural green areas from the surroundings of our settlements leads to the estrangement of urban dwellers from the natural realities and values, mostly of younger generations, with severe effects on their mental and physical health, as well as on their perception and understanding of life.

The urban green areas thus become essential components of contemporary cities, both in regard to their distribution within the built tissue, as well as from the point of view of the inner quality of these spaces. It is thus important not only to ensure the adequate surface of greenery per capita within a city, but also make sure that these areas are uniformly distributed throughout the urban environment, easily accessible for all the citizens.

Therefore, our attention should not only focus on green belts, urban forests or parks – all very important pieces within the urban green network, but mainly accessible by non-pedestrians means, due to the great distances that usually separate these entities from the residential units. Green squares or even urban gardens play equally important roles for contemporary urban dwellers, since these smaller arrangements can easily be implemented within neighbourhoods, at walking distances from individual apartments.

This study therefore further concentrates on the small-scale developments of the urban green network, exploring the means in which public terrains within collective housing neighbourhoods could be transformed into active and qualitative green areas.

2. Green areas within collective housing neighbourhoods. Case study: Timișoara, Romania

In order to better understand the distribution of existing green areas within collective housing neighbourhoods, as well as the possibilities of further expanding the urban green network, one must first comprehend the larger context and the motivations that shaped these neighbourhoods in the first place. This study therefore further concentrates on the evolution of collective housing phenomenon within Romanian cities, and particularly within Timișoara, during the communist administration.

2.1. The evolution of collective housing neighbourhoods within the city of Timișoara

At a worldwide level, the phenomenon of collective housing has only become a generalized urban feature during the last 150 years or so. However, in Romania this moment was further delayed, since here this housing typology only established its position within urban settlements after the First World War. This event was triggered by two key elements, namely the popularization of apartment blocks, as well as the development of working-class colonies, usually situated at the periphery of existing cities, near burgeoning industrial ensembles [3].

But only after the Second World War has the collective housing phenomenon finally became a dominant urban typology within Romanian settlements. Serving as a tool for the rapid reconstruction of cities still baring the mark of the harsh war, the collective housing buildings were first respectfully inserted within the existing tissue [4], only to later gradually develop into more ambitious, larger ensembles, which further spread all over the country.
Locally, the city of Timișoara saw four different stages of development regarding the phenomenon of collective housing (out of which the first three developed under the communist administration – figure 1). Each of these stages have specific characteristics, which refer to the housing units’ density and the facilities provided for each area (in relation to the existing density), the physical organization of the neighbourhood, the surface and the facilities offered by the apartments, as well as the general aspect of the buildings themselves.

Figure 1. The distribution of collective housing neighbourhoods within the city of Timișoara

The first development stage, between 1962-1975, is characterized by the erection of collective housing neighbourhoods with a low housing units’ density, made out of linear apartment buildings, placed at a distance of approximately 60 m between each other. Although the apartments’ surface was usually reduced to a minimum, the intimacy degree within the housing units themselves was rather high, due to the dense forestation of the terrains which remained unbuilt between the apartment blocks. Also, the neighbourhood offered a variety of public facilities, such as schools, kindergartens, sports grounds, commercial areas, etc., which fully compensated the restraints of the apartments. Built in accordance to the modernist principles, these neighbourhoods were thus conceived as large compositional ensembles, within which the buildings (either linear or punctual) were situated among large green areas. It was therefore uncommon for this period to conceive particular green squares within the neighbourhood, since the entire built area incorporated so much greenery. Some of the most important neighbourhoods built in Timișoara during this period are the Tipografilor and Calea Lugojului Neighbourhood, as well as the Circumvalațiunii Neighbourhood [5].

The second development stage, between 1975-1982, could easily pass as the worst period of them all, being characterized by the forced densification of the urban tissue. During those years, the communist administration erected a number of collective housing neighbourhoods, with very high housing units’ densities and apartment buildings placed at a distance as reduced as 15 m between each other. The housing units themselves maintained a low surface, while the intimacy degree was severely
reduced due to the proximity of the neighbouring buildings. Moreover, public facilities disappeared almost entirely from the neighbourhoods, the only exception being the commerce, which flourished at the ground floors of the apartment buildings situated alongside the main arteries of the city. Due to the accelerated densification of the built tissue, specific for this period, the green areas between apartment blocks were reduced to a minimum; furthermore, there was no room to provide these neighbourhoods with specific green squares, leading to significantly low percentages of greenery in these areas. Unfortunately, most of Timisoara’s collective housing neighbourhoods were built within these years; among these, one can count the Calea Șagului and Dâmbovița Neighbourhoods, the Stadion, Spitalul Județean and Timișoara Sud Neighbourhoods, the Sportivilor and Negoiul Neighbourhoods, as well as the Calea Girocului Neighbourhood [5].

The third development stage, between 1982-1989, brought several improvements regarding the phenomenon of collective housing; thus, the housing units’ densities were lowered once again, while the apartment buildings were grouped around partially open interior courtyards, usually conceived to accommodate green spaces for the inhabitants. The apartments’ surface also increased during these years, while the neighbourhoods themselves were provided with public facilities. However, because of the fact that many of these developments had not been finalized before the December 1989 Revolution, some of the facilities that were supposed to be implemented never saw the light of day. Among these, one can count green squares, which were to be arranged after all the apartment blocks were erected. Up until recent years, the terrains dedicated to them remained un-built, and in some cases even grew a small forest, which is now perceived by the inhabitants as a proper green area. However, in most cases, under the pressure of contemporary realities, these lots are gradually occupied with new apartment buildings, which contribute to the increase of the existing housing units’ density, and thus to the deterioration of the overall life quality. Among the most representative neighbourhoods built during the 1982-1989 period within the city of Timisoara one can count the Calea Torontalului, Aradului, Lipovei and Matei Basarab Neighbourhoods, as well as the Ion Ionescu de la Brad Neighbourhood, the Ștefan Plavăț Neighbourhood and the Soarelui Neighbourhood [5].

Finally, after the year 2000, private investors started to develop new collective housing neighbourhoods, which thus begun once again to be erected in our city, after more than ten years of stagnation. However, the overall quality of the new insertions is, unfortunately and in most cases, very low.

Further on, this paper concentrates on the case study of three different collective housing neighbourhoods, one from each of the three development stages of this phenomenon under the communist regime.

2.2. The Circumvalațiunii Neighbourhood (1962-1975)
Built during two development stages beginning with 1970, the Circumvalațiunii Neighbourhood is one of the most densely populated collective housing neighbourhoods within the city of Timișoara, its approximately 11,000 apartments having the capacity to host a total of 40,000 inhabitants [5]. The proximity towards the historical center, but also towards other attraction areas within the city, as well as the variety of housing units available, transform this neighbourhood into a residential area with certain urban qualities, quite popular on the real estate market.

The first apartment buildings in the area where built at the beginning of the 1970s, mainly in accordance to the principles stated by the Athens Charter. Thus, the first development stage of this neighbourhood saw the erection of a series of five-story high linear buildings, compositionally complemented by eleven-story high punctual insertions. The buildings themselves were placed at considerable distances from each other, the spaces thus resulted being arranged as green areas for residents. Although the housing units themselves offered modest facilities to their inhabitants, the physical organization of the neighbourhood, as well as the numerous public facilities provided (schools, kindergartens, commercial areas, etc.) contributed to a high quality of life within the urban environment.
But as the densification tendencies of the built tissue accentuated after 1975, the neighbourhood received a series of new additions, in the form of eleven-story high buildings, usually placed along the main traffic arteries, as well as inside the neighbourhoods, in areas previously left unbuilt. Although these action did increase the existing densities, they also had a positive impact on the neighbourhood, better defining the main streets, as well as strengthening the community center, which concentrates up to this day the main socio-economic and cultural activities of the area.

Finally, after the 1989 Revolution, due to the increased requirements for parking spaces, a series of individual garages and collective parking facilities were erected, most of them on the public terrains left un-built between the apartment buildings. This established a precedent, which allowed the gradual destruction of these previous green areas through a series of private interventions, from illegal parking to illicit gardening on public space. The few that survived, still property of the State, are in an advanced state of degradation, since the local administration is overwhelmed and incapable of properly attend to all these areas, while residents lack both the motivation and the right to legally intervene here.

![Figure 2. The distribution of green areas within the Circumvalațiunii Neighbourhood](image)

In this context, in order to satisfy the needs of the community regarding green spaces, the local administration has recently arranged a green square near the neighbourhood’s community centre (figure 2). Although frequently utilized by residents, this square does not fully cover the necessities of this area, since it has a rather reduced surface and is situated at more than 500 m from the opposite corners of the neighbourhood. Therefore, a proper strategy must be conceived, that will allow the reintegration of the public terrains between apartment buildings within the urban green network – for as much as it is possible (figure 2).

2.3. The Timișoara Sud Neighbourhood (1975-1982)
The Timișoara Sud Neighbourhood, built in the vicinity of the County Hospital (one of the most important objectives within the regional health system) beginning with 1975, hosts, between its borders, 5,917 apartments, that can offer accommodation for over 20,000 people [5]. The lack of public facilities from the neighbourhood, the reduced distances between the collective housing buildings, as well as the minimal surfaces of the apartments themselves negatively influence the overall life quality within the community; on the other hand, the presence of the County Hospital, as well as of the city’s football stadium in the near vicinity of this neighbourhood transforms it into a key area within the urban hierarchy.

The construction works for this neighbourhood began shortly after the inauguration of the County Hospital, in the autumn of 1974. Built in the spirit of the accelerated densification of the urban tissue, characteristic for the 1975-1982 period in Romania, this neighbourhood is entirely made out of five-
story high collective housing buildings, placed at extremely reduced distances from each other (of approximately 10-25 m). The buildings themselves are organized so as to ensure the optimal exploitation of the available terrain, while at the same time to define a series of streets between the apartment blocks. All of these constraints took their toll on the green areas, which were basically reduced to a few public spaces left un-built between the buildings themselves, naturally forested along the years. Moreover, the minimal surfaces of the apartments, as well as the absence of public facilities from the neighbourhood (aside from the County Hospital, the area only benefits from a kindergarten, as well as from a well-represented commercial network), further contribute to a low quality of life within the community.

The post-communist era put even more pressure on the green areas, which were gradually occupied by garages and other private initiatives, as well as by illegal parking; however, in recent years, a positive intervention in the near vicinity of the neighbourhood transformed a previously un-built terrain into a large urban park (figure 3), which significantly improved the life quality for the local community. But this is not enough, since the distance between the newly inaugurated park and the opposite corners of the neighbourhood is as high as 900 m. Therefore, efforts should be made in order to transform as many of the existing un-built terrains within the neighbourhood into green areas; also, the possibility of opening the existing public kindergarten’s playground to the community after school hours should also be taken into consideration (figure 3).

![Figure 3. The distribution of green areas within the Timișoara Sud Neighbourhood](image)

2.4. The Ștefan Plavăț Neighbourhood (1982-1989)

The Ștefan Plavăț Neighbourhood, one of the last collective housing neighbourhoods erected by the communist administration within the city of Timișoara, comprises a total of 4,473 apartments, thus being able to host approximately 14,000 inhabitants. The organization of the built tissue, characterized by relatively low densities, with apartment blocks organized around partially open interior courtyards, as well as the physical living conditions offered by the housing units themselves, transform this neighbourhood into a rather qualitative residential area, appreciated by city dwellers. However, the existing public space is insufficiently exploited by the community [6], which negatively influences the life quality within the urban environment.

Built towards the end of the 1980s, this neighbourhood clearly demonstrates a more relaxed attitude towards the residential problem, in the sense that since most of the citizens already had a roof over their heads (as a result of the constructive efforts of the late 1970s), authorities could now concentrate towards improving the living conditions within the urban tissue, by building larger apartments, with a higher intimacy degree, as well as by paying more attention to the quality of the public space. Ștefan Plavăț Neighbourhood was therefore conceived as an ensemble of rectangular blocks, delimitated by streets on all four sides, and composed of multiple collective housing buildings,
placed so as to form an interior courtyard between them. These courtyards were actually meant to be arranged as green areas for the inhabitants, thus offering a gathering place for the members of the community, as well as contributing to the intimacy degree of the apartments themselves.

However, this neighbourhood had not been entirely finalized by the time of the 1989 Revolution, so a rather large surface of land, placed centrally within the area and most likely destined for public facilities, remained un-built. In the years following the Revolution, a Christian-Orthodox church was erected here; this intervention had a positive impact on the local community, since not only did it offer a place to worship for the inhabitants, the majority of whom are devoted Christian-Orthodox, but also stood as a symbol for the local martyrs of the 1989 Revolution, to whom it was dedicated. Moreover, since the church itself only occupies a reduced surface of the terrain, the remaining space was arranged as a green area, open to the community during the day (figure 4). However, the neighbourhood should further take advantage of the existing courtyards, formed between the buildings and currently constituting public property, helping them regain their original purpose as green spaces (figure 4).

Figure 4. The distribution of green areas within the Ștefan Plavăț Neighbourhood

3. Results and discussions

Although most of the collective housing neighbourhoods within the city of Timişoara do not benefit from the presence of a dedicated park or even a green square, the study presented above clearly demonstrates that these areas comprise, within their limits, a number of un-built terrains, usually part of the public property, that could easily be transformed into qualitative green areas for the community.

However, there are a number of problems that must be solved in order to make this possible; among these, the most important probably refers to the issue of parking lots, generally insufficient for the local community, whose members therefore usually utilize the un-built terrains between apartment buildings to park their cars, either in individual garages and collective parking facilities arranged at the ground level, or illegally, on the grass (or what is left of it). The first measure in regard to the matter of parking would naturally be to arrange multi-level public parking facilities, organised either above ground or under it; however, on the long term, this would only lead to an increase of the number of cars. An alternative to this situation would be to imagine long-term strategies that would offer inhabitants other efficient means of transportation, such as public transport and even bicycles, thus discouraging the use of private cars for everyday shifting [7].

Finally, there is the matter of property; as shown before, the terrains left un-built between apartment buildings usually constitute public property, thus being administrated by the State. This situation significantly limits the private intervention within these areas, making it illegal for the inhabitants to utilize them as their own. At the same time, the local administration is overwhelmed by the many terrains it owns, not being able to properly care for each of them. Strategies should therefore be made that would allow the administration to cease these terrains under strict regulations in favour
of the local community, which in turn should be obliged to properly maintain these areas, while transforming them into green spaces.

4. Conclusions
The green areas play a pivotal role within contemporary cities, contributing to the well-being of the population, as well as to the general level of life quality, in numerous ways and from multiple points of view. Urban greenery thus encourages social interaction, helps citizens live a healthier life (both from a physical, as well as mental perspective), while also positively influencing the microclimate of our settlements.

Green belts, urban forests, parks – all of these elements significantly contribute to the definition of the urban green network; however, green squares or even urban gardens play equally important roles within the communities, since these smaller objectives are easier to implement at all levels, thus becoming more accessible to the inhabitants.

In Romania, collective housing neighbourhoods do not traditionally benefit from the presence of green squares; however, they do comprise, within their limits, a rather large percentage of un-built, public terrains, which were initially designed to serve as green areas for the inhabitants. Nevertheless, each of the three development stages of the collective housing phenomenon in Romania has its particularities regarding this matter. Thus, during the first development stage, between 1962-1975, the erected neighbourhoods resembled those proposed by modernist urban planners such as Le Corbusier, with buildings placed among large green areas, both the main façade and the access, as well as the back of the buildings being oriented towards greenery. This situation, however, took a turn for the worse during the second development stage, between 1975-1982, when rather dense, crowded urban ensembles were built, with reduced – but not absent – green areas between the apartment blocks. Finally, the third development stage, between 1982-1989, brought a favourable change, by organising the apartment buildings around an interior courtyard, which was intended to serve as a semi-private green area for the residents.

In conclusion, the collective housing neighbourhoods erected under the communist administration within the city of Timișoara, as well as in other Romanian urban settlements, have a huge potential in regard to the urban green network. However, after the 1989 Revolution, a number of private initiatives, mostly regarding the issue of parking, gradually transformed these areas into deserted, ‘brown’ fields. Therefore, strategies should be made in order to help the existing un-built terrains regain their role, as functional green areas within the local community, taking into account, at the same time, the particularities of the built tissue, specific for each of the three development stages of the collective housing phenomenon.

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